

6. FEDERAL INVESTMENT SPENDING AND CAPITAL BUDGETING

Investment spending is spending that yields long-term benefits. Its purpose may be to improve the efficiency of internal Federal agency operations or to increase the Nation's overall stock of capital for economic growth. The spending can be direct Federal spending or grants to State and local governments. It can be for physical capital, which yields a stream of services over a period of years, or for research and development or education and training, which are intangible but also increase income in the future or provide other long-term benefits.

Most presentations in the Federal budget combine investment spending with spending for current use. This chapter focuses solely on Federal and federally financed investment. These investments are discussed in the following sections:

- a description of the size and composition of Federal investment spending;
- a discussion of capital assets used to provide Federal services, and efforts to improve planning and budgeting for these assets. An Appendix to Part

II presents the "Principles of Budgeting for Capital Asset Acquisitions," which are being used to guide the analysis of Administration requests for spending for capital assets;

- a presentation of trends in the stock of federally financed physical capital, research and development, and education;
- alternative capital budget and capital expenditure presentations; and
- projections of Federal physical capital outlays and recent assessments of public civilian capital needs, as required by the Federal Capital Investment Program Information Act of 1984.

The President established a Commission to Study Capital Budgeting in 1997, and the Commission is scheduled to transmit its report to the National Economic Council in early 1999. The Administration looks forward to receipt of the report and will review its analysis and recommendations on how to improve the planning, budgeting, and use of capital in the Federal Government.

Part I: DESCRIPTION OF FEDERAL INVESTMENT

For almost fifty years, a chapter in the budget has shown Federal investment outlays—defined as those outlays that yield long-term benefits—separately from outlays for current use. Again this year the discussion of the composition of investment includes estimates of budget authority as well as outlays and extends these estimates four years beyond the budget year, to 2004.

The classification of spending between investment and current outlays is a matter of judgment. The budget has historically employed a relatively broad classification, including physical investment, research, development, education, and training. The budget further classifies investments into those that are grants to State and local governments, such as grants for highways or for elementary and secondary education, and all other investments, called "direct Federal programs," in this analysis. This "direct Federal" category consists primarily of spending for assets owned by the Federal Government, such as defense weapons systems and general purpose office buildings, but also includes grants to private organizations and individuals for investment, such as capital grants to Amtrak or higher education loans directly to individuals.

Presentations for particular purposes could adopt different definitions of investment:

- To suit the purposes of a traditional balance sheet, investment might include only those physical assets owned by the Federal Government, excluding

capital financed through grants and intangible assets such as research and education.

- Focusing on the role of investment in improving national productivity and enhancing economic growth would exclude items such as national defense assets, the direct benefits of which enhance national security rather than economic growth.
- Concern with the efficiency of Federal operations would confine the coverage to investments that reduce costs or improve the effectiveness of internal Federal agency operations, such as computer systems.
- A "social investment" perspective might broaden the coverage of investment beyond what is included in this chapter to encompass programs such as childhood immunization, maternal health, certain nutrition programs, and substance abuse treatment, which are designed in part to prevent more costly health problems in future years.

The relatively broad definition of investment used in this section provides consistency over time—historical figures on investment outlays back to 1940 can be found in the separate *Historical Tables* volume. The detailed tables at the end of this section allow disaggregation of the data to focus on those investment outlays that best suit a particular purpose.

In addition to this basic issue of definition, there are two technical problems in the classification of investment data, involving the treatment of grants to

State and local governments and the classification of spending that could be shown in more than one category.

First, for some grants to State and local governments it is the recipient jurisdiction, not the Federal Government, that ultimately determines whether the money is used to finance investment or current purposes. This analysis classifies all of the outlays in the category where the recipient jurisdictions are expected to spend most of the money. Hence, the community development block grants are classified as physical investment, although some may be spent for current purposes. General purpose fiscal assistance is classified as current spending, although some may be spent by recipient jurisdictions on physical investment.

Second, some spending could be classified in more than one category of investment. For example, outlays for construction of research facilities finance the acquisition of physical assets, but they also contribute to research and development. To avoid double counting, the outlays are classified in the category that is most commonly recognized as investment. Consequently outlays for the conduct of research and development do not include outlays for research facilities, because these outlays are included in the category for physical investment. Similarly, physical investment and research and development related to education and training are included in the categories of physical assets and the conduct of research and development.

When direct loans and loan guarantees are used to fund investment, the subsidy value is included as investment. The subsidies are classified according to their program purpose, such as construction, education and training, or non-investment outlays. For more information about the treatment of Federal credit programs, refer to Chapter 8, "Underwriting Federal Credit and Insurance."

This section presents spending for gross investment, without adjusting for depreciation. A subsequent section discusses depreciation, shows investment both gross and net of depreciation, and displays net capital stocks.

Composition of Federal Investment Outlays

Major Federal Investment

The composition of major Federal investment outlays is summarized in Table 6-1. They include major public physical investment, the conduct of research and development, and the conduct of education and training. Defense and nondefense investment outlays were \$228.0 billion in 1998. They are estimated to increase to \$243.9 billion in 1999 and to increase further to \$247.3 billion in 2000. Major Federal investment will comprise an estimated 14.0 percent of total Federal outlays in 2000 and 2.7 percent of the Nation's gross domestic product (GDP). Greater detail on Federal investment is available in tables 6-2 and 6-3 at the end of this section. Those tables include both budget authority and outlays.

Physical investment.—Outlays for major public physical capital investment (hereafter referred to as physical

investment outlays) are estimated to be \$121.2 billion in 2000. Physical investment outlays are for construction and rehabilitation, the purchase of major equipment, and the purchase or sale of land and structures. Three-fifths of these outlays are for direct physical investment by the Federal Government, with the remaining being grants to State and local governments for physical investment.

Direct physical investment outlays by the Federal Government are primarily for national defense. Defense outlays for physical investment were \$53.5 billion in 1998 and are estimated to decline slightly to \$51.6 billion in 2000. Almost all of these outlays, or \$46.9 billion, are for the procurement of weapons and other defense equipment, and the remainder is primarily for construction on military bases, family housing for military personnel, and Department of Energy defense facilities. These outlays will begin to increase in 2001 in response to increases in defense budget authority requested for 2000 and later years in this budget. The increases in budget authority are discussed in Chapter 11 of the *Budget* volume.

Outlays for direct physical investment for nondefense purposes are estimated to be \$21.2 billion in 2000. These outlays include \$13.0 billion for construction and rehabilitation. This amount funds water, power, and natural resources projects of the Army Corps of Engineers, the Bureau of Reclamation within the Department of the Interior, the Tennessee Valley Authority, and the power administrations in the Department of Energy; construction and rehabilitation of veterans hospitals and Postal Service facilities; and facilities for space and science programs. Outlays for the acquisition of major equipment are estimated to be \$7.6 billion in 2000. The largest amounts are for the air traffic control system and the Postal Service. For the purchase or sale of land and structures, collections exceeded disbursements by \$4.6 billion in 1998, largely due to the sale of the United States Enrichment Corporation and the privatization of Elk Hills. These sales explain most of the increase in outlays in this category from 1998 to 1999.

Grants to State and local governments for physical investment are estimated to be \$48.4 billion in 2000. Almost two-thirds of these outlays, or \$31.0 billion, are to assist States and localities with transportation infrastructure, primarily highways. Other major grants for physical investment fund sewage treatment plants, community development, and public housing.

Conduct of research and development.—Outlays for the conduct of research and development are estimated to be \$73.6 billion in 2000. These outlays are devoted to increasing basic scientific knowledge and promoting research and development. They increase the Nation's security, improve the productivity of capital and labor for both public and private purposes, and enhance the quality of life. Slightly more than half of these outlays, an estimated \$37.7 billion in 2000, are for national defense. Physical investment for research and develop-

Table 6-1. COMPOSITION OF FEDERAL INVESTMENT OUTLAYS
(In billions of dollars)

	1998 actual	Estimate	
		1999	2000
Federal Investment			
Major public physical capital investment:			
Direct Federal:			
National defense	53.5	53.5	51.6
Nondefense	15.1	20.8	21.2
Subtotal, direct major public physical capital investment	68.7	74.2	72.8
Grants to State and local governments	41.1	44.9	48.4
Subtotal, major public physical capital investment	109.8	119.1	121.2
Conduct of research and development:			
National defense	40.1	39.6	37.7
Nondefense	32.7	34.5	35.9
Subtotal, conduct of research and development	72.8	74.2	73.6
Conduct of education and training:			
Grants to State and local governments	26.5	28.8	32.4
Direct Federal	19.0	21.8	20.0
Subtotal, conduct of education and training	45.4	50.6	52.5
Major Federal investment outlays	228.0	243.9	247.3
MEMORANDUM			
Major Federal investment outlays:			
National defense	93.7	93.1	89.3
Nondefense	134.3	150.8	158.0
Total, major Federal investment outlays	228.0	243.9	247.3
Miscellaneous physical investments:			
Commodity inventories	-0.4	0.1	-0.3
Other physical investment (direct)	3.0	3.3	3.1
Total, miscellaneous physical investment	2.6	3.4	2.9
Total, Federal investment outlays, including miscellaneous physical investment	230.6	247.3	250.1

ment facilities and equipment is included in the physical investment category.

Nondefense outlays for the conduct of research and development are estimated to be \$35.9 billion in 2000. This is almost entirely direct spending by the Federal Government, and is largely for the space programs, the National Science Foundation, the National Institutes of Health, and research for nuclear and non-nuclear energy programs.

Conduct of education and training.—Outlays for the conduct of education and training are estimated to be \$52.5 billion in 2000. These outlays add to the stock of human capital by developing a more skilled and productive labor force. Grants to State and local governments for this category are estimated to be \$32.4 billion in 2000, more than three-fifths of the total. They include education programs for the disadvantaged and the handicapped, vocational and adult education programs, training programs in the Department of Labor, and Head Start. Direct education and training outlays

by the Federal Government are estimated to be \$20.0 billion in 2000. Programs in this category are primarily aid for higher education through student financial assistance, loan subsidies, the veterans GI bill, and health training programs.

This category does not include outlays for education and training of Federal civilian and military employees. Outlays for education and training that are for physical investment and for research and development are in the categories for physical investment and the conduct of research and development.

Miscellaneous Physical Investment Outlays

In addition to the categories of major Federal investment, several miscellaneous categories of investment outlays are shown at the bottom of Table 6-1. These items, all for physical investment, are generally unrelated to improving Government operations or enhancing economic activity.

Outlays for commodity inventories are for the purchase or sale of agricultural products pursuant to farm price support programs and the purchase and sale of other commodities such as oil and gas. Sales are estimated to exceed purchases by \$0.3 billion in 2000.

Outlays for other miscellaneous physical investment are estimated to be \$3.1 billion in 2000. This category includes primarily conservation programs. These outlays are entirely for direct Federal spending.

Detailed Tables on Investment Spending

This section provides data on budget authority as well as outlays for major Federal investment. These

estimates extend four years beyond the budget year to 2004. Table 6-2 displays budget authority (BA) and outlays (O) by major programs according to defense and nondefense categories. The greatest level of detail appears in Table 6-3, which shows budget authority and outlays divided according to grants to State and local governments and direct Federal spending. Miscellaneous investment is not included in these tables because it is generally unrelated to improving Government operations or enhancing economic activity.

Table 6-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS

(in millions of dollars)

Description	1998 Actual	Estimate						
		1999	2000	2001	2002	2003	2004	
NATIONAL DEFENSE								
Major public physical investment:								
Construction and rehabilitation	BA	4,866	4,794	2,318	7,124	3,951	4,048	4,159
	O	5,092	4,716	4,461	3,882	4,988	4,693	4,326
Acquisition of major equipment	BA	45,263	48,915	52,833	61,789	62,115	66,369	69,033
	O	48,492	48,778	47,207	51,553	55,038	59,961	63,851
Purchase or sale of land and structures	BA	-34	-36	-36	-36	-36	-36	-36
	O	-34	-36	-36	-36	-36	-36	-36
Subtotal, major public physical investment	BA	50,095	53,673	55,115	68,877	66,030	70,381	73,156
	O	53,550	53,458	51,632	55,399	59,990	64,618	68,141
Conduct of research and development	BA	39,824	39,819	37,712	37,597	37,975	37,829	38,337
	O	40,141	39,612	37,662	37,764	37,779	37,792	38,091
Conduct of education and training (civilian)	BA	2	3	8	8	10	10	10
	O	8	3	6	8	9	10	10
Subtotal, national defense investment	BA	89,921	93,495	92,835	106,482	104,015	108,220	111,503
	O	93,699	93,073	89,300	93,171	97,778	102,420	106,242
NONDEFENSE								
Major public physical investment:								
Construction and rehabilitation:								
Highways	BA	24,868	29,385	30,664	30,144	30,692	31,237	31,876
	O	20,063	23,150	25,517	26,762	26,955	27,154	27,698
Mass transportation	BA	4,602	4,830	5,906	6,086	6,552	7,019	7,168
	O	3,892	3,789	3,960	4,763	5,299	5,984	6,404
Rail transportation	BA	271	6	11	11	11	11	11
	O	465	107	16	10	11	11	11
Air transportation	BA	1,657	2,336	1,616	1,617	1,618	1,619	1,619
	O	1,541	1,684	1,766	1,697	1,659	1,648	1,641
Community development block grants	BA	4,925	4,873	4,775	4,775	4,775	4,775	4,775
	O	4,621	4,965	4,856	4,817	4,792	4,757	4,779
Other community and regional development	BA	1,465	1,560	1,669	1,669	1,669	1,669	1,669
	O	1,479	1,438	1,414	1,522	1,788	1,853	1,826
Pollution control and abatement	BA	4,131	4,169	3,613	3,615	3,615	3,615	3,615
	O	3,521	3,616	4,104	4,205	4,032	4,010	4,005
Water resources	BA	2,650	2,967	3,039	3,037	3,023	3,031	3,045
	O	2,350	3,297	3,295	3,176	2,936	3,079	3,060
Housing assistance	BA	6,219	6,982	6,559	6,559	6,559	6,559	6,559
	O	6,406	6,501	7,264	8,178	8,175	8,249	8,287
Energy	BA	779	960	843	721	930	892	672
	O	778	961	843	719	928	890	670
Veterans hospitals and other health	BA	1,660	1,662	1,453	1,493	1,475	1,466	1,466
	O	1,565	1,633	1,652	1,657	1,628	1,586	1,577
Postal Service	BA	1,726	1,654	1,457	1,317	1,485	1,742	1,509
	O	1,528	1,032	1,225	1,344	1,457	1,574	1,609
GSA real property activities	BA	238	1,165	767	952	875	918	847
	O	1,375	1,069	1,016	1,079	1,062	1,016	939
Other programs	BA	3,764	3,111	2,748	2,919	2,801	2,578	2,680
	O	3,718	3,044	3,330	2,910	2,935	2,973	2,742
Subtotal, construction and rehabilitation	BA	58,955	65,660	65,120	64,915	66,080	67,131	67,511
	O	53,302	56,286	60,258	62,839	63,657	64,784	65,248
Acquisition of major equipment:								
Air transportation	BA	1,948	2,096	2,320	2,486	2,626	2,792	2,927
	O	2,285	1,952	2,019	2,184	2,360	2,606	2,758
Postal Service	BA	597	739	848	918	744	744	530
	O	364	319	736	802	781	590	835
Other	BA	4,877	5,839	4,964	5,547	5,488	5,447	5,405
	O	3,969	4,788	4,941	5,446	5,601	5,615	5,604
Subtotal, acquisition of major equipment	BA	7,422	8,674	8,132	8,951	8,858	8,983	8,862
	O	6,618	7,059	7,696	8,432	8,742	8,811	9,197
Purchase or sale of land and structures	BA	-3,966	626	398	720	223	719	712
	O	-4,613	1,265	525	765	244	748	721

Table 6-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS—Continued

(in millions of dollars)

Description	1998 Actual	Estimate						
		1999	2000	2001	2002	2003	2004	
Other physical assets (grants)	BA O	942 917	941 1,075	1,327 1,086	1,314 1,264	1,342 1,261	1,388 1,313	1,477 1,363
Subtotal, major public physical investment	BA O	63,353 56,224	75,901 65,685	74,977 69,565	75,900 73,300	76,503 73,904	78,221 75,656	78,562 76,529
Conduct of research and development:								
General science, space and technology	BA O	12,367 12,503	12,970 12,858	13,409 12,907	13,588 13,291	13,657 13,480	13,847 13,768	13,907 13,926
Energy	BA O	1,281 1,526	1,230 1,368	1,346 1,365	1,324 1,516	1,324 1,517	1,324 1,487	1,324 1,419
Transportation	BA O	1,826 1,778	1,678 1,699	1,581 1,698	1,597 1,716	1,640 1,693	1,662 1,748	1,687 1,771
Health	BA O	13,543 12,471	15,471 13,903	15,821 15,371	16,001 15,935	16,061 16,045	16,085 16,076	15,785 15,768
Natural resources and environment	BA O	1,936 1,653	2,011 1,785	1,953 1,767	1,953 1,757	1,953 1,758	1,953 1,768	1,953 1,770
All other research and development	BA O	2,791 2,731	3,128 2,931	2,902 2,834	2,913 2,886	3,027 3,053	2,993 3,011	3,022 3,031
Subtotal, conduct of research and development	BA O	33,744 32,662	36,488 34,544	37,012 35,942	37,376 37,101	37,662 37,546	37,864 37,858	37,678 37,685
Conduct of education and training:								
Education, training, employment and social services:								
Elementary, secondary, and vocational education	BA O	18,738 16,507	16,761 16,910	20,762 20,041	22,687 22,527	22,687 22,750	22,687 22,837	22,687 22,849
Higher education	BA O	13,818 12,060	14,248 14,032	12,332 11,636	13,610 13,427	12,666 12,157	13,954 13,623	14,599 14,175
Research and general education aids	BA O	1,900 1,958	2,233 2,128	2,300 2,415	2,304 2,413	2,320 2,432	2,279 2,399	2,268 2,407
Training and employment	BA O	6,370 4,569	6,608 5,938	6,435 6,645	5,433 6,378	5,386 5,740	5,386 5,413	5,386 5,381
Social services	BA O	6,994 6,610	7,366 7,454	8,026 7,554	8,087 7,903	8,149 7,993	8,213 8,036	8,279 8,102
Subtotal, education, training, and social services	BA O	47,820 41,704	47,216 46,462	49,855 48,291	52,121 52,648	51,208 51,072	52,519 52,308	53,219 52,914
Veterans education, training, and rehabilitation	BA O	1,568 1,502	1,357 1,693	1,652 1,681	1,908 1,937	1,902 1,909	1,901 1,906	1,927 1,933
Health	BA O	871 808	1,003 932	951 957	948 956	946 948	940 942	935 936
Other education and training	BA O	1,503 1,408	1,535 1,468	1,578 1,521	1,578 1,557	1,555 1,561	1,557 1,560	1,559 1,564
Subtotal, conduct of education and training	BA O	51,762 45,422	51,111 50,555	54,036 52,450	56,555 57,098	55,611 55,490	56,917 56,716	57,640 57,347
Subtotal, nondefense investment	BA O	148,859 134,308	163,500 150,784	166,025 157,957	169,831 167,499	169,776 166,940	173,002 170,230	173,880 171,561
Total, Federal investment	BA O	238,780 228,007	256,995 243,857	258,860 247,257	276,313 260,670	273,791 264,718	281,222 272,650	285,383 277,803

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS

(in millions of dollars)

Description	1998 Actual	Estimate						
		1999	2000	2001	2002	2003	2004	
GRANTS TO STATE AND LOCAL GOVERNMENTS								
Major public physical investments:								
Construction and rehabilitation:								
Highways	BA	24,691	29,008	30,453	29,937	30,481	31,022	31,657
	O	20,036	23,057	25,320	26,558	26,750	26,948	27,487
Mass transportation	BA	4,602	4,834	5,906	6,086	6,552	7,019	7,168
	O	3,892	3,789	3,960	4,763	5,299	5,984	6,404
Rail transportation	BA	10						
	O	44	47	2				
Air transportation	BA	1,640	2,322	1,600	1,600	1,600	1,600	1,600
	O	1,511	1,670	1,750	1,680	1,641	1,628	1,620
Pollution control and abatement	BA	2,730	2,783	2,149	2,149	2,149	2,149	2,149
	O	2,084	2,188	2,558	2,675	2,493	2,435	2,394
Other natural resources and environment	BA	43	27	26	26	26	26	26
	O	65	96	67	44	34	34	34
Community development block grants	BA	4,925	4,873	4,775	4,775	4,775	4,775	4,775
	O	4,621	4,965	4,856	4,817	4,792	4,757	4,779
Other community and regional development	BA	1,084	1,327	1,423	1,423	1,423	1,423	1,423
	O	1,060	1,284	1,274	1,365	1,493	1,547	1,520
Housing assistance	BA	6,193	6,956	6,529	6,529	6,529	6,529	6,529
	O	6,388	6,475	7,237	8,148	8,145	8,219	8,257
National defense	BA							
	O	5	3					
Other construction	BA	460	166	119	119	119	119	119
	O	427	194	206	181	145	119	119
Subtotal, construction and rehabilitation	BA	46,378	52,296	52,980	52,644	53,654	54,662	55,446
	O	40,133	43,768	47,230	50,231	50,792	51,671	52,614
Other physical assets	BA	996	1,027	1,402	1,462	1,480	1,515	1,533
	O	972	1,161	1,178	1,348	1,373	1,436	1,485
Subtotal, major public physical capital	BA	47,374	53,323	54,382	54,106	55,134	56,177	56,979
	O	41,105	44,929	48,408	51,579	52,165	53,107	54,099
Conduct of research and development:								
Agriculture	BA	223	253	181	189	189	189	189
	O	223	226	220	237	258	254	251
Other	BA	121	154	168	164	167	169	172
	O	79	105	182	187	188	190	193
Subtotal, conduct of research and development	BA	344	407	349	353	356	358	361
	O	302	331	402	424	446	444	444
Conduct of education and training:								
Elementary, secondary, and vocational education	BA	17,714	15,504	18,611	20,536	20,536	20,536	20,536
	O	15,686	15,992	18,752	20,692	20,724	20,776	20,787
Higher education	BA	80	160	197	197	197	197	197
	O	90	65	122	141	144	144	144
Research and general education aids	BA	328	516	347	362	366	347	340
	O	378	389	479	468	462	447	445
Training and employment	BA	5,122	5,043	4,749	3,748	3,715	3,715	3,715
	O	3,463	4,639	5,304	4,961	4,309	3,979	3,951
Social services	BA	6,722	7,081	7,721	7,782	7,844	7,908	7,974
	O	6,354	7,153	7,258	7,598	7,688	7,731	7,797
Agriculture	BA	423	453	402	402	402	402	402
	O	416	438	433	410	405	402	402
Other	BA	87	80	82	82	82	82	82
	O	82	80	79	81	82	80	81
Subtotal, conduct of education and training	BA	30,476	28,837	32,109	33,109	33,142	33,187	33,246
	O	26,469	28,756	32,427	34,351	33,814	33,559	33,607
Subtotal, grants for investment	BA	78,194	82,567	86,840	87,568	88,632	89,722	90,586
	O	67,876	74,016	81,237	86,354	86,425	87,110	88,150

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	1998 Actual	Estimate						
		1999	2000	2001	2002	2003	2004	
DIRECT FEDERAL PROGRAMS								
Major public physical investment:								
Construction and rehabilitation:								
National defense:								
Military construction	BA	3,281	3,309	1,433	5,328	2,646	2,742	2,852
O		3,515	3,107	2,955	2,526	3,730	3,433	3,055
Family housing	BA	887	739	206	937	446	447	448
O		883	966	803	602	484	489	500
Atomic energy defense activities and other	BA	698	746	679	859	859	859	859
O		689	640	703	754	774	771	771
Subtotal, national defense	BA	4,866	4,794	2,318	7,124	3,951	4,048	4,159
O		5,087	4,713	4,461	3,882	4,988	4,693	4,326
International affairs	BA	213	513	341	539	639	738	837
O		150	318	392	455	488	553	639
General science, space, and technology	BA	375	465	524	536	541	536	539
O		517	479	551	511	515	518	518
Water resources projects	BA	2,607	2,940	3,017	3,015	3,001	3,009	3,023
O		2,287	3,204	3,233	3,137	2,907	3,050	3,031
Other natural resources and environment	BA	1,782	1,756	1,793	1,854	1,826	1,828	1,828
O		1,799	1,788	1,895	1,926	1,930	1,976	2,017
Energy	BA	779	960	843	721	930	892	672
O		778	961	843	719	928	890	670
Postal Service	BA	1,726	1,654	1,457	1,317	1,485	1,742	1,509
O		1,528	1,032	1,225	1,344	1,457	1,574	1,609
Transportation	BA	596	628	296	206	211	216	220
O		664	344	361	205	207	204	214
Housing assistance	BA	26	26	30	30	30	30	30
O		18	26	27	30	30	30	30
Veterans hospitals and other health facilities	BA	1,580	1,572	1,413	1,453	1,435	1,426	1,426
O		1,515	1,581	1,588	1,594	1,562	1,546	1,537
Federal Prison System	BA	151	323	439	432	342	22	22
O		33	459	414	477	477	434	186
GSA real property activities	BA	416	1,165	767	952	875	918	847
O		1,640	1,069	1,016	1,079	1,062	1,016	939
Other construction	BA	2,326	1,362	1,220	1,216	1,111	1,112	1,112
O		2,245	1,260	1,483	1,131	1,302	1,322	1,244
Subtotal, construction and rehabilitation	BA	17,443	18,158	14,458	19,395	16,377	16,517	16,224
O		18,261	17,234	17,489	16,490	17,853	17,806	16,960
Acquisition of major equipment:								
National defense:								
Department of Defense	BA	44,934	48,562	52,483	61,439	61,765	66,019	68,683
O		48,180	48,422	46,864	51,199	54,686	59,610	63,500
Atomic energy defense activities	BA	329	353	350	350	350	350	350
O		312	356	343	354	352	351	351
Subtotal, national defense	BA	45,263	48,915	52,833	61,789	62,115	66,369	69,033
O		48,492	48,778	47,207	51,553	55,038	59,961	63,851
General science and basic research	BA	386	368	396	443	429	407	408
O		378	341	375	392	422	431	421
Space flight, research, and supporting activities	BA	657	659	509	506	491	471	462
O		662	668	499	502	493	478	467
Energy	BA	125	125	121	118	105	72	72
O		124	125	121	118	105	72	72
Postal Service	BA	597	739	848	918	744	744	530
O		364	319	736	802	781	590	835
Air transportation	BA	1,948	2,096	2,320	2,486	2,626	2,792	2,927
O		2,285	1,952	2,019	2,184	2,360	2,606	2,758
Water transportation (Coast Guard)	BA	263	423	231	318	318	318	318
O		187	272	325	274	309	309	318
Other transportation (railroads)	BA	609	609	571	571	571	571	571
O		164	247	442	581	572	572	572
Social security	BA	50						

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	1998 Actual	Estimate						
		1999	2000	2001	2002	2003	2004	
	O	87	55	30	32	34	37	40
Hospital and medical care for veterans	BA	700	684	500	504	510	511	512
	O	475	542	556	571	575	579	580
Department of Justice	BA	523	464	550	551	549	549	549
	O	453	436	505	560	577	580	580
Department of the Treasury	BA	919	858	394	727	724	727	731
	O	578	644	522	734	749	716	709
GSA general supply fund	BA	513	657	657	654	681	735	737
	O	493	657	657	654	681	735	737
Other	BA	687	906	960	1,007	972	959	989
	O	313	715	817	944	972	983	986
Subtotal, acquisition of major equipment	BA	52,631	57,503	60,890	70,592	70,835	75,225	77,839
	O	55,055	55,751	54,811	59,901	63,668	68,649	72,926
Purchase or sale of land and structures:								
National defense	BA	-34	-36	-36	-36	-36	-36	-36
	O	-34	-36	-36	-36	-36	-36	-36
International affairs	BA	10	19	14	19	23	27	31
	O	13	19	21	23	24	28	32
Sale of the United States Enrichment Corporation	BA	-1,885						
	O	-1,885						
Privatization of Elk Hills	BA	-2,887		-323				
	O	-2,887		-323				
Other	BA	796	607	707	701	200	692	681
	O	146	1,246	827	742	220	720	689
Subtotal, purchase or sale of land and structures	BA	-4,000	590	362	684	187	683	676
	O	-4,647	1,229	489	729	208	712	685
Subtotal, major public physical investment	BA	66,074	76,251	75,710	90,671	87,399	92,425	94,739
	O	68,669	74,214	72,789	77,120	81,729	87,167	90,571
Conduct of research and development:								
National defense								
Defense military	BA	37,230	36,895	34,794	34,679	35,057	34,911	35,419
	O	37,558	36,875	34,723	34,748	34,777	34,815	35,114
Atomic energy and other	BA	2,594	2,924	2,918	2,918	2,918	2,918	2,918
	O	2,583	2,737	2,939	3,016	3,002	2,977	2,977
Subtotal, national defense	BA	39,824	39,819	37,712	37,597	37,975	37,829	38,337
	O	40,141	39,612	37,662	37,764	37,779	37,792	38,091
International affairs	BA	163	165	115	115	115	115	115
	O	233	201	182	185	197	199	199
General science, space and technology								
NASA	BA	8,200	8,237	8,422	8,607	8,684	8,874	8,934
	O	8,631	8,475	8,201	8,355	8,417	8,716	8,861
National Science Foundation	BA	2,293	2,507	2,734	2,728	2,720	2,720	2,720
	O	2,010	2,125	2,437	2,603	2,722	2,711	2,724
Department of Energy	BA	1,874	2,226	2,253	2,253	2,253	2,253	2,253
	O	1,862	2,258	2,269	2,333	2,341	2,341	2,341
Subtotal, general science, space and technology	BA	12,530	13,135	13,524	13,703	13,772	13,962	14,022
	O	12,736	13,059	13,089	13,476	13,677	13,967	14,125
Energy	BA	1,281	1,230	1,346	1,324	1,324	1,324	1,324
	O	1,526	1,368	1,365	1,516	1,517	1,487	1,419
Transportation:								
Department of Transportation	BA	471	416	436	431	446	466	482
	O	475	424	488	526	488	510	524
NASA	BA	1,262	1,144	1,020	1,043	1,068	1,068	1,074
	O	1,250	1,198	1,054	1,027	1,041	1,072	1,078
Subtotal, transportation	BA	3,014	2,790	2,802	2,798	2,838	2,858	2,880
	O	3,251	2,990	2,907	3,069	3,046	3,069	3,021

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	1998 Actual	Estimate						
		1999	2000	2001	2002	2003	2004	
Health:								
National Institutes of Health	BA	12,898	14,783	15,150	15,150	15,150	15,124	15,124
	O	11,853	13,213	14,600	15,020	15,076	15,059	15,055
All other health	BA	633	675	658	838	898	948	648
	O	606	677	758	902	956	1,004	700
Subtotal, health	BA	13,531	15,458	15,808	15,988	16,048	16,072	15,772
	O	12,459	13,890	15,358	15,922	16,032	16,063	15,755
Agriculture	BA	1,026	1,235	1,204	1,204	1,205	1,208	1,208
	O	977	1,083	1,116	1,132	1,147	1,144	1,140
Natural resources and environment	BA	1,936	2,011	1,953	1,953	1,953	1,953	1,953
	O	1,653	1,785	1,767	1,757	1,758	1,768	1,770
National Institute of Standards and Technology	BA	392	395	432	432	432	432	432
	O	423	431	423	432	440	439	437
Hospital and medical care for veterans	BA	272	316	316	316	316	316	316
	O	247	305	314	315	315	315	315
All other research and development	BA	699	741	624	629	742	705	734
	O	614	670	566	574	685	649	678
Subtotal, conduct of research and development	BA	73,224	75,900	74,375	74,620	75,281	75,335	75,654
	O	72,501	73,825	73,202	74,441	74,879	75,206	75,332
Conduct of education and training:								
Elementary, secondary, and vocational education	BA	1,024	1,257	2,151	2,151	2,151	2,151	2,151
	O	821	918	1,289	1,835	2,026	2,061	2,062
Higher education	BA	13,738	14,088	12,135	13,413	12,469	13,757	14,402
	O	11,970	13,967	11,514	13,286	12,013	13,479	14,031
Research and general education aids	BA	1,572	1,717	1,953	1,942	1,954	1,932	1,928
	O	1,580	1,739	1,936	1,945	1,970	1,952	1,962
Training and employment	BA	1,248	1,565	1,686	1,685	1,671	1,671	1,671
	O	1,106	1,299	1,341	1,417	1,431	1,434	1,430
Health	BA	871	1,003	951	948	946	940	935
	O	808	932	957	956	948	942	936
Veterans education, training, and rehabilitation	BA	1,568	1,357	1,652	1,908	1,902	1,901	1,927
	O	1,502	1,693	1,681	1,937	1,909	1,906	1,933
General science and basic research	BA	599	660	686	684	659	659	659
	O	543	586	639	667	653	657	659
National defense	BA	2	3	8	8	10	10	10
	O	8	3	6	8	9	10	10
International affairs	BA	269	201	211	211	211	211	211
	O	252	230	213	217	211	211	211
Other	BA	397	426	502	504	506	508	510
	O	371	435	453	487	515	515	516
Subtotal, conduct of education and training	BA	21,288	22,277	21,935	23,454	22,479	23,740	24,404
	O	18,961	21,802	20,029	22,755	21,685	23,167	23,750
Subtotal, direct Federal investment	BA	160,586	174,428	172,020	188,745	185,159	191,500	194,797
	O	160,131	169,841	166,020	174,316	178,293	185,540	189,653
Total, Federal investment	BA	238,780	256,995	258,860	276,313	273,791	281,222	285,383
	O	228,007	243,857	247,257	260,670	264,718	272,650	277,803

Part II: PLANNING, BUDGETING, AND ACQUISITION OF CAPITAL ASSETS

The previous section discussed Federal investment broadly defined. The focus of this section is much narrower—the review of planning and budgeting during the past year and the resultant budget proposals for capital assets owned by the Federal Government and used to deliver Federal services. Capital assets consist of Federal buildings, information technology, and other facilities and major equipment, including weapons systems, federally owned infrastructure, and space satellites.¹ With proposed major agency restructuring, organizational streamlining, and other reforms, good planning may suggest reduced spending for some assets, such as office buildings, and increased spending for others, such as information technology, to increase the productivity of a smaller workforce.

In recent years the Administration and the Congress have reviewed the Federal Government's performance in planning, budgeting, risk management, and the acquisition of capital assets. The reviews indicate that the performance is uneven across the Government; the problems have many causes, and as a result, there is no single solution. However, in meeting the objective of improving the Government's performance, it is essential that the caliber of Government planning and budgeting for capital assets be improved.

Improving Planning, Budgeting, and Acquisition of Capital Assets

Risk Management.—Recent Executive Branch reviews have found a recurring theme in many capital asset acquisitions—that risk management should become more central to the planning, budgeting, and acquisition process. Failure to analyze and manage the inherent risk in all capital asset acquisitions may have contributed to cost overruns, schedule shortfalls, and acquisitions that fail to perform as expected. Failure to adopt capital asset requirements that are within the capabilities of the market and budget limitations may also have contributed to these problems. For each major project a risk analysis that includes how risks will be isolated, minimized, monitored, and controlled may help prevent these problems. The proposals in this budget, together with recent legislation enacted by Congress, are designed to help the Government manage better its portfolio of capital assets.

Long-Term Planning and Analysis.—Planning and managing capital assets, especially better management of risk, has historically been a low priority for some agencies. Attention focuses on coming-year appropriations, and justifications are often limited to lists of desired projects. The increased use of long-range planning linked to performance goals required by the Government Performance and Results Act would provide a

better basis for justifications. It would increase foresight and improve the odds for cost-effective investments.

A need for better risk management, integrated life-cycle planning, and operation of capital assets at many agencies was evident in the Executive Branch reviews. Research equipment was acquired with inadequate funding for its operation. New medical facilities sometimes were built without funds for maintenance and operation. New information technology sometimes was acquired without planning for associated changes in agency operations.

Congressional concern.—Congress has expressed its concern about planning for capital assets with legislation and other actions that complement Administration efforts to ensure better performance:

- The Government Performance and Results Act of 1993 (GPRA) is designed to help ensure that program objectives are more clearly defined and resources are focused on meeting these objectives.
- The Federal Acquisition Streamlining Act of 1994 (FASA), Title V, requires agencies to improve the management of large acquisitions. Title V requires agencies to institute a performance-based planning, budgeting, and management approach to the acquisition of capital assets. As a result of improved planning efforts, agencies are required to establish cost, schedule, and performance goals that have a high probability of successful achievement. For projects that are not achieving 90 percent of original goals, agencies are required to discuss corrective actions taken or planned to bring the project within goals. If they cannot be brought within goals, agencies should identify how and why the goals should be revised, whether the project is still cost beneficial and justified for continued funding, or whether the project should be canceled.
- The Clinger-Cohen Act of 1996 is designed to ensure that information technology acquisitions support agency missions developed pursuant to GPRA. The Clinger-Cohen Act also requires a performance-based planning, budgeting, and management approach to the acquisition of capital assets.
- The General Accounting Office published a study, *Budget Issues: Budgeting for Federal Capital* (November 1996), written in response to a congressional request, which recommended that the Office of Management and Budget (OMB) continue its focus on capital assets.

Administration concern.—Since 1994, the Administration has devoted particular attention to improving the process of planning, budgeting, and acquiring capital assets. After seeking out and analyzing the problems, which differed from agency to agency, OMB issued guidance on this issue in 1994. This guidance has been issued for several years, most recently as OMB Circular A-11: Part 3: "Planning, Budgeting, and Acquisition

¹This is almost the same as the definition in Part I of this chapter for spending for direct Federal construction and rehabilitation, major equipment, and purchase of land, except that capital assets excludes grants to private groups for these purposes (e.g., grants to universities for research equipment and grants to AMTRAK). A more complete definition can be found in the glossary to the "Principles of Budgeting for Capital Asset Acquisitions," which is at the end of this Part.

of Capital Assets” (July 1998) (hereafter referred to as Part 3). Part 3 identified other OMB guidance on this issue.²

Part 3 requests agencies to approach planning for capital assets in the context of strategic plans to carry out their missions, and to consider alternative methods of meeting their goals. Systematic analysis of the full life-cycle expected costs and benefits is required, along with risk analysis and assessment of alternative means of acquiring assets. The Administration proposes to make agencies responsible for using good capital programming principles for managing the capital assets they use, and to work throughout the coming year to improve agency practices in risk management, planning, budgeting, acquisition, and operation of these assets.

In support of this, in July 1997 OMB issued a *Capital Programming Guide*. This Guide was developed by an interagency task force with representation from 14 executive agencies and the General Accounting Office. The *Guide's* purpose is to provide professionals in the Federal Government a basic reference on capital assets management principles to assist them in planning, budgeting, acquiring, and managing the asset once in use. The Guide emphasizes risk management and the importance of analyzing capital assets as a portfolio. In addition, other recent actions by the Administration include:

- OMB memorandum 97-02, “Funding Information Systems Investments” (October 25, 1996) was issued to establish clear and concise decision criteria regarding investments in major information technology investments.
- As part of this budget, the Administration is:
 - requesting full funding in regular or advance appropriations for new capital projects and for many capital projects formerly funded incrementally. These requests are shown in Table 6-5 and discussed in the accompanying text.
 - reissuing the “Principles of Budgeting for Capital Asset Acquisitions,” which appear at the end of this Part. These principles offer guidelines to agencies to help carry out better planning, analysis, risk management, and budgeting for capital asset acquisitions.

From Planning to Budgeting.—Long-range agency plans should channel fully justified budget-year and

out-year capital acquisition proposals into the budget process. Agencies were asked to submit projections of both budget authority and outlays for high-priority capital asset proposals not only for the budget year but for the four subsequent years through 2004 as well. In addition, agency-specific capital asset issues were highlighted in the agency reviews.

Attention was given to whether the “lumpiness” of some capital assets—large one-year temporary increases in funding—disadvantaged them in the budget review process. In some cases, agencies aggregate capital asset acquisitions into budget accounts containing only such acquisitions; such accounts tend to smooth out year-to-year changes in budget authority and outlays and avoid crowding other expenditures. In other cases, agencies or program managers do not hesitate to request “spikes” in spending for asset acquisitions, and the review process accommodates them. But some agencies go out of their way to avoid such spikes, and some agencies have trouble accommodating them. Part 3 encouraged agencies to accommodate justified spikes in their own internal reviews.

Full funding of capital assets.—Good budgeting requires that appropriations for the full costs of asset acquisition be provided up front to help ensure that all costs and benefits are fully taken into account when decisions are made about providing resources. Full funding was endorsed by the General Accounting Office in its report, *Budgeting for Federal Capital* (November 1996). This rule is followed for most Department of Defense procurement and construction programs and for General Services Administration buildings. In other areas, however, too often it is not. When it is not followed and capital assets are funded in increments, without certainty if or when future funding will be available, it can and occasionally does result in poor risk management, weak planning, acquisition of assets not fully justified, higher acquisition costs, cancellation of major projects, the loss of sunk costs, and inadequate funding to maintain and operate the assets. Full funding is also an important element in managing large acquisitions effectively and holding management responsible for achieving goals.

This budget requests full funding with regular or advance appropriations for new capital projects and for many capital projects funded incrementally in the past. Projects that might have been funded in increments in past years and are fully funded in this budget are identified below in Table 6-5 and discussed in the accompanying text. Efforts will continue to include full funding for all new capital projects, or at least economically and programmatically viable segments (or modules) of new projects.

Other budgeting issues.—Other budgeting decisions can also aid in acquiring capital assets. Availability of funds for one year often may not be enough time to complete the acquisition process. Most agencies request that funds be available for more than one year to complete acquisitions efficiently, and Part 3 encourages this. As noted, many agencies aggregate asset ac-

²Other guidance published by OMB with participation by other agencies includes: (1) OMB Circular No. A-109, *Major System Acquisitions*, which establishes policies for planning major systems that are generally applicable to capital asset acquisitions. (2) OMB Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs*, which provides guidance on benefit-cost, cost-effectiveness, and lease-purchase analysis to be used by agencies in evaluating Federal activities including capital asset acquisition. It includes guidelines on the discount rate to use in evaluating future benefits and costs, the measurement of benefits and costs, the treatment of uncertainty, and other issues. This guidance must be followed in all analyses in support of legislative and budget programs. (3) Executive Order No. 12893, “Principles for Federal Infrastructure Investments,” which provides principles for the systematic economic analysis of infrastructure investments and their management. (4) OMB Bulletin No. 94-16, Guidance on Executive Order No. 12893, “Principles for Federal Infrastructure Investments,” which provides guidance for implementing this order and appends the order itself. (5) the revision of OMB Circular A-130, *Management of Federal Information Resources* (February 20, 1996), which provides principles for internal management and planning practices for information systems and technology; and (6) OMB Circular No. A-127, *Financial Management Systems*, which prescribes policies and standards for executive departments and agencies to follow in developing, evaluating, and reporting on financial management standards.

quisition in budget accounts to avoid lumpiness. In some cases, these are revolving funds that “rent” the assets to the agency’s programs.

To promote better program performance, agencies are also being encouraged by OMB to examine their budget account structures to align them better with program outputs and outcomes and to charge the appropriate account with significant costs used to achieve these results. The asset acquisition rental accounts, mentioned above, would contribute to this. Budgeting this way would provide information and incentives for better resource allocation among programs and a continual search for better ways to deliver services. It would also provide incentives for efficient capital asset acquisition and management.

Acquisition of Capital Assets.—Improved planning, budgeting, and acquisition strategies are necessary to increase the ability of agencies to acquire capital assets within, or close to, the original estimates of cost, schedule, and performance used to justify project budgets and to maintain budget discipline. The Administration initiative along with enactment of FASA (Title V) and the Clinger-Cohen Act require agencies to institute a performance-based planning, budgeting, and management approach to the acquisition of capital assets.

OMB, working with the agencies over the last several years, began separate but related efforts to develop an integrated management approach that employs performance based acquisition management as part of a disciplined capital programming process. The Administration also wants the capital asset acquisition goals incorporated into the annual performance plan called for by GPRA so that a unified picture of agency management activities is presented and acquisition performance goals are linked to the achievement of program and policy goals. This integrated approach will not only eliminate duplication in reporting agency actions but, most importantly, will foster more effective implementation of performance-based acquisition management.

The first effort was the issuance of OMB Circular A-11, Part 3, “Planning, Budgeting and Acquisition of Capital Assets,” in July 1996. Part 3 has been reissued annually since then. The *Capital Programming Guide* was issued as a Supplement to Part 3 in June 1997. These documents present unified guidance on planning, budgeting, acquisition, and management of capital assets. It also presents unified guidance designed to coordinate the collection of agency information for reports to the Congress required by FASA Title V. Part 3 for this year asked agencies to report on all major acquisitions and provide information on the extent of planning and risk mitigation efforts accomplished for new projects to ensure a high probability that the cost, schedule and performance goals established will be successfully achieved. For ongoing projects agencies are to provide information on the achievement of, or deviation from, goals. For projects that are not achieving 90 percent of original goals, agencies are required to discuss corrective actions taken, or contemplated, to bring the project within goals. If the project cannot

be brought within goals, agencies should explain how and why the goals should be revised and whether the project is still cost beneficial and justifies continued funding, or whether the project should be canceled. Approved acquisition goals submitted with the 2000 budget are the baseline goals for all future monitoring of project progress for both management purposes and reporting to Congress as required by FASA Title V. This more disciplined capital management approach is new to many agencies, and some agencies were not yet able to provide all the required information for all major acquisitions for this year. OMB expects that agencies will be able to meet the requirements for next year’s budget.

Part 3 complements OMB memorandum 97-02, “Funding Information Systems Investments” (October 25, 1996), which was issued to establish clear and concise decision criteria regarding investments in major information technology investments. These policy documents establish the general presumption that OMB will recommend new or continued funding only for those major investments in assets that comply with good capital programming principles.

At the Appendix to this Part are the “Principles of Budgeting for Capital Asset Acquisitions,” which incorporate the above criteria and expand coverage to all capital investments. The Administration recognizes that many agencies are in the middle of projects initiated prior to enactment of the Clinger-Cohen Act and FASA Title V, and may not be able to satisfy the criteria immediately. For those systems that do not satisfy the criteria, the Administration considered requests to use 1999 and 2000 funds to support reevaluation and re-planning of the project as necessary to achieve compliance with the criteria or to determine that the project would not meet the criteria and should be canceled.

As a result of these two initiatives, capital asset acquisitions are to have baseline cost, schedule, and performance goals for future tracking purposes or they are to be either reevaluated and changed or canceled if no longer cost beneficial.

Outlook.—The effort to improve planning and budgeting for capital assets will continue in 1999 and 2000.

- The Administration will work with the Congress to increase the number of projects that are fully funded with regular or advance appropriations.
- OMB will be working with congressional committees, the President’s Management Council, the Chief Financial Officers Council, and the Chief Information Officers Council to help agencies with their responsibility for capital assets through the alignment of budgetary resources with program results. OMB will also work with these groups to implement the “Principles of Budgeting for Capital Asset Acquisitions,” which are shown as an Appendix to this Part.
- Interagency working groups will be established to address: (1) program manager qualification standards; (2) enhanced systems of incentives to encourage excellence in the acquisition workforce; and

(3) government-wide implementation of performance-based management systems (e.g., earned value or similar systems) to monitor achievement or deviation from goals of in-process acquisitions.

- In the review process, proposals for the acquisition of capital assets and related issues of lumpiness or “spikes” will continue to receive special attention. Agencies will be encouraged to give the same special attention to future asset acquisition proposals.
- To ensure that the full costs and benefits of all budget proposals are fully taken into account in allocating resources, agencies will be required to propose full funding for acquisitions in their budget requests.

Major Acquisition Proposals

For the definition of major capital assets described above this budget requests \$73.4 billion of budget authority for 2000. This includes \$54.1 billion for the Department of Defense and \$19.3 billion for other agencies. The major requests are shown in the accompanying Table 6-4: “Capital Asset Acquisitions,” which distributes the funds according to the categories for construction and rehabilitation, major equipment, and purchases of land and structures.

Table 6-4. CAPITAL ASSET ACQUISITIONS
(Budget authority in billions of dollars)

	1998 actual	1999 proposed	2000 proposed
MAJOR ACQUISITIONS			
Construction and rehabilitation:			
Defense military construction and family housing	4.2	4.0	1.6
Army Corps of Engineers	2.1	2.6	2.6
Department of Energy	1.1	1.1	1.1
Department of Veterans Affairs	1.0	1.0	0.8
General Services Administration	0.4	1.2	0.8
Other agencies	5.8	6.6	5.9
Subtotal, construction and rehabilitation	14.5	16.5	12.9
Major equipment:			
Department of Defense	44.9	48.6	52.5
Department of Transportation	2.1	2.5	2.5
NASA	0.7	0.7	0.6
Department of Veterans Affairs	0.7	0.7	0.5
Department of the Treasury	0.9	0.9	0.4
Other agencies	3.0	3.4	3.7
Subtotal, major equipment	52.4	56.7	60.1
Purchases of land and structures	1.2	0.6	0.7
Total, major acquisitions ¹	68.1	73.9	73.7
Sale of major assets	-5.2	.....	-0.3
Total, capital asset acquisitions 1/	62.9	73.9	73.4

¹This total is derived from the direct Federal major public physical investment budget authority on Table 6-3 (\$75.7 billion for 2000). Table 6-4 excludes an estimate of spending for assets not owned by the Federal Government (\$2.3 billion for 2000).

Construction and Rehabilitation

This budget includes \$12.9 billion of budget authority for 2000 for construction and rehabilitation.

Department of Defense.—The budget requests \$1.6 billion for 2000 for general construction on military bases and family housing. This funding will be used to:

- support the fielding of new systems;
- enhance operational readiness, including deployment and support of military forces;
- provide housing for military personnel and their families;
- implement base closure and realignment actions; and
- correct safety deficiencies and environmental problems.

Army Corps of Engineers.—This budget requests \$2.6 billion for 2000 for construction and rehabilitation for the Army Corps of Engineers. These funds finance construction, rehabilitation, and related activity for water resources development projects that provide navigation, flood control, environmental restoration, and other benefits.

Department of Energy.—This budget requests \$1.1 billion for 2000 for construction and rehabilitation for the Department of Energy. The largest item is for the National Ignition Facility, which will be used to perform experiments, including inertial confinement fusion experiments, at high pressures and temperatures. Some of these investments are also discussed in the text that accompanies Table 6-5.

Department of Veterans Affairs.—The budget requests \$0.8 billion for construction and rehabilitation associated with veterans hospitals. These funds will provide for modernization and improvements to these facilities.

General Services Administration (GSA).—The 2000 budget includes \$0.8 billion in budget authority for GSA for the construction or renovation of buildings. These funds will allow for new construction and the acquisition of border stations and general purpose office space in locations where long-term needs show that ownership is preferable to leasing.

Other agencies.—This budget includes \$5.9 billion for construction and rehabilitation for other agencies in 2000. The largest items are for the Postal Service (\$1.5 billion), the Department of the Interior (\$0.8 billion), and the Tennessee Valley Authority (\$0.7 billion).

Major Equipment

This category covers capital purchases for major equipment, including weapons systems; information technology, such as computer hardware, major software, and renovations required for this equipment; and other types of equipment. This budget requests \$60.1 billion in budget authority for 2000 for the purchase of major equipment.

Department of Defense.—The budget requests \$52.5 billion for 2000 to procure or modify weapons systems, related support equipment, and purchase of other capital goods. This includes tactical fighter aircraft, airlift aircraft, naval vessels, tanks, helicopters, missiles, and vehicles.

Department of Transportation.—The budget requests \$2.5 billion in budget authority for the Department of Transportation, which includes \$2.3 billion to modern-

ize the air traffic control system and \$0.2 billion for the Coast Guard to acquire vessels and other equipment. Requests for advance appropriations for the air traffic control system in the Federal Aviation Administration are discussed with Table 6-5.

National Aeronautics and Space Administration (NASA).—The budget requests \$0.6 billion in budget authority to procure major equipment for programs in human space flight, science, aeronautics, and technology. Most of the equipment is to be acquired for Space Shuttle upgrades, such as orbiter improvements, Space Shuttle main engines, solid rocket booster improvements, and launch site equipment.

Department of Veterans Affairs.—This budget requests \$0.5 billion for medical equipment for health care facilities for veterans. These funds will be used to continue to provide quality health care services for veterans.

Department of the Treasury.—The budget requests \$0.4 billion in budget authority for 2000 for major equipment. These resources fund Internal Revenue Service information systems and other Treasury investment needs. The IRS funding and advanced appropriations (\$325 million) for 2001 for the IRS information technology investment account will help the IRS improve customer service by providing alternative means of filing returns and paying taxes, improve telephone service for taxpayers; and give employees immediate access to complete information and modern tools to do their jobs. Advanced appropriations (\$163 million) for the U.S. Customs Service in 2001 will fund modernization of automated commercial operations and an international trade data system. These investments are also discussed in the text that accompanies Table 6-5, which displays advance appropriations for capital acquisitions.

Other agencies.—This budget requests \$3.7 billion for major equipment for other agencies for 2000. The largest amount is for the Postal Service (\$0.8 billion). Other agencies include the General Services Administration (\$0.7 billion); the Department of Energy (\$0.6 billion) for science and other projects; and the Department of Commerce (\$0.6 billion), for procurement of weather satellites and other equipment.

Purchase and Sale of Land and Structures

This budget includes \$0.7 billion for 2000 for the purchase of land and structures. This includes \$0.2 billion for the purchase of buildings by the General Services Administration. The sale of assets that took place in 1998 was for proceeds from the sale of the United States Enrichment Corporation (\$1.9 billion), the privatization of Elk Hills (\$2.9 billion), and other assets.

Full Funding of Major Projects

This budget proposes full funding for new capital projects and for many projects formerly funded incrementally. The requests for advance appropriations shown in Table 6-5 demonstrate the Administration's continuing support for full funding of capital investments.

The importance of full funding was discussed earlier in this Part and is also explained in the "Principles of Budgeting for Capital Asset Acquisitions," which appears as an Appendix to this Part. This budget requests \$5.5 billion in budget authority for 2000 and \$24.6 billion in advance appropriations for later years, for a total request of \$30.1 billion for these projects for these years.

Department of Commerce

National Oceanic and Atmospheric Administration (NOAA).—This budget requests \$563 million for 2000 and \$5,367 million in advance appropriations for capital asset acquisitions in NOAA for 2001-2018.

These acquisitions support the largest modernization in the history of the National Weather Service. The modernization is well underway and demonstrating improvements in weather forecasts and warnings that lead to lives and property saved. The budget supports this multi-year effort to develop and deploy advanced technology, including advanced radar equipment, other ground observing systems, and geostationary and polar-orbiting satellites that will greatly improve the timeliness and accuracy of severe weather and flood warnings while reducing staffing requirements.

National Telecommunications and Information Administrations.—The budget requests \$35 million in 2000 and \$314 million in advance appropriations for 2001-2004 to support the acquisition of digital technology for public television.

Department of Defense

This budget requests \$2,484 million in advance appropriations for 2001 to fully fund selected military construction and family housing projects in the Department of Defense. The budget requests \$1,631 million for these projects in 2000.

Department of Energy

Defense environmental management privatization.—The budget requests \$228 million in 2000 to proceed with various projects that will treat some of DOE's most contaminated soil and highly radioactive waste. An additional \$2,557 million in advance appropriations for 2001-2004 is requested to provide primarily for treatment of high-level radioactive waste stored in underground tanks at the Hanford nuclear facility in Washington. This waste will be stabilized for safe storage and eventual disposal.

Clean coal technology.—The clean coal technology program supports cost-shared projects with industry to demonstrate the technical and economic viability of environmentally friendly and efficient technologies to extract energy from coal. Advanced appropriations for the clean coal technology program were provided by Congress in 1984 and 1988. The budget defers the availability of \$256 million of the clean coal technology program balances in 2000 and requests an advance appropriation to recoup the deferred budget authority in 2001-2003. Delays in the construction of two large

Table 6-5. PROPOSED SPENDING TO FULLY FUND SELECTED CAPITAL ASSET ACQUISITIONS

(Budget authority in millions of dollars)

	Regular appropriations 2000	Advance appropriations					Total Advance Appropriations
		2001	2002	2003	2004	After 2004	
DEPARTMENT OF COMMERCE							
National Oceanic and Atmospheric Administration: Procurement, acquisition and construction	563	611	587	587	655	2,927	5,367
National Telecommunications and Information Administration: Public telecommunications facilities, planning and construction	35	110	100	89	15	.....	314
Subtotal, Department of Commerce	598	721	687	676	670	2,927	5,681
DEPARTMENT OF DEFENSE							
Military construction and family housing	1,631	2,484	.....	.....	.....	.....	2,484
DEPARTMENT OF ENERGY							
Defense environmental management privatization 1/	228	671	659	633	594	.....	2,557
Clean coal technology	-256	189	40	27	.....	.....	256
Subtotal, Department of Energy	-28	860	699	660	594	.....	2,813
DEPARTMENT OF HEALTH AND HUMAN SERVICES							
Indian health facilities	36	34	10	.....	.....	.....	44
DEPARTMENT OF THE INTERIOR							
National Park Service: Construction and major maintenance	26	57	16	15	10	.....	98
DEPARTMENT OF STATE							
Security and maintenance of United States missions	36	300	450	600	750	900	3,000
DEPARTMENT OF TRANSPORTATION							
Federal Aviation Administration: Facilities and equipment	596	739	439	355	191	258	1,982
DEPARTMENT OF THE TREASURY							
Internal Revenue Service: Information technology investment .....	.....	325	.....	.....	.....	.....	325
United States Customs Service: Automation modernization .....	.....	163	.....	.....	.....	.....	163
Subtotal, Department of the Treasury .....	.....	488	.....	.....	.....	.....	488
GENERAL SERVICES ADMINISTRATION							
Federal buildings fund	41	163	.....	.....	.....	.....	163
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION							
Human space flight	2,483	2,328	2,091	1,721	1,573	.....	7,713
NATIONAL SCIENCE FOUNDATION							
Major research equipment	29	58	41	15	17	.....	131
SMITHSONIAN INSTITUTION							
Construction	8	17	17	18	.....	.....	52
Total	5,456	8,249	4,450	4,060	3,805	4,085	24,649

Note: For these capital projects, budget authority for the project is requested partly in the budget year and partly in future years in advance appropriations.

¹Additional funding for this program will be needed in future years.

clean coal technology demonstration projects make the deferral possible.

Department of Health and Human Services

This budget requests \$36 million for 2000 in regular appropriations and \$44 million in advance appropriations for projects in the Department of Health and Human Services for Indian health facilities. The funds will allow for needed improvements in these facilities.

Department of the Interior

National Park Service.—This budget requests \$26 million in budget authority for 2000 and \$98 million

in advance appropriations for 2001–2004 to fully fund projects in the National Park Service. The National Park Service needs to build or restore its buildings and other structures over the next few years. Funding stability is particularly needed for the National Park Service (NPS) to restore the Elwha River in Olympic National Park, Washington, by acquiring and removing two dams. Before the NPS can acquire the dams, the Secretary of the Interior must determine that funds to complete restoration are available. In addition to \$30 million already appropriated for acquisition and \$12 million in 2000, advance appropriations of \$71 million in 2001 through 2004 would fully fund the \$113

million project and provide the funding stability needed for the Secretary to proceed with acquisition. Advance appropriations in 2001 totaling \$27 million are also requested for seven parks that have an ongoing project requiring funding for later years: Sequoia National Park, Gettysburg National Military Park, Cape Cod National Seashore, Statue of Liberty/Ellis Island, San Francisco Maritime National Historical Park, George Washington Parkway/Glen Echo, and Cumberland Island National Seashore.

Department of State

This budget requests \$36 million for 2000 and advance appropriations of \$3.0 billion for 2001–2005 for embassy and consulate construction. This request would establish a program to provide a sustained, increasing funding path to meet overseas facility security needs.

Department of Transportation

Federal Aviation Administration.—This budget requests \$596 million in 2000 and an additional \$1,982 million for 2001–2007 for 11 multi-year capital projects to improve and modernize the FAA's air traffic control, communications, and aviation weather information systems. These projects are: Aviation Weather Services Improvements, Terminal Digital Radar, Terminal Automation (STARS), Wide Area Augmentation System for GPS, Display System Replacement, Weather and Radar Processor, Voice Switching and Control System, Oceanic Automation, Aeronautical Data Link, Operational and Supportability Implementation System (OASIS), and Beacon Interrogation Replacement.

Department of the Treasury

Internal Revenue Service (IRS).—This budget requests \$325 million in advance appropriations for 2001 to finance information technology investments. Budget authority enacted in 1998 and 1999 will finance the program through 2000. The IRS and the Treasury Department are significantly modifying the business plans for modernizing the IRS tax administration and systems by focusing on reengineering work processes and exploring private sector technology opportunities. These efforts will ensure that future capital investments by the IRS will improve customer service by providing alternative means of filing returns and paying taxes, improve telephone service for taxpayers; and give employees immediate access to complete information and modern tools to do their jobs.

United States Customs Service.—This budget requests \$163 million advance appropriations for 2001 to finance modernization of automated commercial operations and an international trade data system. The Customs Service must modernize its existing automated systems in order to keep up with the increasing volume of trade and to proceed with its recently redesigned trade process, which will deal with importers on an account level rather than on a transaction by transaction basis. In addition, an international trade data system will further simplify the trade community's interactions with

the Federal government by reducing redundant data requests and processing.

General Services Administration

This budget requests \$41 million for 2000 and \$163 million in advance appropriations for 2001 for the construction of a new Bureau of Alcohol, Tobacco and Firearms headquarters and office space for the Food and Drug Administration's Center for Drug and Evaluation Research.

National Aeronautics and Space Administration (NASA)

Human Space Flight (International Space Station).—This budget requests \$2,483 million in budget authority for 2000, and \$7,713 million in advance appropriations over the years 2001–2004 for the space station. This will be an international laboratory in low earth orbit on which American, Russian, Canadian, European, and Japanese astronauts will conduct unique scientific and technological investigations in a microgravity environment. During 1993 the program underwent a major redesign to reduce program costs. The first two launches beginning construction of the Station took place in 1998 and final assembly will be complete by 2004. Advance appropriations will enable NASA to complete the development program on schedule and at minimal total cost. Since the redesign, Congress has appropriated \$13.5 billion through 1999.

National Science Foundation (NSF)

This budget requests \$29 million in 2000 and \$131 million in advance appropriations for 2001–2004 to complete the redevelopment of the U.S. station at the South Pole in Antarctica, NSF's contribution to the International Large Hadron Collider, and the Network for Earthquake Engineering Simulation.

These amounts include \$5 million in 2000 and \$14 million in 2001 to complete the redevelopment of the South Pole station. This will provide a platform for scientific activities, provide a safe working and living environment, and maintain a U.S. presence in the Antarctica in accordance with national policy.

The Large Hadron Collider will be the largest particle accelerator in the world, and will be owned and operated by the European Laboratory for Particle Physics (CERN). NSF is collaborating with the Department of Energy in the development of detectors for the project. The budget requests \$16 million in 2000 and \$43 million in 2001–2003 to complete NSF's contribution.

The Newtwork for Earthquake Engineering Simulation is a network to connect and integrate a distributed collection of earthquake engineering facilities that will facilitate the future replacement of mechanical earthquake simulation with model-based computer simulation. The budget requests \$8 million in 2000 and \$74 million for 2001–2004 to complete development of the network.

Smithsonian Institution

The budget requests \$8 million in budget authority in 2000 and \$52 million in advance appropriations for

2001–2003 for the major capital renewal of the Patent Office Building. This building houses the Smithsonian's Museum of American Art and the National Portrait Gallery.

Appendix to Part II: PRINCIPLES OF BUDGETING FOR CAPITAL ASSET ACQUISITIONS

Introduction and Summary

The Administration plans to use the following principles in budgeting for capital asset acquisitions. These principles address planning, costs and benefits, financing, and risk management requirements that should be satisfied before a proposal for the acquisition of capital assets can be included in the Administration's budget. A Glossary describes key terms. A *Capital Programming Guide* has been published that provides detailed information on planning and acquisition of capital assets.

The principles are organized in the following four sections:

A. Planning. This section focuses on the need to ensure that capital assets support core/priority missions of the agency; the assets have demonstrated a projected return on investment that is clearly equal to or better than alternative uses of available public resources; the risk associated with the assets is understood and managed at all stages; and the acquisition is implemented in phased, successive segments, unless it can be demonstrated there are significant economies of scale at acceptable risk from funding more than one segment or there are multiple units that need to be acquired at the same time.

B. Costs and Benefits. This section emphasizes that the asset should be justified primarily by benefit-cost analysis, including life-cycle costs; that all costs are understood in advance; and that cost, schedule, and performance goals are identified that can be measured using an earned value management system or similar system.

C. Principles of Financing. This section stresses that useful segments are to be fully funded with regular or advance appropriations; that as a general rule, planning segments should be financed separately from procurement of the asset; and that agencies are encouraged to aggregate assets in capital acquisition accounts and take other steps to accommodate lumpiness or "spikes" in funding for justified acquisitions.

D. Risk Management. This section is to help ensure that risk is analyzed and managed carefully in the acquisition of the asset. Strategies can include separate accounts for capital asset acquisitions, the use of apportionment to encourage sound management, and the selection of efficient types of contracts and pricing mechanisms in order to allocate risk appropriately between the contractor and the Government. In addition cost, schedule, and performance goals are to be controlled and monitored by using an earned value management system or a similar system; and if progress toward these goals is not met there is a formal review process

to evaluate whether the acquisition should continue or be terminated.

A Glossary defines key terms, including capital assets. As defined here, capital assets are land, structures, equipment, and intellectual property (including software) that are used by the Federal Government, including weapon systems. Not included are grants to States or others for their acquisition of capital assets.

A. Planning

Investments in major capital assets proposed for funding in the Administration's budget should:

1. support core/priority mission functions that need to be performed by the Federal Government;
2. be undertaken by the requesting agency because no alternative private sector or governmental source can support the function more efficiently;
3. support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology;
4. demonstrate a projected return on the investment that is clearly equal to or better than alternative uses of available public resources. Return may include: improved mission performance in accordance with measures developed pursuant to the Government Performance and Results Act; reduced cost; increased quality, speed, or flexibility; and increased customer and employee satisfaction. Return should be adjusted for such risk factors as the project's technical complexity, the agency's management capacity, the likelihood of cost overruns, and the consequences of under- or non-performance;
5. for information technology investments, be consistent with Federal, agency, and bureau information architectures which: integrate agency work processes and information flows with technology to achieve the agency's strategic goals; reflect the agency's technology vision and year 2000 compliance plan; and specify standards that enable information exchange and resource sharing, while retaining flexibility in the choice of suppliers and in the design of local work processes;
6. reduce risk by: avoiding or isolating custom-designed components to minimize the potential adverse consequences on the overall project; using fully tested pilots, simulations, or prototype implementations when necessary before going to production; establishing clear measures and accountability for project progress; and, securing substantial involvement and buy-in throughout the project

from the program officials who will use the system;

7. be implemented in phased, successive segments as narrow in scope and brief in duration as practicable, each of which solves a specific part of an overall mission problem and delivers a measurable net benefit independent of future segments, unless it can be demonstrated that there are significant economies of scale at acceptable risk from funding more than one segment or there are multiple units that need to be acquired at the same time; and
8. employ an acquisition strategy that appropriately allocates risk between the Government and the contractor, effectively uses competition, ties contract payments to accomplishments, and takes maximum advantage of commercial technology.

Prototypes require the same justification as other capital assets.

As a general presumption, the Administration will recommend new or continued funding only for those capital asset investments that satisfy good capital programming policies. Funding for those projects will be recommended on a phased basis by segment, unless it can be demonstrated that there are significant economies of scale at acceptable risk from funding more than one segment or there are multiple units that need to be acquired at the same time. (For more information, see the Glossary entry, "capital project and useful segments of a capital project.")

The Administration recognizes that many agencies are in the middle of ongoing projects, and they may not be able immediately to satisfy the criteria. For those projects that do not satisfy the criteria, OMB will consider requests to use 1999 and 2000 funds to finance additional planning, as necessary, to support the establishment of realistic cost, schedule, and performance goals for the completion of the project. This planning could include: the redesign of work processes, the evaluation of alternative solutions, the development of information system architectures, and, if necessary, the purchase and evaluation of prototypes. Realistic goals are necessary for agency portfolio analysis to determine the viability of the project, to provide the basis for fully funding the project to completion, and setting the baseline for management accountability to deliver the project within goals.

Because the Administration considers this information essential to agencies' long-term success, the Administration will use this information both in preparing its budget and, in conjunction with cost, schedule, and performance data, as apportionments are made. Agencies are encouraged to work with their OMB representative to arrive at a mutually satisfactory process, format, and timetable for providing the requested information.

B. Costs and Benefits

The justification of the project should evaluate and discuss the extent to which the project meets the above criteria and should also include:

1. an analysis of the project's total life-cycle costs and benefits, including the total budget authority required for the asset, consistent with policies described in OMB Circular A-94: "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs" (October 1992);
2. an analysis of the risk of the project including how risks will be isolated, minimized, monitored, and controlled, and, for major programs, an evaluation and estimate by the Chief Financial Officer of the probability of achieving the proposed goals;
3. if, after the planning phase, the procurement is proposed for funding in segments, an analysis showing that the proposed segment is economically and programmatically justified—that is, it is programmatically useful if no further investments are funded, and in this application its benefits exceed its costs; and
4. show cost, schedule, and performance goals for the project (or the useful segment being proposed) that can be measured throughout the acquisition process using an earned value management system or similar system. Earned value is described in OMB Circular A-11, Part 3, "Planning, Budgeting and Acquisition of Capital Assets," (July 1998), Appendix 300C.

C. Principles of Financing

Principle 1: Full Funding

Budget authority sufficient to complete a useful segment of a capital project (or the entire capital project, if it is not divisible into useful segments) must be appropriated before any obligations for the useful segment (or project) may be incurred.

Explanation: Good budgeting requires that appropriations for the full costs of asset acquisition be enacted in advance to help ensure that all costs and benefits are fully taken into account at the time decisions are made to provide resources. Full funding with regular appropriations in the budget year also leads to tradeoffs within the budget year with spending for other capital assets and with spending for purposes other than capital assets. Full funding increases the opportunity to use performance-based fixed price contracts, allows for more efficient work planning and management of the capital project, and increases the accountability for the achievement of the baseline goals.

When full funding is not followed and capital projects or useful segments are funded in increments, without certainty if or when future funding will be available, the result is sometimes poor planning, acquisition of assets not fully justified, higher acquisition costs, cancellation of major projects, the loss of sunk costs, or inadequate funding to maintain and operate the assets.

Principle 2: Regular and Advance Appropriations

Regular appropriations for the full funding of a capital project or a useful segment of a capital project in the budget year are preferred. If this results in spikes

that, in the judgment of OMB, cannot be accommodated by the agency or the Congress, a combination of regular and advance appropriations that together provide full funding for a capital project or a useful segment should be proposed in the budget.

Explanation: Principle 1 (Full Funding) is met as long as a combination of regular and advance appropriations provide budget authority sufficient to complete the capital project or useful segment. Full funding in the budget year with regular appropriations alone is preferred because it leads to tradeoffs within the budget year with spending for other capital assets and with spending for purposes other than capital assets. In contrast, full funding for a capital project over several years with regular appropriations for the first year and advance appropriations for subsequent years may bias tradeoffs in the budget year in favor of the proposed asset because with advance appropriations the full cost of the asset is not included in the budget year. Advance appropriations, because they are scored in the year they become available for obligation, may constrain the budget authority and outlays available for regular appropriations of that year.

If, however, the lumpiness caused by regular appropriations cannot be accommodated within an agency or Appropriations Subcommittee, advance appropriations can ameliorate that problem while still providing that all of the budget authority is enacted in advance for the capital project or useful segment. The latter helps ensure that agencies develop appropriate plans and budgets and that all costs and benefits are identified prior to providing resources. In addition, amounts of advance appropriations can be matched to funding requirements for completing natural components of the useful segment. Advance appropriations have the same benefits as regular appropriations for improved planning, management, and accountability of the project.

Principle 3: Separate Funding of Planning Segments

As a general rule, planning segments of a capital project should be financed separately from the procurement of a useful asset.

Explanation: The agency must have information that allows it to plan the capital project, develop the design, and assess the benefits, costs, and risks before proceeding to procurement of the useful asset. This is especially important for high risk acquisitions. This information comes from activities, or planning segments, that include but are not limited to market research of available solutions, architectural drawings, geological studies, engineering and design studies, and prototypes. The construction of a prototype that is a capital asset, because of its cost and risk, should be justified and planned as carefully as the project itself. The process of gathering information for a capital project may consist of one or more planning segments, depending on the nature of the asset. Funding these segments separately will help ensure that the necessary information

is available to establish cost, schedule, and performance goals before proceeding to procurement.

If budget authority for planning segments and procurement of the useful asset are enacted together, the Administration may wish to apportion budget authority for one or several planning segments separately from procurement of the useful asset.

Principle 4: Accommodation of Lumpiness or "Spikes" and Separate Capital Acquisition Accounts

To accommodate lumpiness or "spikes" in funding justified capital acquisitions, agencies, working with OMB, are encouraged to aggregate financing for capital asset acquisitions in one or several separate capital acquisition budget accounts within the agency, to the extent possible within the agency's total budget request.

Explanation: Large, temporary, year-to-year increases in budget authority, sometimes called lumps or spikes, may create a bias against the acquisition of justified capital assets. Agencies, working with OMB, should seek ways to avoid this bias and accommodate such spikes for justified acquisitions. Aggregation of capital acquisitions in separate accounts may:

- reduce spikes within an agency or bureau by providing roughly the same level of spending for acquisitions each year;
- help to identify the source of spikes and to explain them. Capital acquisitions are more lumpy than operating expenses; and with a capital acquisition account, it can be seen that an increase in operating expenses is not being hidden and attributed to one-time asset purchases;
- reduce the pressure for capital spikes to crowd out operating expenses; and
- improve justification and make proposals easier to evaluate, since capital acquisitions are generally analyzed in a different manner than operating expenses (e.g., capital acquisitions have a longer time horizon of benefits and life-cycle costs).

D. Risk Management

Risk management should be central to the planning, budgeting, and acquisition process. Failure to analyze and manage the inherent risk in all capital asset acquisitions may contribute to cost overruns, schedule shortfalls, and acquisitions that fail to perform as expected. For each major capital project a risk analysis that includes how risks will be isolated, minimized, monitored, and controlled may help prevent these problems.

The project cost, schedule and performance goals established through the planning phase of the project are the basis for approval to procure the asset and the basis for assessing risk. During the procurement phase performance-based management systems (earned value or similar system) must be used to provide contractor and Government management visibility on the achievement of, or deviation from, goals until the asset is accepted and operational. If goals are not being met,

performance-based management systems allow for early identification of problems, potential corrective actions, and changes to the original goals needed to complete the project and necessary for agency portfolio analysis decisions. These systems also allow for Administration decisions to recommend meaningful modifications for increased funding to the Congress, or termination of the project, based on its revised expected return on investment in comparison to alternative uses of the funds. Agencies must ensure that the necessary acquisition strategies are implemented to reduce the risk of cost escalation and the risk of failure to achieve schedule and performance goals. These strategies may include:

1. having budget authority appropriated in separate capital asset acquisition accounts;
2. apportioning budget authority for a useful segment;
3. establishing thresholds for cost, schedule, and performance goals of the acquisition, including return on investment, which if not met may result in cancellation of the acquisition;
4. selecting types of contracts and pricing mechanisms that are efficient and that provide incentives to contractors in order to allocate risk appropriately between the contractor and the Government;
5. monitoring cost, schedule, and performance goals for the project (or the useful segment being proposed) using an earned value management system or similar system. Earned value is described in OMB Circular A-11, Part 3, "Planning, Budgeting and Acquisition of Capital Assets" (July 1998), Appendix 300C; and
6. if progress is not within 90 percent of goals, or if new information is available that would indicate a greater return on investment from alternative uses of funds, institute senior management review of the project through portfolio analysis to determine the continued viability of the project with modifications, or the termination of the project, and the start of exploration for alternative solutions if it is necessary to fill a gap in agency strategic goals and objectives.

E. Glossary

Appropriations

An appropriation provides budget authority that permits Government officials to incur obligations that result in immediate or future outlays of Government funds.

Regular annual appropriations: These appropriations are:

- enacted normally in the current year;
- scored entirely in the budget year; and
- available for obligation in the budget year and subsequent years if specified in the language. (See "Availability," below.)

Advance appropriations: Advance appropriations may be accompanied by regular annual appropriations to

provide funds available for obligation in the budget year as well as subsequent years. Advance appropriations are:

- enacted normally in the current year;
- scored after the budget year (e.g., in each of one, two, or more later years, depending on the language); and
- available for obligation in the year scored and subsequent years if specified in the language. (See "Availability," below.)

Availability: Appropriations made in appropriations acts are available for obligation only in the budget year unless the language specifies that an appropriation is available for a longer period. If the language specifies that the funds are to remain available until the end of a certain year beyond the budget year, the availability is said to be "multi-year." If the language specifies that the funds are to remain available until expended, the availability is said to be "no-year." Appropriations for major procurements and construction projects are typically made available for multiple years or until expended.

Capital Assets

Capital assets are land, structures, equipment, and intellectual property (including software) that are used by the Federal Government and have an estimated useful life of two years or more. Capital assets exclude items acquired for resale in the ordinary course of operations or held for the purpose of physical consumption such as operating materials and supplies. The cost of a capital asset includes both its purchase price and all other costs incurred to bring it to a form and location suitable for its intended use.

Capital assets may be acquired in different ways: through purchase, construction, or manufacture; through a lease-purchase or other capital lease, regardless of whether title has passed to the Federal Government; through an operating lease for an asset with an estimated useful life of two years or more; or through exchange. Capital assets include leasehold improvements and land rights; assets owned by the Federal Government but located in a foreign country or held by others (such as Federal contractors, state and local governments, or colleges and universities); and assets whose ownership is shared by the Federal Government with other entities. Capital assets include not only the assets as initially acquired but also additions; improvements; replacements; rearrangements and re-installations; and major repairs but not ordinary repairs and maintenance.

Examples of capital assets include the following, but are not limited to them: office buildings, hospitals, laboratories, schools, and prisons; dams, power plants, and water resources projects; furniture, elevators, and printing presses; motor vehicles, airplanes, and ships; satellites and space exploration equipment; information technology hardware and software; and Department of Defense weapons systems. Capital assets may or may not be capitalized (i.e., recorded in an entity's balance

sheet) under Federal accounting standards. Examples of capital assets not capitalized are Department of Defense weapons systems, heritage assets, stewardship land, and some software. Capital assets do not include grants for acquiring capital assets made to State and local governments or other entities (such as National Science Foundation grants to universities or Department of Transportation grants to AMTRAK). Capital assets also do not include intangible assets such as the knowledge resulting from research and development or the human capital resulting from education and training, although capital assets do include land, structures, equipment, and intellectual property (including software) that the Federal Government uses in research and development and education and training.

Capital Project and Useful Segments of a Capital Project

The total capital project, or acquisition of a capital asset, includes useful segments that are either planning segments or useful assets.

Planning segments: A planning segment of a capital project provides information that allows the agency to develop the design; assess the benefits, costs, and risks; and establish realistic baseline cost, schedule, and performance goals before proceeding to full acquisition of the useful asset (or canceling the acquisition). This information comes from activities, or planning segments, that include but are not limited to market research of available solutions, architectural drawings, geological studies, engineering and design studies, and prototypes. The process of gathering information for a capital project may consist of one or more planning segments, depending on the nature of the asset. If the project includes a prototype that is a capital asset, the prototype may itself be one segment or may be divisible into more than one segment. Because of uncertainty regarding the identification of separate planning segments for research and development activities, the application of full funding concepts to research and development planning will need more study.

Useful asset: A useful asset is an economically and programmatically separate segment of the asset procurement stage of the capital project that provides an asset for which the benefits exceed the costs, even if no further funding is appropriated. The total capital asset procurement may include one or more useful assets, although it may not be possible to divide all procurements in this way. Illustrations follow:

Illustration 1: If the construction of a building meets the justification criteria and has benefits greater than its costs without further investment, then the construction of that building is a “useful segment.” Excavation is not a useful segment because no useful asset results from the excavation alone if no further funding becomes available. For a campus of several buildings, a useful segment is one complete building if that building has programmatic benefits that exceed its costs regardless of whether the other buildings are constructed, even though that building may not be at its maximum use.

Illustration 2: If the full acquisition is for several items (e.g., aircraft), the useful segment would be the number of complete aircraft required to achieve benefits that exceed costs even if no further funding becomes available. In contrast, some portion of several aircraft (e.g., engines for five aircraft) would not be a useful segment if no further funding is available, nor would one aircraft be a useful segment if two or more are required for benefits to exceed costs.

Illustration 3: For information technology, a module (the information technology equivalent of “useful segment”) is separable if it is useful in itself without subsequent modules. The module should be designed so that it can be enhanced or integrated with subsequent modules if future funding becomes available.

Earned Value

Earned value refers to a performance-based management system for establishing baseline cost, schedule, and performance goals for a capital project and measuring progress against the goals. Earned value is described in OMB Circular A-11, Part 3, “Planning, Budgeting and Acquisition of Capital Assets” (July 1998), Appendix 300C.

Funding

Full funding: Full funding means that appropriations—regular appropriations or advance appropriations—are enacted that are sufficient in total to complete a useful segment of a capital project before any obligations may be incurred for that segment. Full funding for an entire capital project is required if the project cannot be divided into more than one useful segment. If the asset can be divided into more than one useful segment, full funding for a project may be desirable, but is not required to constitute full funding.

Incremental (partial) funding: Incremental (partial) funding means that appropriations—regular appropriations or advance appropriations—are enacted for just part of a useful segment of a capital project, if the project has useful segments, or for part of the capital project as a whole, if it is not divisible into useful segments. Under incremental funding for a capital asset, which is not permitted under these principles, the funds could be obligated to start the segment (or project) despite the fact that they are insufficient to complete a useful segment or project.

Risk Management

Risk management is an organized method of identifying and measuring risk and developing, selecting, and managing options for handling these risks. Before beginning any procurement, managers should review and revise as needed the acquisition plan to ensure that risk management techniques considered in the planning phase are still appropriate.

There are three key principles for managing risk when procuring capital assets: (1) avoiding or limiting the amount of development work; (2) making effective use of competition and financial incentives; and (3) es-

establishing a performance-based acquisition management system that provides for accountability for program successes and failures, such as an earned value system or similar system.

There are several types of risk an agency should consider as part of risk management. The types of risk include:

- schedule risk;

- cost risk;
- technical feasibility;
- risk of technical obsolescence;
- dependencies between a new project and other projects or systems (e.g., closed architectures); and
- risk of creating a monopoly for future procurement.

Part III: FEDERALLY FINANCED CAPITAL STOCKS

Federal investment spending creates a “stock” of capital that is available in the future for productive use. Each year, Federal investment outlays add to the stock of capital. At the same time, however, wear and tear and obsolescence reduce it. This section presents very rough measures over time of three different kinds of capital stocks financed by the Federal Government: public physical capital, research and development (R&D), and education.

Federal spending for physical assets adds to the Nation’s capital stock of tangible assets, such as roads, buildings, and aircraft carriers. These assets deliver a flow of services over their lifetime. The capital depreciates as the asset ages, wears out, is accidentally damaged, or becomes obsolete.

Federal spending for the conduct of research, development, and education adds to an “intangible” asset, the Nation’s stock of knowledge. Although financed by the Federal Government, the research and development or education can be performed by Federal or State government laboratories, universities and other nonprofit organizations, or private industry. Research and development covers a wide range of activities, from the investigation of subatomic particles to the exploration of outer space; it can be “basic” research without particular applications in mind, or it can have a highly specific practical use. Similarly, education includes a wide variety of programs, assisting people of all ages beginning with pre-school education and extending through graduate studies and adult education. Like physical assets, the capital stocks of R&D and education provide services over a number of years and depreciate as they become outdated.

For this analysis, physical and R&D capital stocks are estimated using the perpetual inventory method. In this method, the estimates are based on the sum of net investment in prior years. Each year’s Federal outlays are treated as gross investment, adding to the capital stock; depreciation reduces the capital stock. Gross investment less depreciation is net investment. A limitation of the perpetual inventory method is that investment spending may not accurately measure the value of the asset created. However, alternative methods for measuring asset value, such as direct surveys of current market worth or indirect estimation based on an expected rate of return, are especially difficult to apply to assets that do not have a private market, such as highways or weapons systems.

In contrast to physical and R&D stocks, the estimate of the education stock is based on the replacement cost method. Data on the total years of education of the U.S. population are combined with data on the cost of education and the Federal share of education spending to yield the cost of replacing the Federal share of the Nation’s stock of education.

Additional detail about the methods used to estimate capital stocks appears in a methodological note at the end of this section. It should be stressed that these estimates are rough approximations, and provide a basis only for making broad generalizations. Errors may arise from uncertainty about the useful lives and depreciation rates of different types of assets, incomplete data for historical outlays, and imprecision in the deflators used to express costs in constant dollars.

The Stock of Physical Capital

This section presents data on stocks of physical capital assets and estimates of the depreciation on these assets.

Trends.—Table 6–6 shows the value of the net federally financed physical capital stock since 1960, in constant fiscal year 1992 dollars.³ After rising in the 1960s, the total stock held constant through the 1970s and began rising again in the early 1980s. The stock amounted to \$1,838 billion in 1998 and is estimated to increase slightly to \$1,872 billion by 2000. In 1998, the national defense capital stock accounted for \$642 billion, or 35 percent of the total, and nondefense stocks for \$1,196 billion, or 65 percent of the total.

Real stocks of defense and nondefense capital show very different trends. Nondefense stocks have grown consistently since 1970, increasing from \$476 billion in 1970 to \$1,196 billion in 1998. With the investments proposed in the budget, nondefense stocks are estimated to grow to \$1,261 billion in 2000. During the 1970s, the nondefense capital stock grew at an average annual rate of 4.5 percent. In the 1980s, however, the growth rate slowed to 2.8 percent annually, with growth continuing at about that rate since then.

Real national defense stocks began in 1970 at a relatively high level, and declined steadily throughout the decade, as depreciation from the Vietnam era exceeded new investment in military construction and weapons procurement. Starting in the early 1980s, however, a

³ Constant dollar stock estimates are expressed in chained 1992 dollars, consistent with the January 1996 revisions to the National Income and Product Accounts (NIPAs).

Table 6-6. NET STOCK OF FEDERALLY FINANCED PHYSICAL CAPITAL
(In billions of 1992 dollars)

Fiscal Year	Total	National Defense	Nondefense								
			Total Non-defense	Direct Federal Capital			Capital Financed by Federal Grants				
				Total	Water and Power	Other	Total	Transportation	Community and Regional	Natural Resources	Other
Five year intervals:											
1960	895	633	262	128	78	50	134	82	24	19	9
1965	964	599	365	160	96	64	205	145	29	20	11
1970	1,098	621	476	182	109	72	295	211	42	24	18
1975	1,142	553	589	203	124	79	386	260	67	37	22
1980	1,237	498	738	230	145	85	508	313	104	68	23
1985	1,442	587	855	256	157	99	599	365	126	86	22
1990	1,692	719	973	288	166	121	685	426	136	98	24
Annual data:											
1995	1,810	700	1,109	325	174	151	784	493	145	106	39
1996	1,820	679	1,141	334	175	159	807	508	148	108	44
1997	1,831	659	1,172	341	175	166	831	523	150	109	49
1998	1,838	642	1,196	343	174	169	853	537	152	110	54
1999 est.	1,855	627	1,228	350	175	175	878	552	155	111	59
2000 est.	1,872	611	1,261	357	176	182	904	569	158	112	65

large defense buildup began to increase the stock of defense capital. By 1987, the defense stock had exceeded its size at the height of the Vietnam War. In the last few years, depreciation on this increased stock and a slower pace of defense investment have begun to reduce the stock from its recent levels. The stock is estimated to fall from \$642 billion in 1998 to \$611 billion in 2000.

Another trend in the Federal physical capital stocks is the shift from direct Federal assets to grant-financed assets. In 1960, 49 percent of federally financed non-defense capital was owned by the Federal Government, and 51 percent was owned by State and local governments but financed by Federal grants. Expansion in Federal grants for highways and other State and local capital, coupled with relatively slow growth in direct Federal investments by agencies such as the Bureau of Reclamation and Corps of Engineers, shifted the composition of the stock substantially. In 1998, 29 percent of the nondefense stock was owned by the Federal Government and 71 percent by State and local governments.

The growth in the stock of physical capital financed by grants has come in several areas. The growth in the stock for transportation is largely grants for highways, including the Interstate Highway System. The growth in community and regional development stocks occurred largely with the enactment of the community development block grant in the early 1970s. The value of this capital stock has grown only slowly in the past few years. The growth in the natural resources area occurred primarily because of construction grants for sewage treatment facilities. The value of this federally financed stock has increased about 30 percent since the mid-1980s.

Table 6-7 shows nondefense physical capital outlays both gross and net of depreciation since 1960. Total nondefense net investment has been consistently posi-

tive over the period covered by the table, indicating that new investment has exceeded depreciation on the existing stock. The reduced amount of net investment in 1998 reflects the sale of the United States Enrichment Corporation and the privatization of Elk Hills. For some categories in the table, such as water and power programs, net investment has been negative in some years, indicating that new investment has not been sufficient to offset estimated depreciation. The net investment in this table is the change in the net non-defense physical capital stock displayed in Table 6-6.

The Stock of Research and Development Capital

This section presents data on the stock of research and development, taking into account adjustments for its depreciation.

Trends.—As shown in Table 6-8, the R&D capital stock financed by Federal outlays is estimated to be \$817 billion in 1998 in constant 1992 dollars. About two-fifths is the stock of basic research knowledge; about three-fifths is the stock of applied research and development.

The total federally financed R&D stock in 1998 was about evenly divided between defense and nondefense. Although investment in defense R&D has exceeded that of nondefense R&D in every year since 1979, the non-defense R&D stock is actually the larger of the two, because of the different emphasis on basic research and applied research and development. Defense R&D spending is heavily concentrated in applied research and development, which depreciates much more quickly than basic research. The stock of applied research and development is assumed to depreciate at a ten percent geometric rate, while basic research is assumed not to depreciate at all.

Table 6-7. COMPOSITION OF GROSS AND NET FEDERAL AND FEDERALLY FINANCED NONDEFENSE PUBLIC PHYSICAL INVESTMENT

(In billions of 1992 dollars)

Fiscal Year	Total nondefense investment			Direct Federal investment					Investment financed by Federal grants						
	Gross	Depreciation	Net	Gross	Depreciation	Net	Composition of net investment		Gross	Depreciation	Net	Composition of net investment			
							Water and power	Other				Transportation (mainly high-ways)	Community and regional development	Natural resources and environment	Other
Five year intervals:															
1960	23.7	5.0	18.7	8.7	2.9	5.8	3.0	2.7	15.0	2.1	12.9	12.3	0.1	0.1	0.5
1965	31.6	7.0	24.6	10.4	3.8	6.6	3.1	3.5	21.2	3.2	18.0	15.2	2.0	0.4	0.4
1970	30.6	9.1	21.5	6.9	4.4	2.4	2.0	0.5	23.7	4.7	19.1	11.9	4.8	0.9	1.5
1975	31.9	11.0	20.8	9.6	4.9	4.8	3.7	1.1	22.2	6.2	16.1	7.3	4.0	4.1	0.6
1980	45.0	13.5	31.5	11.5	5.4	6.0	3.9	2.1	33.5	8.1	25.5	12.3	7.0	6.3	-0.2
1985	43.2	16.4	26.7	13.8	6.9	6.9	2.3	4.6	29.4	9.6	19.8	13.1	3.8	3.0	-0.1
1990	43.5	20.6	22.9	15.7	9.6	6.1	2.0	4.1	27.8	11.0	16.8	12.1	1.5	1.9	1.3
Annual data:															
1995	55.5	24.1	31.4	18.8	11.6	7.3	1.5	5.8	36.7	12.6	24.1	15.0	2.5	1.8	4.9
1996	56.8	25.0	31.8	20.3	12.0	8.3	0.6	7.7	36.5	13.0	23.6	14.6	2.7	1.4	4.9
1997	56.6	25.8	30.8	19.7	12.5	7.3	-0.3	7.6	36.9	13.3	23.6	14.9	2.6	1.3	4.8
1998	50.9	26.5	24.4	14.9	12.7	2.2	-0.3	2.5	36.0	13.7	22.3	13.8	2.4	0.9	5.2
1999 est.	58.9	27.1	31.8	20.2	13.0	7.2	0.7	6.5	38.7	14.1	24.6	15.9	2.8	1.1	4.9
2000 est.	61.0	27.8	33.1	20.2	13.3	6.9	0.5	6.4	40.8	14.5	26.2	17.1	2.5	1.3	5.3

Table 6-8. NET STOCK OF FEDERALLY FINANCED RESEARCH AND DEVELOPMENT¹

(In billions of 1992 dollars)

Fiscal Year	National Defense			Nondefense			Total Federal		
	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development
Five year intervals:									
1970	235	14	221	194	60	133	429	74	354
1975	249	19	231	237	88	149	486	106	380
1980	252	22	229	280	118	162	532	141	391
1985	288	27	260	304	156	148	592	184	408
1990	357	32	325	341	205	137	699	237	462
Annual data:									
1995	371	38	333	407	261	146	778	298	479
1996	372	39	333	418	272	146	790	311	479
1997	372	40	332	431	283	148	803	323	480
1998	372	41	331	445	295	150	817	336	481
1999 est.	370	42	328	461	308	153	831	349	482
2000 est.	367	43	324	476	321	156	843	364	480

¹ Excludes outlays for physical capital for research and development, which are included in Table 6-6.

The defense R&D stock rose slowly during the 1970s, as gross outlays for R&D trended down in constant dollars and the stock created in the 1960s depreciated. A renewed emphasis on defense R&D spending from 1980 through 1989 led to a more rapid growth of the R&D stock. Since then, defense R&D outlays have tapered off, depreciation has grown, and, as a result, the net defense R&D stock has stabilized.

The growth of the nondefense R&D stock slowed from the 1970s to the late 1980s, from an annual rate of 3.8 percent in the 1970s to a rate of 1.7 percent from 1980 to 1988. Gross investment in real terms fell during much of the 1980s, and about three-fourths of new outlays went to replacing depreciated R&D. Since 1988, however, nondefense R&D outlays have been on an upward trend while depreciation has edged down. As a

result, the net nondefense R&D capital stock has grown more rapidly.

The Stock of Education Capital

This section presents estimates of the stock of education capital financed by the Federal government.

As shown in Table 6-9, the federally financed education stock is estimated at \$814 billion in 1998 in constant 1992 dollars, rising to \$887 billion in 2000. The vast majority of the Nation's education stock is financed by State and local governments, and by students and their families themselves. This federally financed portion of the stock represents about 3 percent of the Nation's total education stock.⁴ Nearly three-

⁴ For estimates of the total education stock, see Table 2-4 in Chapter 2, "Stewardship: Toward a Federal Balance Sheet."

quarters is for elementary and secondary education, while the remaining one quarter is for higher education.

Despite a slowdown in growth during the early 1980s, the stock grew at an average annual rate of 5.1 percent from 1970 to 1998, and the expansion of the education stock is projected to continue under this budget.

Note on Estimating Methods

This note provides further technical detail about the estimation of the capital stock series presented in Tables 6-6 through 6-9.

As stated previously, the capital stock estimates are very rough approximations. Sources of possible error include:

Methodological issues.—The stocks of physical capital and research and development are estimated with the perpetual inventory method. A fundamental assumption of this method is that each dollar of investment spending adds a dollar to the value of the capital stock as of the end of the period in which the spending takes place. In reality, the value of the asset created could be more or less than the investment spending. As an extreme example, if a project were canceled before completion, the spending on the project would not result in the creation of any asset. Even where asset value is equal to investment spending, there might be timing differences in spending and the creation of an asset. For example, payments for constructing an aircraft carrier might be made over a period of years, with the asset only created at the end of the period.

The historical outlay series.—The historical outlay series for physical capital was based on budget records since 1940 and was extended back to 1915 using data from selected sources. There are no consistent outlay data on physical capital for this earlier period, and the estimates are approximations. In addition, the historical outlay series in the budget for physical capital extending back to 1940 may be incomplete. The histori-

cal outlay series for the conduct of research and development began in the early 1950s and required selected sources to be extended back to 1940. In addition, separate outlay data for basic research and applied R&D were not available for any years and had to be estimated from obligations and budget authority. For education, data for Federal outlays from the budget were combined with data for non-Federal spending from the institution or jurisdiction receiving Federal funds, which may introduce error because of differing fiscal years and confusion about whether the Federal Government was the original source of funding.

Price adjustments.—The prices for the components of the Federal stock of physical, R&D, and education capital have increased through time, but the rates of increase are not accurately known. Estimates of costs in fiscal year 1992 prices were made through the application of price deflators from the National Income and Product Accounts (NIPAs), but these should be considered only approximations of the costs of these assets in 1992 prices.

Depreciation.—The useful lives of physical, R&D, and education capital, as well as the pattern by which they depreciate, are very uncertain. This is compounded by using depreciation rates for broad classes of assets, which do not apply uniformly to all the components of each group. As a result, the depreciation estimates should also be considered approximations. This limitation is especially important in capital financed by grants, where the specific asset financed with the grant is often subject to the discretion of the recipient jurisdiction.

Research continues on the best methods to estimate these capital stocks. The estimates presented in the text could change as better information becomes available on the underlying investment data and as improved methods are developed for estimating the stocks based on those data.

Table 6-9. NET STOCK OF FEDERALLY FINANCED EDUCATION CAPITAL

(In billions of 1992 dollars)

Fiscal Year	Total Education Stock	Elementary and Secondary Education	Higher Education
Five year intervals:			
1960	64	46	18
1965	88	64	25
1970	203	159	44
1975	292	235	57
1980	410	319	91
1985	502	374	128
1990	650	479	170
Annual data:			
1995	721	523	198
1996	747	542	206
1997	776	562	214
1998	814	590	224
1999 est.	850	616	235
2000 est.	887	647	241

Physical Capital Stocks

For many years, current and constant-cost data on the stock of most forms of public and private physical capital—e.g., roads, factories, and housing—have been estimated annually by the Bureau of Economic Analysis (BEA) in the Department of Commerce. With the January 1996 comprehensive revision of the NIPAs, government investment has taken increased prominence. Government investment in physical capital is now reported separately from government consumption expenditures, and government consumption expenditures include depreciation as a measure of the services provided by the existing capital stock. In addition, estimates of depreciation were improved based on recent empirical research.⁵

The BEA data are not directly linked to the Federal budget, do not extend to the years covered by the budget, and do not separately identify the capital financed but not owned by the Federal Government. For these reasons, OMB prepares separate estimates for budgetary purposes, using techniques that roughly follow the BEA methods.

Method of estimation.—The estimates were developed from the OMB historical data base for physical capital outlays and grants to State and local governments for physical capital. These are the same major public physical capital outlays presented in Part I. This data base extends back to 1940 and was supplemented by rough estimates for 1915–1939.

The deflators used to convert historical outlays to constant 1992 dollars were based on composite NIPA deflators for Federal, State, and local consumption of durables and gross investment. For 1915 through 1929, deflators were estimated from Census Bureau historical statistics on constant price public capital formation.

The resulting capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those of BEA, which estimates depreciation using much more detailed categories. The geometric rates were 1.9 percent for water and power projects; 2.4 percent for other direct non-defense construction and rehabilitation; 20.3 percent for non-defense equipment; 14.0 percent for defense equipment; 2.1 percent for defense structures; 1.6 percent for transportation grants; 1.7 percent for community and regional development grants; 1.5 percent for natural resources and environment grants; and 1.8 percent for other nondefense grants.

Research and Development Capital Stocks

Method of estimation.—The estimates were developed from a data base for the conduct of research and

development largely consistent with the data in the *Historical Tables*. Although there is no consistent time series on basic and applied R&D for defense and non-defense outlays back to 1940, it was possible to estimate the data using obligations and budget authority. The data are for the conduct of R&D only and exclude outlays for physical capital for research and development, because those are included in the estimates of physical capital. Nominal outlays were deflated by the chained price index for gross domestic product (GDP) in fiscal year 1992 dollars to obtain estimates of constant dollar R&D spending.

The appropriate depreciation rate of intangible R&D capital is even more uncertain than that of physical capital. Empirical evidence is inconclusive. It was assumed that basic research capital does not depreciate and that applied research and development capital has a ten percent geometric depreciation rate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stock financed by private industry.⁶ More recent experimental work at BEA, extending estimates of tangible capital stocks to R&D, used slightly different assumptions. This work assumed straight-line depreciation for all R&D over a useful life of 18 years, which is roughly equivalent to a geometric depreciation rate of 11 percent. The slightly higher depreciation rate and its extension to basic research would result in smaller stocks than the method used here.⁷

Education Capital Stocks

Method of estimation.—The estimates of the federally financed education capital stock in Table 6–9 were calculated by first estimating the Nation's total stock of education capital, based on the current replacement cost of the total years of education of the population, including opportunity costs. To derive the Federal share of this total stock, the Federal share of total educational expenditures was applied to the total amount. The percent in any year was estimated by averaging the prior years' share of Federal education outlays in total education costs. The stock estimates are reduced from those reported last year, due to revisions in the estimated opportunity cost of education. For more information, refer to the technical note in Chapter 2, "Stewardship: Toward a Federal Balance Sheet."

The stock of capital estimated in Table 6–9 is based only on spending for education. Stocks created by other human capital investment outlays included in Table 6–1, such as job training and vocational rehabilitation, were not calculated because of the lack of historical data prior to 1962 and the absence of estimates of depreciation rates.

⁵ BEA explained its new methods in "Improved Estimates of Fixed Reproducible Tangible Wealth, 1929–95," *Survey of Current Business*, May 1997, pp. 69–76. BEA's most recent estimates of capital stocks appear in "Fixed Reproducible Tangible Wealth in the United States: Revised Estimates for 1995–97 and Summary Estimates for 1925–97," *Survey of Current Business*, September 1998, pp. 36–46.

⁶ See U.S. Department of Labor, Bureau of Labor Statistics, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989.

⁷ See "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994, pp. 37–71.

Part IV: ALTERNATIVE CAPITAL BUDGET AND CAPITAL EXPENDITURE PRESENTATIONS

A capital budget would separate Federal expenditures into two categories: spending for investment and all other spending. In this sense, Part I of the present chapter provides a capital budget for the Federal Government, distinguishing outlays that yield long-term benefits from all others. But alternative capital budget presentations have also been suggested, and a capital budget process may take many different forms.

The Federal budget mainly finances investment for two quite different types of reasons. It invests in capital—such as office buildings, computers, and weapons systems—that primarily contributes to its ability to provide governmental services to the public; some of these services, in turn, are designed to increase economic growth. And it invests in capital—such as highways, education, and research—that contributes more directly to the economic growth of the Nation. Most of the capital in the second category, unlike the first, is not owned or controlled by the Federal Government. In the

discussion that follows, the first is called “Federal capital” and the second is called “national capital.” Table 6–10 compares total Federal investment as defined in Part I of this chapter with investment in Federal capital, which was defined as “capital assets” in Part II of this chapter, and with investment in national capital. Some Federal investment is not classified as either Federal or national capital, and a relatively small part is included in both categories.

Capital budgets and other changes in Federal budgeting have been suggested from time to time for the Government’s investment in both Federal and national capital. These proposals differ widely in coverage, depending on the rationale for the suggestion. Some would include all the investment shown in Table 6–1, or more, whereas others would be narrower in various ways. These proposals also differ in other respects, such as whether investment would be financed by borrowing

Table 6–10. ALTERNATIVE DEFINITIONS OF INVESTMENT OUTLAYS, 2000
(In millions of dollars)

	Investment Outlays		
	All types of capital ¹	Federal capital	National capital
Construction and rehabilitation:			
Grants:			
Transportation	31,032		31,032
Natural resources and environment	2,625		2,621
Community and regional development	6,130		1,168
Housing assistance	7,237		
Other grants	206		64
Direct Federal:			
National defense	4,461	4,461	
General science, space, and technology	551	510	551
Natural resources and environment	5,128	3,754	4,829
Energy	843	843	843
Transportation	361	347	361
Veterans and other health facilities	1,588	1,588	1,588
Postal Service	1,225	1,225	1,225
GSA real property activities	1,016	1,016	
Other construction	2,316	1,844	1,036
Total construction and rehabilitation	64,719	15,588	45,318
Acquisition of major equipment (direct):			
National defense	47,207	47,207	
Postal Service	736	736	736
Air transportation	2,019	2,019	2,019
Other	4,849	4,251	2,998
Total major equipment	54,811	54,213	5,753
Purchase or sale of land and structures	489	489	
Other physical assets (grants)	1,178		92
Total physical investment	121,197	70,290	51,163
Research and development:			
Defense	37,662		1,150
Nondefense	35,942		35,460
Total research and development	73,604		36,610
Education and training	52,456		52,132
Total investment outlays	247,257	70,290	139,905

¹Total outlays for “all types of capital” are equal to the total for “major Federal investment outlays” in Table 6-1. Some capital is not classified as either Federal or national capital, and a relatively small part is included in both categories.

and whether the non-investment budget would necessarily be balanced. Some of these proposals are discussed below and illustrated by alternative capital budget and other capital expenditure presentations, although the discussion does not address matters of implementation such as the effect on the Budget Enforcement Act. The planning and budgeting process for capital assets, which is a different subject, is discussed in Part II of this chapter together with the steps this Administration is taking to improve it.

Investment in Federal Capital

The goal of investment in Federal capital is to deliver the right amount of Government services as efficiently and effectively as possible. The Congress allocates resources to Federal agencies to accomplish a wide variety of programmatic goals. Because these goals are diverse and most are not measured in dollars, they are difficult to compare with each other. Policy judgments must be made as to their relative importance.

Once amounts have been allocated for one of these goals, however, analysis may be able to assist in choosing the most efficient and effective means of delivering service. This is the context in which decisions are made on the amount of investment in Federal capital. For example, budget proposals for the Department of Justice must consider whether to increase the number of FBI agents, the amount of justice assistance grants to State and local governments, or the number of Federal prisons in order to accomplish the department's objectives. The optimal amount of investment in Federal capital derives from these decisions. There is no efficient target for total investment in Federal capital as such either for a single agency or for the Government as a whole.

The universe of Federal capital encompasses all federally owned capital assets. It excludes Federal grants to States for infrastructure, such as highways, and it excludes intangible investment, such as education and research. Investment in Federal capital in 2000 is estimated to be \$70.3 billion, or 28 percent of the total Federal investment outlays shown in Table 6-1. Of the investment in Federal capital, 74 percent is for defense and 26 percent for nondefense purposes.

A Capital Budget for Capital Assets

Discussion of a capital budget has often centered on Federal capital, called "capital assets" in Part II of this chapter—buildings, other construction, and equipment that support the delivery of Federal services. This includes capital commonly available from the commercial sector, such as office buildings, computers, military family housing, veterans hospitals, research and development facilities, and associated equipment; it also includes special purpose capital such as weapons systems, military bases, the space station, and dams. This definition excludes capital that the Federal Government has financed but does not own.⁸

⁸This definition of "capital assets" is the same as used in the budget for the last two years. Narrower definitions of "fixed assets" were used in earlier budgets.

Some capital budget proposals would partition the unified budget into a capital budget, an operating budget, and a total budget. Table 6-11 illustrates such a capital budget for capital assets as defined above. It is accompanied by an operating budget and a total budget. The operating budget consists of all expenditures except those included in the capital budget, plus depreciation on the stock of assets of the type purchased through the capital budget. The capital budget consists of expenditures for capital assets and, on the income side of the account, depreciation. The total budget is the present unified budget, largely based on cash for its measure of transactions, which records all outlays and receipts of the Federal Government. It consolidates the operating and capital budgets by adding them together and netting out depreciation as an intragovernmental transaction. The operating budget has a smaller surplus than the unified budget. This reflects both the relatively small Federal investment in new capital assets and the offsetting effect of depreciation on the existing stock. Depreciation is larger than capital expenditures by \$12 billion. The figures in Table 6-11 and the subsequent tables of this section are rough estimates, intended only to be illustrative and to provide a basis for broad generalizations.

Table 6-11. CAPITAL, OPERATING, AND UNIFIED BUDGETS:
FEDERAL CAPITAL, 2000¹

(In billions of dollars)

Operating Budget	
Receipts	1,883
Expenses:	
Depreciation	82
Other	1,695
Subtotal, expenses	1,777
Surplus or deficit (-)	105
Capital Budget	
Income: depreciation	82
Capital expenditures	70
Surplus or deficit (-)	12
Unified Budget	
Receipts	1,883
Outlays	1,766
Surplus or deficit (-)	117

¹Historical data to estimate the capital stocks and calculate depreciation are not readily available for Federal capital. Depreciation estimates were based on the assumption that outlays for Federal capital were a constant percentage of the larger categories in which such outlays were classified. They are also subject to the limitations explained in Part III of this chapter. Depreciation is measured in terms of current cost, not historical cost.

Some proposals for a capital budget would exclude defense capital (other than military family housing). These exclusions—weapons systems, military bases, and so forth—would comprise three-fourths of the expenditures shown in the capital budget of Table 6-11. If they were excluded, the operating budget would have a surplus that was a little more than the unified budget surplus: a surplus \$6 billion higher than the unified budget surplus instead of \$12 billion lower as shown above for the complete coverage of Federal capital. Ex-

cluding defense makes such a large difference because of its large relative size and the recent pattern of capital asset purchases. The large defense buildup that began in the early 1980s raised the capital stock and depreciation; the buildup was followed by a sharp decline in purchases, while the capital stock and depreciation have declined more slowly. (See the previous section of this chapter.) As a result, capital expenditures for defense in 2000 are estimated to be \$18 billion less than depreciation, whereas capital expenditures for nondefense purposes (plus military family housing) are estimated to be \$6 billion more.

Budget Discipline and a Capital Budget

Many proposals for a capital budget, though not all, would effectively dispense with the unified budget and make expenditure decisions on capital asset acquisitions in terms of the operating budget instead. When the Government proposed to purchase a capital asset, the operating budget would include only the estimated depreciation. For example, suppose that an agency proposed to buy a \$50 million building at the beginning of the year with an estimated life of 25 years and with depreciation calculated by the straightline method. Operating expense in the budget year would increase by \$2 million, or only 4 percent of the asset cost. The same amount of depreciation would be recorded as an increase in operating expense for each year of the asset's life.⁹

Recording the annual depreciation in the operating budget each year would provide little control over the decision about whether to invest in the first place. Most Federal investments are sunk costs and as a practical matter cannot be recovered by selling or renting the asset. At the same time, there is a significant risk that the need for a capital asset may change over a period of years, because either the need was not permanent, it was initially misjudged, or other needs become more important. Since the cost is sunk, however, control cannot be exercised later on by comparing the annual benefit of the asset services with depreciation and interest and then selling the asset if its annual services are not worth this expense. Control can only be exercised up front when the Government commits itself to the full sunk cost. By spreading the real cost of the project over time, however, use of the operating budget for expenditure decisions would make the budgetary cost of the capital asset appear very cheap when decisions were being made that compared it to alternative expenditures. As a result, there would be an incentive to purchase capital assets with little regard for need, and also with little regard for the least-cost method of acquisition.

A budget is a financial plan for allocating resources—deciding how much the Federal Government should spend in total, program by program, and for the parts

⁹The amount of depreciation that typically would be recorded as an expense in the budget year is overstated by this illustration. First, most assets are purchased after the beginning of the year, in which case less than a full year's depreciation would be recorded. Second, assets may be constructed or built to order, in which case no depreciation would be recorded until the work was completed and the asset put into service. This could be several years after the initial expenditure.

of each program. The budgetary system provides a process for proposing policies, making decisions, implementing them, and reporting the results. The budget needs to measure costs accurately so that decision makers can compare the cost of a program with its benefit, the cost of one program with another, and the cost of alternative methods of reaching a specified goal. These costs need to be fully included in the budget up front, when the spending decision is made, so that executive and congressional decision makers have the information and the incentive to take the total costs into account in setting priorities.

The unified budget does this for investment. By recording investment on a cash basis, it causes the total cost to be compared up front in a rough and ready way with the total expected future net benefits. Since the budget measures only cost, the benefits with which these costs are compared, based on policy makers' judgment, must be presented in supplementary materials. Such a comparison of total cost with benefits is consistent with the formal method of cost-benefit analysis of capital projects in government, in which the full cost of a capital asset as the cash is paid out is compared with the full stream of future benefits (all in terms of present values).¹⁰ This comparison is also consistent with common business practice, in which capital budgeting decisions for the most part are made by comparing cash flows. The cash outflow for the full purchase price is compared with expected future cash inflows, either through a relatively sophisticated technique of discounted cash flows—such as net present value or internal rate of return—or through cruder methods such as payback periods.¹¹ Regardless of the specific technique adopted, it usually requires comparing future returns with the entire cost of the asset up front—not spread over time through annual depreciation.¹²

Practice Outside the Federal Government

The proponents of making investment decisions on the basis of an operating budget with depreciation have sometimes claimed that this is the common practice outside the Federal Government. However, while the practice of others may differ from the Federal budget and the terms "capital budget" and "capital budgeting"

¹⁰For example, see Edward M. Gramlich, *A Guide to Benefit-Cost Analysis* (2nd ed.; Englewood Cliffs: Prentice Hall, 1990), chap. 6; or Joseph E. Stiglitz, *Economics of the Public Sector* (2nd ed.; New York: Norton, 1988), chap. 10. This theory is applied in formal OMB instructions to Federal agencies in OMB Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (October 29, 1992). General Accounting Office, *Discount Rate Policy*, GAO/OCE-17.1.1 (May 1991), discusses the appropriate discount rate for such analysis but not the foundation of the analysis itself, which is implicitly assumed.

¹¹For a full textbook analysis of capital budgeting techniques in business, see Harold Bierman, Jr., and Seymour Smidt, *The Capital Budgeting Decision* (8th ed.; Saddle River, N.J.: Prentice-Hall, 1993). Shorter analyses from the standpoints of corporate finance and cost accounting may be found, for example, in Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance* (5th ed.; New York: McGraw-Hill, 1996), chap. 2, 5, and 6; Charles T. Horngren *et al.*, *Cost Accounting* (9th ed.; Upper Saddle River, N.J.: Prentice-Hall, 1997), chap. 22 and 23; Jerold L. Zimmerman, *Accounting for Decision Making and Control* (Chicago: Irwin, 1995), chap. 3; and Surendra S. Singhvi, "Capital-Investment Budgeting Process" and "Capital-Expenditure Evaluation Methods," chap. 19 and 20 in Robert Rächlin, ed., *Handbook of Budgeting* (4th ed.; New York: Wiley, 1999).

¹²Two surveys of business practice conducted a few years ago found that such techniques are predominant. See Thomas Klammer *et al.*, "Capital Budgeting Practices—A Survey of Corporate Use," *Journal of Management and Accounting Research*, vol. 3 (Fall 1991), pp. 113-30; and Glenn H. Petry and James Sprow, "The Theory and Practice of Finance in the 1990s," *The Quarterly Review of Economics and Finance*, vol. 33 (Winter 1993), pp. 359-82. Petry and Sprow also found that discounted cash flow techniques are recommended by the most widely used textbooks in managerial finance.

are often used, these terms do not normally mean that capital asset acquisitions are decided on the basis of annual depreciation cost. The use of these terms in business and State government also does not mean that businesses and States finance all their investment by borrowing. Nor does it mean that under a capital budget the extent of borrowing by the Federal Government to finance investment would be limited by the same forces that constrain business and State borrowing for investment.

Private business firms call their investment decision making process “capital budgeting,” and they record the resulting planned expenditures in a “capital budget.” However, decisions are normally based on up-front comparisons of the cash outflows needed to make the investment with the resulting cash inflows expected in the future, as explained above, and the capital budget records the period-by-period cash outflows proposed for capital projects.¹³ This supports the business’s goal of deciding upon and controlling the use of its resources.

The cash-based focus of business budgeting for capital is in contrast to business financial statements—the income statement and balance sheet—which use accrual accounting for a different purpose, namely, to record how well the business is meeting its objective of earning profit and accumulating wealth for its owners. For this purpose, the income statement shows the profit in a year from earning revenue net of the expenses incurred. These expenses include depreciation, which is an allocation of the cost of capital assets over their estimated useful life. With similar objectives in mind, the Office of Management and Budget, the Treasury Department, and the General Accounting Office have adopted the use of depreciation on general property, plant, and equipment owned by the Federal Government as a measure of expense in financial statements and cost accounting for Federal agencies.¹⁴

Businesses finance investment from net income and other sources as well as borrowing. When they borrow to finance investment, they are constrained in ways that Federal borrowing is not. The amount that a business borrows is limited by its own profit motive and the market’s assessment of its capacity to repay. The greater a business’s indebtedness, other things equal, the more risky is any additional borrowing and the higher is the cost of funds it must pay. Since the profit motive ensures that a business will not want to borrow unless the expected return is at least as high as the cost of funds, the amount of investment that a business will want to finance is limited; it has an incentive to borrow only for projects where the expected return is as high or higher than the cost of funds. Furthermore,

¹³ A business capital budget is depicted in Glenn A. Welsch et al., *Budgeting: Profit Planning and Control* (5th ed.; Englewood Cliffs: Prentice Hall, 1988), pp. 396–99.

¹⁴ Office of Management and Budget, Statement of Federal Financial Accounting Standards No. 6, *Accounting for Property, Plant, and Equipment* (November 30, 1995), pp. 5–14 and 34–35. Depreciation is not used as a measure of expense for heritage assets, or for weapons systems and other national defense property, plant, and equipment. Depreciation also is not used as a measure of expense for physical property financed by the Federal Government but owned by State and local governments, or for investment that the Federal Government finances in human capital and research and development.

if the risk is great enough, a business may not be able to find a lender.

No such constraint limits the Federal Government—either in the total amount of its borrowing for investment, or in its choice of which assets to buy—because of its sovereign power to tax and the wide economic base that it taxes. It can tax to pay for investment; and, if it borrows, its power to tax ensures that the credit market will judge U.S. Treasury securities free from any risk of default even if it borrows “excessively” or for projects that do not seem worthwhile.

Most **States** also have a “capital budget,” but the operating budget is not like the operating budget envisaged by proponents of making Federal investment decisions on the basis of depreciation. State capital budgets differ widely in many respects but generally relate some of the State’s purchases of capital assets to borrowing and other earmarked means of financing. For the debt-financed portion of investment, the interest and repayment of principal are usually recorded as expenditures in the operating budget. For the portion of investment purchased in the capital budget but financed by Federal grants or by taxes, which may be substantial, State operating budgets do not record any amount. No State operating budget is charged for depreciation.¹⁵

States also do not record depreciation expense in the financial accounting statements for governmental funds. They record depreciation expense only in their proprietary (commercial-type) funds and in those trust funds where net income, expense, or capital maintenance is measured.¹⁶ Under a proposed change in financial reporting standards, however, depreciation on general capital assets would be recognized as an expense in entity-wide financial statements.¹⁷

State borrowing to finance investment, like business borrowing, is subject to limitations that do not apply to Federal borrowing. Like business borrowing, it is constrained by the credit market’s assessment of the State’s capacity to repay, which is reflected in the credit ratings of its bonds. Furthermore, borrowing is usually designated for specified investments, and it is almost always subject to constitutional limits or referendum requirements.

Other **developed nations** tend to show a more systematic breakdown between investment and operating expenditures within their budgets than does the United States, even while they record capital expenditures on a cash basis within the same budget totals. The French budget, for example, is divided into separate titles of

¹⁵ The characteristics of State capital budgets were examined in a survey of State budget officers for all 50 States in 1986. See Lawrence W. Hush and Kathleen Peroff, “The Variety of State Capital Budgets: A Survey,” *Public Budgeting and Finance* (Summer 1988), pp. 67–79. More detailed results are available in an unpublished OMB document, “State Capital Budgets” (July 7, 1987). Two GAO reports examined State capital budgets and reached similar conclusions on the issues in question. See *Budget Issues: Capital Budgeting Practices in the States*, GAO/AFMD–86–63FS (July 1986), and *Budget Issues: State Practices for Financing Capital Projects*, GAO/AFMD–89–64 (July 1989). For further information about state capital budgeting, see National Association of State Budget Officers, *Capital Budgeting in the States* (September 1997).

¹⁶ Governmental Accounting Standards Board (GASB), *Codification of Governmental Accounting and Financial Reporting Standards as of June 30, 1998*, sections 1100.107 and 1400.114–1400.118.

¹⁷ Governmental Accounting Standard Board, Exposure Draft, *Basic Financial Statements—and Management’s Discussion and Analysis—for State and Local Governments* (January 31, 1997), paragraphs 33–37 and 273–81.

which some are for current expenditures and others for capital expenditures. However, a recent study of European countries found only four that had a real difference between a current budget and a capital budget (Greece, Ireland, Luxembourg, and Portugal);¹⁸ and a survey by the Congressional Budget Office in 1993 found only two developed nations, Chile and New Zealand, that recognize depreciation in their budgets.¹⁹ New Zealand, moreover, while budgeting on an accrual basis that generally includes depreciation, requires the equivalent of appropriations for the full cost up front before a department can make net additions to its capital assets.²⁰ Some countries—including Sweden, Denmark, Finland, and the Netherlands—formerly had separate capital budgets but abandoned them a number of years ago.²¹ The United Kingdom has adopted a rule that it will borrow only for net investment (after depreciation), averaged over the economic cycle; and it has announced plans to budget on an accrual basis, including the depreciation for capital assets, beginning with its budget for 2001–02.

Conclusions

It is for reasons such as these that the General Accounting Office issued a report in 1993 that criticized budgeting for capital in terms of depreciation. Although the criticisms were in the context of what is termed “national capital” in this chapter, they apply equally to “Federal capital.”

“Depreciation is not a practical alternative for the Congress and the administration to use in making decisions on the appropriate level of spending intended to enhance the nation’s long-term economic growth for several reasons. Currently, the law requires agencies to have budget authority before they can obligate or spend funds. Unless the full amount of budget authority is appropriated up front, the ability to control decisions when total resources are committed to a particular use is reduced. Appropriating only annual depreciation, which is only a fraction of the total cost of an investment, raises this control issue.”²²

After further study of the role of depreciation in budgeting for national capital, GAO reiterated that con-

clusion in another study in 1995.²³ “The greatest disadvantage... was that depreciation would result in a loss of budgetary control under an obligation-based budgeting system.”²⁴ Although that study also focused primarily on what is termed “national capital” in this chapter, its analysis applies equally to “Federal capital.” In 1996 GAO extended its conclusions to Federal capital as well. “If depreciation were recorded in the federal budget in place of cash requirements for capital spending, this would undermine Congress’ ability to control expenditures because only a small fraction of an asset’s cost would be included in the year when a decision was made to acquire it.”²⁵

Investment in National Capital

A Target for National Investment

The Federal Government’s investment in national capital has a much broader and more varied form than its investment in Federal capital. The Government’s goal is to support and accelerate sustainable economic growth for the Nation as a whole and in some instances for specific regions or groups of people. The Government’s investment concerns for the Nation are two-fold:

- *The effect of its own investment in national capital on the output and income that the economy can produce.* Reducing expenditure on consumption and increasing expenditure on investment that supports economic growth is a major priority for the Administration. It has reordered priorities in its budgets by proposing increases in selected investments.
- *The effect of Federal taxation, borrowing, and other policies on private investment.* The Administration’s deficit reduction policy has brought about an expansion of private investment, most notably in producers’ durable equipment.

In its 1993 report, *Incorporating an Investment Component in the Federal Budget*, the General Accounting Office (GAO) recommended establishing an investment component within the unified budget—but not a separate capital budget or the use of depreciation—for this type of investment.²⁶ GAO defined this investment as “federal spending, either direct or through grants, that is directly intended to enhance the private sector’s long-term productivity.”²⁷ To increase investment—both public and private—GAO recommended establishing targets for the level of Federal investment and for a declining path of unified budget deficits over time.²⁸ Such a target for investment in national capital would focus attention on policies for growth, encourage a conscious decision about the overall level of growth-enhancing investment, and make it easier to set spending priorities in terms of policy goals for aggregate forma-

¹⁸ M. Peter van der Hoek, “Fund Accounting and Capital Budgeting: European Experience,” *Public Budgeting and Financial Management*, vol. 8 (Spring 1996), pp. 39–40.

¹⁹ Robert W. Hartman, Statement before the Subcommittee on Economic Development, Committee on Public Works and Transportation, U.S. House of Representatives (May 26, 1993). Hartman stated: “to our knowledge, only two developed countries, Chile and New Zealand, recognize depreciation in their budgets.”

²⁰ New Zealand’s use of depreciation in its budget is discussed in GAO, *Budget Issues: The Role of Depreciation in Budgeting for Certain Federal Investments*, GAO/AIMD-95-34 (February 1995), pp. 13 and 16–17.

²¹ The budgets in Sweden, Great Britain, Germany, and France are described in GAO, *Budget Issues: Budgeting Practices in West Germany, France, Sweden, and Great Britain*, GAO/AFMD-87-8FS (November 1986). Sweden had separate capital and operating budgets from 1937 to 1981, together with a total consolidated budget from 1956 onwards. The reasons for abandoning the capital budget are discussed briefly in the GAO report and more extensively by a government commission established to recommend changes in the Swedish budget system. One reason was that borrowing was no longer based on the distinction between current and capital budgets. See Sweden, Ministry of Finance, *Proposal for a Reform of the Swedish Budget System: A Summary of the Report of the Budget Commission Published by the Ministry of Finance* (Stockholm, 1974), chapter 10.

²² GAO, *Budget Issues: Incorporating an Investment Component in the Federal Budget*, GAO/AIMD-94-40 (November 1993), p. 11. GAO had made the same recommendation in earlier reports but with less extensive analysis.

²³ GAO, *Budget Issues: The Role of Depreciation in Budgeting for Certain Federal Investments*, GAO/AIMD-95-34 (February 1995), pp. 1 and 19–20.

²⁴ *Ibid.*, p. 17. Also see pp. 1–2 and 16–19.

²⁵ GAO, *Budget Issues: Budgeting for Federal Capital*, GAO/AIMD-97-5 (November 1996), p. 28. Also see p. 4.

²⁶ *Incorporating an Investment Component in the Federal Budget*, pp. 1–2, 9–10, and 15.

²⁷ *Ibid.*, pp. 1 and 5.

²⁸ *Ibid.*, pp. 2 and 13–16.

tion of national capital. GAO reiterated its recommendation in another report in 1995.²⁹

Table 6-12. UNIFIED BUDGET WITH NATIONAL INVESTMENT COMPONENT, 2000
(In billions of dollars)

Receipts	1,883
Outlays:	
National investment	140
Other	1,626
Subtotal, outlays	1,766
Surplus or deficit (-)	117

Table 6-12 illustrates the unified budget reorganized as GAO recommends to have a separate component for investment in national capital. This component is roughly estimated to be \$140 billion in 2000. It includes infrastructure outlays financed by Federal grants to State and local governments, such as highways and sewer projects, as well as direct Federal purchases of infrastructure, such as electric power generation equipment. It also includes intangible investment for non-defense research and development, for basic research financed through defense, and for education and training. Much of this expenditure consists of grants and credit assistance to State and local governments, non-profit organizations, or individuals. Only 12 percent of national investment consists of assets to be owned by the Federal Government. Military investment and some other "capital assets" as defined previously are excluded, because that investment does not primarily enhance economic growth.

A Capital Budget for National Investment

Table 6-13 roughly illustrates what a capital budget and operating budget would look like under this definition of investment—although it must be emphasized that this is *not* GAO's recommendation. Some proponents of a capital budget would make spending decisions within the framework of such a capital budget and operating budget. But the limitations that apply to the use of depreciation in deciding on investment decisions for Federal capital apply even more strongly in deciding on investment decisions for national capital. Most national capital is neither owned nor controlled by the Federal Government. Such investments are sunk costs completely and can be controlled only by decisions made up front when the Government commits itself to the expenditure.³⁰

In addition to these basic limitations, the definition of investment is more malleable for national capital than Federal capital. Many programs promise long-term intangible benefits to the Nation, and depreciation rates are much more difficult to determine for intangible investment such as research and education than they

Table 6-13. CAPITAL, OPERATING, AND UNIFIED BUDGETS: NATIONAL CAPITAL, 2000¹

(In billions of dollars)

Operating Budget	
Receipts	1,846
Expenses:	
Depreciation ²	73
Other	1,626
Subtotal, expenses	1,699
Surplus or deficit (-)	147
Capital Budget	
Income:	
Depreciation ²	73
Earmarked tax receipts ³	37
Subtotal, income	110
Capital expenditures	140
Surplus or deficit (-)	-30
Unified Budget	
Receipts	1,883
Outlays	1,766
Surplus or deficit (-)	117

¹For the purpose of this illustrative table only, education and training outlays are arbitrarily depreciated over 30 years by the straight-line method. This differs from the treatment of education and training elsewhere in this chapter and in Chapter 2. All depreciation estimates are subject to the limitations explained in Part III of this chapter. Depreciation is measured in terms of current cost, not historical cost.

²Excludes depreciation on capital financed by earmarked tax receipts allocated to the capital budget.

³Consists of tax receipts of the highway and airport and airways trust funds, less trust fund outlays for operating expenditures. These are user charges earmarked for financing capital expenditures.

are for physical investment such as highways and office buildings. These and other definitional questions are hard to resolve. The answers could significantly affect budget decisions, because they would determine whether the budget would record all or only a small part of the cost of a decision when policy makers were comparing the budgetary cost of a project with their judgment of its benefits. The process of reaching an answer with a capital budget would open the door to manipulation, because there would be an incentive to make the operating expenses and deficit look smaller by classifying outlays as investment and using low depreciation rates. This would "justify" more spending by the program or the Government overall.³¹

A Capital Budget and the Analysis of Saving and Investment

Data from the Federal budget may be classified in many different ways, including analyses of the Government's direct effects on saving and investment. As Parts I and III of this chapter have shown, the unified budget provides data that can be used to calculate Federal investment outlays and federally financed capital stocks. However, the budget totals themselves do not make this distinction. In particular, the budget surplus

³¹These problems are also pointed out in GAO, *Incorporating an Investment Component in the Federal Budget*, pp. 11-12. They are discussed more extensively with respect to highway grants, research and development, and human capital in GAO, *The Role of Depreciation in Budgeting for Certain Federal Investments*, pp. 11-14. GAO found no government that budgets for the depreciation of infrastructure (whether or not owned by that government), human capital, or research and development (except that New Zealand budgets for the depreciation of research and development if it results in a product that is intended to be used or marketed).

²⁹ *The Role of Depreciation in Budgeting for Certain Investments*, pp. 2 and 19-20.

³⁰GAO's conclusions about the loss of budgetary control that were quoted at the end of the section on Federal capital came from studies that predominantly considered "national capital."

or deficit does not measure the Government's contribution to the nation's net saving (i.e., saving net of depreciation). A capital budget, it is sometimes contended, is needed for this purpose.

This purpose, however, is now fulfilled by the Federal sector of the national income and product accounts (NIPAs) according to one definition of investment. The NIPA Federal sector measures the impact of Federal receipts, expenditures, and deficit on the national economy. It is part of an integrated set of measures of aggregate U.S. economic activity that is prepared by the Bureau of Economic Analysis in the Department of Commerce in order to measure gross domestic product (GDP), the income generated in its production, and many other variables used in macroeconomic analysis. The NIPA Federal sector for recent periods is published monthly in the *Survey of Current Business* with separate releases for historical data. Estimates for the President's proposed budget through the budget year are normally published in the budget documents. The NIPA translation of the budget, rather than the budget itself, is ordinarily used by economists to analyze the effect of Government fiscal policy on the aggregate economy.³²

Until three years ago the NIPA Federal sector did not divide government purchases of goods and services between consumption and investment. With the comprehensive revision of the national income and product accounts in early 1996, it now makes that distinction.³³ The revised NIPA Federal Government account for receipts and expenditures is a current account or an operating account for the Federal Government. The current account excludes expenditures for structures and equipment owned by the Federal Government; it includes depreciation on the federally owned stock of structures and equipment as a measure of the cost of using capital assets and thus as part of the Federal Government's current expenditures. It applies this treatment to a comprehensive definition of federally owned structures and equipment, both defense and nondefense, similar to the definition of "capital assets" in this chapter.³⁴

The NIPA "current surplus or deficit" of the Federal Government thus measures the Government's direct contribution to the Nation's net saving (given the definition of investment that is employed). The 1998 Federal Government current account surplus was reduced \$9.4 billion by including depreciation rather than gross in-

vestment, because depreciation of federally owned structures and equipment was more than gross investment. The 2000 Federal current account surplus is estimated to be reduced \$6.5 billion. This is unlike a few years earlier, when the Federal current account deficit was reduced, in some years substantially.³⁵ A capital budget is not needed to capture this effect.

Borrowing to Finance a Capital Budget

A further issue raised by a capital budget is the financing of capital expenditures. Some have argued that the Government ought to balance the operating budget and borrow to finance the capital budget—capital expenditures less depreciation. The rationale is that if the Government borrows for net investment and the rate of return exceeds the interest rate, the additional debt does not add a burden onto future generations. Instead, the burden of paying interest on the debt and repaying its principal is spread over the generations that will benefit from the investment. The additional debt is "justified" by the additional assets.

This argument is at best a justification to borrow to finance *net* investment, after depreciation is subtracted from *gross* outlays, not to borrow to finance *gross* investment. To the extent that capital is used up during the year, there are no additional assets to justify additional debt. If the Government borrows to finance *gross* investment, the additional debt exceeds the additional capital assets. The Government is thus adding onto the amount of future debt service without providing the additional capital that would produce the additional income needed to service that debt.

This justification, furthermore, requires that depreciation be measured in terms of the current replacement cost, not the historical cost. Current cost depreciation is needed in order to measure all activities in the budget on a consistent basis, since other outlays and receipts are automatically measured in the prices of the current year. Current cost depreciation is also needed to obtain a valid measure of net investment. This requires that the addition to the capital stock from new purchases and the subtraction from depreciation on existing assets both be measured in the prices of the same year. When prices change, historical cost depreciation does not measure the extent to which the capital stock is used up each year.

As a broad generalization, Tables 6–11 and 6–13 suggest that this rationale would not currently justify much Federal borrowing, if any at all, under the two capital budgets roughly illustrated in this chapter. For *Federal capital*, Table 6–11 indicates that current cost depreciation is more than gross investment for Federal capital—the capital budget surplus is \$12 billion. The rationale of borrowing to finance net investment would not justify the Federal Government borrowing at all to finance its investment in Federal capital; instead, it would have to repay this amount of debt (\$12 billion). For *national capital*, Table 6–13 indicates that current

³²See chapter 16 of this volume, "National Income and Product Accounts," for the NIPA current account of the Federal Government based on the budget estimates for 1999 and 2000, and for a discussion of the NIPA Federal sector and its relationship to the budget.

³³This distinction is also made in the national accounts of most other countries and in the System of National Accounts (SNA), which is guidance prepared by the United Nations and other international organizations. Definitions of investment may vary. Other countries and the SNA do not include the purchase of military equipment as investment.

³⁴The revised NIPA Federal sector is explained in *Survey of Current Business*, "Preview of the Comprehensive Revision of the National Income and Product Accounts: Recognition of Government Investment and Incorporation of a New Methodology for Calculating Depreciation" (September 1995), pp. 33–39. As is the case of private sector investment, government investment does not include expenditures on research and development or on education and training. Government purchases of structures and equipment remain a part of gross domestic product (GDP) as a separate component. The NIPA State and local government account has been revised in the same way and includes depreciation on structures and equipment owned by State and local governments that were financed by Federal grants as well as by their own resources. Depreciation is not displayed as a separate line item in the government account: depreciation on general government capital assets is included in government "consumption expenditures"; and depreciation on the capital assets of government enterprises is subtracted in calculating the "current surplus of government enterprises."

³⁵See actuals and estimates for 1989–2000 in table 16–2 of chapter 16 of this volume, "National Income and Product Accounts."

cost depreciation (plus the excise taxes earmarked to finance capital expenditures for highways and airports and airways³⁶) is less than gross investment but not by a great deal—the capital budget deficit is \$30 billion. The rationale of borrowing to finance net investment would justify the Federal Government borrowing this amount (\$30 billion) and no more to finance its investment in national capital.³⁷

Even with depreciation calculated in current cost, the rationale for borrowing to finance net investment is not persuasive. The Federal Government, unlike a business or household, is responsible not only for its own affairs but also for the general welfare of the Nation. To maintain and accelerate national economic growth and development, the Government needs to sustain private investment as well as its own national investment. For more than a decade, however, net national saving has been low, both by historical standards and in comparison to the amounts needed to meet the challenges expected in the decades ahead.

To the extent that the Government finances its own investment in a way that results in lower private investment, the net increase of total investment in the economy is less than the increase from the additional Federal capital outlays alone. The net increase in total investment is significantly less if the Federal investment is financed by borrowing than if it is financed

by taxation, because borrowing primarily draws upon the saving available for private (and State and local government) investment whereas much of taxation instead comes out of private consumption. Therefore, the net effect of Federal investment on economic growth would be reduced if it were financed by borrowing. This would be the result even if the rate of return on Federal investment was higher than the rate of return on private investment. For example, if a Federal investment that yielded a 15 percent rate of return crowded out private investment that yielded 10 percent, the net social return would still be positive but it would only be 5 percent.³⁸

From its outset, this Administration has taken major steps to increase the saving available for private investment while also increasing Federal investment for national capital. During the past six years, the large deficit has been replaced by a substantial surplus, and available resources have been shifted to investment in education and training and in science and technology. The present budget proposes to continue to run substantial surpluses, paying down the debt to make room for financing private investment, while protecting high priority Federal investment. A capital budget is not a justification to relax the budget constraints that are contributing to this accomplishment. Any easing would undo the gains from achieving a surplus that have already been achieved and the further gains from the proposals in this budget.

³⁶The capital budget deficit would be about \$26 billion larger if current cost depreciation were used instead of earmarked excise taxes for investment in highways and airports and airways.

³⁷This discussion abstracts from non-budgetary transactions that affect Federal borrowing requirements, such as changes in the Treasury operating cash balance and the net financing disbursements of the direct loan and guaranteed loan financing accounts. See chapter 12 of this volume, "Federal Borrowing and Debt," and the explanation of Table 12-2.

³⁸GAO considered deficit financing of investment but did not recommend it. See *Incorporating an Investment Component in the Federal Budget*, pp. 12-13.

Part V: SUPPLEMENTAL PHYSICAL CAPITAL INFORMATION

The Federal Capital Investment Program Information Act of 1984 (Title II of Public Law 98-501; hereafter referred to as the Act) requires that the budget include projections of Federal physical capital spending and information regarding recent assessments of public civilian physical capital needs. This section is submitted to fulfill that requirement.

This part is organized in two major sections. The first section projects Federal outlays for public physical capital and the second section presents information regarding public civilian physical capital needs.

Projections of Federal Outlays For Public Physical Capital

Federal public physical capital spending is defined here to be the same as the "major public physical capital investment" category in Part I of this chapter. It covers spending for construction and rehabilitation, acquisition of major equipment, and other physical assets. This section excludes outlays for human capital, such as the conduct of education and training, and outlays for the conduct of research and development.

The projections are done generally on a current services basis, which means they are based on 1999 enacted appropriations and adjusted for inflation in later years.

The current services concept is discussed in Chapter 14, "Current Services Estimates."

Federal public physical capital spending was \$109.8 billion in 1998 and is projected to increase to \$146.2 billion by 2008 on a current services basis. The largest components are for national defense and for roadways and bridges, which together accounted for almost three-fourths of Federal public physical capital spending in 1998.

Table 6-14 shows projected current services outlays for Federal physical capital by the major categories specified in the Act. Total Federal outlays for transportation-related physical capital were \$28.5 billion in 1998, and current services outlays are estimated to increase to \$42.3 billion by 2008. Outlays for nondefense housing and buildings were \$12.5 billion in 1998 and are estimated to be \$15.5 billion in 2008. Physical capital outlays for other nondefense categories were \$15.2 billion in 1998 and are projected to be \$26.8 billion by 2008. For national defense, this spending was \$53.6 billion in 1998 and is estimated on a current services basis to be \$61.6 billion in 2008.

Table 6-15 shows current services projections on a constant dollar basis, using fiscal year 1992 as the base year.

Table 6-14. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING

(In billions of dollars)

	1998 Actual	Estimate									
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Nondefense:											
Transportation-related categories:											
Roadways and bridges	20.2	23.2	25.5	26.7	27.2	27.6	28.1	28.8	29.4	30.1	30.7
Airports and airway facilities	3.8	3.6	3.9	4.0	4.2	4.3	4.4	4.5	4.6	4.7	4.9
Mass transportation systems	3.9	3.8	3.9	4.6	4.9	5.4	5.5	5.6	5.7	5.9	6.0
Railroads	0.6	0.4	0.5	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
Subtotal, transportation	28.5	31.0	33.8	35.9	37.0	38.0	38.8	39.7	40.6	41.4	42.3
Housing and buildings categories:											
Federally assisted housing	7.9	6.9	8.0	8.8	8.8	9.1	9.1	9.0	9.2	9.2	9.4
Hospitals	1.8	1.8	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Public buildings ¹	2.8	3.3	3.4	3.7	3.9	4.0	4.0	4.1	4.2	4.2	4.3
Subtotal, housing and buildings categories	12.5	12.1	13.3	14.3	14.6	14.9	14.9	14.9	15.2	15.3	15.5
Other nondefense categories:											
Wastewater treatment and related facilities	2.5	2.8	2.9	3.1	3.1	3.2	3.3	3.3	3.4	3.5	3.5
Water resources projects	2.3	3.3	3.1	3.1	3.0	3.2	3.2	3.3	3.4	3.5	3.5
Space and communications facilities	3.1	2.7	3.2	3.4	3.6	3.5	3.8	3.2	3.3	3.3	3.4
Energy programs	0.9	1.1	0.8	0.9	1.2	1.3	1.5	1.5	1.5	1.6	1.6
Community development programs	5.3	5.5	5.4	5.5	5.6	5.7	5.8	6.0	6.1	6.2	6.4
Other nondefense	1.1	7.2	6.6	7.2	6.8	7.5	7.6	7.7	7.9	8.2	8.4
Subtotal, other nondefense	15.2	22.6	22.1	23.3	23.2	24.4	25.3	25.0	25.6	26.2	26.8
Subtotal, nondefense	56.2	65.7	69.2	73.5	74.8	77.3	79.0	79.5	81.4	82.9	84.6
National defense	53.6	53.5	52.0	54.5	55.7	56.9	58.2	59.5	59.1	60.4	61.6
Total	109.8	119.1	121.3	128.0	130.5	134.2	137.2	139.1	140.4	143.3	146.2

¹ Excludes outlays for public buildings that are included in other categories in this table.

Table 6-15. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING

(In billions of constant 1992 dollars)

	1998 Actual	Estimate				
		1999	2000	2001	2002	2003
Nondefense:						
Transportation-related categories:						
Roadways and bridges	17.7	20.0	21.5	21.9	21.9	21.7
Airports and airway facilities	3.6	3.4	3.5	3.5	3.6	3.7
Mass transportation systems	3.4	3.3	3.3	3.8	4.0	4.2
Railroads	0.6	0.4	0.5	0.6	0.6	0.6
Subtotal, transportation	25.3	27.0	28.8	29.9	30.0	30.2
Housing and buildings categories:						
Federally assisted housing	7.1	6.0	6.8	7.2	7.1	7.2
Hospitals	1.8	1.8	1.8	1.7	1.7	1.6
Public buildings ¹	2.8	3.3	3.3	3.4	3.6	3.6
Subtotal, housing and buildings categories	11.7	11.0	11.9	12.4	12.4	12.4
Other nondefense categories:						
Wastewater treatment and related facilities	2.2	2.4	2.5	2.6	2.5	2.5
Water resources projects	2.2	3.2	2.9	2.9	2.7	2.8
Space and communications facilities	3.0	2.6	3.1	3.2	3.3	3.1
Energy programs	0.9	1.1	0.8	0.8	1.1	1.1
Community development programs	4.7	4.7	4.6	4.5	4.5	4.5
Other nondefense	0.9	6.9	6.2	6.5	6.0	6.6
Subtotal, other nondefense	13.9	20.9	20.0	20.6	20.2	20.7
Subtotal, nondefense	50.9	58.9	60.7	62.9	62.6	63.3
National defense	49.5	48.7	46.5	47.7	47.7	47.8
Total	100.4	107.7	107.2	110.7	110.3	111.1

¹ Excludes outlays for public buildings that are included in other categories in this table.

Public Civilian Capital Needs Assessments

The Act requires information regarding the state of major Federal infrastructure programs, including highways and bridges, airports and airway facilities, mass transit, railroads, federally assisted housing, hospitals, water resources projects, and space and communications investments. Funding levels, long-term projections, policy issues, needs assessments, and critiques, are required for each category.

Capital needs assessments change little from year to year, in part due to the long-term nature of the facilities themselves, and in part due to the consistency of the analytical techniques used to develop the assessments and the comparatively steady but slow changes in underlying demographics. As a result, the practice has arisen in reports in previous years to refer to earlier discussions, where the relevant information had been carefully presented and changes had been minimal.

The needs assessment material in reports of earlier years is incorporated this year largely by reference to earlier editions and by reference to other needs assessments. The needs analyses, their major components, and their critical evaluations have been fully covered in past Supplements, such as the 1990 Supplement to Special Analysis D.

It should be noted that the needs assessment data referenced here have not been determined on the basis of cost-benefit analysis. Rather, the data reflect the level of investment necessary to meet a predefined standard (such as maintenance of existing highway conditions). The estimates do not address whether the benefits of each investment would actually be greater than its cost or whether there are more cost-effective alternatives to capital investment, such as initiatives to reduce demand or use existing assets more efficiently. Before investing in physical capital, it is necessary to compare the cost of each project with its estimated benefits, within the overall constraints on Federal spending.

Significant Factors Affecting Infrastructure Needs Assessments

Highways

1. Projected annual average growth in travel to the year 2015	1.96 percent
2. Annual cost to maintain overall 1995 conditions and performance on highways eligible for Federal-aid	\$33.4 billion (1995 dollars)
3. Annual cost to maintain overall 1995 conditions on bridges	\$5.6 billion (1995 dollars)

Airports and Airway Facilities

1. Airports in the National Plan of Integrated Airport Systems with scheduled passenger traffic	528
2. Air traffic control towers	451
3. Airport development eligible under airport improvement program for period 1993–1997	\$29.7 billion (\$9.4 billion for capacity) (1992 dollars)

Mass Transportation Systems

1. Yearly cost to maintain condition and performance of rail facilities over a period of 20 years	\$6.1 billion (1995 dollars)
2. Yearly cost to replace and maintain the urban, rural, and special services bus fleet and facilities	\$3.6 billion (1995 dollars)

Wastewater Treatment

1. Total remaining needs of sewage treatment facilities	\$128 billion (1996 dollars)
2. Total Federal expenditures under the Clean Water Act of 1972 through 1999	\$72 billion
3. The population served by centralized treatment facilities: percentage that benefits from at least secondary sewage treatment systems (1996)	91 percent
4. States and territories served by State Revolving Funds	51

Housing

1. Total unsubsidized very low income renter households with worst case needs (5.3 million*)	
A. In severely substandard units	0.4 million
B. With a rent burden greater than 50 percent	5.0 million

*The total is less than the sum because some renter families have both problems.

Indian Health (IHS) Care Facilities

1. IHS hospital occupancy rates (1998)	45.0 percent
2. Average length of stay, IHS hospitals (days) (1998)	4.1
3. Hospital admissions (1998)	57,114
4. Outpatient visits (1997)	4,224,095
5. Eligible population (1999)	1,485,508

Department of Veterans Affairs (VA) Hospitals (1998)

1. Hospitals	166
2. Ambulatory clinics	544
3. Domiciliaries	40
4. Vet centers	206
5. Nursing homes	132

Water Resources

Water resources projects include navigation (deepwater ports and inland waterways); flood and storm damage protection; irrigation; hydro-power; municipal and industrial water supply; recreation; fish and wildlife mitigation, enhancement, and restoration; and soil conservation.

Potential water resources investment needs typically consist of the set of projects that pass both a benefit-cost test for economic feasibility and a test for environmental acceptability. In the case of fish and wildlife mitigation or restoration projects, the set of eligible projects includes those that pass a cost-effectiveness test.

Investment Needs Assessment References

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7. RESEARCH AND DEVELOPMENT EXPENDITURES

In the last one hundred years, science and technology have fundamentally transformed our lives, from the ways we travel and communicate, to the food we eat; from the manner in which we learn, to the quality of our health care and our ability to create a cleaner environment. The next century offers new fields of research and innovation and potential solutions to some of society's most pressing challenges. Technological advances continue to strengthen the ties between Americans and the rest of the world, enabling new business endeavors, providing access to news and information from anywhere on the globe, and improving cultural understanding. As the forces of innovation and globalization gain momentum, the 21st Century promises to be an era of great opportunity for the entire world, propelled by new and remarkable developments.

In the latter half of this century, the Federal Government has played a critical role in spurring and sustaining scientific and technological advances. Among other feats, Government-sponsored research and development put Americans on the moon, explored the oceans, boosted agricultural productivity, harnessed the atom, devised more effective treatments for cancers, found the remains of lost civilizations, tracked weather patterns and earthquake faults, created the Internet, and deciphered the chemistry of life. Numerous studies show technological innovation and scientific discovery generated at least half of the Nation's productivity growth over the last 50 years, created millions of high-skill, high-wage jobs, and improved the quality of life in America.

In the last year alone, Federal government funding of research and development produced numerous impressive results, including the first photograph of a planet outside our own solar system, creation of the world's fastest supercomputer, identification of the gene that causes Parkinson's Disease, and a host of other notable achievements.

The future holds even greater possibilities. Scientists and engineers in many disciplines are within reach of even more exciting advances. Building on decades of experimental and theoretical developments, they will be able to rely on new and sophisticated research tools for future discoveries—supercomputers that can make trillions of calculations in a second, particle accelerators and electron microscopes that can decipher atoms and the nature of matter, and space telescopes that can reach to parts of the universe previously unexplored. In particular, computational science—supercomputer modeling of extremely complex systems such as the global climate, the human body, and galaxies—is emerging as a new and significant branch of research, providing insights not likely to occur through experimentation or theorizing alone.

Continued leadership in science and technology is a cornerstone of the President and the Vice President's vision for America. The Administration is proposing \$77.1 billion in outlays for research and development (R&D) activities in 2000, including \$38.7 billion for civilian R&D—a six percent increase over 1999. Chapter Seven of the *Budget* includes a lengthier discussion of R&D activities and shows budget authority data.

Table 7-1. FEDERAL RESEARCH AND DEVELOPMENT EXPENDITURES

(Outlays, dollar amounts in millions)

	1998 Actual	1999 Estimate	2000 Proposed	Dollar Change: 1999 to 2000	Percent Change: 1999 to 2000
By Agency					
Defense	37,844	37,186	34,992	-2,194	-6%
Health and Human Services	12,685	14,226	15,582	1,356	9%
National Aeronautics and Space Administration	10,251	10,032	9,620	-412	-4%
Energy	6,730	7,194	7,495	301	4%
National Science Foundation	2,302	2,334	2,634	300	11%
Agriculture	1,546	1,671	1,707	36	2%
Commerce	835	862	864	2	0%
Interior	451	519	618	99	19%
Transportation	661	573	1,324	751	131%
Veterans Affairs	564	658	662	4	1%
Environmental Protection Agency	527	638	652	14	2%
Other	958	966	983	17	2%
TOTAL	75,354	76,859	77,133	274	0%
By R&D Type					
Basic Research	14,892	16,248	17,598	1,350	8%
Applied Research	14,545	15,447	15,916	469	3%
Development	43,325	42,281	40,560	-1,721	-4%
Equipment	937	937	1,021	84	9%

Table 7-1. FEDERAL RESEARCH AND DEVELOPMENT EXPENDITURES—Continued
(Outlays, dollar amounts in millions)

	1998 Actual	1999 Estimate	2000 Proposed	Dollar Change: 1999 to 2000	Percent Change: 1999 to 2000
Facilities	1,659	1,950	2,038	88	5%
TOTAL	75,354	76,859	77,133	274	0%
By Civilian Theme					
Basic Research	13,839	15,096	16,448	1,352	9%
Applied Research	10,410	10,923	11,350	427	4%
Development	8,370	8,343	8,616	273	3%
Equipment	608	608	707	99	16%
Facilities	1,251	1,455	1,581	126	9%
SUBTOTAL	34,478	36,425	38,702	2,277	6%
By Defense Theme					
Basic Research	1,053	1,152	1,150	-2	0%
Applied Research	4,135	4,524	4,566	42	1%
Development	34,951	33,934	31,950	-1,984	-6%
Equipment	329	329	314	-15	-5%
Facilities	408	495	457	-38	-8%
SUBTOTAL	40,876	40,434	38,431	-2,003	-5%
R&D Support to Universities	12,528	13,719	14,427	708	5%

8. UNDERWRITING FEDERAL CREDIT AND INSURANCE

Federal programs offer direct loans and/or loan guarantees for housing, education, business, and exports. At the end of FY 1998, there were \$217 billion in Federal direct loans outstanding and \$882 billion in loan guarantees. In addition, net lending by Government-sponsored enterprises totaled \$2.0 trillion. The Federal Government also insures bank, thrift, and credit union deposits up to \$100,000, guarantees vested define-benefit pensions, and insures against disasters, specified international investment risks, and various other risks. These diverse programs are operating in the context of rapidly evolving private financial markets that are making some of their functions less necessary while generating both new risks and new opportunities. Thus, program managers are continually reassessing their roles and seeking to improve their effectiveness in dynamic financial markets.

The introduction to this chapter summarizes key changes in financial markets and their effects on Federal programs.

- Its first section is a crosscutting assessment of the rationale for a continued Federal role in providing credit and insurance, performance measures for credit programs, and criteria for re-engineering credit programs so as to enhance their benefits in relation to costs.
- The second section reviews Federal credit programs and GSEs in four sectors: housing, education, business and community development, and exports, noting the rationale and goals of these programs. It highlights a housing consortium recently created to help program managers integrate with evolving private sector practices, and efforts to improve the effectiveness of student, business, and international credit programs.
- The final section assesses recent developments in Federal deposit insurance, pension guarantees, and disaster insurance.

Evolving Financial Markets

Financial markets have been evolving rapidly in recent years. Both intermediaries—banks and the many non-bank firms engaged in financial services—and capital markets have been reaching out to new clients that they did not serve a few years ago. Competition for business within and across industry lines has become more intense as legal and regulatory restrictions segmenting financial markets have eased. Massive databanks and increasingly sophisticated analytical methods are being used to find creditworthy borrowers among people and businesses previously thought ineligible for private credit.

Moreover, funds are flowing more readily to their most productive uses across the country and around

the world. Interstate banking and branching are almost nationwide, and growing numbers of large financial institutions serve global markets. Capital market financing is available to smaller companies and for a broader range of purposes than before. Secondary markets are the main source of financing for mortgages, and a rapidly growing source of financing for household durables, consumer credit, and small business loans. Nonbanks and nonfinancial firms are helping to funnel funds from capital markets to small clients in cities and in rural areas.

Faster and cheaper information and communications systems have revolutionized “back office” functions. These can be consolidated to achieve economies of scale and located anywhere in the world where capable help is available and economical. From these locations, communications can bring the “back office” to the front line on a computer terminal in the office of any realtor or supplier or in any storefront or kiosk. From a timely information base, credit servicing and workout have become much more efficient.

While the increased globalization of financial institutions and capital markets provides extensive benefits, it also makes domestic market conditions more sensitive to events abroad. In 1998, the continued Asian crisis and further events in Russia and Brazil resulted in a flight to liquidity and safety. This drove down U.S. Treasury bond yields dramatically, and also helped to lower rates in the mortgage market and on high-grade corporate debt. Some markets, however, were temporarily disrupted; related to this was an increase in business borrowing from banks, rather than directly from capital markets. Less creditworthy borrowers faced higher rates or were temporarily unable to find funds. As a result of this episode, awareness of the potential for discontinuities in financial markets has increased.

Impact on Federal Programs

These changes are affecting the roles, risks, and operations of Federal credit and insurance programs.

- In some cases, private credit and insurance markets may evolve sufficiently to take over functions previously left to Federal programs. More likely, they may take away the best risks among those who have been borrowing from the Government or with its guarantee, leaving the Federal program facing a smaller pool of riskier clients. If the Government is aware of this in time, the result may be new benefit/cost calculations that might help to redesign—or to end—the program. If the Government is caught unaware, the result may be greater cost for the taxpayers.

- At the same time, Federal programs can take advantage of the growing private capability. They can leverage it to provide additional assistance to their clients. With careful attention to the incentives faced by the private sector, they can develop a variety of partnerships with private entities. And they can contract with the private sector wherever it can provide specific credit servicing, collection, or asset disposition services more efficiently.

Insurance programs, too, are affected by the evolution of the financial marketplace. That is most obvious for deposit insurance, which now backs a recovered, consolidating industry, but one that has assumed the risks inherent in providing a growing array of increasingly sophisticated services, including many off-balance sheet activities, often on a world-wide basis. Depository institutions have become increasingly vulnerable to adverse shocks in foreign financial markets through loans, investments, foreign exchange transactions, and off-bal-

ance-sheet activities. In pensions, the Government guarantees defined-benefit plans, but defined-contribution plans play an increasing role—attracting the support of younger workers in an aging workforce. This trend may accelerate as the retirement of the baby boom generation nears. In disaster insurance, private firms are gaining a better understanding of their risks and exploring ways to diversify them in capital markets.

In this changing environment for Federal credit and insurance programs, this chapter asks three questions. First, what is our current understanding of the roles of these programs? Second, how well they are achieving their goals? And finally, could they be re-engineered to achieve greater benefits in relation to costs? A consortium of housing program managers, and managers of student, business, and international credit programs will be working intensively on this third question next year.

I. A CROSS-CUTTING ASSESSMENT

The Federal Role

In most lines of credit and insurance, the private market efficiently allocates resources to meet societal demands, and Federal intervention is unnecessary. However, Federal intervention may improve on the market outcome in some situations. The following are six standard situations where this may be the case,¹ together with some examples of Federal programs that address them.

- *Information failures* occur when there is an asymmetry in the information available to different agents in the marketplace. A common Federal intervention in such cases is to require the more knowledgeable agent, such as a financial institution, to provide certain information to the other party, for example, the borrower or investor. A different sort of information failure occurs when the private market deems it too risky to develop a new financial instrument or market. This is rare nowadays, but it is worth remembering that the Federal Government developed the market for amortized, fixed-rate mortgages and other innovations in housing finance.
- *Externalities* occur when people or entities either do not pay the full cost of their activities (e.g., pollution) or do not receive the full return. Federal credit assistance for students is justified in part because, although people with more education are likely to have higher income and even better health, they do not receive the full benefits of their education. Their colleagues at work, the residents of their community, and the citizens of the

Nation also benefit from their greater knowledge and productivity.

- *Economic disequilibrium* is a third rationale for Federal intervention. This is one rationale for deposit insurance. If many banks and thrifts are hurt simultaneously by an economic shock, such as accelerating inflation in the 1970s, and depositors have a hard time knowing which ones may become insolvent, deposit insurance prevents a contagious rush to withdraw deposits that could harm the whole economy.
- *Failure of competition*, resulting from barriers to entry, economies of scale, or foreign government intervention, may also argue for Federal intervention—for example, by reducing barriers to entry, as has often been done recently, by negotiating to eliminate or reduce foreign government subsidies, or by providing countervailing Federal credit assistance to American exporters.
- *Incomplete markets* occur if producers do not provide credit or insurance even though customers might be willing to pay for it. One example would be catastrophic insurance, where there is a small risk of a very large loss; a disaster that occurred sooner rather than later could bankrupt the insurer even if premiums were set at an appropriate level to cover long-term cost. Another example is caused by “moral hazard” problems, where the borrower or insured could behave so as to take advantage of the lender or insurer. This is the case for pension guarantees, where sponsors might underfund plans, and for deposit insurance, where banks might take more risk to earn a higher return. In these cases, the Government’s legal and regulatory powers provide an advantage in comparison with a private insurer.

¹ Economics textbooks also list pure public goods, like national defense, where it is difficult or impossible to exclude people from sharing the full benefits of the goods or services once they have been produced. It is hard to imagine credit or insurance examples in this category.

- In addition to correcting market failures, Federal credit programs are often used to *redistribute resources* by providing subsidies from the general taxpayer to disadvantaged regions or segments of the population.

In reviewing its credit and insurance programs, the Federal Government must continually reassess whether the direct and indirect benefits to the economy exceed the direct and indirect costs. This assessment should include the costs associated with redirecting scarce resources away from other investments. In some situations, the market may have recently become capable of providing financial services, and older Federal programs may need to be modified or ended to make room for private markets to develop. Private providers in similar circumstances might go bankrupt, merge, or change their line of business; for Federal programs, a policy decision and usually a change in law are needed to eliminate overcapacity. In other instances, Federal programs may be redesigned to encourage the development of private credit market institutions or to target Federal assistance more efficiently to groups still unable to obtain credit and insurance in the private market.

What Are We Trying to Achieve?

If the main Federal role is to provide credit and insurance that private markets would not provide—to stretch the boundaries in providing credit and insurance—the Federal goal is to achieve a net impact that benefits society. Together, these objectives make the standard for success of a Federal credit or insurance program more daunting than for a private credit or insurance firm.

For credit and insurance, as for all other programs, implementation of the Government Performance and Results Act (GPRA) will help to assess whether programs are achieving their intended results in practice—and will improve the odds for success. GPRA requires agencies to develop strategic plans in consultation with the Executive Branch, the Congress, and interested parties; this process should refine and focus agency missions. The strategic plans set long-range goals, annual performance plans set milestones to be reached in the coming year, and annual performance reports will measure agency progress toward achieving their goals.

GPRA defines four kinds of measures for assessing programs: inputs (the resources used), outputs (the goods or services produced), outcomes (the gross effects on society achieved by the program), and net impacts (the effects net of those that would have occurred in the absence of the program, e.g., with private financing). For credit and insurance programs, interesting interrelationships among these measures provide the keys to program success.

Net impacts assess the net effect of the program on intended outcomes compared with what would have occurred in the absence of the program. They exclude, for example, effects that would have been achieved with private credit in the absence of the program. Among

the net impacts toward which Federal credit programs strive are: a net increase in home ownership, a net increase in higher education graduates, a net increase in small businesses, a net increase in exports, and a net increase in jobs.

For credit programs, the first key to achieving any of these net impacts is outreach. In the spirit of the Federal role, programs need to identify borrowers who would not get private credit. They need to reach out to underserved populations (e.g., low-income or minority people) and neighborhoods (urban and rural). They need to encourage the start-up of new activities (e.g., beginning farmers, new businesses, new exporters). They need to reach their legislatively targeted populations (e.g., students, veterans). Federal lending is often to higher-risk borrowers, or for higher-risk purposes. In order to assist certain target groups or encourage certain activities, credit may be extended for longer periods or at a lower cost to the borrower.

Achieving program objectives, however, also means finding ways to assist those borrowers at the boundary of private credit markets to repay their loans. This is not just a financial goal; it is necessary to achieve the program's social purpose. Home ownership requires mortgage repayment. Education that enhances income is associated with repayment of student loans. Remaining in business with a good credit rating requires repayment of small business, farm, and export loans. And loan repayment is inherent in program cost-effectiveness. Moreover, when the Federal Government bears risk for less creditworthy borrowers and does so in a way that fails to assist them to repay, they struggle with high debt burdens and are left with poor credit records.

With implementation of the Federal Credit Reform Act of 1990, Federal credit programs began to reconcile the tension between helping certain groups or purposes and “business-like” financial management. With the implementation of GPRA, they may begin to see program success and financial success as two facets of the same goal. The challenge is usually to identify “boundary” borrowers and to structure the loan and its servicing (including technical assistance) so as to pull those borrowers toward financial and programmatic success. In some cases, savings from improved credit program management may be reinvested to pull more borrowers across that boundary.

Outputs and outcomes, therefore, have an interrelationship which is crucial to the performance of credit programs. The most obvious output of Federal credit programs is the number and value of direct loans originated or loans guaranteed. But volume alone does not achieve the objectives of Federal credit programs; indeed, large volume or market share may mean that private lenders are displaced. Loans must have certain characteristics in order to achieve the desired outcomes and net impacts; these characteristics are therefore part of the desired program output.

Because of the Federal role, output measures should include an estimate of the percent of loans or guaran-

tees originated going to borrowers who would otherwise not have access to private credit, and the percent of loans or guarantees originated going to specific target groups (e.g., veterans) or for specific purposes. Because of the Federal goal, output measures should include the percent of loans or guarantees that are current. This should be compared with the percent that were expected to be current at this point in the repayment cycle.

To assess the latter, program data should be analyzed to determine whether repayment prospects are enhanced by particular characteristics of loan structure (such as higher initial borrower equity), of loan origination (such as verifying borrower financial status), of loan servicing (such as prompt counseling), or of guarantee conditions (such as lender risk-sharing). When such characteristics help to control the cost of credit programs and to achieve desired outcomes, then these characteristics should be measured as part of the program's output.

The linkage between such output characteristics and the outcomes of Federal credit programs is not always fully recognized. For example, one desired outcome is to reach underserved populations or neighborhoods. To achieve this outcome, it would be useful to monitor whether loans are going to borrowers who would not otherwise have access to credit, or to specific target groups. Other desired outcomes include supporting investment important to the economy, encouraging start-up of new activities, or contributing to sustained economic development. To achieve these outcomes, it would be useful to monitor whether the program's loans and operating procedures have characteristics that would enhance borrower repayment.

Inputs. Program cost is also a performance measure. For credit and insurance programs, it is a continuing challenge to understand and control the risks that the Government assumes and to measure the inherent cost. This is especially important in view of the rapid changes in financial markets discussed above and the increasingly complex financial instruments.

The subsidy cost of Federal credit programs, cumulated over time for each cohort of the program's loans or loan guarantees, is the main input. Another is the administrative cost of the program, including the cost of credit extension, direct loan servicing and guaranteed loan monitoring, collecting on delinquent loans and collateral, and other administrative costs such as policy making or systems development.

The relationship between these inputs is also crucial for credit programs. Careful servicing of loans, for example, can reduce default costs, and perhaps total program costs. So good servicing is good financial management for the taxpayer. But good servicing is also an

art, which can—by assisting borrowers to repay—help to achieve the program's performance objectives. Private servicing of loans offers many examples of the gains from matching repayment to the borrower's flow of income, treating borrowers in different circumstances differently, and in other ways maximizing the borrower's chances to make good.

In sum, there are three relationships that seem to hold the key to excellence in credit program performance: the relationship between repayment and the achievement of program objectives, the relationship between the characteristics of credit program outputs and desired outcomes, and the relationship between subsidy cost and good servicing and program administration. Another important key to success is the speed with which the program adapts to market changes, including its ability to provoke or harness private markets into meeting Federal goals.

Principles for Re-engineering

In order to improve the effectiveness of Federal credit programs, OMB will be working with agencies to identify ways to re-engineer credit management. This effort will focus on improving servicing, will consider consolidation of functions such as data collection and asset disposition, will rely on the private sector when that would improve efficiency, will devise incentives to improve management and reduce cost, and will ensure the development of data for management and subsidy estimation.

The focus will be on managing the servicing, workout, and sale of any collateral efficiently. For example, why does the Federal Government pay claims on guaranteed loans and handle the workout, instead of leaving this to the originating lender? Why does the Government take over collateral? How do the timing and results of our asset disposition compare with private practice? Why do we make loans to finance purchases of collateral? What incentives and penalties would be useful for programs and program staff? For guaranteed loan originators? For contractors who service Federal loans or dispose of collateral?

OMB has developed a tentative set of principles for re-engineering credit programs that builds on OMB Circular A-129 and initial research. These will be modified by lessons learned as they are put into practice. The resulting principles are intended to improve the performance of Federal credit programs in the years ahead. Because private markets are extending credit where it was formerly unavailable, and because there is little purpose to re-engineering programs which are not justified, these principles start with basic questions of program justification. But their main focus is on how programs should be carried out.

Program Justification

1. *Credit assistance should be provided only when it has been demonstrated that private credit markets cannot achieve clearly defined Federal objectives.* What is the objective? Is access to private credit available? If not, why not? If so, is there a reason why private terms and conditions should be supplemented or subsidized? To what extent?
2. *Credit assistance should be provided only when it is the best means to achieve Federal objectives.* Can private credit markets be developed? Can market imperfections be overcome by information, regulatory changes, or other means? Would small grants for downpayments, capitalization for State, local, or non-profit revolving funds, or other approaches be more efficient?
3. *Credit assistance should be provided only when its benefits exceed its cost.* Analyze benefits and costs in accordance with OMB Circular A-94.

Program Design

4. *Credit programs should minimize substitution for private credit.* What features of program design minimize displacement? Encourage and supplement private lending? To what extent is credit for this objective expanded by this program compared with what would be available in the absence of the program? What is the economic cost of the lending bumped from the credit queue?
5. *Credit programs should stretch their resources and better meet their objectives by controlling the risk of default.* What features of program design minimize risk? Are there incentives and penalties for loan originators and servicers to minimize risk? What features of the loan contract, the process of origination, the quality of servicing, and the workout procedures minimize risk? Do borrowers have an equity interest? Is maturity shorter than the economic life of the asset financed? Are the timing and amount of payment matched with availability of resources? Is timely reminder and technical assistance provided? How well is risk understood, measured, and monitored?
6. *Credit programs should stretch their resources to better meet their objectives by minimizing cost; where program purposes allow, most should be self-sustaining.* Do fees and interest cover the Government's cost, including administration? Are interest rates specified as a percent of market rates on comparable maturity Treasury securities? Are charges for riskier borrowers proportional to their higher cost?

Program Operations

7. *Credit programs should take advantage of the capacity, flexibility, and expertise available in competitive private markets unless the benefits of direct Federal operations can be shown to exceed the cost.* Private financial institutions may offer convenient access for borrowers, potential for graduation to private credit, economies of scale, ready adjustment to changing volume or location of loans, and knowledge of current credit conditions and techniques.
8. *The lender (in the case of a loan guarantee), the servicer, and the providers of workout and asset disposition services should have a stake in the successful and timely repayment of the loan or collections on claims and collateral.* Originators of guaranteed loans should bear a share of each dollar of default loss, and—unless other arrangements can be shown to be more cost-effective—should be responsible for handling workout. Each contract should include incentives for good performance, and penalties, including loss of business, for poor performance. The duration and scope of each contract or agreement should be limited so as to maximize specialization and competition, unless those are offset by economies of scale in operations and monitoring.
9. *Criteria should be established for participation in Federal loan guarantee programs by lenders, servicers, and providers of workout and asset disposition services.* These criteria should include financial and capital requirements for lenders and servicers not regulated by a Federal financial institution regulatory agency, and may include fidelity/surety bonding and/or errors and omissions insurance, qualification requirements for officers and staff, and requirements of good standing and performance in relation to other contracts and debts. Lenders transferring and/or assigning servicing, and lenders or servicers transferring and/or assigning workout or asset disposition, must use only entities which have qualified under the Federal participation criteria.

10. *When there are economies of scope or scale, the data gathering and analysis, servicing, workout, asset disposition, or other functions of specific credit programs should be combined or coordinated.* The sequence of operations should be streamlined, and accountability for each step clearly defined.

Program Monitoring

11. *Each program should maintain or receive monthly loan-by-loan transaction data and a system whereby this information triggers servicing, workout, and follow-up actions.* These data shall be linked by loan number to an analytical database showing characteristics of loans, borrowers, projects financed, financial information, credit ratings, and other data in a form suitable for use in subsidy estimation and loan pricing.
12. *Each program should design and carry out steps to foresee problems, and to inspect, audit, and assess the program's operations.* Methods should be benchmarked against the best practices used elsewhere. The program and its lenders, servicers, and other contractors should experiment with and assess ways in which the effectiveness or efficiency of the program might be improved or costs reduced.

II. CREDIT IN FOUR SECTORS

Housing Credit Programs and GSEs

The Federal Government provides loans and loan guarantees to expand access to home ownership to people who lack the savings, income, or credit history to qualify for a conventional home mortgage and to finance rental housing for low-income persons. The Departments of Housing and Urban Development (HUD), Veterans Affairs (VA), and Agriculture (USDA) made \$150 billion of loan and loan guarantee commitments in 1998, helping nearly 1.5 million households. Roughly 1 out of 7 single-family mortgages originated in the United States receives assistance from one of these programs.

- HUD's Federal Housing Administration (FHA) runs a Mutual Mortgage Insurance Fund that guaranteed \$90 billion in mortgages for one million households in 1998. Over three-fourths of these went to first-time homebuyers.
- The VA assists veterans, members of the Selected Reserve, and active duty personnel to purchase homes as a recognition of their service to the Nation. The program substitutes the Federal guarantee for the borrower's down payment. In 1998, VA provided \$40 billion in guarantees to 369,000 borrowers.
- USDA's Rural Housing Service (RHS) guarantees up to 90 percent of an unsubsidized home loan. The program's emphasis is on reducing the number of rural residents living in substandard housing. In 1998, \$2.8 billion of guarantees went to 39,400 households.

In addition, RHS offers a single-family direct loan program and both direct and guaranteed multi-family mortgages. FHA guarantees mortgages for multi-family housing and other specialized properties.

Housing Finance Challenges and Opportunities

Private banks, thrifts, and mortgage bankers, which originate the mortgages that FHA, VA, and RHS guarantee, may deal with all three programs, as well as with the Government National Mortgage Association (Ginnie Mae), which guarantees timely payment on se-

curities based on pools of these mortgages. In addition, the same private firms originate conventional mortgages, many of which are securitized by Government-sponsored enterprises—the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac).

Many of these firms already use or are planning to use electronic loan origination and are moving toward electronic underwriting. Behind such underwriting are data warehouses showing default experience by type of loan, borrower characteristics, home location, originator, and servicer, and models relating these factors to default cost. "Web lending" is also on the horizon.

These changes offer both challenges and opportunities to the Federal mortgage guarantors and Ginnie Mae. They are challenged to become electronically accessible to their clients and loan originators. They are challenged to assess and monitor their risks more closely, now that private firms are reaching out to the better risks among their potential clients. They also have an opportunity to provide better service, to lower cost and improve efficiency, and to target their efforts to help borrowers to retain their homes.

The Housing Consortium

In FY 1998, the FHA, VA, and RHS housing guarantee programs and Ginnie Mae formed The Federal Housing Consortium to adapt to the rapid shift to electronic underwriting and other technological developments in the private sector. The Consortium is the focus of agency efforts to keep abreast of changes in the housing credit market, accelerate adoption of best practices, establish common standards where possible, and make government systems compatible with the private sector.

Data Systems. The Consortium members are currently pooling resources to create a prototype data warehouse through which all members will have access to integrated data on program and borrower characteristics, lender and loan performance. It will provide timely, easily retrievable information, giving managers

the ability to monitor the changing risk and cost of guarantees and the performance of guaranteed loan originators and servicers. Using the data warehouse and learning from each other and from the private sector, the Consortium will seek to improve loan origination, performance measurement, risk sharing and pricing, and asset disposition.

The Consortium is also working with Ginnie Mae to integrate and enhance Ginnie's two databases for use of all Consortium members. Ginnie's databases, the Issuer Portfolio Analysis Database System (IPADS) and the Correspondence Portfolio Analysis Database System (CPADS), receive monthly data from issuers of mortgage-backed securities, and monitor current performance by loan, originator, servicer, mortgage pool, security, and security issuer. Performance can be tracked and compared, taking account of differences between region, economic conditions, size and type of business, and age of portfolio.

Because Ginnie Mae guarantees timely payment of principal and interest on securities based on pools of mortgages guaranteed by FHA and VA, the issuers of these securities are almost always FHA and VA servicers. About 65 percent of RHS's single-family loans are also placed in Ginnie Mae pools. Thus, although the current analytical system is designed to fill Ginnie Mae's needs, the same data and much the same system could be very useful to the loan guarantee programs. For example, CPADS could enable FHA and VA to monitor and assess how well the firms that originate and service the loans they guarantee are doing their jobs. Ginnie Mae has shared CPADS with FHA and VA for many years. RHS began a partnership with Ginnie Mae in 1998, and this year will have access to loan and lender performance data to analyze RHS loan guarantees.

Ginnie Mae has committed to making enhancements to IPADS/CPADS that will provide additional benefits to all three loan guarantee programs. The integration of IPADS and CPADS and an initial round of enhancements will be implemented this year. Further enhancements are planned in the future to enable the agencies to monitor and respond effectively to technological, institutional, and financial developments in the residential mortgage market.

Loan Origination. Electronic underwriting provides convenient, faster service at a lower cost to both lenders and borrowers. Freddie Mac and Fannie Mae are among the leaders in developing such systems and encouraging their use.

Both FHA and VA now permit mortgage lenders to use approved automated underwriting systems to originate their loans. Both undertook pilot assessment of Freddie Mac's "Loan Prospector" system; VA approved its use in October 1997 and FHA in February 1998. Both are now working with Fannie Mae to pilot "Desktop Underwriter," and with other large mortgage originators. FHA and VA are also increasing the use of electronic data interchange to obtain information electronically from mortgage originators and servicers and

to provide notifications and approvals for faster client services.

The RHS plans to develop the capacity to accept electronic loan originations from their participating lenders. Utilizing electronic loan origination technology will add significant benefits to loan processing efficiency and timeliness for both RHS and the lenders. RHS is also exploring using some form of automated underwriting and credit scoring. RHS's goal is to implement these improvements as soon as possible, but in order to ensure proper planning and maximum efficiency, complete adoption of these procedures is several years away.

Performance Measurement. Measuring loan servicing performance establishes a baseline for assessing changes to servicing practice. Monthly data will not only give housing programs a better understanding of how their guarantee portfolio behaves, but also how the federally guaranteed housing market as a whole performs. This information is critical for developing good performance standards.

FHA has created a loss mitigation program that scores lender performance on loss mitigation annually and provides incentives to lenders to hold down mortgage defaults and hold down FHA claim and property disposition costs relative to other lenders in each FHA insuring district.

RHS reviews at least 10 percent of the loans serviced by a lender every two years. If deficiencies in loan servicing or underwriting are noted, the lender is requested to take corrective action; its eligibility will be terminated if it does not comply. Since 1998, RHS has commissioned external audits of its largest loan servicers. The audits focus on both loan origination and loan servicing requirements. These audits have helped to pinpoint program weaknesses contributing to loan delinquencies. In addition, they serve to alert and train servicers on RHS guidelines and reporting requirements.

Risk Sharing and Pricing. Risk-based pricing is emerging in the conventional mortgage market as an important means by which lenders can take on more risk. Technology is giving lenders much more precise ability to assess the initial default risk associated with making a particular loan. This increasingly precise underwriting technology, in turn, allows lenders and insurers to adjust fees or loan rates and/or raise insurance premiums to reflect risk and loan cost accurately.

Federal loan guarantee programs will need to assess the impact of private sector customization on their loan portfolios, and may need to adopt a similar pricing structure or face adverse selection and larger losses. Currently, premiums are fixed in statute and vary only slightly with one dimension of risk, the initial loan-to-value ratio.

Asset Disposition. Common wisdom in the mortgage industry is to avoid foreclosure because that is when significant losses occur, including costs for maintenance and marketing. Managers of Federal guarantee pro-

grams have found that the best practice is to avoid taking the property into possession, and having to manage and dispose of foreclosed properties.

RHS already operates under the "best practice" for asset disposition. The lender is paid the loss claim, including costs incurred for up to six months after the default. After the loss claim is paid, RHS has no involvement in the loan, and it becomes the sole responsibility of the lender. In FY 2000, RHS will shorten the loss claim period from six months to three months through regulatory changes to encourage lenders to dispose of properties as efficiently as possible.

In 1998 the Administration proposed and Congress passed legislation giving new authority to FHA to pay claims prior to foreclosure, thereby allowing FHA to pass along defaulted notes to the private sector for servicing and/or disposition. When fully implemented, this new authority will reduce foreclosures and, for properties that do go into foreclosure, this new authority will greatly reduce the time such properties remain on the market.

In 1999, VA will eliminate its role in the disposition of foreclosed properties by outsourcing this function to the private sector. Thus, all three housing guarantee programs will be following "best practice."

RHS Single-family Direct Loans

RHS also provides subsidized single-family direct loans to very-low-and low-income borrowers unable to get credit elsewhere to purchase, rehabilitate, or repair homes. The most recent and on-going servicing improvement effort is the implementation of the Dedicated Loan Origination Service System (DLOS), which centralizes the servicing of the 502 Direct Loan program. DLOS has been a recent servicing improvement and, in conjunction with 2 major regulations implemented between 1996 and 1997, reduced RHS's direct loan subsidy rate by 40 percent.

RHS Multi-family Loans

RHS also offers direct loans to private developers to construct and rehabilitate multi-family rental housing for very-low-to low-income residents, elderly households, or handicapped individuals. It provided \$151 million in direct loans in 1998, that will provide 7,890 units for very-low-income tenants. For the first time under permanent authorization, RHS obligated \$39.7 million in loan guarantees for multi-family housing in 1998. The loan level is proposed to increase to \$200 million for FY 2000, providing 5,380 new units for low to moderate income tenants. The cost of this program is primarily due to the subsidized interest component because default rates are expected to be low. The budget includes a legislative proposal to remove the requirement to provide subsidized interest on these loans, which would result in a negative subsidy. The budget also provides \$40 million, a 33 percent increase over FY 1999, for the farm labor housing program (\$25 million in loans; \$15 million in grants) as part of USDA's civil rights initiative, which will provide an estimated 960 units for minority farmworkers and their families.

Fannie Mae and Freddie Mac

Because Fannie Mae and Freddie Mac, the largest Government-sponsored enterprises (GSEs), are the dominant firms in the secondary mortgage market, their business activities have a significant impact on the housing finance sector of the U.S. economy. These GSEs engage in two main lines of business: they issue and guarantee mortgage-backed securities (MBS), and they hold portfolios of mortgages, MBS, and other mortgage-related securities that they finance by borrowing. As of September 1998, Fannie Mae and Freddie Mac had \$1.7 trillion outstanding in mortgages purchased or guaranteed. Of this, \$0.6 trillion was retained in the GSEs' portfolios and \$1.1 trillion was issued as MBSs (excluding MBSs held in portfolio).

The Federal Housing Enterprises Safety and Soundness Act of 1992 reformed Federal regulation of Fannie Mae and Freddie Mac. This Act created the Office of Federal Housing Enterprise Oversight (OFHEO) to manage the Government's exposure to risk by conducting examinations and enforcing minimum and risk-based capital requirements. Both GSEs have consistently met the minimum capital requirements, which are based on leverage ratios. The risk-based capital requirements will be based on a stress test. OFHEO has solicited public comment on a variety of issues related to a risk-based capital regulation and, in June 1996, published the first of two Notices of Proposed Rulemaking (NPR) on risk-based capital. OFHEO expects to publish its second NPR for public comment in 1999.

As required by the 1992 Act, the Secretary of Housing and Urban Development (HUD) issued a final regulation at the end of 1995 that established new goals for Fannie Mae and Freddie Mac to foster housing credit for lower-income families and under-served communities. For 1997 through 1999, the regulation requires each GSE to devote:

- 42 percent of its mortgage purchases to finance dwelling units that are affordable by low-and moderate-income families;
- 24 percent of its purchases to finance units in central cities, rural areas, and other metropolitan areas with low and moderate median family income and high concentrations of minority residents; and
- 14 percent of its purchases to finance units that are special affordable housing for very-low-income families and low-income families living in low-income areas.

During 1993-95, the GSEs were subject to transitional goals, and in 1996, they were subject to interim goals that were slightly lower than the goals for 1997-99. Fannie Mae and Freddie Mac each achieved all three goals in 1996 and 1997. HUD expects to publish new affordable housing goals for 2000 and thereafter in 1999.

In recent years, the GSEs have sought to maintain rapid growth in their earnings through even more rapid growth of their debt-financed holdings of mortgage as-

sets. From September 1997 to September 1998, outstanding retained GSE holdings grew 28 percent in dollar volume, while total outstanding mortgage purchases grew 14 percent. Increased asset volumes imply increased risk exposures, as do some new activities, such as purchases of lower quality mortgages.

By contrast, some of the GSEs' new business activities and innovations may enhance their risk management capabilities. The GSEs' use of credit scores and automated underwriting may improve risk measurement and therefore mitigate the credit risks inherent in purchasing and securitizing mortgages. Similarly, the gradual development of risk-based pricing may more closely tie revenues to potential losses. For holders of mortgage credit risk, sophisticated risk measurement and pricing tools continue to lead to shifts in the distribution of risk among the GSEs, private mortgage insurers, lenders, and mortgage investors.

Federal Home Loan Bank System

The Federal Home Loan Bank System (FHLBS) was established in 1932 to provide liquidity to home mortgage lenders. The FHLBS carries out this mission by issuing debt and using the proceeds to make secured loans, called advances, to its members. Member institutions primarily use advances to finance residential mortgages and other housing related assets. Federally chartered thrifts are required to be FHLBS members, but membership is open to state-chartered thrifts, commercial banks, credit unions, and insurance companies on a voluntary basis. As of September 30, 1998, 6,806 financial institutions were FHLBS members, an increase of 388 over September 1997. About 71 percent of members are commercial banks, 25 percent are thrifts, and the remaining 4 percent are credit unions and insurance companies. However, nearly 50 percent of outstanding FHLBS advances were held by Federally-chartered thrifts as of September 30.

The FHLBS reported net income of \$1.6 billion for the year ending September 30, 1998, up from \$1.5 billion in the previous 12 months. System capital rose from \$18 billion to \$21 billion, while the ratio of capital to assets fell from 5.7 percent to 5.4 percent. Average return on equity was about 6.7 percent, after adjustment for payment of interest to the Resolution Funding Corporation (REFCorp). Outstanding advances to members reached \$246 billion at September 30, 1998, a 35 percent increase over the \$182 billion outstanding a year earlier. System investments other than advances fell to \$136 billion, or about 35 percent of total assets, as of September 30, 1998. A year earlier, investments stood at \$138 billion, or 42 percent of total assets.

The Federal Home Loan Banks are required by law to pay \$300 million annually toward the cost of interest on bonds issued by the Resolution Funding Corporation and the greater of 10 percent of net income or \$100 million to the Affordable Housing Program (AHP). In addition, the FHLBanks are required to provide discounted advances for targeted housing and community investment lending through a Community Investment

Program. The need to generate income to meet the REFCorp and AHP obligations and still provide a competitive return on members' investment was a driving force behind the substantial increase in the System's investment activity in recent years. The System also needs to service a capital requirement which is based on members' asset size, mortgage holdings, and advances, rather than the amount of System risk.

In the past, the FHLBS' exposure to credit risk was virtually nonexistent. All advances to member institutions are collateralized, and the FHLBanks can call for additional or substitute collateral during the life of an advance. No FHLBank has ever experienced a loss on an advance.

While the FHLBanks face minimal credit risk on advances, the System's investment activities, including certain "pilots," do create certain risks. To control the System's risk exposure, the Federal Housing Finance Board (FHFB), the System's regulator, has established regulations and policies that the FHLBanks must follow to evaluate and manage their credit and interest rate risk. FHLBanks must file periodic compliance reports, and the FHFB conducts an annual on-site examination of each FHLBank. Each FHLBank's board of directors must establish risk management policies that comport with FHFB guidelines.

As a pilot activity, the FHFB has allowed some of the FHLBanks to underwrite mortgages jointly with their members. Under one such pilot, the FHLBanks finance the loans and assume the interest rate and prepayment risks, while the members originate and service the loans and assume the credit risk. All assets held by a FHLBank under this pilot are required, pursuant to the terms of the program, to be credit enhanced to at least the level of an AA security. Through these pilot programs, the FHLBS is expanding its traditional role as a wholesale lender as a means of promoting housing finance and community investment.

The FHLBS' investment activities also pose important public policy issues about the degree to which the composition of assets on the FHLBS' balance sheet adequately reflects the mission of the System. Over the last year, outstanding advances as a percentage of the System's outstanding debt increased by nearly ten percent. In addition, as of September 30, 1998, about 60 percent of advances outstanding had a remaining maturity of greater than one year—up from about 40 percent a year earlier. Despite this progress, investments (other than advances) currently represent over one-third of the System's assets and are used to conduct extensive arbitrage—the System issues debt securities at close to U.S. Treasury rates and invests the proceeds in other, higher-yielding securities. In fact, in 1998 the FHLBS issued \$2.4 trillion in debt securities and became the world's largest issuer of debt. However, the majority of debt issued by the System is short-term, and total debt outstanding was only about \$336 billion at the end of 1998.

An enormous, liquid, and efficient capital market exists for conventional home mortgages today. And, over

the years, the FHLBS has played an important role in developing and expanding this market. The FHLBs continue to provide valuable services to their members. They assist members in remaining competitive in housing finance and managing interest-rate risk, and offer their members a reliable source of funds, as evidenced by the recent increase in advances. However, as a result of GSE and Federal agency sponsor-

ship of secondary markets and the increasing presence of private securitizers, lenders have access to substantial liquidity sources other than FHLBS advances. As with other GSEs, the role and risks of the FHLBS will be tested in the face of rapidly changing financial markets and potential changes in the structure and activities of the industry served by the FHLBS.

Education Credit Programs and GSEs

Student Loans

The Department of Education helps to finance student loans through two major programs: the Federal Family Education Loan (FFEL) program and the William D. Ford Federal Direct Student Loan (FDSL) program. Eligible institutions of higher education may choose to participate in either program. Loans are available to students and their parents regardless of income. Borrowers with low family incomes are eligible for higher interest subsidies.

In 2000, more than 6 million borrowers will receive 9.4 million loans totaling over \$41 billion. Of this amount, \$34 billion is for new loans and the remainder is to consolidate existing loans. Loan levels have risen dramatically over the past 10 years as a result of rising educational costs, higher loan limits, and more eligible borrowers. The upward trend is expected to continue for the next five years.

The Federal Family Education Loan program provides loans through a complex administrative structure involving over 4,100 lenders, 36 State and private guaranty agencies, 50 participants in the secondary markets, and nearly 4,000 participating schools. Under FFEL, banks and other eligible lenders loan private capital to students and parents, guaranty agencies insure the loans, and the Federal Government reinsures the loans against borrower default. In FY 2000, FFEL lenders will disburse more than 6 million loans exceeding \$25 billion in principal. Lenders bear two percent of the default risk, and the government and guaranty agencies are responsible for the remainder. The Department also makes administrative payments to guaranty agencies and pays interest subsidies to lenders.

The Federal Direct Student Loan program was authorized by the Student Loan Reform Act of 1993 to enable students and parents to obtain and repay loans more easily than under the FFEL program. Under FDSL, the Federal Government provides loan capital directly to 1,300 schools, which then disburse loan funds to students—greatly streamlining loan delivery for students, parents, and schools. In FY 2000, the FDSL program will generate more than 3.4 million loans with a total of over \$16 billion. The program offers a variety of flexible repayment plans including income-contingent repayment, under which annual repayment amounts vary based on the income of the borrower and payments can be made over 25 years.

Reform proposals. The Administration is proposing legislation to restructure and improve the efficiency of the guaranteed loan system and to provide additional benefits to students. Proposed changes will save \$4.6 billion over five years.

The Administration is proposing to extend the temporary Consolidation Loan policies included in the recent Higher Education Amendments of 1998 (HEA) through the end of fiscal year 2000. This proposal would maintain the interest rate on Direct Consolidation Loans—scheduled to increase on February 1, 1999—at the 91-day Treasury bill rate plus 2.3 percent, producing significant savings for students while encouraging competition between the Direct Loan and Federal Family Education Loan programs. The proposal would also maintain the reduced FFEL Consolidated Loan holder fee at 0.62 percent of outstanding volume, rather than increase the fee to 1.05 percent on February 1, 1999, as required under the HEA.

The Administration is also proposing to improve the management and collection of defaulted loans through four new initiatives, three of which build on provisions enacted in the HEA. First, the amount guaranty agencies may retain on default collections will be reduced from 24 percent to 18.5 percent—approximately the rate paid on loans collected by the Department of Education through competitively awarded contracts. This will provide the guaranty agencies greater incentive to increase collections on defaulted loans in order to bolster revenues. Second, the Administration proposes increasing true risk-sharing between the Federal government and guaranty agencies. Complementing the reduction of re-insurance to guaranty agencies from 98 to 95 percent specified in HEA, the Administration proposes eliminating provisions that allow agencies to recoup this 5 percent cost from subsequent default collections. As such, the Administration expects greater emphasis on default avoidance activities. Third, the HEA extended the time before lenders may submit a default claim on a delinquent loan from 180 days to 270 days. In order to promote risk-sharing and increase lenders' incentive to bring these loans back into repayment, the Administration is proposing that interest not continue to accrue during this additional 90-day period. Again, this proposal provides default avoidance incentives. Lastly, data from the Department of Health and Human Services' National Directory of New Hires (NDNH) will be made available to assist in the Department of Education's default collection efforts. Defaulted

debtor data matching will provide the Department of Education with current borrower address information for collection activities.

The Administration is also proposing to expand the use of voluntary agreements which were created by the HEA to afford greater regulatory flexibility to a limited number of guaranty agencies. The broader availability of these voluntary flexible agreements will reduce the need for agencies to hold Federal reserve funds; accordingly, the Administration is proposing to bring forward and augment the reserve recall provisions included in the HEA. The Administration would recall a total of \$1.5 billion in additional reserves over fiscal years 2000–2004.

The Administration is proposing to reduce interest subsidy payments to 20 basis points on FFEL loans funded through tax-exempt securities. This reduction will bring lender returns on these loans in line with those realized on loans funded with private capital.

The Department of Education continues to improve program integrity and reduce default costs. The Department will use newly automated systems to review and analyze institutional eligibility information, and will target its regulatory and enforcement efforts on high-risk institutions. Over the past several years, improvements in oversight and termination of schools with high default rates have led to the removal of approximately 1,700 schools. An additional 300 schools were eliminated from the student loan programs, but remain eligible for other Federal student aid. This has helped reduce the national student loan cohort default rate from 10.4 percent for 1995 to 9.6 percent for 1996, the fifth straight year of decline. This rate is the percentage of borrowers who enter repayment in a given year and for whom a default claim is paid before the end of the following year.

As one of Education's Performance Management Objectives, modernizing student aid benefit delivery is a key priority. Accordingly, the Department has converted the Office of Student Financial Assistance into the government's first-ever Federal performance-based organi-

zation. The PBO is designed to improve the management of all student aid programs, using its expanded procurement and contracting flexibilities. This new organization will focus on re-engineering information systems and expanding electronic data exchange to improve customer service, enhance data quality, and lower costs. The PBO will work with students, lenders, guaranty agencies, and others to develop a strategic performance plan to address customer needs, enabling more students to gain information on Federal aid on the Internet, apply for it electronically, and have their eligibility determined quickly.

Sallie Mae

The Student Loan Marketing Association (Sallie Mae) was chartered by Congress in 1972 as a for-profit, shareholder-owned, Government-sponsored enterprise (GSE). Sallie Mae was privatized in 1997 pursuant to the authority granted by the Student Loan Marketing Association Reorganization Act of 1996. The GSE is a wholly owned subsidiary of SLM Holding Corporation and must wind-down and be liquidated by September 30, 2008. Legislation in the Omnibus Consolidated and Emergency Supplemental Appropriations for FY 1999 allows the SLM Holding Corporation to affiliate with a financial institution upon the approval of the Secretary of the Treasury. Any affiliation will require the holding company to dissolve the GSE within two years of the affiliation date.

Sallie Mae makes funds available for student loans by providing liquidity to lenders participating in the FFEL program. Sallie Mae purchases insured student loans from eligible lenders and makes warehousing advances (secured loans to lenders). Generally, under the privatization legislation, the GSE cannot engage in any new business activities or acquire any additional program assets other than purchasing student loans. The GSE can continue to make warehousing advances under contractual commitments existing on August 8, 1997. Sallie Mae currently holds about one-third of all outstanding guaranteed student loans.

Business and Rural Development Credit Programs and GSEs

Small Business Administration

Over the past six years, SBA has expanded small businesses' access to credit, increasing its annual loan volume by 55 percent, from \$7.4 billion in 1993 to \$11.5 billion in 1998. This increase, across all of SBA's business credit programs, has occurred while staffing has been reduced by about 20 percent. Although SBA's general business lending declined slightly in FY 1998 due to a favorable interest rate climate and commercial lenders' aggressive small business lending goals, the expansion of SBA's venture capital and capital asset financing programs contributed to a net \$5 billion increase in the total guaranteed portfolio in FY 1998.

SBA's principal program, Section 7(a) General Business Loans, has improved access to credit for the Na-

tion's most under-served small businesses over the last three years through several successful initiatives. The Low Documentation (LowDoc) initiative reduced the application form for 7(a) loans under \$100,000 to a single page, allowing both lenders and SBA to process loans in less than two days. The SBAExpress program (the former FA\$TRACK pilot, now permanent) allows lenders to use their own forms and procedures in exchange for a reduced Government guarantee. These initiatives—and aggressive lending goals—have helped to increase loan approvals to minority- and women-owned businesses from \$1.8 billion in FY 1993 to \$4 billion in FY 1998.

Increasing Access to Credit

SBA is proposing several new initiatives to further expand access to credit by qualified borrowers who are unable to secure financing without Government participation.

Targeting “new markets.” In FY 2000, SBA proposes to target “new markets”—regions where small business growth has been very limited. The proposed initiatives will provide patient capital and technical assistance to private-sector lenders and non-financial intermediaries in underserved inner cities and rural areas. SBA will also expand the number of participating intermediaries in the microloan program, which to date has experienced no defaults as a result of strict agency oversight and rigorous reserve requirements.

Financing smaller loans. Commercial lenders frequently avoid making smaller loans due to high fixed costs per dollar lent, resulting in an access barrier for many startup firms or established firms whose financing needs do not meet the lenders’ minimum thresholds. To close this access gap, SBA is proposing to standardize the guarantee fee and to increase the maximum guarantee percentage to 80 percent on loans up to \$150,000 in order to provide an incentive to lenders to make these loans. This will result in higher subsidy costs due to reduced fee revenue and higher claim payments in the event of default.

Integrating Private Sector Practices

Reliance on private sector partners. With its portfolio growing from \$20.7 billion in FY 1993 to \$35.0 billion in FY 1998, SBA has relied increasingly on private sector partners for loan servicing and liquidation. The 7(a) program, which accounted for more than 70 percent of SBA’s business lending in FY 1998, has experienced the greatest shift to private partnership. Under the Preferred Lender Program (PLP), SBA’s most experienced lenders have authority to approve, service, and liquidate SBA-guaranteed loans in exchange for a reduced guarantee. Loans approved through PLP lenders comprised 58 percent of all 7(a) loans approved in FY 1998, a share that is expected to continue to grow. SBA also requires all non-PLP lenders to service and liquidate their SBA-guaranteed loans. These policies have shifted SBA’s principal role from origination and servicing to one of oversight and monitoring of private sector partners.

In FY 2000, SBA proposes to broaden the universe of firms eligible to make SBA-guaranteed loans by licensing up to 10 New Markets Lending Companies, some of which may also fall into the category of Small Business Lending Companies, SBA-approved and monitored non-depository lending institutions. These non-financial intermediaries often operate in regions where qualified borrowers’ access to credit through traditional commercial financial institutions is limited. In addition, the Section 504 Certified Development Company (CDC) liquidation pilot program was made permanent in FY

1998. Under this program, qualified CDCs service and liquidate SBA-guaranteed Section 504 development company debentures, increasing the agency’s reliance on its non-Federal partners.

Need for better oversight tools. Over the past six years, SBA has significantly increased its loan portfolio, reduced staffing, and delegated its servicing and liquidating authorities to its private sector partners. During this period, commercial small business lenders have become increasingly more sophisticated in identifying credit risk, and many of them now pursue aggressive small business lending goals. This expands small businesses’ access to capital, but may also concentrate higher-risk loans in SBA loan guarantee programs.

These trends reinforce SBA’s need to improve oversight tools. SBA continues to struggle with antiquated financial systems. Its managers need improved access to timely and accurate analysis of portfolio trends and information on the performance of its private sector partners. To ensure that the agency meets its portfolio management responsibilities, SBA will invest \$8 million in 1999 to improve portfolio oversight. An additional \$8 million is requested for 2000. This funding will allow SBA to improve internal accounting systems, recruit expertise in lender oversight, develop the necessary in-house systems to support lender monitoring, and create a centralized corporate database. Drawing on the experience of financial institutions such as Fannie Mae and Freddie Mac, SBA will also establish loan servicing performance goals for its private sector partners.

Reform initiatives. In FY 2000, SBA will continue to shift from loan servicing to lender oversight. Initiatives already in progress include: (1) delegating remaining 7(a) servicing and liquidation to its lending partners, including requiring them to service and liquidate all defaulted loans, (2) selling all direct loans and defaulted guarantees, and (3) making strategic investments in better portfolio oversight tools. This will allow SBA to focus on its goals of increasing access to credit, while relying on private lenders to perform functions where they have historically been more efficient. In conjunction with this shift in agency focus, SBA is proposing to implement a multi-year workforce transition strategy, beginning in FY 2000, to retrain workers in the skills needed in the SBA of the 21st Century, move employees to those functions where their skills will be most utilized, and provide retirement incentives for those employees who do not wish to participate in the transition effort.

Loan asset sales. One of the most significant events in completing the transition from loan servicing to lender oversight is SBA’s planned sale of its current portfolio of defaulted guaranteed loans and direct loans in 1999, 2000, and 2001. The Disaster loan portfolio will be sold in 1999 and 2000. Implementation of an ongoing sales program will be based upon the knowledge gained in these upcoming sales. Drawing on the experience of Federal agencies such as the Resolution Trust Cor-

poration and the Department of Housing and Urban Development, and SBA's analysis of its portfolio value stemming from its Liquidation Improvement Project, the Administration estimates that SBA's business loan assets (face value of approximately \$2 billion) can be sold at a gain to the government. It is estimated that disaster loans can be sold at their current value. These sales are also expected to yield future operational cost savings.

USDA Rural Infrastructure and Business Development Programs

USDA provides grants, loans, and loan guarantees to communities for constructing facilities such as health-care clinics, day-care centers, and water and wastewater systems. Direct loans are available at lower interest rates for lower-income communities. These programs are targeted to rural communities with fewer than 10,000 residents.

USDA also provides grants, direct loans, and loan guarantees to assist rural businesses, including co-operatives, to increase employment and diversify the rural economy. In 2000, USDA proposes to provide \$1 billion in loan guarantees to rural businesses, and \$50 million in direct loans. USDA's assistance to rural businesses has grown from \$100 million in 1993 to almost \$1.1 billion in 1998. The default rate for these community programs is low.

The 1996 Farm Bill enacted the Rural Community Assistance Program (RCAP). Funding for 12 USDA rural development activities was consolidated into a "performance partnership" to provide more flexibility in targeting Federal assistance to the highest-priority needs of States and localities. In FY 1997, Congress provided increased flexibility through three funding "streams," but blocked transfers among streams. In FY 1998, Congress consolidated the three streams into one RCAP account, but the FY 1998 and 1999 bills still did not allow transfers between funding streams. The budget proposes \$668 million for a fully flexible RCAP.

Electric and Telecommunications Loans

USDA's rural electric and telecommunications program makes new loans to maintain existing infrastructure and to modernize electric and telephone service. Historically, the Federal risk associated with the \$33 billion loan portfolio in electric and telephone loans has been small, although several large defaults occurred in the electric program, primarily as a result of nuclear power construction loans, and \$667 million was written off in 1997. However, both the telephone and electric industries are moving into a more competitive environment.

In the electric industry, increased deregulation may erode loan security and the ability of some borrowers to repay. Maintaining the goal of "affordable, universal service" is also of concern to USDA. Many rural co-operatives are by nature high cost providers of electricity, since there are fewer subscribers per line-mile than in urban areas. This Budget includes a legislative proposal for a new direct Electric Loan Program with

a loan level of \$400 million. Borrowers would pay an interest rate equal to the Treasury rate. This loan program would be an additional tool to help provide for the increasing demand for electric distribution loans as rural borrowers begin to position themselves in a newly competitive deregulated environment. The demand for loans to rural electric coops is expected to continue to rise as borrowers replace many of the 40-year-old electric plants.

The Rural Telephone Bank (RTB) provides financing for rural telecommunications systems. The FY 1998 Budget proposed, but did not achieve, privatization of the RTB. The 2000 Budget proposes legislation to charter the RTB as a Performance-Based Organization (PBO). As a PBO, the RTB would remain under the Secretary of Agriculture through majority Federal membership on the RTB Board of Directors. The RTB's managers would be required to set strategic and financial goals. A key goal would be to achieve privatization within 10 years; the RTB would be on-budget until fully privatized.

As a PBO, the RTB would have authority to hire its own personnel, and appoint its own CEO and CFO. It could seek waivers from government-wide regulations, policies, and procedures. Funding for both administrative expenses and subsidy budget authority would be provided from the RTB liquidating account balances beginning in 2000. It could establish its interest rates, charge administrative fees, and retain proceeds from any negative subsidies for RTB operations. It would also have authority to prepay its outstanding Treasury borrowing without penalty. This approach would allow the RTB to establish a private governance structure and demonstrate its ability to be financially self-sufficient, which should help prepare it for privatization. A privatization feasibility study will be required within 3 years.

Loans to Farm Operators

Farm Service Agency (FSA) direct and guaranteed operating loans provide credit to farmers and ranchers for annual production expenses and purchases of livestock, machinery, and equipment. Direct and guaranteed farm ownership loans assist producers in acquiring their farming or ranching operations. These loans are proposed to increase as part of USDA's Civil Rights Initiative. As a condition of eligibility for direct loans, borrowers must have been denied private credit at reasonable rates and terms, or they must be beginning or socially disadvantaged farmers. Loans are provided at Treasury rates or 5 percent. As FSA is the "lender of last resort," high defaults and delinquencies are inherent in the direct loan program; over \$15 billion in direct farm loans have been written off since 1988.

FSA guaranteed farm loans are made to more credit-worthy borrowers who have access to private credit markets. Because the private loan originators must retain 10 percent of the risk, they exercise care in examining borrower repayment ability. As a result, guaran-

ted farm loans have not experienced losses as high as those on direct loans.

The 1999 Appropriations Bill changed portions of the servicing requirements for delinquent borrowers. A borrower who has received an FSA loan write-down or write-off may now be eligible for an additional farm operating loan when the borrower is current under a debt reorganization plan or in certain emergency circumstances. Property acquired through foreclosure on direct loans must now be sold at auction within 105 days of acquisition, and leasing of inventory property is no longer permitted except to beginning farmers. Prior to the 1996 Farm Bill, acquired property remained in inventory on average for five years before the FSA could dispose of it.

The Farm Credit System and Farmer Mac

The Farm Credit System (FCS) and the Federal Agricultural Mortgage Corporation (Farmer Mac) are GSEs that enhance credit availability for the agricultural sector. The FCS is a direct lender, financing its loans largely through bond sales in the national credit markets, while Farmer Mac facilitates a secondary market for agricultural loans. Both GSEs face a business risk exceeding that of other GSEs because their borrowers are generally dependent on a single economic sector: agriculture. The Farm Credit Banks are also geographically limited, often to areas dependent on one or a few commodities. The downturn in the agricultural economy in the 1980s led the FCS to the brink of insolvency. Legislation in 1987 provided Federal assistance to bail out the FCS and created Farmer Mac.

The Nation's agricultural sector and its lenders are now on much firmer ground, although periodic commodity price and income declines, such as experienced in some parts of the country in 1998, highlight its continuing volatility. Strong farm income has enabled most borrowers to improve their debt-to-asset ratios, and lenders to augment their capital. Farmland prices regained most of their previous levels in 1997 and generally held steady in 1998. Interest rates and inflationary expectations remain low. Credit usage by farmers and credit standards of lenders are more conservative. However, the emergence of non-traditional, trade-credit lenders has increased competition among lenders.

Another sign of the increasing health of agricultural finance is the greater share of credit provided by commercial banks. From 1986 to 1997, commercial banks' share of all farm debt increased from 24 percent to 41 percent, while the share for FCS declined from 29 percent to 26 percent and for USDA from 12 percent to 6 percent. In 1995, however, FCS's share of farm operating loans began to creep up—a trend that continued through 1996, leveling-off in 1997. FCS is expected to maintain 1997 market share levels in 1998 at 19 percent.

The Farm Credit System

The Farm Credit System has achieved positive net income every year in the past decade, including over \$1 billion in each of the last five years. Nonperforming

loans increased slightly to 1.65 percent of the portfolio, up from 1.5 percent in 1997. Loan volume has gradually increased since 1992, although the \$66.1 billion in September 1998 is far below the high of over \$80 billion in the early 1980s. Increases in loan volume and declines in the cost of funds have widened the FCS's net interest margin from less than one percent in 1987 to 2.93 in 1997.

Improved asset quality and income enabled FCS to post record capital levels: by September 30, 1998, capital stood at \$12.4 billion—an increase of 9 percent for the year, primarily as a result of retained earnings. Included in this capital are investments set aside to repay about \$600 million of the \$1.3 billion of Federal assistance provided through the Financial Assistance Corporation (FAC) due beginning in 2003. The System has adopted an annual repayment mechanism required of FCS institutions to cover the remainder. The FCS has further reduced its risk exposure by retiring all of its high-coupon long-term debt, using marginal cost loan pricing, and adopting asset/liability management practices designed to reduce its interest rate risk.

Operating risk is also being reduced. Substantial consolidation has occurred in the structure of the FCS. In January 1988, there were 12 FCS districts with 36 banks plus 376 associations; by December 1998, there were only 6 FCS districts, 8 banks and 189 associations.

The 1987 Act established the FCS Insurance Corporation (FCSIC) to insure timely payment of interest and principal on FCS obligations. Insurance fund balances, largely comprised of premiums paid by FCS institutions, supplement the System's capital, the joint and several liability of all System banks for FCS obligations, and the Farm Credit Administration's enforcement authorities. On September 30, 1998, the Insurance Fund's net assets were \$1.2 billion, and are estimated to attain the statutorily required level of two percent of outstanding debt in 2000.

Improvement in the FCS' financial condition is also reflected in the evaluations of FCS member institutions by the Farm Credit Administration (FCA), its Federal regulator. The FCA rates each of the System's institutions for capital, asset quality, management, earnings, and liquidity (CAMEL). At the end of 1990, 94 institutions carried the best "CAMEL" ratings of "1" or "2," and 40 were rated in the problem range of "4" or "5." By September 1998, in contrast, 201 institutions were given the top ratings, only 3 received the mid-range rating of "3," and none was rated "4." Enforcement actions to correct illegal or unsafe operations were applied to 77 institutions, with 80 percent of the FCS's assets, in 1991, but only 1 institution, with 0.5 percent of the FCS's assets, in 1998.

FCS loans outstanding as of September 1998 were \$66 billion, up 5 percent over 1997, and representing a 32 percent increase since 1990. Loans to farmers and other eligible producers comprise 73 percent of the System's portfolio. The volume of lending secured by farm land has been generally stagnant since 1990, but farm operating loans have increased by 41 percent since

1992, with most of the gain since 1994. Loans to finance processing, marketing, credit cooperatives, and rural utilities cooperatives accounted for 21 percent of FCS's portfolio at fiscal year-end 1998.

During 1997, the FCA published regulations that expand the agriculture-related business loan-making authority of Farm Credit System banks. Previously, System banks could only lend to businesses that provided custom services performed on the customer's farm, such as hiring owner/operators of harvesting machinery. Under the revised rules, farm-related businesses are eligible for full-firm financing if more than 50 percent of their income is derived from farm-related services. Furthermore, if less than 50 percent of the firm's income is farm-service related, then at least the farm-related service portion of the firm's business is eligible for financing. The rule also permits Farm Credit banks to finance non-farm, single-family, moderately priced homes for residents of rural areas (where the population does not exceed 2,500 in a village or town).

The Farm Credit System is stronger now than it has been in years. But primarily due to its concentration in agriculture, it is exposed to risks arising from natural disasters, changes in Government policies toward agriculture, and to structural changes in the agricultural and commercial banking sectors. From 1995 through 1998, FCS's loan growth rate increased, in part due to more aggressive lending as its capital strengthened. Volatility of agricultural exports and crop prices will continue to be a risk factor for future repayment and collateral capacity. However, 1998 farm income, including government assistance, is anticipated to be the fourth highest on record at \$48 billion, down from \$49.8 billion in 1997.

Farmer Mac

Farmer Mac was established in 1987 to create and oversee a secondary market for, and to guarantee securities based on, farm real estate and rural housing loans. Since the 1987 Act, Farmer Mac's authorities

have been legislatively expanded to permit it to issue its own debt securities, and to purchase and securitize the guaranteed portions of farm program, rural business, and community development loans guaranteed by the USDA (known as the "Farmer Mac II" program). The Farm Credit System Reform Act of 1996 transformed Farmer Mac from just a guarantor of securities formed from loan pools into a direct purchaser of mortgages in order to form pools to securitize.

The 1996 Act was passed in response to a steady erosion of Farmer Mac's capital base. Revenues had not met expectations and showed no prospect of improvement. The new powers increase commercial banks' incentives to participate in Farmer Mac. However, these powers also subject the Corporation to more credit risk. As a direct purchaser of loans with no required subordination, Farmer Mac is exposed to greater risk and must set appropriate fees and level of capital reserves.

Farmer Mac has taken steps to minimize losses on securitized loans under the new authorities. These steps include: (1) a higher annual guarantee fee of 50 basis points on securitized loans, (2) a loan loss reserve adequate to cover anticipated losses, and (3) loan underwriting standards that include a maximum loan-to-value ratio of 70 percent for loans up to \$2.3 million and 60 percent for loans between \$2.3 million and \$3.3 million.

The 1996 Act gave Farmer Mac three additional years to reach its capital requirements, and 2 years to raise capital to \$25 million. In December 1996, Farmer Mac sold 1.4 million shares of Class C common stock, generating \$32 million of new equity. In November 1997, Farmer Mac completed its second public offering, selling 400,000 shares of Class C common stock and raising \$23 million of new equity. Farmer Mac's year-end 1998 capital is estimated to be about \$80 million—three times greater than the 1996 statutory capital requirement and fully compliant with the revised regulatory capital requirements.

International Credit Programs

Seven Federal agencies, the Departments of Agriculture, Defense, State, and Treasury and the Agency for International Development, the Export-Import Bank, and the Overseas Private Investment Corporation, provide direct loans, loan guarantees, and insurance to a variety of foreign private and sovereign borrowers.

Through the Trade Promotion Coordinating Committee (TPCC), agencies providing export credit have developed a unified National Export Strategy, and they are working together to make the delivery of trade promotion support more effective and convenient for U.S. exporters.

Leveling the playing field. The Federal Government provides credit to U.S. exporters to offset the subsidies that foreign governments, largely in Europe and

Japan, provide their exporters usually through export credit agencies (ECAs). Although the Arrangement on Official Export Credits of the Organization for Economic Cooperation and Development (OECD) has significantly constrained direct interest rate subsidies and tied-aid grants, foreign ECAs continue to provide implicit subsidies (by charging interest rates or fees that do not fully compensate for risk).

The Export-Import Bank (Eximbank) attempts to strategically "level the playing field" and to fill gaps in the availability of private export credit. Compared to the other major ECAs, Eximbank provides the most unrestricted financing, and provides this financing in almost twice as many markets as its nearest competitor.

USDA's GSM-102 and 103 programs guarantee credit extended by private U.S. exporters and U.S. financial

institutions to facilitate exports to buyers in countries where credit is necessary to maintain or increase U.S. sales. The GSM programs are targeted to countries where government guarantees are needed to counter competition from countries that offer credit through ECAs or commodity marketing boards.

The increase in world trade and the globalization of capital markets have officially supported direct and guaranteed credit, including export credit, somewhat less important in recent years. Aggregate net resource flows to all developing countries grew from \$144 billion in 1992 to \$300 billion in 1997. In comparison, resource flows from official direct or guaranteed credit fell from \$23 billion in 1992 to \$10 billion in 1997.

Stabilizing international financial and commercial markets. In today's global economy, the health and prosperity of the American economy depend importantly on the stability of the global financial system and the economic health of our major trading partners. The United States has several ways in which it can help to stabilize world financial markets. It can provide resources on a multilateral basis through the IMF (discussed in other sections of the President's Budget), or through a bilateral loan provided by the Exchange Stabilization Fund (ESF).

The ESF provides "bridge loans" to other countries in times of short-term liquidity problems and financial crises. In the past, "bridge loans" from ESF have usually provided dollars to a country over the short period before the first disbursement under an IMF loan. A \$12.5 billion "bridge loan" of ESF was provided to Mexico during its crisis in 1995. This loan was essential in helping to stabilize Mexico, as well as the global financial markets. Mexico paid back its loan ahead of schedule in 1997, and the loan didn't cost the taxpayers any money.

ESF support was offered in response to the crises in some Asian economies, including South Korea. These ESF facilities would have carried interest rates that would have resulted in zero subsidy cost for the United States as defined under credit reform. While the ESF was not drawn upon by any of these countries, the offer in and of itself helped to provide the international confidence needed by these countries to begin the stabilization process.

Export credit programs also help to ensure continued access for US exporters to important overseas markets facing liquid problems. In response to the Asian financial crisis, USDA's GSM programs in FY 1998 were expanded by 40 percent (to \$4 billion) over the previous year to assist these countries in meeting their food and agricultural import needs.

Supporting more manufacturing exports in more markets. In FY 1998, Ex-Im Bank supported exports totaling \$13 billion with a budget of \$683 million. Ex-Im Bank's role is particularly critical now, because banks have rolled back, or stopped in some cases, providing credit to many developing countries that are key markets for U.S. exports. The FY 2000 budget proposes

\$81 million in additional funds for Ex-Im Bank—10 percent above its FY 1999 budget of \$815 million—so that Ex-Im Bank can:

- *Help meet the demand for financing aircraft and capital equipment exports in developing markets.* One of every four U.S. commercial aircraft is sold to an Asian airline, but commercial credit has decreased drastically because of Asia's economic problems. Ex-Im Bank currently finances 10 percent of all U.S. capital equipment exports to the developing world. More funding will allow Ex-Im to provide significantly more long-term financing for exports of U.S. manufactured capital goods and aircraft.
- *Expand short-term and medium-term credit to keep U.S. products flowing to emerging markets where private sector financing is no longer available.* Ex-Im Bank supported 2,400 transactions involving more than \$1 billion in U.S. exports to Korea in 1998 (up from \$50 million in 1997). Ex-Im has been active in expanding support for U.S. businesses seeking to sell goods and services to Brazil. To date in FY 1999, Ex-Im has opened for financing short-, medium-, and long-term transactions in the public sector and has increased its credit limit to certain Brazilian banks seeking to purchase U.S. products.
- *Finance exports to riskier markets.* U.S. exporters increasingly seek Ex-Im financing to meet the demand in riskier markets, but the higher cost of providing such financing strains Ex-Im's budget. Ex-Im support is critical in these markets because bank financing often is unavailable, and U.S. exporters compete with government-financed foreign firms.

Using credit to promote sustainable development. Credit has become an increasingly important tool in U.S. bilateral assistance to promote sustainable development. USAID received funding through transfer authority in the FY 1998 budget for a new credit program, the Development Credit Authority (DCA). The DCA will provide loan guarantees in cases where credit is the most effective mechanism to achieve sustainable development, such as more effective financial markets or reductions in global climate change-causing emissions. Increased funding for this program has been requested in the FY 2000 budget. However, these funds cannot be used until OMB certifies that USAID can adequately manage its credit programs, as required in the FY 1998 Foreign Operations Appropriations Act. USAID is outsourcing many of its credit management activities in order to comply with this requirement.

OPIC investment guarantees also support development by promoting U.S. direct investment in developing countries. This can transfer skills and technology and create more efficient financial markets. OPIC has implemented investment funds, on-lending facilities, and bond insurance—building onto its traditional political risk insurance, lending, and guarantee products.

International lending cost estimates. Since 1992, the President's budget requests have used the same assumptions about default risk in international lending. These assumptions became less accurate given the changes in financial markets over the last six years. In addition, due to the scarcity of emerging market debt information in 1992, these assumptions were based on domestic corporate bond risk spreads, rather than international bond market data.

Beginning with the FY 1999 budget, new assumptions about default risk, as defined by the risk premia set for each country-risk category in the International Country Risk Assessment System (ICRAS), were used to estimate the cost of U.S. Government international lending. The new premia reflect the risk spreads observed on international debt market instruments from 1992 to 1997 for a variety of risk categories. These new cost estimates will continue to be updated and

refined over time, given agencies' default experience and additional observation of emerging market debt data.

The "subsidy cost" of international credit programs is the government's contribution to an agency's long-term expense from extending a foreign credit, excluding administrative costs. Agency subsidy rates depend not only on the international lending risks measured by the ICRAS risk premia, but also on what fees or subsidies (such as below-market interest rates) the agencies offer with their credits, and on transaction-specific risks for credits that do not have a sovereign guarantee from the beneficiary country. Most international credit agencies charge borrowers fees that substantially offset the cost due to credit risk. The FY 2000 Budget Credit Supplement shows lending terms and subsidy rates for each international credit agency.

III. INSURANCE PROGRAMS

Deposit Insurance

Federal deposit insurance was begun in the 1930s to protect depositors against losses from failures of insured institutions. Deposit insurance also protects the Nation against widespread disruption in financial markets by reducing the probability that the failure of one financial institution will lead to a cascade of other failures. The Federal Deposit Insurance Corporation (FDIC) insures the deposits of banks and savings associations (thrifts) through separate insurance funds, the Bank Insurance Fund (BIF) and the Savings Association Insurance Fund (SAIF). Deposits of credit unions are insured through the National Credit Union Administration (NCUA).

Deposits are currently insured up to \$100,000 per account. The FDIC insures about \$2.8 trillion at over 8,900 commercial banks and about 1,700 savings institutions. The NCUA insures 11,125 credit unions with \$308 billion in insured deposits.

Current Industry and Insurance Fund Conditions. The 1980s and early 1990s were a turbulent period for the bank and thrift industries, with over 1,400 bank failures and 1,100 thrift failures. The Federal Government responded with the Financial Institutions Reform, Recovery and Enforcement Act of 1989 and the Federal Deposit Insurance Corporation Improvement Act of 1991. These reforms, combined with more favorable economic conditions, helped to restore the health of depository institutions and the deposit insurance system. No thrifts have failed in the last two years, and only three relatively small commercial banks failed during 1998. Nineteen credit unions with \$15 million in assets failed during 1998. The FDIC currently classifies only 88 institutions with \$8 billion in assets as "problem" institutions, compared to nearly 575 institutions with over \$300 billion in assets just five years ago.

Banks have achieved record levels of earnings in recent years, which enabled the industry to recapitalize BIF in 1995 up to its statutorily-designated reserve ratio of 1.25 percent of insured deposits. As of September 30, 1998, BIF had estimated reserves of \$29 billion, 1.41 percent of insured deposits.

The earnings of the thrift industry also have improved significantly in recent years. With record profits again in 1998, the industry remains in strong financial condition despite enactment of the Deposit Insurance Funds Act of 1996 (DIFA) which imposed a \$4.5 billion special assessment to bring SAIF's reserves up to 1.25 percent of insured deposits. By September 30, 1998, SAIF's reserves reached an estimated \$9.7 billion or 1.39 percent of insured deposits. However, on January 1, 1999, in accordance with the DIFA, the FDIC was required to transfer all funds in the SAIF above 1.25 percent to a Special Reserve. Approximately \$1 billion was transferred and is available only if SAIF's reserve ratio falls below 0.625 percent.

The FDIC continues to maintain deposit insurance premiums in a range from zero for the healthiest institutions to 27 cents per \$100 of deposits for the riskiest institutions. Due to the strong financial condition of the industry and the insurance funds, 95 percent of commercial banks and 92 percent of thrifts did not pay insurance premiums in 1998.

The National Credit Union Share Insurance Fund (NCUSIF) also remains strong with assets of \$3.8 billion. Each insured credit union is required to deposit and maintain in the fund an amount equal to 1 percent of its member share accounts. In 1998, the income generated from the 1 percent deposit eliminated the need to assess an additional insurance premium, and after the end of the fiscal year, the NCUA Board approved a dividend to reduce the Fund's equity ratio to the statutory ceiling of 1.30 percent. This was the fourth consecutive year that the Fund paid a dividend to feder-

ally insured credit unions. The Board also waived premiums for 1999.

Although depository institutions and their Federal insurance funds currently are in good financial condition, the U. S. economy has experienced strong growth in recent years. This trend is unlikely to continue indefinitely. An economic downturn, international events or other changes in the industry could put pressure on industry profits and ultimately the deposit insurance funds. In the last quarter of fiscal 1998, some large banks reported lower-than-expected earnings from their international operations due to recent international economic crises.

Legislative, Judicial and Regulatory Developments. Recent marketplace and regulatory changes highlight the importance of financial modernization in a rapidly changing financial market. Depository institutions have faced increasing competition from non-bank providers of financial services in recent years. Legislative and regulatory changes that alter depository institution charters and/or expand the range of permissible activities for bank subsidiaries, holding companies, or affiliates will contribute to increasing integration and efficiency in the financial services sector.

In May 1997, the Administration presented to Congress its recommendations for modernizing the financial services industry and developing a common depository institution charter. The Administration's proposal would have removed Depression-era barriers to competition, preserved the safety and soundness of our Nation's depository institutions, and protected consumer rights. The proposal also would have promoted competition and efficiency within the industry, fostering the creation of new products and services and benefiting consumers. However, Congress did not pass legislation to modernize the financial services industry during the last session.

On February 25, 1998, the Supreme Court (in *National Credit Union Administration v. First National Bank* and *AT&T Family Federal Credit Union v. First National Bank*) struck down NCUA's longstanding policy of allowing credit unions to accept members from multiple fields of membership. On August 7, 1998, the President signed the Credit Union Membership Access Act, overturning the Supreme Court's ruling and allowing credit unions to accept members from multiple employers with fewer than 3,000 employees. This will allow smaller firms and associations greater opportunity to offer credit union services to their employees and members. NCUA promulgated rules to implement this legislation in January 1999, which is expected to increase the growth rate and total size of credit unions and the NCUSIF.

The Federal regulators of depository institutions (FDIC, Comptroller of the Currency, Office of Thrift Supervision, NCUA, and the Federal Reserve) are aggressively reaching out to educate banks, thrifts, and credit unions about the "Year 2000 Problem," which refers to the possibility that information technology and computer-aided systems may malfunction on January

1, 2000 due to computer programming that reads the date improperly. The regulators are conducting on-site examinations of depository institutions and some of their service providers. They are prepared to close institutions which fail to prevent disruptions to the financial and payments systems and to protect depositors. As a result of regulators' actions, the vast majority of depository institutions should be ready for the Year 2000 date change well in advance of January 1, 2000.

Pension Guarantees

The Pension Benefit Guaranty Corporation (PBGC) insures most defined-benefit pension plans sponsored by private employers. PBGC pays the benefits guaranteed by law when a company with an underfunded pension plan becomes insolvent. PBGC's exposure to claims relates to the underfunding of pension plans, that is, to any amount by which expected future benefits exceed plan assets. In the near term, its loss exposure results from financially distressed firms with underfunded plans. In the longer term, additional loss exposure results from firms that are currently healthy but become distressed, and from changes in the funding of plans and their investment results.

The number of plans insured by PBGC has been declining as small companies with defined benefit plans terminate them and shift to defined contribution pension arrangements such as 401(k) accounts. The number of plans with 1,000 or more participants has increased slightly since 1980. However, the number of active workers in defined benefit plans declined from 29 million in 1985 to fewer than 25 million in 1994. If the trend continues, by 2005 fewer than half of the participants in defined benefit plans will be active workers.

In 1998, PBGC posted a positive financial position for the third straight year after 21 years of being in a deficit position. This was due to good economic conditions and favorable investment returns. But risk remains. That risk has been reduced somewhat by steps taken by PBGC and the Congress. Since 1990, PBGC has been working to more actively to prevent and mitigate losses. Under its Early Warning Program, PBGC has negotiated more than 75 major settlements, providing more than \$16 billion in new pension contributions from companies and improving pension security for 1.8 million people. In 1995, the Early Warning Program was one of the first six Federal programs to receive an award from the Ford Foundation and Harvard's Kennedy School of Government. The program also received the National Performance Review's Hammer Award.

The Retirement Protection Act of 1994 (RPA) also is strengthening PBGC's financial condition. The RPA requires companies to increase their contributions to underfunded plans over 10 to 15 years, and relates companies' premiums more fairly to PBGC's exposure by increasing the insurance premiums for those pension plans that are the most underfunded. RPA also required companies to notify participants if the plan is

less than 90 percent funded, so companies have increased funding to avoid giving this notice. In addition, RPA requires privately held companies with seriously underfunded plans to give PBGC advance notice of certain transactions that potentially are harmful to their plans.

PBGC fared well in 1998. There were no major plan terminations, and investment performance was strong. Premium revenues dropped somewhat, largely reflecting lower underfunding-related premiums because of improved pension funding and a previously-enacted increase in the statutory interest rate for calculating the underfunding.

The multiemployer program guarantees pension benefits of certain unionized plans offered by several employers in an industry. The program continues to be financially strong. The Administration proposes to increase the maximum guarantee level on pension benefits paid to retirees for the first time since 1980. It would be increased from \$5,580 to \$12,870 per year for retirees with 30 years of service.

This budget proposes a new and simplified defined-benefit pension plan for small businesses, featuring accounts for individual participants. Unlike defined-contribution plans, the new plan guarantees a known level of annual income throughout a worker's retirement years. The new plan is designed to be fully funded virtually constantly, but also would be protected by PBGC at a reduced premium. The budget also proposes expanding the PBGC's missing participant program to multiemployer and defined-contribution plans.

Disaster Insurance

Flood Insurance

The Federal Government provides flood insurance through the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA). This insurance is available to property owners living in communities that have adopted and enforced appropriate floodplain management measures. Coverage is limited to buildings and their contents. Policies for structures built before a community joined the flood insurance program are subsidized by law, while policies for structures built after a community joined the NFIP are actuarially rated.

When the Federal flood insurance program was created in the early 1970s, private insurance companies, with little information on flood risks by geographic area, had deemed the risk of floods uninsurable. In response, the NFIP provided insurance coverage, required building standards and other mitigation efforts to reduce losses, and undertook flood hazard mapping to quantify the geographic risk of flooding. The program has substantially met these goals.

The flood insurance policy base grew by approximately 10 percent from 1997 to 1998, exceeding the goal of a 5 percent increase set in 1997. The NFIP's "Cover America" initiative, which is a major marketing and advertising campaign, should continue to increase

awareness of flood insurance and educate people about the risks of floods. FEMA is using three strategies to increase the number of flood insurance policies in force: lender compliance, program simplification, and expanded marketing.

The NFIP's Community Rating System (CRS) now allows policyholders in over 900 communities to receive discounts of at least 5 percent on their premiums by undertaking activities which will reduce flood losses, facilitate more accurate insurance rating, and promote public awareness of flood insurance and flood risk.

In 1997, the NFIP offered expanded insurance to cover increased costs of compliance (ICC), as authorized by the National Flood Insurance Reform Act of 1994. This separate coverage, which took effect May 1, 1997, allows repetitively flooded or substantially damaged structures to be rebuilt in accordance with existing floodplain management requirements. This will reduce the amount and cost of future flood damage and allow those structures to be actuarially rated.

In 1999 and 2000, FEMA will continue efforts to reduce future flood damage by educating Federal financial regulators about mandatory flood insurance requirements for federally related home and business loans on properties located in flood hazard areas; simplifying policy language; using mitigation insurance to allow flood victims to rebuild to code, thereby reducing future flood damage costs; and using flood insurance premium adjustments to encourage community and State mitigation activities beyond those required by the NFIP.

The President's FY 2000 budget proposes two additional reforms of this program. First, \$12 million is requested to begin the process of purchasing and/or elevating insured properties that have filed four or more flood insurance claims over the last 10 years. This effort will ultimately result in lower claims payments. Second, the budget includes a proposal to charge a \$15 mortgage transaction fee, to supplement a request of \$5 million in discretionary funds, to support a multi-year program to update and modernize FEMA's inventory of floodplain maps. These maps are essential in developing appropriate risk-based flood insurance premium charges, will ensure that property owners have appropriate levels of insurance, and will result in a more actuarially sound program.

Crop Insurance

Subsidized Federal crop insurance administered by USDA assists farmers in managing yield shortfalls due to bad weather or other natural disasters. Private companies are unwilling to offer multi-peril crop insurance because losses tend to be correlated across geographic areas, and the companies are therefore exposed to large losses. For example, a drought will affect many farms at the same time. Damage from hail, on the other hand, tends to be more localized, and a private market for hail insurance has existed for over 100 years.

The USDA crop insurance program is a cooperative effort between the Federal Government and the private insurance industry. Private insurance companies sell

and adjust crop insurance policies. The Federal Government reimburses private companies for the administrative expenses associated with extending crop insurance and reinsures the private companies for excess insurance losses on all policies. The Federal Government also subsidizes premiums for farmers.

A major program reform was enacted in 1994 to address a growing problem caused by the repeated provision of Federal ad hoc agricultural disaster payments. Participation in the crop insurance program had been kept low by the availability of post-event disaster aid to farmers from the Federal Government. Because disaster payments were no-cost grants, farmers had little incentive to purchase Federal crop insurance. The 1994 reform repealed agricultural disaster payment authorities and substituted a "catastrophic" insurance policy that indemnifies farmers at a rate roughly equal to the previous disaster payments. The catastrophic policy is free to farmers except for an administrative fee. Private companies sell and adjust the catastrophic portion of the crop insurance program, and also provide higher levels of coverage (which are also federally subsidized.) In 1995, 82 percent of eligible acres participated in the program—140 percent over 1994. However, the 1996 Farm Bill eliminated the requirement that farmers participating in USDA's commodity programs carry crop insurance, and participation dropped in 1997 to an estimated 61 percent of eligible acres.

The 1996 Farm Bill significantly changed the commodity programs and associated price and income sup-

port for farmers. The President's signing statement for the Farm Bill stated: "The fixed payments in the bill do not adjust to changes in market conditions, which would leave farmers, and the rural communities in which they live, vulnerable to reductions in crop prices or yields. I am firmly committed to submitting legislation and working with the Congress next year to strengthen the farm safety net." To begin to address the safety net problem, the 1998 Budget proposed to expand the crop insurance program to include "revenue insurance" coverage. Revenue insurance protects farmers against lost revenue caused by low prices, low yields, or any combination of the two. Revenue insurance programs are now available in 36 states and further expansion is being studied. The Administration will work with the Congress to enact further improvements to the Crop Insurance program in 1999.

To ensure that sufficient funding is available to provide agent sales commissions, the 1998 Agricultural Research, Extension, and Education Reform Act shifted Federal funding to reimburse this private sector administrative costs shifted from discretionary spending back to mandatory spending through the Federal Crop Insurance Corporation Fund. Further, the Administration developed, and Congress adopted, a combination of program changes to reduce program costs such as reducing the reimbursement rate paid to the private insurance companies from the current 27 percent of premium to 25 percent and increasing administrative fees.

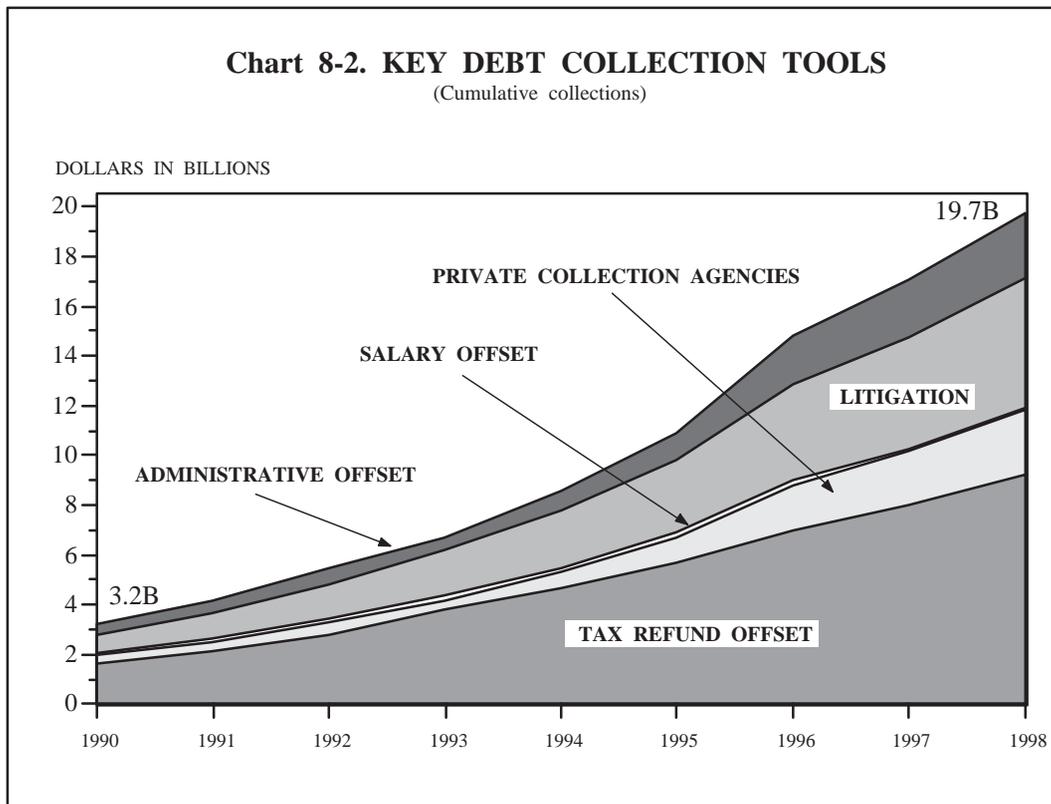
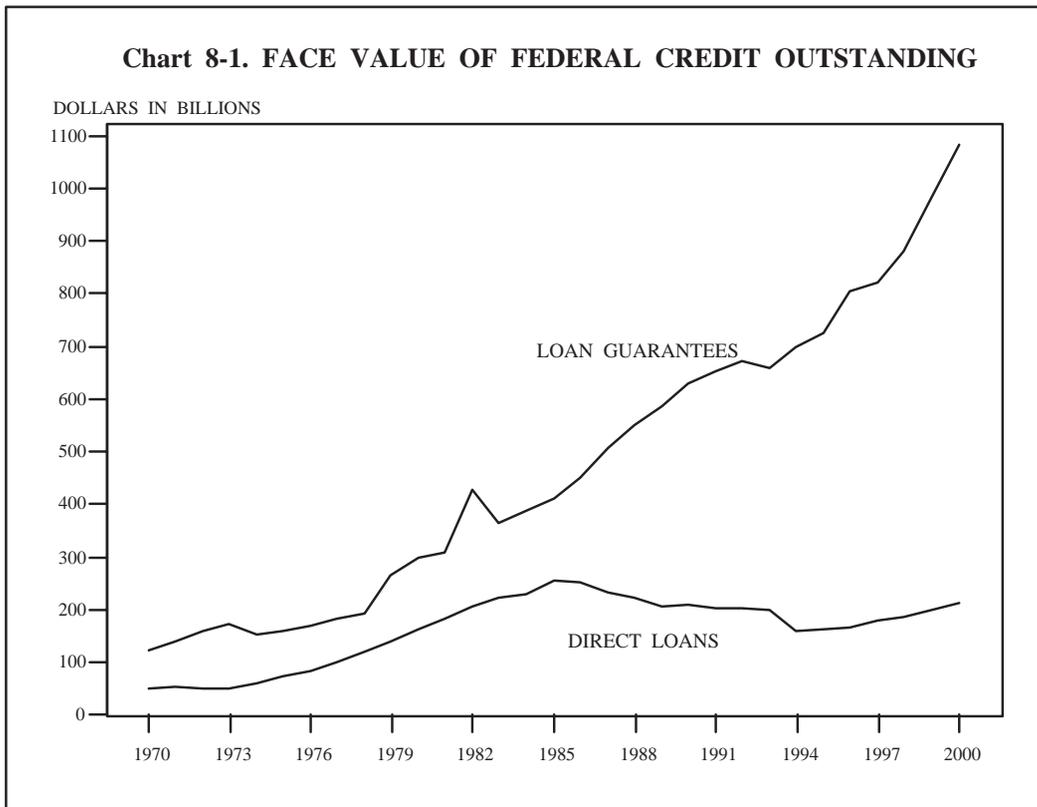


Table 8-1. ESTIMATED FUTURE COST OF OUTSTANDING FEDERAL AND FEDERALLY ASSISTED CREDIT PROGRAMS

(in billions of dollars)

Program	Outstanding 1997	Estimated Future Costs of 1997 Out- standing ¹	Outstanding 1998	Estimated Future Costs of 1998 Out- standing ¹
Direct Loans:²				
Federal Student Loan Programs	35	1	49	2
Farm Service Agency (excl.CCC), Rural Development, Rural Housing	47	14	46	14
Rural Electrification Admin. and Rural Telephone Bank	30	6	30	4
Housing and Urban Development	13	3	14	2
Agency for International Development	13	6	12	6
Public Law 480	11	7	11	7
Export-Import Bank	10	2	11	3
Commodity Credit Corporation	9	1	9	2
Federal Communications Commission	7	1	7	2
Disaster Assistance	10	.....	7	1
Other Direct Loans	11	1	21	5
Total Direct Loans	196	41	217	45
Loan Guarantees:²				
FHA Mutual Mortgage Insurance Fund	361	-1	380	-2
VA Mortgage	170	4	200	5
Federal Family Education Loan Program	96	13	101	4
FHA General/Special Risk Insurance Fund	88	7	89	7
Small Business	34	2	37	2
Export-Import Bank	22	.....	22	1
International Assistance	18	1	19	1
Farm Service Agency and Rural Housing	12	.....	14	.....
Other Loan Guarantees	21	4	20	4
Total Loan Guarantees	822	30	882	22
Total Federal Credit	1,018	72	1,099	67
Government-Sponsored Enterprises:³				
Federal National Mortgage Association	862	.....	989	.....
Federal Home Loan Mortgage Corporation	627	.....	702	.....
Federal Home Loan Banks ⁴	182	.....	238	.....
Student Loan Marketing Association ⁵ .....	.....	.....	.....	.....
Farm Credit System	59	.....	60	.....
Total Government-Sponsored Enterprises	1,730	.....	1,989	.....
Total	2,748	72	3,088	67

¹ Direct loan future costs are the financing account allowance for subsidy cost and the liquidating account allowance for estimated uncollectible principal and interest. Loan guarantee future costs are estimated liabilities for loan guarantees.

² Excludes loans and guarantees by deposit insurance agencies and programs not included under credit reform, such as CCC farm supports. Defaulted guaranteed loans which become loans receivable are accounted for as direct loans.

³ Net of purchases of federally guaranteed loans.

⁴ The lending by the Federal Home Loans Banks measures their advances to member thrift and other financial institutions. In addition, their investment in private financial instruments at the end of 1998 was \$135 billion, including federally guaranteed securities and GSE securities.

⁵ The face value and Federal costs of Federal Family Education Loans in Student Loan Marketing Association's portfolio are included in the account of that program under guaranteed loans above.

Table 8-2. REESTIMATES OF CREDIT SUBSIDIES ON LOANS DISBURSED BETWEEN 1992—1998 ¹
(In millions of dollars)

Program	1994	1995	1996	1997	1998	1999
Direct Loans:						
Agriculture credit insurance fund	-72	28	2	-31	23	.....
Agricultural conservation	-1					.....
Rural electrification and telephone loans	*	61	-37	84		-79
Rural telephone bank	1			10		-12
Rural housing insurance fund	2	152	46	-73		82
Rural economic development loans				1		-2
Rural development loan program		1				-7
Rural community advancement program ²				8		4
P.L. 480 Title I loan program			-37	-1		.....
Federal direct student loans			3	-83	172	-361
Bureau of Reclamation direct loans						3
BIA-Indian direct loans						18
High priority corridor loans					-3	.....
Veterans housing benefit program fund	-39	30	76	-72	465	-22
Foreign military financing				13	4	2
SBA-Disaster loans					-193	-227
Export-Import Bank direct loans	-28	-16	37			.....
Spectrum auction program					4,592	.....
Loan Guarantees:						
Agriculture credit insurance fund	5	14	12	-51	96	.....
Commodity Credit Corporation export guarantees	3	103	-426	343		.....
Rural development insurance fund	49			-3		.....
Rural housing insurance fund	2	10	7	-10		122
Rural community advancement program ²				-10		49
P.L. 480 Title I Food for Progress credits		84	-38			.....
Fisheries finance, guaranteed loans					-2	.....
Federal family education (formerly GSL): ³						
Technical reestimate	97	421	60			63
Volume reestimate			535	99		-216
FHA-Mutual mortgage				-340		1,264
FHA-General and special risk	-175		-110	-25	743	.....
BIA-Indian guaranteed loans				31		-17
Maritime guaranteed loans (Title XI)						-85
Veterans housing benefit fund guarantees	-447	167	334	-706	38	34
AID housing guaranty	-2	-1	-7		-14	.....
SBA-Business loans			257	-16	-279	-545
Export-Import Bank guarantees	-11	-59	13			.....
Total	-616	995	727	-832	5,642	68

* \$500 thousand or less.

¹ Additional information on credit reform subsidy rates is contained in the Federal Credit Supplement to the budget for 2000.

² Includes rural water and waste disposal, rural community facilities, and rural business and industry programs.

³ Volume reestimates in mandatory programs represent a change in volume of loans disbursed in the prior years. These estimates are the result of guarantee programs where data from loan issuers on actual disbursements of loans are not received until after the close of the fiscal year.

Table 8-3. ESTIMATED 2000 SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS FOR DIRECT LOANS ¹

(in millions of dollars)

Agency and Program	Weighted average subsidy as a percentage of disbursements	Subsidy budget authority	Estimated loan levels
Agriculture:			
Agricultural credit insurance fund	4.86	38	782
Rural community advancement program	5.99	72	1,200
Rural electrification and telecommunications loans	0.60	9	1,470
Rural telephone bank	1.88	3	175
Distance learning and telemedicine program	0.35	1	200
Rural housing insurance fund	12.24	156	1,274
Rural development loan fund	31.95	33	102
Rural economic development loans	23.02	3	15
P.L. 480	82.46	114	138
Commerce:			
Fisheries finance	1.00	1	56
Education:			
Federal direct student loan program ²	-5.16	-918	17,783
Housing and Urban Development:			
FHA-mutual mortgage insurance .....	.....	.....	50
FHA-General and special risk .....	.....	.....	50
Interior:			
Bureau of reclamation loan	27.91	12	43
State:			
Repatriation loans	80.00	1	1
Transportation:			
Minority business resource center	11.00	2	14
Federal-aid highways	9.00	79	884
Treasury:			
Community development financial institutions fund	31.05	17	53
Veterans Affairs:			
Miscellaneous veterans housing loans	7.72	.....	21
Miscellaneous Veterans Programs loan fund	35.02	.....	3
Veterans housing benefit program fund	10.79	70	648
Federal Emergency Management Agency:			
Disaster assistance direct loan	4.15	2	25
International Assistance Programs:			
Overseas private investment corporation	11.00	14	130
Small Business Administration:			
Disaster loans	22.20	39	176
Business loans	8.54	4	47
Other Independent Agencies:			
Export Import Bank loans	1.90	32	1,687
Total	-0.57	-216	27,027

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.

² Excludes savings from proposed modifications.

Table 8-4. ESTIMATED 2000 SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS FOR LOAN GUARANTEES ¹

(in millions of dollars)

Agency and Program	Weighted average subsidy as a percentage of disbursements	Subsidy budget authority	Estimated loan levels
Agriculture:			
Agricultural credit insurance fund	1.57	35	2,226
Commodity Credit Corporation export loans	9.76	440	4,506
Rural community advancement program	2.28	29	1,285
Rural housing insurance fund	0.56	20	3,400
Defense—Military:			
Defense, Family Housing Improvement Fund	4.70	33	697
Education:			
Federal family education loan ²	12.12	3,371	27,780
Health and Human Services:			
Health Resources and Services	2.41	4	51
Housing and Urban Development:			
Indian housing loan guarantee fund	8.13	6	72
Native American housing block grant	11.07	5	45
Community development loan guarantees	2.30	29	1,261
America's private investment companies	3.60	36	1,000
FHA-mutual mortgage insurance	-1.99	-2,048	120,000
FHA-General and special risk ³	0.48	.....	18,100
Interior:			
Indian guaranteed loan	7.54	4	60
Transportation:			
Maritime guaranteed loan (Title XI)	5.01	6	120
Veterans Affairs:			
Miscellaneous veterans housing loans	48.25	3	7
Veterans housing benefit program fund	0.68	212	31,237
International Assistance Programs:			
Micro and small enterprise development	4.94	1	30
Urban and environmental credit	1.15	3	26
Development credit authority	6.50	13	200
Overseas private investment corporation	1.00	10	1,000
Small Business Administration:			
Business loans	1.13	144	16,159
Other Independent Agencies:			
Export Import Bank loans	5.84	807	13,825
Presidio Trust	0.52	1	200
Total	1.47	3,165	243,287
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS			
GNMA:			
Guarantees of mortgage-backed securities loan guarantee	-0.33	-422	200,000

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.

² Excludes savings from proposed modifications.

³ Subsidy will be financed by \$153 million of unobligated balances.

Table 8-5. SUMMARY OF FEDERAL DIRECT LOANS AND LOAN GUARANTEES
(In billions of dollars)

	Actual				Estimate	
	1995	1996	1997	1998	1999	2000
Direct Loans:						
Obligations	30.9	23.4	33.6	28.8	38.5	37.9
Disbursements	22.0	23.6	32.2	28.7	39.6	36.2
Subsidy budget authority ¹	2.6	1.8	2.4	6.5	1.1	-0.2
Loan Guarantees:²						
Commitments	138.5	175.4	172.3	218.4	216.5	237.6
Lender Disbursements	117.9	143.9	144.7	199.5	192.9	203.0
Subsidy budget authority ¹	4.6	4.0	3.6	2.6	4.3	3.2

¹ Excludes subsidy reestimates made prior to 1998, and student loan modifications proposed for 2000.

² GNMA secondary guarantees of loans that are guaranteed by FHA, VA and RHS are excluded from the totals to avoid double-counting.

Table 8-6. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS

Agency and Program	In millions of dollars			As a percentage of outstanding loans ¹		
	1998 actual	1999 estimate	2000 estimate	1998 actual	1999 estimate	2000 estimate
DIRECT LOAN WRITEOFFS						
Agriculture:						
Agricultural credit insurance fund	320	327	330	3.39	3.61	3.96
Rural Development Insurance Fund	4	3	3	0.10	0.08	0.08
Rural Housing Insurance Fund	4	30	29	0.01	0.10	0.10
Rural development loans	1	1	1	0.34	0.32	0.29
Commerce:						
Economic development loans		1	1		1.96	2.22
Education:						
Student financial assistance	7	9	8	5.10	6.18	4.87
Federal direct student loan program	1	2	5			
Housing and Urban Development:						
Revolving fund (liquidating programs)	5			2.27		
FHA—Mutual mortgage insurance		1	2		6.89	6.55
Interior:						
BIA—Revolving funds for loans	2	5	4	2.59	6.84	6.06
State:						
Repatriation loans	1	1	1	25.00	25.00	25.00
Veterans Affairs:						
Veterans housing benefit program	49	49	24	3.38	3.14	1.61
Federal Emergency Management Agency:						
FEMA—Disaster Assistance	1			0.54		
Small Business Administration:						
Disaster loans	16	23	18	0.23	0.32	0.25
Business loans	100	54	20	9.18	7.44	6.25
Other Independent Agencies:						
Spectrum auction program	2,539			37.39		
Tennessee Valley Authority	2	1	1	4.65	2.06	1.73
Total, direct loan writeoffs	3,052	507	447	1.64	0.26	0.21
GUARANTEED LOAN TERMINATIONS FOR DEFAULT						
Agriculture:						
Agricultural credit insurance fund	66	87	101	0.93	1.20	1.31
CCC Export guarantee programs	78	402	465	1.80	8.80	9.94
Rural community advancement program	16	33	33	0.79	1.31	0.94
Rural Development Insurance Fund	54	32	19	23.78	17.53	17.11
Rural Housing Insurance Fund	27	44	61	0.37	0.51	0.54
Education:						
Federal family education	4,095	3,390	3,734	4.07	3.28	3.44

**Table 8-6. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS—
Continued**

Agency and Program	In millions of dollars			As a percentage of outstanding loans ¹		
	1998 actual	1999 estimate	2000 estimate	1998 actual	1999 estimate	2000 estimate
Health and Human Services:						
Health education assistance loan program	31	49	48	1.04	1.67	1.70
Housing and Urban Development:						
FHA—Mutual mortgage insurance	5,310	6,527	5,581	1.39	1.59	1.19
FHA—General and special risk	1,229	1,561	2,020	1.37	1.65	1.94
Transportation:						
Federal ship financing fund		34			9.71	
Veterans Affairs:						
Veterans housing benefit program	2,544	3,424	3,682	1.27	1.63	1.61
International Assistance Programs:						
Foreign military financing	2	1		0.03	0.01	
Microenterprise and other development	-1	1	2	-3.22	2.50	3.47
AID—Housing and other credit guaranty programs	39	25	12	1.74	1.09	0.51
Overseas Private Investment Corporation	7	63	66	0.25	2.14	1.92
Small Business Administration:						
Business loans	492	486	516	1.31	1.24	1.21
Other Independent Agencies:						
Export-Import Bank	330	237	421	1.51	1.05	1.82
Total, guaranteed loan terminations for default	14,319	16,396	16,761	1.00	1.11	1.05
Total, direct loan writeoffs and guaranteed loan terminations	17,371	16,903	17,208	1.07	1.01	0.96
ADDENDUM: WRITEOFFS OF DEFAULTED GUARANTEED LOANS THAT RESULT IN LOANS RECEIVABLE						
Education:						
Federal family education	515	455	463	2.93	2.52	2.42
Health and Human Services:						
Health education assistance loan program	20	20	20	3.80	3.73	3.61
Housing and Urban Development:						
FHA—Mutual mortgage insurance	53	34	1	8.26	10.39	5.40
FHA—General and special risk	224	133	319	9.23	5.20	11.70
Veterans Affairs:						
Veterans housing benefit program	567	541	544	73.06	71.84	75.60
Small Business Administration:						
Business loans	195	213	218	8.47	10.75	13.47
Total, writeoffs of loans receivable	1,574	1,396	1,565	5.04	4.47	4.91

¹ Average of loans outstanding for the year.

Table 8-7. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS¹

(In millions of dollars)

Agency and Program	1998 Actual	Estimate	
		1999	2000
DIRECT LOAN OBLIGATIONS			
Agriculture: ²			
Agricultural credit insurance fund	803	946	782
Distance learning and telemedicine	5	150	200
Rural electrification and telecommunications	1,420	1,562	1,070
Rural electrification and telecommunications			400
Rural telephone bank	175	158	175
Rural water and waste disposal direct loans	752	724	900
Rural housing insurance fund	1,230	1,158	1,275
Rural community facility direct loans	206	169	250
Rural economic development	25	15	15
Rural development loan fund	35	33	102
Rural business and industry direct loans	50	50	50
P.L. 480 Direct credit	228	965	138
Housing and Urban Development:			
FHA-General and special risk	120	120	50
FHA-Mutual mortgage insurance	200	100	50
Interior:			
Bureau of Reclamation	31	38	43
State:			
Repatriation loans	1	1	1
Transportation:			
Minority business resource center	15	14	14
Transportation infrastructure finance and innovation program		1,600	1,800
Treasury:			
Community development financial institutions fund	32	32	53
Federal Emergency Management Agency:			
Disaster assistance	25	30	25
International Assistance Programs:			
Foreign military financing	100	167	
Military debt reduction	5		
Total, limitations on direct loan obligations	5,458	8,032	7,393
LOAN GUARANTEE COMMITMENTS			
Agriculture: ²			
Agricultural credit insurance fund	1,653	1,880	2,227
Rural water and waste water disposal guaranteed loans	75	75	75
Rural housing insurance fund	3,040	3,075	3,300
Rural housing insurance fund			100
Rural community facility guaranteed loans	81	210	210
Rural business and industry guaranteed loans	1,099	1,078	1,000
Department of Defense:			
Defense export loan guarantee program	15,000	15,000	15,000
Health and Human Services:			
Health education assistance loans	85		
Health center	160	151	51
Housing and Urban Development:			
Indian housing loan guarantee fund	67	69	72
Title VI Indian Federal guarantees	45	54	45
Community development loan guarantees	1,261	1,261	1,261
America's private investment companies			1,000
FHA-General and special risk	17,400	18,100	18,100
FHA-Loan guarantee recovery fund	10	8	
FHA-Mutual mortgage insurance	110,000	110,000	120,000
Interior:			
Indian guaranteed loans	35	60	60
Transportation:			
Maritime guaranteed loan (Title XI)	1,000	120	120

Table 8-7. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS¹—Continued
(In millions of dollars)

Agency and Program	1998 Actual	Estimate	
		1999	2000
International Assistance Programs:			
Overseas private investment corporation	1,800	1,750	1,100
Small Business Administration:			
Business loans	13,000	13,500	14,800
Other Independent Agencies:			
Presidio trust			200
Total, limitations on loan guarantee commitments	150,811	151,391	163,721
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS			
GNMA:			
Guarantees of mortgage-backed securities	130,000	150,000	200,000
Total, limitations on secondary guaranteed loan commitments	130,000	150,000	200,000

¹Data represents loan level limitations enacted or proposed to be enacted in appropriation acts. For information on actual and estimated loan levels supportable by new subsidy budget authority requested, see Tables 8-3 and 8-4.

²Limitations for Agriculture are overridden by a general provision in the appropriations act.

Table 8–8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Obligations			
Loan disbursements		2	2
<i>Change in outstandings</i>	-1,010	-1,007	-998
Outstandings	6,699	5,692	4,694
Agricultural credit insurance fund direct loan financing account:			
Obligations	796	999	782
Loan disbursements	816	859	867
<i>Change in outstandings</i>	457	289	236
Outstandings	2,715	3,004	3,240
Commodity credit corporation fund:			
Obligations	7,189	8,813	10,524
Loan disbursements	7,189	8,813	10,524
<i>Change in outstandings</i>	864	-393	127
Outstandings	2,633	2,240	2,367
Rural Utilities Service			
Rural communication development fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1	-1	
Outstandings	8	7	7
Distance learning and telemedicine direct loan financing account:			
Obligations	5	150	200
Loan disbursements		47	136
<i>Change in outstandings</i>		44	122
Outstandings		44	166
Rural development insurance fund liquidating account:			
Obligations			
Loan disbursements	4	3	
<i>Change in outstandings</i>	-327	-305	-284
Outstandings	3,808	3,503	3,219
Rural electrification and telecommunications direct loan financing account:			
Obligations	1,322	1,562	1,470
Loan disbursements	942	1,549	1,265
<i>Change in outstandings</i>	800	1,463	1,163
Outstandings	5,106	6,569	7,732
Rural telephone bank direct loan financing account:			
Obligations	168	158	175
Loan disbursements	34	52	53
<i>Change in outstandings</i>	29	46	45
Outstandings	232	278	323
Rural water and waste disposal direct loans financing account:			
Obligations	786	730	900
Loan disbursements	613	937	751
<i>Change in outstandings</i>	547	896	700
Outstandings	2,807	3,703	4,403
Rural electrification and telecommunications liquidating account:			
Obligations			
Loan disbursements	34	21	8
<i>Change in outstandings</i>	-1,170	-1,865	-2,949
Outstandings	27,076	25,211	22,262
Rural telephone bank liquidating account:			
Obligations			
Loan disbursements	21	27	24
<i>Change in outstandings</i>	-92	-93	-96
Outstandings	1,172	1,079	983

Table 8–8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Obligations			
Loan disbursements	6		
Change in outstandings	-1,243	-1,192	-1,143
Outstandings	19,704	18,512	17,369
Rural housing insurance fund direct loan financing account:			
Obligations	1,226	1,158	1,275
Loan disbursements	1,113	1,215	1,245
Change in outstandings	844	960	924
Outstandings	9,411	10,371	11,295
Rural community facility direct loans financing account:			
Obligations	211	171	250
Loan disbursements	137	193	217
Change in outstandings	113	176	195
Outstandings	606	782	977
Rural Business—Cooperative Service			
Rural economic development loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			-1
Outstandings	6	6	5
Rural economic development direct loan financing account:			
Obligations	25	15	15
Loan disbursements	16	22	17
Change in outstandings	8	15	7
Outstandings	50	65	72
Rural development loan fund direct loan financing account:			
Obligations	35	33	102
Loan disbursements	40	48	42
Change in outstandings	36	44	36
Outstandings	209	253	289
Rural business and industry direct loans financing account:			
Obligations	21	50	50
Loan disbursements	16	22	40
Change in outstandings	16	21	38
Outstandings	19	40	78
Rural development loan fund liquidating account:			
Obligations			
Loan disbursements	1	1	1
Change in outstandings	-5	-4	-3
Outstandings	77	73	70
Foreign Agricultural Service			
Expenses, Public Law 480, foreign assistance programs, Agriculture liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-300	-369	-363
Outstandings	9,146	8,777	8,414
P.L. 480 Direct credit financing account:			
Obligations	228	965	138
Loan disbursements	217	986	167
Change in outstandings	158	983	162
Outstandings	1,529	2,512	2,674
P.L. 480 Title I Food for Progress Credits, financing account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	508	508	508

Table 8–8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Debt reduction—financing account:			
Obligations			
Loan disbursements		142	80
<i>Change in outstandings</i>		140	78
Outstandings	63	203	281
Department of Commerce			
Economic Development Administration			
Economic development revolving fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-4	-6	-6
Outstandings	54	48	42
National Oceanic and Atmospheric Administration			
Fisheries finance, direct loan financing account:			
Obligations	34	229	56
Loan disbursements	27	251	56
<i>Change in outstandings</i>	26	247	52
Outstandings	26	273	325
Department of Defense—Military			
Operation and Maintenance			
Defense vessel transfer program financing account:			
Obligations		172	238
Loan disbursements		172	238
<i>Change in outstandings</i>		155	156
Outstandings		155	311
Family Housing			
Department of Defense, Family Housing Improvement, Direct Loan Financing Account:			
Obligations			11
Loan disbursements			11
<i>Change in outstandings</i>			11
Outstandings			11
Department of Education			
Office of Postsecondary Education			
Student financial assistance:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-4	17	20
Outstandings	137	154	174
College housing and academic facilities loans liquidating account:			
Obligations			
Loan disbursements	4		
<i>Change in outstandings</i>	-48	-35	-32
Outstandings	566	531	499
College housing and academic facilities loans financing account:			
Obligations			
Loan disbursements	1	1	1
<i>Change in outstandings</i>	1	1	1
Outstandings	21	22	23
Federal direct student loan program, financing account:			
Obligations	13,861	17,853	17,868
Loan disbursements	12,140	16,117	16,014
<i>Change in outstandings</i>	10,458	14,691	13,690
Outstandings	31,670	46,361	60,051

Table 8-8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Department of Energy			
Power Marketing Administration			
Bonneville Power Administration fund:			
Obligations .....	.....	.....	.....
Loan disbursements .....	.....	.....	.....
<i>Change in outstandings</i> .....	.....	.....	.....
Outstandings	2	2	2
Department of Health and Human Services			
Health Resources and Services Administration			
Medical facilities guarantee and loan fund:			
Obligations .....	.....	.....	.....
Loan disbursements .....	.....	.....	.....
<i>Change in outstandings</i>	-7	-7	-10
Outstandings	17	10	.....
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Obligations .....	.....	.....	.....
Loan disbursements .....	.....	.....	.....
<i>Change in outstandings</i>	-70	-59	-45
Outstandings	1,492	1,433	1,388
Community Planning and Development			
Revolving fund (liquidating programs):			
Obligations .....	.....	.....	.....
Loan disbursements .....	.....	.....	.....
<i>Change in outstandings</i>	-51	-40	-35
Outstandings	220	180	145
Community development loan guarantees liquidating account:			
Obligations .....	.....	.....	.....
Loan disbursements .....	.....	.....	.....
<i>Change in outstandings</i>	-6	-4	-4
Outstandings	30	26	22
Housing Programs			
Nonprofit sponsor assistance liquidating account:			
Obligations .....	.....	.....	.....
Loan disbursements .....	.....	.....	.....
<i>Change in outstandings</i> .....	.....	.....	.....
Outstandings	1	1	1
Flexible Subsidy Fund:			
Obligations .....	.....	.....	.....
Loan disbursements	35	21	7
<i>Change in outstandings</i>	26	17	3
Outstandings	769	786	789
FHA-Mutual mortgage and cooperative housing insurance funds liquidating account:			
Obligations .....	.....	.....	.....
Loan disbursements .....	.....	.....	.....
<i>Change in outstandings</i> .....	.....	-5	.....
Outstandings	5	.....	.....
FHA-General and special risk insurance funds liquidating account:			
Obligations .....	.....	.....	.....
Loan disbursements .....	.....	.....	.....
<i>Change in outstandings</i>	-6	-7	-7
Outstandings	72	65	58
FHA-General and special risk direct loan financing account:			
Obligations	1	20	50
Loan disbursements	1	20	50
<i>Change in outstandings</i>	1	18	45
Outstandings	1	19	64

Table 8-8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Housing for the elderly or handicapped fund liquidating account:			
Obligations			
Loan disbursements	5		
Change in outstandings	-84	-88	-87
Outstandings	8,144	8,056	7,969
FHA-Mutual mortgage insurance direct loan financing account:			
Obligations	5	50	50
Loan disbursements	4	40	40
Change in outstandings	-1	22	15
Outstandings	1	23	38
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Obligations			
Loan disbursements	129	127	106
Change in outstandings	26	65	42
Outstandings	358	423	465
Department of the Interior			
Bureau of Reclamation			
Bureau of reclamation loan liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-3	-3	-3
Outstandings	69	66	63
Bureau of Reclamation direct loan financing account:			
Obligations	30	38	43
Loan disbursements	39	35	46
Change in outstandings	39	35	45
Outstandings	120	155	200
National Park Service			
Construction and major maintenance:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	6	6	6
Bureau of Indian Affairs			
Revolving fund for loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-6	-6	-4
Outstandings	47	41	37
Indian direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-2	-2	-2
Outstandings	30	28	26
Insular Affairs			
Assistance to territories:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-1	-2
Outstandings	18	17	15
Department of State			
Administration of Foreign Affairs			
Repatriation loans financing account:			
Obligations	1	1	1
Loan disbursements	1	1	1
Change in outstandings			
Outstandings	4	4	4

Table 8-8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Department of Transportation			
Office of the Secretary			
Minority business resource center direct loan financing account:			
Obligations	6	8	14
Loan disbursements	4	8	14
Change in outstandings	1	-3	3
Outstandings	7	4	7
Federal Highway Administration			
Right-of-way revolving fund liquidating account:			
Obligations			
Loan disbursements	7	20	20
Change in outstandings	-2	-2	-4
Outstandings	182	180	176
Transportation infrastructure finance and innovation program direct loan financing account:			
Obligations		811	884
Loan disbursements		608	866
Change in outstandings		608	866
Outstandings		608	1,474
Federal Railroad Administration			
Amtrak corridor improvement loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1		-1
Outstandings	5	5	4
Alameda Corridor direct loan financing account:			
Obligations			
Loan disbursements	140	120	
Change in outstandings	140	120	
Outstandings	280	400	400
Railroad rehabilitation and improvement liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-3	-5
Outstandings	56	53	48
Railroad rehabilitation and improvement direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	4	4	4
Department of the Treasury			
Departmental Offices			
Community development financial institutions fund direct loan financing account:			
Obligations	7	5	16
Loan disbursements	1	5	9
Change in outstandings	1	5	9
Outstandings	5	10	19
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans Housing Benefit Program Fund Liquidating Account:			
Obligations			
Loan disbursements			
Change in outstandings	-94	-109	-56
Outstandings	326	217	161
Veterans Housing Benefit Program Fund Direct Loan Financing Account:			
Obligations	1,339	1,947	648
Loan disbursements	1,339	1,947	648
Change in outstandings	130	327	-300
Outstandings	1,122	1,449	1,149

Table 8–8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Miscellaneous veterans housing loans direct loan financing account:			
Obligations	3	11	22
Loan disbursements	3	10	22
Change in outstandings	2	10	21
Outstandings	16	26	47
Miscellaneous veterans programs loan fund direct loan financing account:			
Obligations	2	2	3
Loan disbursements	2	2	2
Change in outstandings			
Outstandings			
Miscellaneous veterans programs loan fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	1	1	1
Environmental Protection Agency			
Abatement, control, and compliance direct loan liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-9	-9	-8
Outstandings	76	67	59
Abatement, control, and compliance direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-5	-5
Outstandings	56	51	46
Federal Emergency Management Agency			
Disaster assistance direct loan liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	37	37	37
Disaster assistance direct loan financing account:			
Obligations		36	25
Loan disbursements	24	36	25
Change in outstandings	20	34	23
Outstandings	147	181	204
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Obligations			
Loan disbursements	9	8	8
Change in outstandings	-762	-816	-495
Outstandings	5,392	4,576	4,081
Foreign military financing direct loan financing account:			
Obligations	100	167	
Loan disbursements	291	433	470
Change in outstandings	131	171	157
Outstandings	1,582	1,753	1,910
Military debt reduction financing account:			
Obligations	5		
Loan disbursements	5	100	
Change in outstandings	5	100	
Outstandings	9	109	109
Multilateral Assistance			
International organizations and programs:			
Obligations			
Loan disbursements			
Change in outstandings	-2	-2	-2
Outstandings	30	28	26

Table 8–8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Agency for International Development			
Economic assistance loans—liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-729	-547	-515
Outstandings	11,435	10,888	10,373
Debt reduction, financing account:			
Obligations			
Loan disbursements		53	
Change in outstandings	-57	-4	-57
Outstandings	282	278	221
Microenterprise and small enterprise development credit direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-1		
Outstandings	1	1	1
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-15	-8	-9
Outstandings	22	14	5
Overseas private investment corporation direct loan financing account:			
Obligations	76	136	130
Loan disbursements	26	60	70
Change in outstandings	-14	48	56
Outstandings	69	117	173
Small Business Administration			
Business direct loan financing account:			
Obligations	10	40	60
Loan disbursements	7	30	30
Change in outstandings	-10	9	16
Outstandings	99	108	124
Disaster direct loan financing account:			
Obligations	639	814	221
Loan disbursements	595	1,009	770
Change in outstandings	-25	543	38
Outstandings	5,605	6,148	6,186
Disaster loan fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-203	-213	-410
Outstandings	1,254	1,041	631
Business loan fund liquidating account:			
Obligations			
Loan disbursements	55	62	41
Change in outstandings	-258	-737	-99
Outstandings	990	253	154
Other Independent Agencies			
District of Columbia Financing			
Loans to the District of Columbia for capital projects:			
Obligations			
Loan disbursements			
Change in outstandings	-12	-12	-12
Outstandings	39	27	15
Repayable advances to the District of Columbia direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-223		
Outstandings			

Table 8–8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Export-Import Bank of the United States			
Export-Import Bank of the United States liquidating account:			
Obligations			
Loan disbursements	2		
<i>Change in outstandings</i>	-667	-2,526	-482
Outstandings	5,721	3,195	2,713
Debt reduction financing account:			
Obligations			
Loan disbursements	514	2,059	118
<i>Change in outstandings</i>	514	2,059	118
Outstandings	514	2,573	2,691
Export-Import Bank direct loan financing account:			
Obligations	103	1,286	1,687
Loan disbursements	1,498	1,288	1,092
<i>Change in outstandings</i>	1,208	841	471
Outstandings	5,027	5,868	6,339
Farm Credit System Financial Assistance Corporation			
Financial assistance corporation assistance fund, liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-199	-33	-17
Outstandings	933	900	883
Federal Communications Commission			
Spectrum auction direct loan financing account:			
Obligations	594		
Loan disbursements	594		
<i>Change in outstandings</i>	-2,071		-10
Outstandings	6,789	6,789	6,779
Bank Insurance			
Bank insurance fund:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>			
Outstandings	100	100	100
FSLIC Resolution			
FSLIC resolution fund:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-32		
Outstandings	63	63	63
National Credit Union Administration			
Community development credit union revolving loan fund:			
Obligations			
Loan disbursements	3	4	3
<i>Change in outstandings</i>	1	2	
Outstandings	7	9	9
Tennessee Valley Authority			
Tennessee Valley Authority fund:			
Obligations	16	22	22
Loan disbursements	16	22	22
<i>Change in outstandings</i>	2	11	7
Outstandings	43	54	61
Subtotal, direct loan transactions:			
Obligations	28,844	38,452	37,930
Loan disbursements	28,720	39,608	36,239
<i>Change in outstandings</i>	6,769	14,712	11,137
Outstandings	185,790	200,502	211,639

Table 8-8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
ADDENDUM: DEFAULTED GUARANTEED LOANS THAT RESULT IN A LOAN RECEIVABLE			
Department of Agriculture			
Farm Service Agency			
Commodity credit corporation export guarantee financing account:			
Claim payments	72	402	465
Change in outstandings	69	394	450
Outstandings	1,375	1,769	2,219
Commodity credit corporation guaranteed loans liquidating account:			
Claim payments	6		
Change in outstandings	-76	-133	-80
Outstandings	4,923	4,790	4,710
Department of Commerce			
National Oceanic and Atmospheric Administration			
Federal ship financing fund, fishing vessels liquidating account:			
Claim payments			
Change in outstandings			
Outstandings	24	24	24
Department of Education			
Office of Postsecondary Education			
Federal family education loan program, financing account:			
Claim payments	2,844	2,835	3,263
Change in outstandings	1,597	1,891	1,971
Outstandings	6,083	7,974	9,945
Federal family education loan liquidating account:			
Claim payments	953	287	188
Change in outstandings	-544	-867	-910
Outstandings	11,458	10,591	9,681
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Claim payments	14	15	20
Change in outstandings	14	13	18
Outstandings	32	45	63
Health education assistance loans liquidating account:			
Claim payments	29	40	34
Change in outstandings	24	6	
Outstandings	494	500	500
Department of Housing and Urban Development			
Housing Programs			
FHA-Mutual mortgage and cooperative housing insurance funds liquidating account:			
Claim payments		3	2
Change in outstandings	6	-290	1
Outstandings	294	4	5
FHA-General and special risk insurance funds liquidating account:			
Claim payments	268	313	324
Change in outstandings	-166	-45	-298
Outstandings	2,044	1,999	1,701
FHA-General and special risk guaranteed loan financing account:			
Claim payments	197	381	472
Change in outstandings	171	310	369
Outstandings	381	691	1,060
FHA-Mutual mortgage insurance guaranteed loan financing account:			
Claim payments	30	6	11
Change in outstandings	62	-338	10
Outstandings	347	9	19

Table 8-8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Claim payments			
Change in outstandings			
Outstandings	40	40	40
Indian guaranteed loan financing account:			
Claim payments	1	3	3
Change in outstandings	1	3	3
Outstandings	44	47	50
Department of Transportation			
Maritime Administration			
Federal ship financing fund liquidating account:			
Claim payments		34	
Change in outstandings		19	-9
Outstandings	46	65	56
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans Housing Benefit Program Fund Liquidating Account:			
Claim payments	121	103	88
Change in outstandings	-45	-32	-27
Outstandings	620	588	561
Veterans Housing Benefit Program Fund Guaranteed Loan Financing Account:			
Claim payments	546	439	475
Change in outstandings	53	-14	6
Outstandings	156	142	148
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Claim payments	26	11	25
Change in outstandings		5	25
Outstandings	1	6	31
Agency for International Development			
Housing and other credit guaranty programs liquidating account:			
Claim payments	56	31	15
Change in outstandings	-2	-400	-1
Outstandings	485	85	84
Microenterprise and small enterprise development guaranteed loan financing account:			
Claim payments	1	1	2
Change in outstandings	1	1	2
Outstandings	1	2	4
Overseas Private Investment Corporation			
Overseas private investment corporation guaranteed loan financing account:			
Claim payments	8	50	50
Change in outstandings	3	35	30
Outstandings	21	56	86
Small Business Administration			
Pollution control equipment fund liquidating account:			
Claim payments			
Change in outstandings	-1		-1
Outstandings	45	45	44
Business guaranteed loan financing account:			
Claim payments	416	425	475
Change in outstandings	-36	-700	-128
Outstandings	834	134	6

Table 8-8. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Business loan fund liquidating account:			
Claim payments	76	61	41
Change in outstandings	76	61	41
Outstandings	1,466	1,527	1,568
Subtotal, defaulted guaranteed loans that result in a loan receivable:			
Claim payments	5,664	5,440	5,953
Change in outstandings	1,207	-81	1,472
Outstandings	31,214	31,133	32,605
Total:			
Obligations	28,844	38,452	37,930
Loan disbursements	34,384	45,048	42,192
Change in outstandings	7,976	14,631	12,609
Outstandings	217,004	231,635	244,244

Table 8-9. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-218	-213	-212
Outstandings	776	563	351
Agricultural credit insurance fund guaranteed loan financing account:			
Commitments	1,653	1,880	2,227
New guaranteed loans	1,493	1,842	2,182
Change in outstandings	253	535	742
Outstandings	6,292	6,827	7,569
Commodity credit corporation export guarantee financing account:			
Commitments	5,000	4,721	4,506
New guaranteed loans	2,733	4,721	4,506
Change in outstandings	-216	471	-255
Outstandings	4,332	4,803	4,548
Commodity credit corporation guaranteed loans liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-16		
Outstandings			
Natural Resources Conservation Service			
Agricultural resource conservation demonstration guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings			
Outstandings	24	24	24
Rural Utilities Service			
Rural communication development fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings		-1	
Outstandings	5	4	4
Rural development insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-148	-89	-54
Outstandings	227	138	84
Rural water and waste water disposal guaranteed loans financing account:			
Commitments	15	75	75
New guaranteed loans	4	20	69
Change in outstandings	4	19	67
Outstandings	11	30	97
Rural electrification and telecommunications liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-24	-20	-20
Outstandings	618	598	578
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-3	-3	-3
Outstandings	27	24	21
Rural housing insurance fund guaranteed loan financing account:			
Commitments	2,862	3,075	3,400
New guaranteed loans	2,416	2,927	3,125
Change in outstandings	2,167	2,585	2,669
Outstandings	7,206	9,791	12,460

Table 8-9. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Rural community facility guaranteed loans financing account:			
Commitments	65	210	210
New guaranteed loans	47	81	131
<i>Change in outstandings</i>	34	74	119
Outstandings	155	229	348
Rural Business—Cooperative Service			
Rural business and industry guaranteed loans financing account:			
Commitments	1,171	1,096	1,000
New guaranteed loans	801	1,019	1,019
<i>Change in outstandings</i>	597	879	841
Outstandings	1,855	2,734	3,575
Department of Commerce			
Economic Development Administration			
Economic development revolving fund liquidating account:			
Commitments			
New guaranteed loans			
<i>Change in outstandings</i>	-2	-1	-1
Outstandings	13	12	11
National Oceanic and Atmospheric Administration			
Fisheries finance, guaranteed loan financing account:			
Commitments			
New guaranteed loans	8		
<i>Change in outstandings</i>	-14	-22	-22
Outstandings	80	58	36
Federal ship financing fund, fishing vessels liquidating account:			
Commitments			
New guaranteed loans			
<i>Change in outstandings</i>	-17	-12	-10
Outstandings	68	56	46
Department of Defense—Military			
Operation and Maintenance			
Defense export loan guarantee financing account:			
Commitments		25	
New guaranteed loans	15	11	19
<i>Change in outstandings</i>	15	7	15
Outstandings	15	22	37
Procurement			
Arms Initiative Guaranteed Loan Financing Account:			
Commitments	10	21	18
New guaranteed loans	10	21	18
<i>Change in outstandings</i>	10	21	16
Outstandings	10	31	47
Family Housing			
Department of Defense, Family Housing Improvement, Guaranteed Loan Financing Account:			
Commitments		177	697
New guaranteed loans			
<i>Change in outstandings</i>			
Outstandings			
Department of Education			
Office of Postsecondary Education			
Federal family education loan liquidating account:			
Commitments			
New guaranteed loans			
<i>Change in outstandings</i>	-7,465	-5,367	-4,075
Outstandings	16,118	10,751	6,676

Table 8-9. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Federal family education loan program, financing account:			
Commitments	26,820	26,182	27,780
New guaranteed loans	21,966	23,170	24,550
Change in outstandings	9,016	10,685	9,007
Outstandings	84,402	95,087	104,094
Historically black college and university capital financing, guaranteed loan financing account:			
Commitments			
New guaranteed loans		1	7
Change in outstandings		1	7
Outstandings		1	8
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Commitments	85		
New guaranteed loans	85		
Change in outstandings	68	-16	-21
Outstandings	1,562	1,546	1,525
Health education assistance loans liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-66	-91	-96
Outstandings	1,412	1,321	1,225
Health center guaranteed loan financing account:			
Commitments	9	100	51
New guaranteed loans	9	73	48
Change in outstandings	9	73	48
Outstandings	9	82	130
Medical facilities guarantee and loan fund:			
Commitments			
New guaranteed loans			
Change in outstandings	-60	-40	-30
Outstandings	82	42	12
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Commitments			
New guaranteed loans			
Change in outstandings	-279	-279	-279
Outstandings	3,307	3,028	2,749
Indian housing loan guarantee fund financing account:			
Commitments	22	69	72
New guaranteed loans	24	34	40
Change in outstandings	21	34	40
Outstandings	38	72	112
Title VI Indian Federal guarantees financing account:			
Commitments		54	45
New guaranteed loans			
Change in outstandings			
Outstandings			
Community Planning and Development			
Revolving fund (liquidating programs):			
Commitments			
New guaranteed loans			
Change in outstandings		-1	-1
Outstandings	2	1	
Community development loan guarantees financing account:			
Commitments	382	1,261	1,261
New guaranteed loans	547	1,000	1,000
Change in outstandings	415	800	800
Outstandings	1,190	1,990	2,790

Table 8-9. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Community development loan guarantees liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-33	-30	-25
Outstandings	165	135	110
America's private investment companies financing account:			
Commitments			1,000
New guaranteed loans			730
Change in outstandings			730
Outstandings			730
Housing Programs			
FHA-Mutual mortgage and cooperative housing insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-16,725	-5,150	-4,579
Outstandings	71,030	65,880	61,301
FHA-General and special risk insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-5,815	-1,787	-2,536
Outstandings	36,590	34,803	32,267
FHA-General and special risk guaranteed loan financing account:			
Commitments	15,513	18,100	16,507
New guaranteed loans	15,074	17,153	16,118
Change in outstandings	7,034	12,151	10,568
Outstandings	52,697	64,848	75,416
FHA-Loan guarantee recovery fund—financing account:			
Commitments	2	8	
New guaranteed loans	1	5	4
Change in outstandings	1	5	4
Outstandings	1	6	10
FHA-Mutual mortgage insurance guaranteed loan financing account:			
Commitments	100,245	96,218	112,873
New guaranteed loans	90,518	86,398	96,162
Change in outstandings	36,559	62,908	63,739
Outstandings	309,309	372,217	435,956
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-434,033	-88,444	-6,954
Outstandings	96,009	7,565	611
Guarantees of mortgage-backed securities financing account:			
Commitments	130,000	150,000	200,000
New guaranteed loans	138,450	119,390	127,884
Change in outstandings	445,615	92,791	18,409
Outstandings	445,615	538,406	556,815
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-17	-13	-8
Outstandings	40	27	19
Indian guaranteed loan financing account:			
Commitments	35	60	60
New guaranteed loans	28	45	45
Change in outstandings	11	24	15
Outstandings	113	137	152

Table 8–9. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Department of Transportation			
Maritime Administration			
Federal ship financing fund liquidating account:			
Commitments			
New guaranteed loans			
<i>Change in outstandings</i>	-150	-94	-58
Outstandings	397	303	245
Maritime guaranteed loan (Title XI) financing account:			
Commitments	686	120	120
New guaranteed loans	686	120	120
<i>Change in outstandings</i>	430	-146	-175
Outstandings	2,457	2,311	2,136
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans Housing Benefit Program Fund Liquidating Account:			
Commitments			
New guaranteed loans	9		
<i>Change in outstandings</i>	-488	-454	-379
Outstandings	23,408	22,954	22,575
Veterans Housing Benefit Program Fund Guaranteed Loan Financing Account:			
Commitments	39,862	32,635	31,237
New guaranteed loans	40,980	33,455	32,311
<i>Change in outstandings</i>	30,202	19,860	17,189
Outstandings	176,777	196,637	213,826
Miscellaneous veterans housing loans guaranteed loan financing account:			
Commitments			7
New guaranteed loans			7
<i>Change in outstandings</i>			7
Outstandings			7
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Commitments			
New guaranteed loans			
<i>Change in outstandings</i>	-387	-380	-373
Outstandings	5,304	4,924	4,551
Agency for International Development			
Loan guarantees to Israel financing account:			
Commitments			
New guaranteed loans	1,412		
<i>Change in outstandings</i>	1,412		
Outstandings	9,226	9,226	9,226
Development credit authority guaranteed loan financing account:			
Commitments		120	320
New guaranteed loans		31	95
<i>Change in outstandings</i>		31	95
Outstandings		31	126
Housing and other credit guaranty programs liquidating account:			
Commitments			
New guaranteed loans	19	20	10
<i>Change in outstandings</i>	-50	-34	-46
Outstandings	1,834	1,800	1,754
Private sector revolving fund liquidating account:			
Commitments			
New guaranteed loans			
<i>Change in outstandings</i>	-8		
Outstandings			

Table 8-9. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
Microenterprise and small enterprise development guaranteed loan financing account:			
Commitments	160	191	200
New guaranteed loans	12	39	41
Change in outstandings	-1	18	17
Outstandings	31	49	66
Urban and environmental credit guaranteed loan financing account:			
Commitments	18	14	26
New guaranteed loans	64	107	35
Change in outstandings	64	107	35
Outstandings	407	514	549
Assistance for the New Independent States of the Former Soviet Union: Ukraine export credit insurance financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-81	-61	
Outstandings	61		
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-60	-53	-26
Outstandings	81	28	2
Overseas private investment corporation guaranteed loan financing account:			
Commitments	2,418	2,600	2,100
New guaranteed loans	760	950	1,000
Change in outstandings	632	550	500
Outstandings	2,613	3,163	3,663
Small Business Administration			
Pollution control equipment fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-19	-11	-11
Outstandings	57	46	35
Business guaranteed loan financing account:			
Commitments	10,970	14,770	16,471
New guaranteed loans	9,671	7,336	7,597
Change in outstandings	3,488	4,039	4,167
Outstandings	33,695	37,734	41,901
Business loan fund liquidating account:			
Commitments			
New guaranteed loans	1	1	1
Change in outstandings	-1,201	-698	-579
Outstandings	3,804	3,106	2,527
Other Independent Agencies			
Export-Import Bank of the United States			
Export-Import Bank of the United States liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-661	-493	-287
Outstandings	1,707	1,214	927
Export-Import Bank guaranteed loan financing account:			
Commitments	10,447	12,737	15,172
New guaranteed loans	10,102	12,229	11,802
Change in outstandings	329	1,782	405
Outstandings	20,072	21,854	22,259

Table 8–9. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1998 Actual	Estimate	
		1999	2000
National Credit Union Administration			
Credit union share insurance fund:			
Commitments	1	1	
New guaranteed loans			
Change in outstandings		-1	
Outstandings	1		
Presidio Trust			
Presidio trust guaranteed loan financing account:			
Commitments			150
New guaranteed loans			150
Change in outstandings			150
Outstandings			150
Subtotal, Guaranteed loans (gross)			
Commitments	348,451	366,520	437,585
New guaranteed loans	337,945	312,199	330,826
Change in outstandings	70,129	106,446	109,286
Outstandings	1,423,337	1,529,783	1,639,069
Less, secondary guaranteed loans: ¹			
GNMA guarantees of FmHA/VA/FHA pools:			
Commitments	-130,000	-150,000	-200,000
New guaranteed loans	-138,450	-119,390	-127,884
Change in outstandings	-11,582	-4,347	-11,455
Outstandings	-541,624	-545,971	-557,426
Total, primary guaranteed loans:			
Commitments	218,451	216,520	237,585
New guaranteed loans	199,495	192,809	202,942
Change in outstandings	58,547	102,099	97,831
Outstandings	881,713	983,812	1,081,643

¹ Loans guaranteed by FHA, VA, or FmHA are included above. GNMA places a secondary guarantee on these loans, so they are deducted here to avoid double counting.

Table 8-10. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES (GSEs)¹
(in millions of dollars)

Enterprise	1998 Actual	Estimate	
		1999	2000
LENDING			
Student Loan Marketing Association:			
New transactions	8,310	8,295	8,766
<i>Net change</i>	-4,791	-3,420	-5,787
Outstandings	29,468	26,048	20,261
Federal National Mortgage Association:			
FNMA corporation accounts:			
New transactions	136,759	159,075	106,308
<i>Net change</i>	71,499	100,812	55,636
Outstandings	393,210	494,022	549,658
FNMA mortgage-backed securities:			
New transactions	275,533	346,794	204,271
<i>Net change</i>	60,509	98,275	58,480
Outstandings	627,451	725,726	784,206
Federal Home Loan Mortgage Corporation:			
FHLMC corporation accounts:			
New transactions	100,869	49,000	45,000
<i>Net change</i>	59,357	20,000	20,000
Outstandings	216,522	236,522	256,522
FHLMC participation certificates pools:			
New transactions	217,539	175,000	169,000
<i>Net change</i>	20,672	21,581	22,530
Outstandings	490,687	512,268	534,798
Farm Credit System:			
Bank for Cooperatives:			
New transactions	8,267	7,171	6,892
<i>Net change</i>	-192	17	102
Outstandings	1,835	1,852	1,954
Agricultural credit bank:			
New transactions	41,710	45,000	50,000
<i>Net change</i>	-185	874	897
Outstandings	14,776	15,650	16,547
Farm Credit Banks:			
New transactions	36,673	36,936	37,754
<i>Net change</i>	3,063	1,208	1,274
Outstandings	44,061	45,269	46,543
Federal Agricultural Mortgage Corporation:			
New transactions	349	436	545
<i>Net change</i>	234	292	366
Outstandings	1,048	1,340	1,706
Federal Home Loan Banks: ²			
New transactions	952,121	952,121	952,121
<i>Net change</i>	63,819	63,819	63,819
Outstandings	245,647	309,466	373,285
Subtotal GSE lending (gross):			
New transactions	1,778,130	1,779,828	1,580,657
<i>Net change</i>	273,985	303,458	217,317
Outstandings	2,064,705	2,368,163	2,585,480
Less guaranteed loans purchased by:			
Student Loan Marketing Association: ³			
<i>Net change</i>	-4,791	-3,420	-5,787
Outstandings	29,468	26,048	20,261
Federal National Mortgage Corporation:			
<i>Net change</i>	3,753	.....	.....
Outstandings	31,626	31,626	31,626
Other:			
<i>Net change</i>	-1,134	.....	.....
Outstandings	14,525	14,525	14,525
Total GSE lending (net):			
New transactions	1,778,130	1,779,828	1,580,657
<i>Net change</i>	276,157	306,878	223,104
Outstandings	1,989,086	2,295,564	2,519,068

**Table 8-10. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES
(GSEs) ¹—Continued**
(in millions of dollars)

Enterprise	1998 Actual	Estimate	
		1999	2000
BORROWING			
Student Loan Marketing Association:			
<i>Net Change</i>	-6,713	-4,990	-5,384
Outstandings	33,517	28,527	23,143
Federal National Mortgage Association:			
FNMA corporation accounts:			
<i>Net Change</i>	72,579	63,774	56,010
Outstandings	430,582	494,356	550,366
FNMA mortgage-backed securities:			
<i>Net Change</i>	60,509	98,275	58,480
Outstandings	627,451	725,726	784,206
Federal Home Loan Mortgage Corporation:			
FHLMC corporation accounts:			
<i>Net Change</i>	72,943	20,000	20,000
Outstandings	232,994	252,994	272,994
FHLMC participation certificates pools:			
<i>Net Change</i>	20,672	21,581	22,530
Outstandings	490,687	512,268	534,798
Farm Credit System:			
Bank for Cooperatives:			
<i>Net Change</i>	-241	-10	47
Outstandings	1,826	1,816	1,863
Agricultural credit bank:			
<i>Net Change</i>	-216	755	845
Outstandings	16,253	17,008	17,853
Farm Credit Banks:			
<i>Net Change</i>	4,126	1,047	1,556
Outstandings	47,714	48,761	50,327
Federal Agricultural Mortgage Corporation:			
<i>Net Change</i>	285	148	184
Outstandings	1,598	1,746	1,930
Federal Home Loan Banks:			
<i>Net Change</i>	51,717	61,761	62,221
Outstandings	336,262	398,023	460,244
Financing Corporation:			
<i>Net Change</i>	1	1	1
Outstandings	8,145	8,146	8,147
Resolution Funding Corporation:			
<i>Net Change</i>	-3	-2	-2
Outstandings	30,069	30,067	30,065
Subtotal GSE borrowing (gross):			
<i>Net change</i>	275,659	262,340	216,488
Outstandings	2,257,098	2,519,438	2,735,936
Less borrowing from other GSEs:			
<i>Net Change</i>	14,398	.....	.....
Outstandings	65,557	65,557	65,557
Less purchase of Federal debt securities:			
<i>Net Change</i>	-841	412	580
Outstandings	8,123	8,535	9,115
Less borrowing to purchase loans guaranteed by:			
Student Loan Marketing Association: ⁴			
<i>Net change</i>	-4,791	-3,420	-5,787
Outstandings	29,468	26,048	20,261
Federal National Mortgage Corporation:			
<i>Net change</i>	3,753	.....	.....
Outstandings	31,626	31,626	31,626
Other:			
<i>Net change</i>	-1,134	.....	.....
Outstandings	14,525	14,525	14,525

**Table 8-10. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES
(GSEs)¹—Continued**
(in millions of dollars)

Enterprise	1998 Actual	Estimate	
		1999	2000
Total GSE borrowing (net):			
<i>Net change</i>	293,070	265,348	221,695
Outstandings	2,238,913	2,504,261	2,725,966

¹ The estimates of borrowing and lending were developed by the GSEs based on certain assumptions that they made. The estimates are subject to periodic review and revision and do not represent official GSE forecasts of future activity. The data for all years include programs of mortgage-backed securities. In cases where a GSE owns securities issued by the same GSE, including mortgage-backed securities, the borrowing and lending data for that GSE are adjusted to remove double-counting.

² The lending by the Federal Home Loans Banks measures their advances to member thrift and other financial institutions. In addition, their investment in private financial instruments at the end of 1998 was \$135 billion, including federally guaranteed securities and GSE securities.

³ The change in debt outstanding is due solely to the amortization of discounts and premiums. No sale or redemption of debt securities is estimated to occur in 1999 or 2000.

⁴ All SLMA loans acquired are guaranteed by the Federal Government and therefore also counted as guaranteed loans.

9. AID TO STATE AND LOCAL GOVERNMENTS¹

State and local governments have a vital constitutional responsibility to provide government services. They have the major role in providing domestic public services, such as public education, law enforcement, roads, water supply, and sewage treatment. The Federal Government contributes to that role both by promoting a healthy economy and by providing grants, loans, and tax subsidies to State and local governments.

Federal grants help State and local governments finance programs covering most areas of domestic public spending, including income support, infrastructure, education, and social services. Federal grant outlays were \$246.1 billion in 1998 and are estimated to increase to \$262.2 billion in 1999 and \$283.5 billion in 2000.

Grant outlays for payments for individuals, such as Medicaid, are estimated to be 62 percent of total grants in 2000; for physical capital investment, 17 percent; and for all other purposes, largely education, training, and social services, 21 percent.

Federal aid to State and local governments is also provided through tax expenditures. Tax expenditures are revenue losses due to preferential provisions of the Federal tax laws, such as special exclusions, exemptions, deductions, credits, deferrals, or tax rates.

The two major tax expenditures benefiting State and local governments are the deductibility of personal income and property taxes from gross income for Federal income tax purposes, and the exclusion of interest on State and local securities from Federal taxation. These provisions, on an outlay equivalent basis, are estimated to be \$73.4 billion in 1999 and \$76.9 billion in 2000. A detailed discussion of the measurement and definition of tax expenditures and a complete list of the amount of specific tax expenditures are in Chapter 5, "Tax Expenditures." As discussed in that chapter, there are generally interactions among tax expenditure provi-

sions, so that the estimates above only approximate the aggregate effect of these provisions.

Tax expenditures that especially aid State and local governments are displayed separately at the end of Table 5-5 in that chapter.

Table 9-1. FEDERAL GRANT OUTLAYS BY AGENCY

(In billions of dollars)

Agency	1998 actual	Estimate	
		1999	2000
Department of Agriculture	18.5	19.4	19.6
Department of Commerce	0.5	0.5	0.6
Department of Education	18.1	18.7	21.4
Department of Energy	0.2	0.2	0.2
Department of Health and Human Services	138.8	149.1	160.2
Department of Housing and Urban Development	24.3	23.5	24.6
Department of the Interior	1.9	2.3	2.2
Department of Justice	3.5	3.6	5.5
Department of Labor	7.2	8.5	9.3
Department of Transportation	26.1	29.1	31.6
Department of the Treasury	0.4	0.4	0.4
Department of Veterans Affairs	0.3	0.3	0.4
Environmental Protection Agency	2.7	3.0	3.4
Federal Emergency Management Agency	1.9	2.3	2.5
Other agencies	1.7	1.5	1.4
Total	246.1	262.2	283.5

Table 9-1 shows the distribution of grants by agency. Grant outlays for the Department of Health and Human Services are estimated to be \$160.2 billion in 2000, 57 percent of total grants, more than five times as much as any other agency.

HIGHLIGHTS OF THE FEDERAL AID PROGRAM

Major proposals in this budget affect Federal aid to State and local governments and the important relationships between the levels of government. Through the use of grants, the Federal government can share with State and local governments the cost and, ultimately, the benefits of a better educated, healthier, and safer citizenry. The Administration is committed to a Federal system that is more efficient and effective and to improving the design and administration of Federal grants.

This budget continues the Administration's commitment to giving State and local governments increased flexibility. Through the use of grants, Federal agencies can create partnerships with State and local governments that focus on joint goals and the progress made toward meeting them.

In addition, this budget proposes several initiatives to increase access to health care, to increase child care assistance for low-income families, to help States recruit new teachers and reduce class sizes, to encourage economic re-vitalization, and to protect the environment and encourage "smart-growth." Additional information

¹Federal aid to State and local governments is defined as the provision of resources by the Federal Government to support a State or local program of governmental service to the public. The three primary forms of aid are grants, loans, and tax expenditures.

on these and other proposals can be found in the main budget volume.

Medicaid.—Medicaid is the largest grant program. Outlays for Medicaid are projected to be \$114.7 billion in 2000. The Administration proposes to give States the option of expanding Medicaid eligibility for people who need nursing home care but choose to live in the community. Capital grants would be available for the conversion of elderly housing projects to assisted living facilities where States agree to provide new Medicaid home and community based services at those facilities. The budget also proposes to give States increased flexibility to set higher income and resource standards for people with disabilities, and to adopt more generous income and resource standards to cover individuals who no longer meet disability criteria because of medical improvement. The Administration would also restore Medicaid eligibility to three vulnerable groups of legal immigrants: children, pregnant women, and the disabled. The budget also would enable States to increase spending outreach to eligible children.

Other health.—The Children's Health Insurance Program, with projected grant budget authority of \$4.2 billion in 2000, extends health insurance coverage to as many as 5 million uninsured children. The budget seeks to expand coverage to qualified legal immigrant children who entered the United States after the enactment of welfare reform. In addition, \$144 million in increased funding for Puerto Rico and the other four territories is requested.

Energy.—The budget includes \$191 million in budget authority for energy conservation grants to States, the same as requested in 1999. Of this amount, \$154 million is for the Weatherization Assistance Program, which will help to weatherize about 77,000 low-income homes. The remaining \$37 million is for the State Energy Program, which assists States in supporting innovative energy conservation projects and energy efficient improvements to State and municipal buildings.

Education.—The budget includes \$7.9 billion in outlays for Title I grants to school districts to help them provide educational services to over 12 million children in poor communities. Title I provides funds to raise the educational achievement of disadvantaged children. The budget proposes \$5.3 billion for Head Start in 2000. The funding would add 35 thousand pre-school slots and 7,000 Early Head Start slots in 2000 to the 835,000 low income children who will be served by Head Start in 1999.

The budget would also provide \$1.4 billion to help schools recruit, hire and train 100,000 new teachers by 2005 and reduce class size to an average of 18 students in the early grades.

Training.—The budget proposes \$1.6 billion to fund the dislocated worker assistance program to provide re-adjustment services, job search assistance, training, and other services to help dislocated workers, including those displaced by trade and related causes, find new jobs as quickly as possible.

Welfare-to-work.—To help reach the Temporary Assistance for Needy Families program's employment goal for the most severely disadvantaged welfare recipients, the budget includes \$1.0 billion in budget authority for 2000 to continue the program, and to provide non-custodial parents of children on welfare the work and employment services they need to help them contribute to the support of their children.

Transportation.—The budget includes more than \$31.6 billion in outlays for transportation grants to States and local governments in 2000. Of this amount, grants to maintain and improve surface transportation infrastructure include \$25.8 billion in outlays for highways and \$4.0 billion in outlays for mass transit. In addition \$1.8 billion in outlays are proposed for grants to improve the Nation's airports.

Agriculture.—The budget includes \$30 million in mandatory grants to State universities and other agricultural research entities through the Fund for Rural America (an additional \$30 million from the Fund will be available for rural development programs). Research, extension and education grants are provided to improve international competitiveness and profitability of producers, reduce economic and health risks, develop new crops, and preserve plant and animal germ-plasm.

Community and regional development.—The budget proposes additional funding for the new Empowerment Zones and Enterprise Communities (EZ/ECs) announced in January 1999. The additional funding would be used to stimulate the public-private partnerships needed for large scale job creation. Funding for several mandatory initiatives is proposed for 2000: \$105 million for urban Empowerment Zones; \$45 million for Strategic Planning Communities; \$10 million for rural Empowerment Zones; and \$5 million for rural Enterprise Communities.

The budget also includes \$10 million for the Department of Housing and Urban Development's Planning/Implementation Grants and \$10 million for technical assistance to urban EZ/ECs. The original EZ/ECs have already proven successful in leveraging private sector funds and promoting economic opportunity and community-wide revitalization. In addition, the Brownfields Redevelopment Initiative would be extended to allow cities to clean up polluted sites, returning them to productive uses that create jobs and address the economic development needs of communities in and around those sites.

The budget includes a new Department of Agriculture program to provide \$5 million for partnership technical assistance grants to help rural communities develop comprehensive strategies for revitalization and better coordinate Federal assistance.

Rural development.—The Administration proposes to give States, localities, and tribes more flexibility in how they use the Department of Agriculture's (USDA) Rural Development grants and loans for businesses, water and wastewater facilities, and community facilities such as day care centers and health clinics. The 1996 Farm Bill authorized this approach through a new Rural

Community Assistance Program (RCAP), combining 12 separate USDA programs into a Performance Partnership that can tailor assistance to the unique economic development needs of each rural community. The budget proposes \$3.0 billion in loans and grants for RCAP, 9 percent more than in 1999, and the full flexibility that the 1996 Farm Bill envisioned.

Environment.—The budget proposes \$825 million in capitalization grants for Drinking Water State Revolving Funds (SRFs), which make low-interest loans to help municipalities meet the requirements of the Safe Drinking Water Act Amendments. These funds help ensure that Americans have safe, clean, drinking water. In addition, \$800 million in capitalization grants are proposed for Clean Water SRFs to help municipalities reduce beach closure and keep waterways safe and clean. The budget also includes \$200 million for the Clean Air Partnership Fund, which would finance demonstration projects that achieve early air pollution and greenhouse gas emission reductions.

In addition, the budget includes a new \$200 million program to provide grants to States, tribes, and local-

ities, to acquire lands and easements in support of the Lands Legacy Initiative, including open space, wildlife habitat, urban parks, outdoor recreation, greenways, and coastal wetlands. The Land and Water Conservation Fund (LWCF) State grants program, which has not been funded since 1995, would be re-engineered for the next century as a tool for smart growth and open space preservation. It would include a new State planning grants program and be designed to work with the Department of Housing and Urban Development's "Regional Connections" proposal. The program would be administered by the Interior Department, which would award competitive matching grants.

The budget also includes \$100 million in budget authority for the new Pacific Coastal Salmon Recovery fund to help share the costs of state, tribal and local initiatives to recover coastal salmon runs in Washington, Oregon, California and Alaska. The fund will be administered through Commerce's National Oceanic and Atmospheric Administration, and will make grants that match non-Federal contributions dollar for dollar.

HISTORICAL PERSPECTIVES

In recent decades, Federal aid to State and local governments has become a major factor in the financing of certain government functions. The rudiments of the present system date back to the Civil War. The Morrill Act, passed in 1862, established the land grant colleges and instituted certain federally-required standards for States that received the grants, as is characteristic of the present grant programs. Federal aid was later initiated for agriculture, highways, vocational education and rehabilitation, forestry, and public health. In the depression years, Federal aid was extended to meet income security and other social welfare needs. However, Federal grants did not become a significant factor in Federal Government expenditures until after World War II.

Table 9-2 displays trends in Federal grants to State and local governments since 1960. Section A shows Federal grants by function. Functions with a substantial amount of grants are shown separately. Grants for the national defense, energy, and the veterans benefits and services functions are combined in the "other functions" line in the table.

Federal grants for transportation increased to \$3.0 billion, or 43 percent of all Federal grants, in 1960 after initiation of aid to States to build the Interstate Highway System in the late 1950s.

By 1970 there had been significant increases in the relative amounts for education, training, employment, social services, and health (largely Medicaid).

In the early and mid-1970s, major new grants were created for natural resources and environment (construction of sewage treatment plants), community and regional development (community development block grants), and general government (general revenue sharing).

Since the late 1970s changes in the relative amounts among functions reflect steady growth of grants for health (Medicaid) and income security and restraint in most other areas. The functions with the largest amount of grants are health; income security; education, training, employment, and social services; and transportation, with combined estimated grant outlays of \$260 billion or 92 percent of estimated total grant outlays in 2000.

An increase in funding for grants overall since 1990 has been driven by increases in grants for health, which increased by more than 175 percent from \$43.9 billion in 1990 to an estimated \$121.8 billion in 2000. The income security; education, training, employment, and social services; and transportation functions also increased substantially, but at a slower rate than the increase for health.

Section B of the Table shows the distribution of grants divided into mandatory and discretionary spending.

Funding for grant programs classified as mandatory occurs in authorizing legislation. Funding levels for mandatory programs can only be changed by changing eligibility criteria or benefit formulas established in law and are not subject to the annual appropriations process. Outlays for mandatory grant programs are estimated to be \$167.6 billion in 2000. The three largest mandatory grant programs are Medicaid, with estimated outlays of \$114.7 billion in 2000, Temporary Assistance to Needy Families, \$14.1 billion in 2000, and Food Stamp grants for State administration and Child nutrition programs, with combined outlays of \$12.7 billion in 2000.

The funding level for discretionary grant programs is subject to approval by Congress annually through

Table 9-2. TRENDS IN FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS
(Outlays; dollar amounts in billions)

	Actual									Estimate					
	1960	1965	1970	1975	1980	1985	1990	1995	1998	1999	2000	2001	2002	2003	2004
A. Distribution of grants by function:															
Natural resources and environment	0.1	0.2	0.4	2.4	5.4	4.1	3.7	4.1	3.8	4.3	4.8	5.2	4.9	4.9	4.9
Agriculture	0.2	0.5	0.6	0.4	0.6	2.4	1.3	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Transportation	3.0	4.1	4.6	5.9	13.0	17.0	19.2	25.8	26.1	29.1	31.6	33.9	34.3	35.2	36.2
Community and regional development	0.1	0.6	1.8	2.8	6.5	5.2	5.0	7.2	7.7	8.7	8.8	8.5	8.0	7.8	7.6
Education, training, employment, and social services ..	0.5	1.1	6.4	12.1	21.9	17.8	23.4	34.1	36.5	38.9	43.8	45.9	46.0	46.3	47.0
Health	0.2	0.6	3.8	8.8	15.8	24.5	43.9	93.6	105.8	114.8	121.8	131.0	140.7	151.6	163.1
Income security	2.6	3.5	5.8	9.4	18.5	27.2	35.2	55.1	58.9	59.0	63.3	66.8	68.5	70.1	72.2
General government	0.2	0.2	0.5	7.1	8.6	6.8	2.3	2.2	2.2	2.0	1.9	1.9	1.9	1.9	2.0
Justice	0.0	0.0	0.0	0.7	0.5	0.1	0.6	1.2	3.7	3.8	5.8	6.0	4.3	4.2	4.2
Other	0.0	0.1	0.1	0.2	0.7	0.8	0.8	0.8	0.7	0.8	0.9	0.9	0.9	0.9	0.9
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	246.1	262.2	283.5	300.7	310.3	323.6	338.8
B. Distribution of Grants by BEA Category:															
Discretionary	NA	2.9	10.2	21.0	53.3	55.5	63.3	94.0	101.2	105.3	115.9	122.0	119.7	119.9	120.3
Mandatory	NA	8.0	13.9	28.8	38.1	50.4	72.0	131.0	144.9	156.9	167.6	178.7	190.6	203.7	218.5
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	246.1	262.2	283.5	300.7	310.3	323.6	338.8
C. Composition:															
Current dollars:															
Payments for individuals ¹	2.5	3.7	8.7	16.8	32.6	49.3	75.7	141.2	155.9	164.2	174.9	186.2	197.4	209.9	223.4
Physical capital ¹	3.3	5.0	7.1	10.9	22.6	24.9	27.2	39.6	41.1	44.9	48.4	51.6	52.2	53.1	54.1
Other grants	1.2	2.2	8.3	22.2	36.2	31.6	32.5	44.2	49.1	53.0	60.2	62.9	60.7	60.6	61.2
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	246.1	262.2	283.5	300.7	310.3	323.6	338.8
Percentage of total grants:															
Payments for individuals ¹	35%	34%	36%	34%	36%	47%	56%	63%	63%	63%	62%	62%	64%	65%	66%
Physical capital ¹	47%	46%	29%	22%	25%	24%	20%	18%	17%	17%	17%	17%	17%	16%	16%
Other grants	17%	20%	34%	45%	40%	30%	24%	20%	20%	20%	21%	21%	20%	19%	18%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Constant (FY 1992) dollars:															
Payments for individuals ¹	10.7	15.1	30.0	43.0	56.7	65.2	81.9	130.8	136.5	141.1	146.9	152.9	158.5	164.7	171.4
Physical capital ¹	15.0	21.3	23.8	22.3	33.6	29.5	28.0	36.7	36.0	38.7	40.8	42.4	41.9	41.7	41.4
Other grants	7.7	11.9	33.1	61.3	65.4	40.9	34.9	40.9	42.7	45.3	50.3	51.4	48.4	47.2	46.5
Total	33.4	48.2	86.9	126.6	155.7	135.6	144.7	208.5	215.2	225.2	238.0	246.7	248.8	253.6	259.4
D. Total grants as a percent of:															
Federal outlays:															
Total	8%	9%	12%	15%	15%	11%	11%	15%	15%	15%	16%	17%	17%	17%	17%
Domestic programs ²	18%	18%	23%	22%	22%	18%	17%	22%	21%	21%	22%	22%	23%	23%	23%
State and local expenditures	19%	20%	24%	27%	31%	25%	21%	25%	25%	NA	NA	NA	NA	NA	NA
Gross domestic product	1%	2%	2%	3%	3%	3%	2%	3%	3%	3%	3%	3%	3%	3%	3%
E. As a share of total State and local capital spending:															
Federal capital grants	25%	26%	26%	26%	36%	31%	23%	27%	23%	NA	NA	NA	NA	NA	NA
State and local source financing	75%	74%	74%	74%	64%	69%	77%	73%	77%	NA	NA	NA	NA	NA	NA
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	NA	NA	NA	NA	NA	NA

NA = Not available.

¹0.5 percent or less.

¹Grants that are both payments for individuals and capital investment are shown under capital investment.

²Excludes national defense, international affairs, net interest, and undistributed offsetting receipts

appropriations acts. Outlays for discretionary grant programs are estimated to be \$115.9 billion in 2000. The three largest discretionary grant programs are Federal-aid for highways (\$23.6 billion in 2000), education for the disadvantaged (\$7.9 billion in 2000), and Head Start and other children and family services programs (\$8.6 billion in 2000). Table 9-3. "Federal Grants To State And Local Governments" at the end of this chapter identifies discretionary and mandatory grant pro-

grams separately. For more information on the Budget Enforcement Act and these categories, see Chapter 23. "Budget System and Concepts and Glossary" in this volume.

Section C of the Table shows the composition of grants divided into three major categories: payments for individuals, grants for physical capital, and other

grants.² Grant outlays for payments for individuals, which are mainly entitlement programs in which the Federal Government and the States share the costs, have grown significantly as a percent of total grants. They increased from 36 percent of the total in 1980 to 63 percent of the total in 1995. While payments for individuals will comprise 62 percent of grants in 2000, they are estimated to continue to increase, making up an estimated 66 percent of the total by 2004.

These grants are distributed through State or local governments to provide cash or in-kind benefits that constitute income transfers to individuals or families. The major grant in this category is Medicaid, which had outlays of \$101.2 billion in 1998, increasing to \$114.7 billion in 2000. Welfare payments to States (Aid To Families with Dependent Children (Pre 1997) and Temporary Assistance for Needy Families), child nutrition programs, and housing assistance are also large grants in this category.

Grants for physical capital assist States and localities with construction and other physical capital activities. The major capital grants are for highways, but there are also grants for airports, mass transit, sewage treatment plant construction, community development, and other facilities. Grants for physical capital were almost half of total grants in 1960, shortly after grants began for construction of the Interstate Highway System. The relative share of these outlays has declined, as payments for individuals have grown. In 2000, grants for physical capital are estimated to be 17 percent of total grants.

The other grants are primarily for education, training, employment, and social services. These grants increased to 45 percent of total grants by 1975, and are projected to be 21 percent of total grants in 2000.

OTHER INFORMATION ON FEDERAL AID TO STATE AND LOCAL GOVERNMENTS

Additional information regarding aid to State and local governments can be found elsewhere in this budget and in other documents.

Major public physical capital investment programs providing Federal grants to State and local governments are identified in Chapter 6, "Federal Investment Spending and Capital Budgeting."

Data for summary and detailed grants to State and local governments can be found in many sections of a separate document entitled *Historical Tables*. Section 12 of that document is devoted exclusively to grants to State and local governments. Additional information on grants can be found in Section 6 (Composition of Federal Government Outlays); Section 9 (Federal Government Outlays for Investment: Major Physical Capital, Research and Development, and Education and Training); Section 11 (Federal Government Payments for Individuals); and Section 15 (Total (Federal and State and Local) Government Finances).

In addition to these sources, a number of other sources of information are available that use slightly

²Certain housing grants are classified in the budget as both payments for individuals and physical capital spending. In the text and tables in this section, these grants are included in the category for physical capital spending.

Section C of Table 9-2 also shows these three categories in constant dollars. In constant 1992 dollars, total grants increase from \$144.7 billion in 1990 to an estimated \$238.0 billion in 2000, an average annual increase of 5.1 percent. Grants for payments to individuals increase from \$81.9 billion in 1990 to an estimated \$146.9 billion in 2000, an average annual increase of 6.0 percent; grants for physical capital increase from \$28.0 billion in 1990 to an estimated \$40.8 billion in 2000, an average annual increase of 3.8 percent, and other grants increased from \$34.9 billion in 1990 to an estimated \$50.3 billion in 2000, an average annual increase of 3.7 percent.

The real growth in grants during the 1990s is in contrast to the 1980s. During the period between 1980 and 1990, outlays for grants in constant 1992 dollars actually decreased from \$155.7 billion in 1980 to \$144.7 billion in 1990.

Section D of this table shows grants as a percentage of Federal outlays, State and local expenditures, and gross domestic product. Grants have increased as a percentage of total Federal outlays from 11 percent in 1990 to an estimated 16 percent in 2000. Grants as a percentage of domestic spending are estimated to be 22 percent in 2000.

As a percentage of total State and local expenditures, grants have increased from 21 percent in 1990 to 25 percent in 1998.

Section E shows the relative contribution of physical capital grants in assisting States and localities with capital spending. After a slight increase to 27 percent of State and local capital spending in 1995, Federal capital grants have declined to be 23 percent of State and local spending in 1998, the same percentage as in 1990.

different concepts of grants, provide State-by-State information, or provide information on how to apply for Federal aid.

Government Finances, published annually by the Bureau of the Census in the Department of Commerce, provides data on public finances, including Federal aid to State and local governments.

The *Survey of Current Business*, published monthly by the Bureau of Economic Analysis in the Department of Commerce, provides data on the national income and product accounts (NIPA), a broad statistical concept encompassing the entire economy. These accounts include data on Federal grants to State and local governments. Data using the NIPA concepts appear in this volume in Chapter 16, "National Income and Product Accounts."

The *Budget Information for States* (BIS) provides estimates of State-by-State funding allocations for the largest formula grant programs for the past, present, and budget year. These programs comprise approximately 85 percent of total Federal aid to State and local gov-

ernments. The document is prepared by the Office of Management and Budget soon after the Budget is released.

Federal Expenditures by State, a report prepared by the Bureau of the Census, shows Federal spending by State for grants and other spending for the most recently completed fiscal year.

The *Consolidated Federal Funds Report* is an annual document that shows the distribution of Federal spending by State and county areas and by local governmental jurisdictions. It is released by the Bureau of the Census in the Spring.

The Federal Assistance Awards Data System (FAADS) provides computerized information about current grant funding. Data on all direct assistance awards

are provided quarterly by the Bureau of the Census to the States and to the Congress.

The *Catalog of Federal Domestic Assistance* is a primary reference source for communities wishing to apply for grants and other domestic assistance. The Catalog is prepared by the General Services Administration with data collected by the Office of Management and Budget and is available from the Government Printing Office. The basic edition of the Catalog is usually published in June and an update is generally published in December. It contains a detailed listing of grant and other assistance programs; discussions of eligibility criteria, application procedures, and estimated obligations; and related information.

DETAILED FEDERAL AID TABLE

Table 9-3, "Federal Grants to State and Local Governments-Budget Authority and Outlays," provides detailed budget authority and outlay data for grants. This table displays discretionary and mandatory grant programs separately.

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1998 Actual	1999 Estimate	2000 Estimate	1998 Actual	1999 Estimate	2000 Estimate
NATIONAL DEFENSE						
Discretionary:						
Department of Defense—Military:						
Military Construction:						
Military construction, Army National Guard				5	3	
Federal Emergency Management Agency:						
Emergency management planning and assistance				7		
Total, discretionary				12	3	
Total, national defense				12	3	
ENERGY						
Discretionary:						
Department of Energy:						
Energy Programs:						
Energy conservation	155	166	191	160	158	172
Total, discretionary	155	166	191	160	158	172
Mandatory:						
Tennessee Valley Authority:						
Tennessee Valley Authority fund	264	298	313	264	298	313
Total, mandatory	264	298	313	264	298	313
Total, energy	419	464	504	424	456	485
NATURAL RESOURCES AND ENVIRONMENT						
Discretionary:						
Department of Agriculture:						
Natural Resources Conservation Service:						
Resource conservation and development				1	1	1
Watershed and flood prevention operations	43	27	22	63	93	62
Forest Service:						
State and private forestry	103	79	172	96	78	159
Management of national forest lands for subsistence uses		3				3
Department of Commerce:						
National Oceanic and Atmospheric Administration:						
Operations, research, and facilities	88	103	127	70	81	102
Pacific coastal salmon recovery			100			62
Department of the Interior:						
Office of Surface Mining Reclamation and Enforcement:						
Regulation and technology	47	51	51	50	50	50
Abandoned mine reclamation fund	168	170	195	188	134	138
Bureau of Reclamation:						
Bureau of reclamation loan subsidy	10	11	12	19	13	10
United States Fish and Wildlife Service:						
Cooperative endangered species conservation fund	14	14	80	12	14	21
Wildlife conservation and appreciation fund	1	1	1	1	1	1
Miscellaneous permanent appropriations	2	2	2	2	2	2
National Park Service:						
Urban park and recreation fund			4	1	2	4
Historic preservation fund	41	72	81	40	54	67
Conservation grants and planning assistance			200			80

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1998 Actual	1999 Estimate	2000 Estimate	1998 Actual	1999 Estimate	2000 Estimate
TRANSPORTATION						
Discretionary:						
Department of Transportation:						
Coast Guard:						
Boat safety	35			32	15	6
Federal Aviation Administration:						
Grants-in-aid for airports (Airport and airway trust fund)	1,640	2,322	1,600	1,511	1,670	1,750
Federal Highway Administration:						
State infrastructure banks				64	37	17
Appalachian development highway system	300	132		73	150	113
Highway-related safety grants				3	2	
National motor carrier safety grants program	84	100	105	73	95	101
Federal-aid highways	23,724	28,249	29,834	18,265	21,151	23,647
Miscellaneous appropriations				111	134	156
Miscellaneous highway trust funds				46	60	43
National Highway Traffic Safety Administration:						
Highway traffic safety grants	178	190	197	146	187	199
Federal Railroad Administration:						
Emergency railroad rehabilitation and repair	10			14	14	
Alameda Corridor direct loan financing program				21	18	
Local rail freight assistance				4	6	
Alaska railroad rehabilitation	15	38		9	24	23
Railroad research and development	1	1		1	1	
Conrail commuter transition assistance				5	9	2
Federal Transit Administration:						
Research, training, and human resources				1	3	2
Job Access and Reverse Commute Grants		75	150		4	23
Interstate transfer grants-transit				3	14	6
Washington metropolitan area transit authority	200	50		184	207	142
Formula grants	2,500	2,799	3,310	2,079	2,069	2,027
Capital Investment Grants		2,307	2,451		115	630
Transit planning and research	68	80	88	76	75	82
Discretionary grants (Highway trust fund, Mass transit account)	2,000	-392		1,875	1,459	1,144
Miscellaneous expired accounts				3		
Research and Special Programs Administration:						
Research and special programs	1				1	
Pipeline safety	13	15	16	13	14	15
Total, discretionary	30,769	35,966	37,751	24,612	27,534	30,128
Mandatory:						
Department of Transportation:						
Federal Highway Administration:						
Federal-aid highways	754	739	739	1,526	1,597	1,497
Research and Special Programs Administration:						
Emergency preparedness grants	7	7	13	6	6	7
Total, mandatory	761	746	752	1,532	1,603	1,504
Total, transportation	31,530	36,712	38,503	26,144	29,137	31,632
COMMUNITY AND REGIONAL DEVELOPMENT						
Discretionary:						
Department of Agriculture:						
Rural Development:						
Rural community advancement program	581	732	599	569	748	676
Rural Utilities Service:						
Distance learning and telemedicine program	11	11	21	8	14	22
Rural Housing Service:						
Rural community fire protection grants	2			3	2	
Rural Business—Cooperative Service:						
Rural cooperative development grants	3	3	9	2	4	4
Forest Service:						
Southeast Alaska economic disaster fund				20	20	13
Department of Commerce:						
Economic Development Administration:						
Economic development assistance programs	342	387	365	364	411	411

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1998 Actual	1999 Estimate	2000 Estimate	1998 Actual	1999 Estimate	2000 Estimate
Department of Housing and Urban Development:						
Community Planning and Development:						
Community development block grants	4,925	4,873	4,775	4,621	4,965	4,856
Urban development action grants				6	9	10
Supplemental assistance for facilities to assist the homeless					2	
Community development loan guarantees subsidy	30	30	30	6	16	23
National cities in schools community development program		5			1	4
Brownfields redevelopment	25	25	50		10	20
Urban empowerment zones	5	45	150	1	4	20
Regional connections			50			1
Redevelopment of abandoned buildings			50			1
Regional empowerment zone initiative			50			1
Office of Lead Hazard Control:						
Lead hazard reduction		80	80		1	27
Department of the Interior:						
Bureau of Indian Affairs:						
Operation of Indian programs	121	139	143	121	139	143
Indian guaranteed loan subsidy	5	5	5	3	5	5
Departmental Management:						
King Cove road and airstrip		35			35	
Department of the Treasury:						
Departmental Offices:						
United States community adjustment and investment program		5	9		5	5
Federal Emergency Management Agency:						
Emergency management planning and assistance	135	159	160	147	170	158
Disaster relief	1,440	231	222	1,598	1,968	2,228
National flood mitigation fund	27	20	32	4	21	29
Appalachian Regional Commission:						
Appalachian regional commission	164	59	60	180	145	123
Denali Commission:						
Denali commission		20			2	4
Total, discretionary	7,816	6,864	6,860	7,653	8,697	8,784
Total, community and regional development	7,816	6,864	6,860	7,653	8,697	8,784
EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES						
Discretionary:						
Department of Commerce:						
National Telecommunications and Information Administration:						
Public telecommunications facilities, planning and construction	10	19	34	19	21	24
Information infrastructure grants	20	18	20	20	27	24
Department of Education:						
Office of Elementary and Secondary Education:						
Reading excellence		260	286		13	105
Indian education	60	65	75	50	63	68
Impact aid	805	859	731	689	968	843
Chicago litigation settlement				2	4	3
Education Reform	1,100	1,030	990	731	1,133	1,025
Education for the disadvantaged	7,852	3,647	8,711	7,800	6,666	7,939
School improvement programs	1,428	2,624	2,520	1,260	1,373	1,968
Office of Bilingual Education and Minority Languages Affairs:						
Bilingual and immigrant education	323	324	334	204	351	359
Office of Special Education and Rehabilitative Services:						
Special education	4,567	5,090	3,227	3,425	4,032	4,881
Rehabilitation services and disability research	118	113	125	113	125	121
American printing house for the blind	7	8	8	7	9	8
Office of Vocational and Adult Education:						
Vocational and adult education	1,479	1,504	1,624	1,419	1,290	1,448
Office of Postsecondary Education:						
Student financial assistance	25	25	25	51	25	25
Higher education	55	135	172	39	40	97
Office of Educational Research and Improvement:						
Education research, statistics, and improvement	70	230	30	141	109	176
Department of Health and Human Services:						
Administration for Children and Families:						
Children and families services programs	5,381	5,735	6,289	5,052	5,553	5,904

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1998 Actual	1999 Estimate	2000 Estimate	1998 Actual	1999 Estimate	2000 Estimate
Administration on Aging:						
Aging services programs	865	882	1,048	828	865	971
Department of the Interior:						
Bureau of Indian Affairs:						
Operation of Indian programs	93	93	105	93	93	105
Department of Labor:						
Employment and Training Administration:						
Training and employment services	3,634	3,634	3,749	3,399	3,728	3,692
Community service employment for older Americans	97	97	97	101	97	97
State unemployment insurance and employment service operations	172	162	232	219	132	239
Unemployment trust fund	958	964	952	958	956	912
Corporation for National and Community Service:						
Domestic volunteer service programs, Operating expenses	162	172	186	134	154	165
National and community service programs, operating expenses	77	90	112	55	55	64
Corporation for Public Broadcasting:						
Corporation for public broadcasting	83	98	120	83	85	106
National Endowment for the Arts:						
National endowment for the arts: Grants and administration	34	32	53	27	20	34
Institute of Museum and Library Services:						
Office of Museum Services: Grants and administration	6	5	7	5	9	6
Office of Library Services: Grants and administration	133	151	137	121	166	156
Total, discretionary	29,614	28,066	31,999	27,045	28,162	31,565
Mandatory:						
Department of Education:						
Office of Special Education and Rehabilitative Services:						
Rehabilitation services and disability research	2,247	2,304	2,339	2,155	2,499	2,327
Office of Vocational and Adult Education:						
Vocational and adult education				6	2	
Department of Health and Human Services:						
Administration for Children and Families:						
State legalization impact assistance grants				-4		
Job opportunities and basic skills training program				48	39	15
Preserving Safe and Stable Families	255	275	295	214	224	258
Social services block grant	2,299	1,909	2,380	2,441	2,050	2,445
Payments to states for foster care and adoption assistance	4,311	4,922	5,667	4,451	4,939	5,491
Department of Labor:						
Employment and Training Administration:						
Welfare to work jobs	1,488	1,409	1,000	16	872	1,597
Federal unemployment benefits and allowances	127	131	176	95	124	139
Total, mandatory	10,727	10,950	11,857	9,422	10,749	12,272
Total, education, training, employment, and social services	40,341	39,016	43,856	36,467	38,911	43,837
HEALTH						
Discretionary:						
Department of Agriculture:						
Food Safety and Inspection Service:						
Salaries and expenses	41	46	47	41	46	47
Department of Health and Human Services:						
Health Resources and Services Administration:						
Health Resources and Services	1,763	1,895	1,948	1,591	1,735	1,892
Centers for Disease Control and Prevention:						
Disease control, research, and training	624	653	672	643	666	654
Substance Abuse and Mental Health Services Administration:						
Substance abuse and mental health services	2,197	2,488	2,627	2,236	2,331	2,519
Departmental Management:						
Public health services for the uninsured			25			4
Department of Labor:						
Occupational Safety and Health Administration:						
Salaries and expenses	78	80	83	77	79	82
Mine Safety and Health Administration:						
Salaries and expenses	6	6	6	6	6	6

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1998 Actual	1999 Estimate	2000 Estimate	1998 Actual	1999 Estimate	2000 Estimate
Total, discretionary	4,709	5,168	5,408	4,594	4,863	5,204
Mandatory:						
Department of Health and Human Services:						
Health Care Financing Administration:						
Grants to States for Medicaid	99,591	102,521	114,660	101,234	108,534	114,660
State children's health insurance fund	4,235	4,247	4,249	5	1,437	1,936
Total, mandatory	103,826	106,768	118,909	101,239	109,971	116,596
Total, health	108,535	111,936	124,317	105,833	114,834	121,800
INCOME SECURITY						
Discretionary:						
Department of Agriculture:						
Food and Nutrition Service:						
Food donations programs	141	141	151	141	142	149
Food stamp program			2			2
Commodity assistance program	141	131	155	123	142	151
Special supplemental nutrition program for women, infants, and children (WIC)	3,924	3,924	4,102	3,901	3,951	4,094
Child nutrition programs	6	4	4	6	4	4
Department of Health and Human Services:						
Administration for Children and Families:						
Low income home energy assistance	1,160	1,100	1,100	1,132	1,134	1,135
Refugee and entrant assistance	382	393	401	294	379	385
Payments to States for the child care and development block grant	999	997	1,180	1,092	1,001	1,114
Contingency fund			-1,644			
Department of Housing and Urban Development:						
Public and Indian Housing Programs:						
Public housing operating fund	2,900	2,818	3,003	3,116	2,806	2,908
Annual contributions for assisted housing				3,874	2,433	1,524
Drug elimination grants for low-income housing	310	310	310	281	274	326
Revitalization of severely distressed public housing (HOPE VI)	550	625	625	237	517	588
Public housing capital fund	2,500	3,000	2,555	3,321	2,703	3,151
Preserving existing housing investment						
Native American housing block grant	600	620	620	453	701	665
Section 8 reserve preservation account	-2,897				350	
Housing certificate fund	6,191	7,487	6,081	5,315	5,212	6,649
Community Planning and Development:						
Emergency shelter grants program				1	1	
Supportive housing program	-6			133	121	
Homeless assistance grants	823	975	1,020	463	688	961
Shelter plus care				71	50	
Home investment partnership program	1,500	1,600	1,610	1,286	1,500	1,656
Youthbuild program				9	4	
Innovative homeless initiatives demonstration program				19	14	
Housing opportunities for persons with AIDS	204	225	240	200	164	191
Rural housing and economic development		32	20		1	10
Homeless assistance demonstration program			5			
Housing Programs:						
Congregate services				7	7	2
Section 8 moderate rehabilitation, single room occupancy				29	46	
Homeownership and opportunity for people everywhere grants (HOPE grants)				29	30	30
Housing for special populations	839	854	854	824	809	946
Department of Labor:						
Employment and Training Administration:						
Unemployment trust fund	2,484	2,324	2,464	2,327	2,469	2,480
Federal Emergency Management Agency:						
Emergency food and shelter program	100	100	125	100	100	125
Total, discretionary	22,851	27,660	24,983	28,784	27,753	29,246
Mandatory:						
Department of Agriculture:						
Agricultural Marketing Service:						
Funds for strengthening markets, income, and supply (section 32)	497	587	669	497	552	536

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1998 Actual	1999 Estimate	2000 Estimate	1998 Actual	1999 Estimate	2000 Estimate
Food and Nutrition Service:						
Food stamp program	3,553	3,374	3,232	3,673	3,642	3,362
Child nutrition programs	7,880	9,042	9,365	8,430	8,932	9,373
Department of Health and Human Services:						
Administration for Children and Families:						
Payments to states for child support enforcement and family support programs	607	2,649	741	2,171	2,738	2,941
Contingency fund	1,960			2		3
Child care entitlement to States	2,070	2,167	4,122	2,028	2,302	3,660
Temporary assistance for needy families	16,672	17,053	17,004	13,284	13,071	14,087
Children's research and technical assistance	1	1	9	1	1	3
Department of Housing and Urban Development:						
Housing Programs:						
Elderly vouchers			87			8
Department of Labor:						
Employment and Training Administration:						
Unemployment trust fund			90			90
Total, mandatory	33,240	34,873	35,319	30,086	31,238	34,063
Total, income security	56,091	62,533	60,302	58,870	58,991	63,309
VETERANS BENEFITS AND SERVICES						
Discretionary:						
Department of Veterans Affairs:						
Veterans Health Administration:						
Medical care	235	273	321	235	273	321
Construction:						
Grants for construction of State extended care facilities	80	90	40	50	52	64
Grants for the construction of State veterans cemeteries	10	10	11	3	5	8
Total, discretionary	325	373	372	288	330	393
Total, veterans benefits and services	325	373	372	288	330	393
ADMINISTRATION OF JUSTICE						
Discretionary:						
Department of Health and Human Services:						
Administration for Children and Families:						
Violent crime reduction programs	85	96	110	34	73	98
Department of Housing and Urban Development:						
Fair Housing and Equal Opportunity:						
Fair housing activities	30	40	47	24	27	34
Department of Justice:						
Office of Justice Programs:						
Justice assistance	96	88	235	68	32	96
State and local law enforcement assistance	505	548		414	268	571
Juvenile crime control and prevention programs	214	259	268	135	141	294
Violent crime reduction programs, State and local law enforcement assistance	2,383	2,370	1,612	1,477	1,218	2,351
Community oriented policing services	1,430	1,430	1,275	968	1,209	1,528
Court Services and Offender Supervision Agency for the District:						
Federal payment to the Court Services and Offender Supervision Agency for the District of Columbia		59	80		59	64
Equal Employment Opportunity Commission:						
Salaries and expenses	28	29	29	16	16	19
State Justice Institute:						
State Justice Institute: Salaries and expenses	7	7	5	6	17	6
Total, discretionary	4,778	4,926	3,661	3,142	3,060	5,061
Mandatory:						
Department of Justice:						
Legal Activities and U.S. Marshals:						
Assets forfeiture fund	196	203	209	179	194	208
Office of Justice Programs:						
Crime victims fund	350	316	366	252	495	482

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1998 Actual	1999 Estimate	2000 Estimate	1998 Actual	1999 Estimate	2000 Estimate
Department of the Treasury:						
Departmental Offices:						
Department of the Treasury forfeiture fund	94	71	60	85	67	58
Total, mandatory	640	590	635	516	756	748
Total, administration of justice	5,418	5,516	4,296	3,658	3,816	5,809
GENERAL GOVERNMENT						
Discretionary:						
Department of the Interior:						
Bureau of Land Management:						
Payments in lieu of taxes	120	125	125	120	125	125
Insular Affairs:						
Trust Territory of the Pacific Islands				3	9	7
Department of the Treasury:						
Departmental Offices:						
Department-wide systems and Capital Investments Programs			3			3
District of Columbia:						
District of Columbia Courts:						
Federal payment to the District of Columbia Criminal Justice System	151			151		
Federal payment to the District of Columbia Courts		130	137		130	137
District of Columbia Corrections:						
Payment to the District of Columbia Corrections Trustee, Operations	169	185	176	169	185	176
Payment to the District of Columbia Corrections Trustee for correctional facilities, construction, and repair	302			302		
District of Columbia General and Special Payments:						
Federal payment for Management Reform	8	25		8	25	
Federal support for economic development and management reforms in the District	190	86		190	86	
Federal payment for Medicare Coordinated Care Demonstration Project	3	3				
Total, discretionary	943	554	441	943	560	448
Mandatory:						
Department of Agriculture:						
Forest Service:						
Payments to States, northern spotted owl guarantee, Forest Service	130	125	147	130	125	147
Forest Service permanent appropriations	100	126	119	100	126	119
Department of Energy:						
Energy Programs:						
Payments to States under Federal Power Act	3	3	3	3	3	3
Department of the Interior:						
Minerals Management Service:						
Mineral leasing and associated payments	546	586	607	546	586	607
United States Fish and Wildlife Service:						
National wildlife refuge fund	19	19	20	20	19	20
Insular Affairs:						
Assistance to territories	68	66	68	69	123	127
Payments to the United States territories, fiscal assistance	80	77	89	80	77	89
Department of the Treasury:						
Bureau of Alcohol, Tobacco and Firearms:						
Internal revenue collections for Puerto Rico	230	217	253	230	217	253
United States Customs Service:						
Refunds, transfers, and expenses of operation, Puerto Rico	112	111	112	110	111	112
Corps of Engineers:						
Permanent appropriations	7	12	12	7	12	12
Total, mandatory	1,295	1,342	1,430	1,295	1,399	1,489
Total, general government	2,238	1,896	1,871	2,238	1,959	1,937
Total, Grants	257,962	270,880	286,452	246,093	262,164	283,474
Discretionary	106,603	114,622	116,544	101,159	105,276	115,852
Mandatory	151,359	156,258	169,908	144,934	156,888	167,622

10. FEDERAL EMPLOYMENT AND COMPENSATION

This section provides information on civilian employment policy as well as civilian and military employment, and personnel compensation and benefits, in the Executive, Legislative, and Judicial branches. A comparison of Federal employment levels, State and local government employment, and the United States population appears in the Historical Tables. Additional tables on civilian employment reductions appear in the Budget volume.

Civilian Employment Policy

The Administration policy is to provide Executive Branch agencies with flexibility to hire the right numbers of staff to meet program requirements. While it is not the norm, agency or sub-agency employment targets may be necessary when it is determined to be the most efficient or effective method of achieving Administration goals.

Federal Civilian Employment in the Executive Branch

Civilian employment in the Executive Branch is measured on the basis of full-time equivalents (FTEs). One FTE is equal to one work year or 2,080 non-overtime hours. Put simply, one full-time employee counts as one FTE, and two half-time employees also count as one FTE.

The Federal Workforce Restructuring Act (FWRA) of 1994 (P.L. 103-226) was enacted March 30, 1994. The Act established FTE limitations ("ceilings") for Executive Branch civilian employees through 1999. The starting point used to calculate FTE reductions required by the FWRA, called the 1993 base, is the estimate of FTEs for 1993 made in January of that year. Between the 1993 base and FY 1999, the Act requires a cut of 272,900 FTEs. The 2000 budget continues the implementation of the reductions pursuant to the Act. The limitations established by the Act, as well as the reductions to date, are as follows:

Year	FWRA Ceiling	Civilian FTEs	Cumulative reduction From 1993	Reduction as percent of 272,900 cut
1993 Base	2,155,200			
1994	2,084,600	2,052,700	-102,500	38%
1995	2,043,300	1,970,200	-185,000	68%
1996	2,003,300	1,891,700	-263,500	97%
1997	1,963,300	1,834,700	-320,500	117%
1998	1,922,300	1,790,200	-365,000	134%
1999 est.	1,882,300	1,801,600	-353,600	130%

Table 10-1 provides agency-wide totals from the 1993 base through 2000.

Allocations of FTE resources by agency are made based upon Presidential priorities and other factors. While most of the agencies in Table 10-1 show FTE reductions between 1993 and 2000, several agencies, such as the Department of Commerce and the Department of Justice, show an increase in FTEs.

Recent Trends in Civilian Employment Estimates in the Executive Branch

Each year the Budget reports actual FTEs in the prior year column, and estimates of FTEs in the current and budget years. In four of the five years since the FWRA was enacted, the current year FTE estimates for nearly all agencies in the Budget have been overstated when compared to the actual published in the following year's Budget. The table below shows this trend:

Year	Estimate	Actual	Over-Statement
1994	2,042.1	2,052.7	-10,700 (-0.5%)
1995	2,017.8	1,970.2	+47,600 (+2.4%)
1996	1,940.8	1,891.7	+49,100 (+2.5%)
1997	1,881.3	1,834.7	+46,600 (+2.5%)
1998	1,837.4	1,790.2	+47,200 (+2.6%)

Total Federal Employment Levels

The tables that follow show total Federal employment in all branches of Government, as well as the U.S. Postal Service, Postal Rate Commission, and active duty uniformed military personnel. Table 10-2 displays total Federal employment as measured by actual positions filled, i.e., the total number of employees, whether full-time, part-time or intermittent, at the end of the fiscal year. Table 10-3 shows total Federal employment as measured on an FTE basis.

Personnel Compensation and Benefits

Table 10-4 displays personnel compensation and benefits for all branches of Government, as well as for military personnel.

Direct compensation of the Federal work force includes base pay and premium pay, such as overtime. In addition, it includes other cash components, such as geographic pay differentials (i.e., locality pay, and special pay adjustments for law enforcement officers), recruitment and relocation bonuses, retention allowances, performance awards, and cost-of-living and overseas allowances.

In the case of military personnel, compensation includes basic pay, special and incentive pays (including enlistment and reenlistment bonuses), and allowances for clothing, housing, and subsistence.

Related compensation in the form of personnel benefits for current employees consists of the cost to Government agencies (as an employer) primarily for health insurance, life insurance, Social Security (old age, survivors, disability, and health insurance) and contribu-

tions to the retirement funds to finance future retirement benefits. Compensation for former personnel includes outlays for retirement pay benefits, and the Government's share of the cost of health and life insurance.

Table 10-1. FEDERAL EMPLOYMENT IN THE EXECUTIVE BRANCH

(Civilian employment as measured by Full-Time Equivalents, in thousands)

Agency	1993 Base	Actual						Estimate		Change: 1993 base to 2000	
		1993	1994	1995	1996	1997	1998	1999	2000	FTE's	Percent
Cabinet agencies:											
Agriculture ¹	115.6	114.4	109.8	103.8	100.7	98.5	96.4	98.0	97.6	-18.0	-15.6%
Commerce	36.7	36.1	36.0	35.3	33.8	32.6	35.7	47.5	92.9	56.1	152.9%
Defense-military functions	931.3	931.8	868.3	821.7	778.9	745.8	707.2	686.5	662.9	-268.4	-28.8%
Education	5.0	4.9	4.8	4.8	4.7	4.5	4.5	4.7	4.7	-0.3	-5.7%
Energy	20.6	20.3	19.8	19.7	19.1	17.3	16.3	16.5	16.2	-4.4	-21.5%
Health and Human Services ¹	65.0	66.1	62.9	59.3	57.2	57.6	57.9	60.5	62.0	-2.9	-4.5%
Social Security Administration	65.4	64.8	64.5	64.6	64.0	65.2	64.0	63.8	63.6	-1.8	-2.8%
Housing and Urban Development	13.6	13.3	13.1	12.1	11.4	11.0	9.8	10.6	10.6	-3.0	-22.3%
Interior	79.3	78.1	76.3	72.0	66.7	65.7	66.5	68.3	69.9	-9.4	-11.8%
Justice	99.4	95.4	95.3	97.9	103.8	111.0	117.3	124.1	128.7	29.3	29.5%
Labor	18.3	18.0	17.5	16.8	16.0	15.9	16.3	16.9	17.4	-0.9	-5.1%
State	35.0	34.2	33.5	31.8	30.2	29.2	26.4	26.9	27.6	-7.4	-21.2%
Transportation	70.3	69.1	66.4	63.2	62.4	62.5	63.4	65.0	65.8	-4.6	-6.5%
Treasury	166.1	161.1	157.3	157.5	151.1	145.5	142.1	145.4	146.1	-20.0	-12.0%
Veterans Affairs ¹	232.4	234.2	233.1	228.5	221.9	211.5	207.1	205.4	197.9	-34.5	-14.8%
Other agencies—excluding Postal Service:											
Agency for International Development ¹	4.4	4.1	3.9	3.6	3.4	2.8	2.7	2.6	2.6	-1.8	-41.2%
Corps of Engineers	29.2	28.4	27.9	27.7	27.1	26.0	24.8	25.2	24.7	-4.5	-15.3%
Environmental Protection Agency	18.6	17.9	17.6	17.5	17.2	17.0	17.7	18.4	18.4	-0.2	-0.9%
Equal Employment Opportunity Commission	2.9	2.8	2.8	2.8	2.7	2.6	2.5	2.8	2.9	0.1	3.2%
Federal Emergency Management Agency	2.7	4.0	4.9	4.6	4.7	5.1	4.6	4.6	4.7	2.0	72.4%
FDIC/RTC	21.6	21.9	20.0	15.7	11.8	8.7	7.9	7.3	6.9	-14.6	-67.9%
General Services Administration	20.6	20.2	19.5	17.0	15.7	14.5	14.1	14.2	14.2	-6.5	-31.5%
National Aeronautics and Space Administration	25.7	24.9	23.9	22.4	21.1	20.1	19.1	18.8	18.2	-7.6	-29.4%
National Archives and Records Administration	2.8	2.6	2.6	2.4	2.5	2.5	2.4	2.6	2.6	-0.1	-3.7%
National Labor Relations Board	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	2.0	-0.1	-6.7%
National Science Foundation	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.2	-0.1	-10.7%
Nuclear Regulatory Commission	3.4	3.4	3.3	3.2	3.1	3.0	3.0	2.9	2.8	-0.6	-17.6%
Office of Personnel Management	6.2	5.9	5.3	4.2	3.4	2.8	2.8	3.0	3.0	-3.2	-51.9%
Panama Canal Commission	8.7	8.5	8.5	8.8	9.0	9.5	9.6	10.2	2.5	-6.2	-71.0%
Peace Corps	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.2	1.2	-0.1	-4.8%
Railroad Retirement Board	1.8	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	-0.7	-37.2%
Securities and Exchange Commission	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.9	0.2	5.8%
Small Business Administration	4.0	5.6	6.3	5.7	4.7	4.5	4.4	4.6	4.6	0.6	15.4%
Smithsonian Institution	5.9	5.5	5.4	5.3	5.1	5.0	5.0	5.2	5.2	-0.6	-10.9%
Tennessee Valley Authority	19.1	17.3	18.6	16.6	16.0	14.9	14.4	13.9	13.7	-5.4	-28.4%
All other small agencies	15.9	15.2	14.7	14.9	13.9	13.6	16.0	17.0	17.3	1.5	9.2%
Total, Executive Branch civilian employment	2,155.2	2,138.8	2,052.7	1,970.2	1,891.7	1,834.7	1,790.2	1,801.6	1,816.8	-338.4	-15.7%
Reduction from 1993 Base		-16.4	-102.5	-185.0	-263.5	-320.5	-365.0	-353.6	-338.4		
Subtotal, Defense	931.3	931.8	868.3	821.7	778.9	745.8	707.2	686.5	662.9	-268.4	-28.8%
Subtotal, Non-Defense	1,223.9	1,207.1	1,184.4	1,148.4	1,112.8	1,088.9	1,083.0	1,115.2	1,153.9	-70.0	-5.7%
Status of Federal Civilian Employment Relative to the Federal Workforce Restructuring Act²											
Total, Executive Branch Employment	NA	NA	2,052.7	1,970.2	1,891.7	1,834.7	1,790.2	1,801.6	NA	NA	NA
Less: FTEs exempt from FWRA	NA	NA	5.7	5.7	7.6	7.4	5.2	5.5	NA	NA	NA
Total, Executive Branch subject to FWRA Ceiling ...	NA	NA	2,047.0	1,964.4	1,884.1	1,827.3	1,785.0	1,796.1	NA	NA	NA
FWRA Ceiling	NA	NA	2,084.6	2,043.3	2,003.3	1,963.3	1,922.3	1,882.3	NA	NA	NA
Executive Branch Employment Relative to FWRA Ceiling	NA	NA	-37.6	-78.9	-119.2	-136.1	-137.3	-86.2	NA	NA	NA

¹ The Departments of Agriculture, Health and Human Services, Veterans Affairs, and the Agency for International Development have components that are exempt from FTE controls. In 1999, Agriculture has 2,128 exemptions; HHS has 358 exemptions; Veterans Affairs has 3,000 exemptions and AID has 10 exemptions.

² FTE limitations are set for the Executive Branch in the Federal Workforce Restructuring Act of 1994 (P.L. 103-226) from 1994-99.

Table 10-2. TOTAL FEDERAL EMPLOYMENT

(As measured by total positions filled)

Description	Actual as of September 30			Change: 1996 to 1998	
	1996	1997	1998	Positions	Percent
Executive branch civilian employment:					
All agencies except Postal Service and Postal Rate Commission:					
Full-time permanent	1,707,974	1,651,559	1,624,152	-83,807	-4.9%
Other than full-time permanent ¹	225,957	220,232	231,644	5,687	2.5%
Subtotal	1,933,931	1,871,791	1,855,796	-78,120	-4.0%
Postal Service: ²					
Full-time permanent	652,855	648,684	660,987	8,132	1.2%
Other than full-time permanent	199,478	204,666	210,533	11,055	5.5%
Subtotal	852,333	853,350	871,520	19,187	2.3%
Subtotal, Executive branch civilian employment	2,786,264	2,725,141	2,727,331	-58,933	-2.1%
Military personnel on active duty: ³					
Department of Defense	1,471,722	1,438,562	1,406,830	-64,892	-4.4%
Department of Transportation (Coast Guard)	35,243	35,137	35,459	216	0.6%
Subtotal, military personnel	1,506,965	1,473,699	1,442,289	-64,676	-4.3%
Subtotal, Executive Branch	4,293,229	4,198,840	4,169,605	-123,609	-2.9%
Legislative branch:					
Full-time permanent	13,288	12,696	12,399	-889	-6.7%
Other than full-time permanent	18,259	18,659	18,075	-184	-1.0%
Subtotal, Legislative Branch	31,547	31,355	30,474	-1,073	-3.4%
Judicial Branch:					
Full-time permanent	26,879	27,567	28,487	1,608	6.0%
Other than full-time permanent	2,702	3,074	3,255	553	20.5%
Subtotal, Judicial Branch	29,581	30,641	31,742	2,161	7.3%
Grand total	4,354,357	4,260,836	4,231,821	-122,521	-2.8%
ADDENDUM					
Executive branch civilian personnel (excluding Postal Service):					
DOD-Military functions ⁴	768,098	723,032	692,552	-75,546	-9.8%
All other executive branch	1,165,833	1,148,759	1,163,244	-2,574	-0.2%
Total⁵	1,933,931	1,871,791	1,855,796	-78,120	-4.0%

¹ Includes Summer Aides, Stay-in-school, Junior Fellowship, Worker-Trainee Opportunity Program, formerly exempt from employment controls.² Includes Postal Rate Commission.³ Excludes reserve components.⁴ Excludes Defense Intelligence Agency.⁵ Includes disadvantaged youth programs.

Table 10-3. TOTAL FEDERAL EMPLOYMENT

(As measured by Full-Time Equivalents)

Description	1998 actual	Estimate		Change: 1998 to 2000	
		1999	2000	FTE's	Percent
Executive branch civilian personnel:					
All agencies except Postal Service and Defense	1,082,969	1,115,150	1,153,910	70,941	6.6%
Defense-Military functions (civilians)	707,242	686,458	662,928	-44,314	-6.3%
Subtotal, excluding Postal Service	1,790,211	1,801,608	1,816,838	26,627	1.5%
Postal Service ¹	837,399	842,422	847,259	9,860	1.2%
Subtotal, Executive Branch civilian personnel	2,627,610	2,644,030	2,664,097	36,487	1.4%
Executive branch uniformed personnel:²					
Department of Defense	1,422,467	1,391,916	1,390,787	-31,680	-2.2%
Department of Transportation (Coast Guard)	35,130	35,183	35,828	698	2.0%
Subtotal, uniformed military personnel	1,457,597	1,427,099	1,426,615	-30,982	-2.1%
Subtotal, Executive Branch	4,085,207	4,071,129	4,090,712	5,505	0.1%
Legislative Branch: ³ Total FTE	30,415	30,755	30,900	485	1.6%
Judicial branch: Total FTE	30,192	31,547	31,970	1,778	5.9%
Grand total	4,145,814	4,133,431	4,153,582	7,768	0.2%

¹ Includes Postal Rate Commission.² Military personnel on active duty. Excludes reserve components. Data shown for Department of Defense are average strengths, not FTEs.³ Actual 1998 FTE data not available for legislative branch.

TABLE 10-4. PERSONNEL COMPENSATION AND BENEFITS

(In millions of dollars)

Description	1998 actual	Estimate		Change: 1998 to 2000	
		1999	2000	Dollars	Percent
Civilian personnel costs:					
Executive Branch (excluding Postal Service):					
Direct compensation:					
DOD—military functions	31,766	32,088	31,980	214	0.7%
All other executive branch	54,893	58,674	61,840	6,947	12.7%
Subtotal, direct compensation	86,659	90,762	93,820	7,161	8.3%
Personnel benefits:					
DOD—military functions	6,963	6,761	6,877	-86	-1.2%
All other executive branch ¹	21,760	23,058	24,316	2,556	11.7%
Subtotal, personnel benefits	28,723	29,819	31,193	2,470	8.6%
Subtotal, executive branch	115,382	120,581	125,013	9,631	8.3%
Postal Service:					
Direct compensation	34,704	35,640	36,744	2,040	5.9%
Personnel benefits	9,648	9,734	10,020	372	3.9%
Subtotal	44,352	45,374	46,764	2,412	5.4%
Legislative Branch: ²					
Direct compensation	1,273	1,356	1,434	161	12.6%
Personnel benefits	275	307	313	38	13.8%
Subtotal	1,548	1,663	1,747	199	12.9%
Judicial Branch:					
Direct compensation	1,625	1,776	1,910	285	17.5%
Personnel benefits	406	450	492	86	21.2%
Subtotal	2,031	2,226	2,402	371	18.3%
Total, civilian personnel costs	163,313	169,844	175,926	12,613	7.7%
Military personnel costs:					
DOD—Military Functions:					
Direct compensation	48,602	49,524	51,012	2,410	5.0%
Personnel benefits	17,674	17,874	19,136	548	3.1%
Subtotal	66,276	67,398	70,148	2,958	4.5%
All other executive branch, uniformed personnel:					
Direct compensation	1,172	1,233	1,297	125	10.7%
Personnel benefits	115	122	127	12	10.4%
Subtotal	1,287	1,355	1,424	137	10.6%
Total, military personnel costs ³	67,563	68,753	71,572	3,095	4.6%
Grand total, personnel costs	230,876	238,597	247,498	15,708	6.8%
ADDENDUM					
Former Civilian Personnel:					
Retired pay for former personnel	43,893	45,674	47,686	3,793	8.6%
Government payment for Annuitants:					
Employee health benefits	4,115	4,654	5,105	990	24.1%
Employee life insurance	30	35	36	6	20.0%
Total Former Civilian Personnel	48,038	50,363	52,827	4,789	10.0%
Former Military personnel:					
Retired pay for former personnel	584	615	659	75	12.8%

¹ In addition to the employing agency's contribution to the costs of life and health insurance, retirement and Medicare Hospital insurance, this amount includes transfers from general revenues to amortize the effects of general pay increases on Federal retirement systems for employees in the Legislative and Judicial Branches as well as employees (non-Postal) in the Executive Branch and to amortize supplemental liabilities under FERS. The transfers amounted to 8,381 million in 1998 and are estimated to be \$8,703 million in 1999 and \$9,121 million in 2000.

² Excludes members and officers of the Senate.

³ Excludes reserve components.

11. STRENGTHENING FEDERAL STATISTICS

Our democracy and economy demand that public and private leaders have unbiased, relevant, accurate, and timely information on which to base their decisions. Data on real Gross Domestic Product (GDP), the Consumer Price Index (CPI), and the trade deficit, for example, are critical inputs to monetary, fiscal, trade, and regulatory policy. They also have a major impact on government spending, budget projections, and the allocation of Federal funds. Economic data, such as measures of price change, have as well a significant influence on interest rates and cost-of-living adjustments that affect every American who runs a business, saves for retirement, or mortgages a home. Taken together, statistics produced by the Federal Government on demographic, economic, and social conditions and trends are essential to inform decisions that are made by virtually every organization and household.

The U.S. Federal statistical system comprises some 70 agencies that collect, analyze, and disseminate information for use by governments, businesses, researchers, and the public. Approximately half of the funding for the statistical system provides resources for ten agencies that have statistical activities as their principal mission (see Table 11-1.) The remaining funding is spread among some sixty agencies that carry out statistical activities in conjunction with other missions such as providing services or enforcing regulations.

Under the aegis of the congressionally-mandated Interagency Council on Statistical Policy (ICSP), the principal statistical agencies continue to extend their collaborative endeavors to improve the overall performance and efficiency of the Federal statistical system. For example, during 1998 the ICSP continued its support of FedStats (www.fedstats.gov), a "one-stop shopping" Internet site for Federal statistics that permits easy access via an initial point of entry to the wide array of information available to the public from the 70 agencies. In September 1998, FedStats doubled the number of Federal statistical sites indexed by its search engine from 14 to 28. FedStats has been enthusiastically received both by Web watchers and by more than a million users of Federal statistical information.

In May 1998, the Interagency Forum on Child and Family Statistics published a new report, *Nurturing Fatherhood: Improving Data and Research on Male Fertility, Family Formation and Fatherhood*, and in July released its second annual report, *America's Children, Key National Indicators of Well-Being, 1998*. In September, the Council of Economic Advisers in consultation with Federal statistical agencies published *Changing America: Indicators of Social and Economic Well-Being by Race and Hispanic Origin* for the President's Initiative on Race. This chart book, which documents current differences in well-being by race and Hispanic origin

and describes how such differences have evolved over the past several decades, provides the basis for an informed discussion about the problems faced by people of different races and backgrounds in America. Among the benefits of these activities has been the stimulation of interagency efforts to close data gaps identified in the reports.

A singularly important initiative to improve the quality and efficiency of Federal statistical programs is a legislative proposal that would allow the sharing of confidential data among statistical agencies under strict safeguards. Passage of this legislation continues to be a top priority of the Administration.

Despite these accomplishments, rapid changes in our economy and society, and funding levels that do not enable statistical agencies to keep pace with them, can threaten the relevance and accuracy of our Nation's key statistics. A growing inability of our statistical system to mirror accurately our economy and society will, in turn, undermine core government activities, such as the accurate allocation of scarce Federal funds. Fortunately, the most serious shortcomings of our statistical infrastructure could be substantially mitigated by the proposals set forth in the Administration's budget. These initiatives include:

- implementing a sampling methodology for the 2000 Decennial Census that is designed to reduce the differential undercount for hard to enumerate populations in order to improve the accuracy of data used to reapportion seats in the U.S. House of Representatives, redraw State legislative districts, and distribute annually more than \$100 billion in Federal funds to State and local jurisdictions (Bureau of the Census);
- providing a comprehensive, integrated, and internationally comparable statistical base for analysis as well as reliable and timely information on the impact on the U.S. economy of increasingly integrated world markets (Bureau of Economic Analysis);
- modernizing our basic industrial classification to reflect the structural and technological make-up of our economy and facilitate economic analyses that cover the entire North American Free Trade Agreement area (Bureau of Labor Statistics and Bureau of the Census);
- improving the timeliness and accuracy of the CPI to permit more rapid revision in future years, to produce alternative measures of the change in the cost of living, to reflect more accurately changes in the quality of goods and services, and to allow more timely introduction of new goods into the CPI (Bureau of Labor Statistics);

- providing consistent, accurate, and current demographic information for all States as well as for sub-State areas with populations greater than 250,000 through the American Community Survey program, which will result in numerous data improvements and efficiencies including far more timely data to distribute over \$100 billion in Federal funds annually to States and local areas (Bureau of the Census); and
- providing new statutory authority for the limited sharing of confidential statistical information

among specific Federal statistical agencies solely for statistical purposes. The proposed changes would permit these statistical agencies to manage information in many important respects as if they were part of a single agency, thereby increasing the accuracy of statistical estimates and the efficiency of Federal data collection.

The following highlights elaborate on the Administration's proposals to strengthen the programs of the principal Federal statistical agencies.

HIGHLIGHTS OF 2000 PROGRAM CHANGES FOR PRINCIPAL STATISTICAL AGENCIES

Bureau of Economic Analysis: Funding is requested to update and improve the data used in estimating GDP and national income and to continue moving forward on other key initiatives in BEA's Strategic Plan for improving its economic accounts. Initiatives would produce: (1) new and improved measures of output and prices, by extending BEA's work on quality adjustments; (2) better measures of investment, savings, and wealth, by developing a comprehensive accounting for software; and (3) improved measures of international transactions, by expanding the coverage of rapidly growing international services and financial instruments.

Bureau of Justice Statistics: Funding is requested to: (1) develop and implement a program to produce consistent annual measures of the incidence of hate crimes and to estimate the extent and nature of change from year to year; (2) develop a tribal data collection program that would include conducting a complete census of approximately 500 recognized Indian tribes to collect data on the types and characteristics of criminal justice agencies operating in these jurisdictions, measuring services provided to these communities, assessing the tribes' capacity to collect and report information on crime in their jurisdictions, improving crime measurement capabilities and information systems, integrating tribal crime statistics into existing national reports, and carrying out studies on violent crime in Indian tribal jurisdictions; and (3) collect and analyze data on pre-trial drug testing of offenders; treatment policies, practices, and services available to arrestees; case processing of drug abuse violators; State court management of drug-related cases and services; and drug-free workplace policies in State and local agencies.

Bureau of Labor Statistics: Funding is requested to: (1) complete the Consumer Price Index (CPI) revision; (2) continue improvements in the CPI revision process that would make it possible to complete the CPI weight update more rapidly, allow BLS to produce alternative measures of change in the cost of living, improve the measurement of changes in the quality of goods and services, and provide a basis to bring new goods into the CPI on a more timely basis; (3) complete the initial transition from the Standard Industrial Classification

(SIC) to the new North American Industry Classification System (NAICS); (4) expand the Employment Cost Index (ECI) sample to produce more precise indices of quality changes in employer wage and benefit costs by major industry and major occupational group and to produce better annual estimates of employer cost levels; (5) extend the application of quality adjustments and accelerate the introduction of new products in the Producer Price Index (PPI), expand PPI coverage for the first time to the construction sector of the U.S. economy, and enhance coverage of the service sector in the PPI and in BLS productivity data; and (6) improve data dissemination by expanding the Internet public access site.

Bureau of the Census: Funding is requested to: (1) shift from planning and testing for the 2000 Decennial Census to the operational phase based on sampling for nonresponse follow up; (2) establish a nationwide physical and technological infrastructure employing several hundred thousand people based in 476 local Census Bureau offices to collect and process data for Census 2000; (3) deliver Census 2000 questionnaires and collect data from an estimated 118 million households; (4) tabulate the data collected in Census 2000 for use in the reapportionment of Congressional representation and in formulas for annually distributing in excess of \$100 billion in Federal funds; (5) prepare the American Community Survey national sample for benchmarking these data against Census 2000 data; (6) publish the first North American Industry Classification System (NAICS)-based Annual Survey of Manufactures and County Business Patterns reports in mid-2000, collect Annual Capital Expenditures Survey data on a NAICS basis for 1999, restructure the program of annual service industry surveys, and collect NAICS-based annual statistics for additional service industries in the new program for calendar years 1998 and 1999; and (7) complete dissemination of data from the 1997 Economic Censuses, and begin preparations for the 2002 Economic Censuses and the 2002 Census of Governments.

Bureau of Transportation Statistics: Funding is requested to: (1) produce and enhance data compilations and analyses concerning patterns of passenger travel and goods movements that are reported in the congress-

sionally-mandated Transportation Statistics Annual Report and companion publications; (2) extend efforts to provide technical assistance in the use of statistics and data products to State and local authorities; (3) initiate analyses as directed by Congress in TEA-21, including the Intermodal Transportation Data Base, Transportation Capital Stocks Account, National Transportation Atlas Data Base, International Trade Impact Study, and other analyses related to international transportation; and (4) expand collections and services of the National Transportation Library.

Economic Research Service: Funding is requested to: (1) enhance commodity market analysis; (2) support an initiative on the economic incentives for carbon sequestration and trace gas emissions control in agriculture; (3) cooperate with the U.S. Global Change Research Program (USGCRP) National Assessment activities; (4) provide economic analyses in food-safety risk assessment; (5) meet the analytical information needs of small farmers, niche marketers, and other casualties of an industrializing agricultural sector; and (6) assess the effects of electric utility deregulation on rural communities. The decrease in ERS total funding reflects the proposal to reverse the 1999 transfer of funds (\$12.2 million) for the evaluation of domestic food assistance programs from the Food and Nutrition Service.

Energy Information Administration: Funding is requested to: (1) enhance international analysis capabilities to assess carbon mitigation, permit trading, and other global climate change issues; (2) begin assessing the accuracy and reliability of energy data systems such as consumption surveys which are operating on a base that is reaching 20 years of age, well beyond the normal 10-year life-cycle; (3) continue overhauling survey frames and data systems to maintain the ability to analyze changes such as those brought on by deregulation and restructuring in the natural gas and electricity industries; and (4) seek further efficiency gains through the use of information processing and communications technologies.

National Agricultural Statistics Service: Funding is requested to: (1) conduct a survey of fruit and vegetable growers, as well as fruit and vegetable packing houses, to help ensure food safety in the production and processing of domestic and imported fruits and vegetables; (2) expand measurement of chemical usage on cropland within the Mid-Atlantic region, and lead a multi-agency collaborative effort to "warehouse" data and information from the many independent assessment activities into an integrated and consistent geographically linked information system in support of the National Environmental Monitoring and Research Framework; (3) establish a permanent office in Puerto Rico; (4) collect pes-

ticide use data for the horticulture and greenhouse industries, and expand pesticide use surveys for other commodities; and (5) conduct the Agricultural Economics and Land Ownership Survey, which occurs every 10 years following the Census of Agriculture and provides the only comprehensive source of data on agricultural land ownership, financing, and inputs by farm operators and landlords for each State. The decrease in NASS total funding reflects a reduction in funding for the Census of Agriculture due to the cyclical nature of the program.

National Center for Education Statistics: Funding is requested to: (1) redesign the Integrated Postsecondary Education Data System (IPEDS) to utilize a new web-based system; (2) improve dissemination of consumer information on college costs and prices; (3) begin development of a higher-education cost index, in cooperation with the Bureau of Labor Statistics; (4) perform a post-secondary teacher education study that standardizes the definition for teacher certification at the State level; (5) develop individual State capacity to interpret, report, and use National Assessment of Educational Progress (NAEP) data; (6) permit State and local jurisdictions to provide annual NAEP-like indicators of educational progress; (7) enhance the dissemination of NAEP data on the Internet; and (8) increase the use of computers in all phases of NAEP assessments.

National Center for Health Statistics: Funding is requested to: (1) help States implement a major revision to the international coding system for mortality, make further improvements in data quality and timeliness, and maintain the scope of data available on births and deaths; (2) support a fundamental sample redesign for the National Health Interview Survey following the decennial census; (3) provide new, state-of-the-art medical and communications technology to improve quality and speed results for the National Health and Nutrition Examination Survey; (4) begin to implement new approaches to monitoring the health care delivery system, including organizational and financial arrangements of providers, as part of a public/private effort to address major data gaps in this area; (5) develop new approaches to acquiring data on special populations such as racial and ethnic groups in order to track progress in meeting health objectives, identify health differentials, and better understand differences among groups; (6) implement surveys to produce State level data for tracking changes in access to care, insurance coverage, health status, and use of health services as market and policy reforms are implemented; and (7) make data more readily available to users by improving timeliness and access through use of automated systems and the Internet.

Table 11-1. 1998-2000 BUDGET AUTHORITY FOR PRINCIPAL STATISTICAL AGENCIES

(In millions of dollars)

	1998 actual	1999 enacted	2000 request
Bureau of Economic Analysis	42.5	43.2	49.4
Bureau of Justice Statistics	21.5	25.0	32.0
Bureau of Labor Statistics	380.5	398.9	420.9
Bureau of the Census	686.5	1,339.9	3,071.7
Periodic Censuses and Programs	549.8	1,193.8	2,914.8
Salaries and Expenses	136.7	146.1	156.9
Bureau of Transportation Statistics	31.0	31.0	31.0
Economic Research Service	71.6	65.8	¹ 55.6
Energy Information Administration	66.8	70.5	72.6
National Agricultural Statistics Service ²	118.3	104.0	100.6
National Center for Education Statistics	91.0	104.0	117.5
Statistics	59.0	68.0	77.5
Assessment	32.0	36.0	40.0
National Center for Health Statistics	84.6	94.6	109.6
PHS Evaluation Funds	58.5	67.8	109.6
Budget Authority	26.0	26.8	.....

¹ Decrease reflects the proposal to reverse the 1999 transfer of \$12.2 million for the evaluation of domestic food assistance programs from the Food and Nutrition Service.

² Includes funds for the periodic Census of Agriculture and Special Studies of \$36.5, \$23.6, and \$16.5 (million) in 1998, 1999, and 2000, respectively.

6. FEDERAL INVESTMENT SPENDING AND CAPITAL BUDGETING

Investment spending is spending that yields long-term benefits. Its purpose may be to improve the efficiency of internal Federal agency operations or to increase the Nation's overall stock of capital for economic growth. The spending can be direct Federal spending or grants to State and local governments. It can be for physical capital, which yields a stream of services over a period of years, or for research and development or education and training, which are intangible but also increase income in the future or provide other long-term benefits.

Most presentations in the Federal budget combine investment spending with spending for current use. This chapter focuses solely on Federal and federally financed investment. These investments are discussed in the following sections:

- a description of the size and composition of Federal investment spending;
- a discussion of capital assets used to provide Federal services, and efforts to improve planning and budgeting for these assets. An Appendix to Part II presents the "Principles of Budgeting for Capital Asset Acquisitions," which are being used to guide the analysis of Administration requests for spending for capital assets;
- a presentation of trends in the stock of federally financed physical capital, research and development, and education;
- alternative capital budget and capital expenditure presentations; and
- projections of Federal physical capital outlays and recent assessments of public civilian capital needs, as required by the Federal Capital Investment Program Information Act of 1984.

The President's Commission to Study Capital Budgeting

The President established the Commission to Study Capital Budgeting in 1997 with a charge to prepare a wide-ranging report on different aspects of capital budgeting including practices outside the Federal Government, the definition of capital, the role of depreciation, and the effect of a capital budget on budgeting choices, macroeconomic stabilization, and budgetary discipline. The Commission issued its report in February 1999. The Commission proposed a series of recommendations to improve each part of the budget process: setting priorities, making current budget decisions, reporting on these decisions, and subsequently evaluating them.

The Commission's broadest and most fundamental conclusion was that insufficient attention is paid to the long-run consequences of all budget decisions. The report included two recommendations to facilitate the setting of priorities among all programs, not just those involving capital expenditures. The first recommended integration of the planning under the Government Performance and Results Act (GPRA) with budgeting in the form of annually revised five-year plans, and greater emphasis by decision-makers in the Executive Branch and Congress on the longer-run implications of current year decisions. The second recommended an ongoing effort within the Federal government to analyze the benefits and costs of all major government programs as a guide to future policies. The report also recommended evaluating the benefits and costs of major investment projects undertaken in the past.

In the instructions for the FY 2001 budget, the Administration encouraged agencies to integrate their annual performance plan and budget justification. Although time for this undertaking was short, several agencies submitted integrated documents or more information on the budgetary resources to be applied to specific performance objectives. The same instructions provided guidance for the first annual performance reports due to Congress this March. They are to include, not only comparisons of actual performance with the projected levels that had been set forth in agency performance plans and analysis of those comparisons, but also summaries of all program evaluations, cost-benefit studies, and other policy, program, and management analyses. As noted in Section V of the Budget, the Admini-

(Continued on next page)

The President's Commission to Study Capital Budgeting—Continued

stration's Priority Management Objective #1 includes implementing greater integration of planning with budgeting, informing both with performance measures, and working to align cost with programs to better track what taxpayers are getting for their dollars. These steps will provide needed improvements to essential information and infrastructure to support attention to program performance and the long-range consequences of budget decisions in future years.

The Commission did not endorse a single definition of capital, but said distinctions among different types of capital spending were warranted for different purposes. It did not recommend changing the budget to make the size of the deficit or surplus depend on the amount of expenditures defined as capital, to finance capital spending by borrowing, or to make a single decision about how much to spend for "capital" under some definition. The Commission found that the current system has biases toward both too much and too little capital spending, but did not believe anyone could say authoritatively which effect was stronger. It recommended up-front full funding for capital projects, or usable segments thereof, and strict adherence to existing rules that govern the scoring of leases. The Administration plans to continue these policies.

However, the Commission concluded that capital spending is inefficiently allocated among projects, and that the current process shortchanges the maintenance of existing assets. To promote better planning and budgeting of capital expenditures for federally owned facilities, the Commission recommended that the Executive Branch and the Congress experiment with capital acquisition funds (CAFs) that would help smooth lumpiness in appropriations by aggregating capital requests for the agency, and match cost with program results by a capital usage charge on the asset-using programs. Another recommendation was to experiment with incentives for agencies to manage their assets more efficiently, for example by permitting them to keep a limited portion of revenues from selling assets. Other recommendations concerned developing and publishing more detailed information about the composition and condition of capital assets, and retrospectively assessing the extent to which major investment projects have produced returns in excess of the cost of capital.

The Administration is exploring options for capital acquisition funds as part of its effort to integrate planning and budgeting, and to charge for resources in alignment with their use to achieve program results. Implementation would require better information on existing assets, and would provide an incentive for more attention to efficient asset management. The *Capital Programming Guide* is being updated to provide specific examples and to improve understanding of the linkages between its four stages: planning, budgeting, acquisition, and management-in-use. In particular, this will emphasize how knowledge of the condition, maintenance, use, and value of existing assets feed back into the next cycle of planning. An inter-agency task force is working to develop standardized methods to estimate deferred maintenance. Meanwhile, a variety of other efforts are ongoing to improve information on existing assets and new capital projects and to more fully implement existing guidance on improving capital planning and acquisition. Furthermore, the General Services Administration has developed a draft legislative proposal allowing agencies to keep a share of the proceeds from disposing of real property, which should give them an incentive to dispose of real property they no longer need.

¹ *The Report of the President's Commission to Study Capital Budgeting* (February 1999) was published by the U.S. Government Printing Office and is also available, together with testimony and other supporting materials, on the Internet at <http://www.whitehouse.gov/pcscb>.

Part I: DESCRIPTION OF FEDERAL INVESTMENT

For almost fifty years, a chapter in the budget has shown Federal investment outlays—defined as those outlays that yield long-term benefits—separately from outlays for current use. Again this year the discussion of the composition of investment includes estimates of budget authority as well as outlays and extends these estimates four years beyond the budget year, to 2005.

The classification of spending between investment and current outlays is a matter of judgment. The budget has historically employed a relatively broad classification, including physical investment, research, development, education, and training. The budget further classifies investments into those that are grants to State and local governments, such as grants for highways or for elementary and secondary education, and all other investments, called “direct Federal programs,” in this analysis. This “direct Federal” category consists primarily of spending for assets owned by the Federal Government, such as defense weapons systems and general purpose office buildings, but also includes grants to private organizations and individuals for investment, such as capital grants to Amtrak or higher education loans directly to individuals.

Presentations for particular purposes could adopt different definitions of investment:

- To suit the purposes of a traditional balance sheet, investment might include only those physical assets owned by the Federal Government, excluding capital financed through grants and intangible assets such as research and education.
- Focusing on the role of investment in improving national productivity and enhancing economic growth would exclude items such as national defense assets, the direct benefits of which enhance national security rather than economic growth.
- Concern with the efficiency of Federal operations would confine the coverage to investments that reduce costs or improve the effectiveness of internal Federal agency operations, such as computer systems.
- A “social investment” perspective might broaden the coverage of investment beyond what is included in this chapter to encompass programs such as childhood immunization, maternal health, certain nutrition programs, and substance abuse treatment, which are designed in part to prevent more costly health problems in future years.

The relatively broad definition of investment used in this section provides consistency over time—historical figures on investment outlays back to 1940 can be found in the separate *Historical Tables* volume. The detailed tables at the end of this section allow disaggregation of the data to focus on those investment outlays that best suit a particular purpose.

In addition to this basic issue of definition, there are two technical problems in the classification of investment data, involving the treatment of grants to State and local governments and the classification of

spending that could be shown in more than one category.

First, for some grants to State and local governments it is the recipient jurisdiction, not the Federal Government, that ultimately determines whether the money is used to finance investment or current purposes. This analysis classifies all of the outlays in the category where the recipient jurisdictions are expected to spend most of the money. Hence, the community development block grants are classified as physical investment, although some may be spent for current purposes. General purpose fiscal assistance is classified as current spending, although some may be spent by recipient jurisdictions on physical investment.

Second, some spending could be classified in more than one category of investment. For example, outlays for construction of research facilities finance the acquisition of physical assets, but they also contribute to research and development. To avoid double counting, the outlays are classified in the category that is most commonly recognized as investment. Consequently outlays for the conduct of research and development do not include outlays for research facilities, because these outlays are included in the category for physical investment. Similarly, physical investment and research and development related to education and training are included in the categories of physical assets and the conduct of research and development.

When direct loans and loan guarantees are used to fund investment, the subsidy value is included as investment. The subsidies are classified according to their program purpose, such as construction, education and training, or non-investment outlays. For more information about the treatment of Federal credit programs, refer to Chapter 24, “Budget System and Concepts and Glossary.”

This section presents spending for gross investment, without adjusting for depreciation. A subsequent section discusses depreciation, shows investment both gross and net of depreciation, and displays net capital stocks.

Composition of Federal Investment Outlays

Major Federal Investment

The composition of major Federal investment outlays is summarized in Table 6–1. They include major public physical investment, the conduct of research and development, and the conduct of education and training. Defense and nondefense investment outlays were \$240.2 billion in 1999. They are estimated to increase to \$254.3 billion in 2000 and to increase further to \$267.2 billion in 2001. Major Federal investment will comprise an estimated 14.6 percent of total Federal outlays in 2001 and 2.7 percent of the Nation’s gross domestic product (GDP). Greater detail on Federal investment is available in tables 6–2 and 6–3 at the end of this section. Those tables include both budget authority and outlays.

Physical investment.—Outlays for major public physical capital investment (hereafter referred to as physical investment outlays) are estimated to be \$130.2 billion in 2001. Physical investment outlays are for construction and rehabilitation, the purchase of major equipment, and the purchase or sale of land and structures. An estimated three-fifths of these outlays are for direct physical investment by the Federal Government, with the remaining being grants to State and local governments for physical investment.

Direct physical investment outlays by the Federal Government are primarily for national defense. Defense outlays for physical investment were \$53.9 billion in 1999 and are estimated to increase to \$56.2 billion in 2001. Almost all of these outlays, or \$51.1 billion, are for the procurement of weapons and other defense equipment, and the remainder is primarily for construction on military bases, family housing for military personnel, and Department of Energy defense facilities. These outlays are estimated to increase in 2002 and beyond in response to increases in defense budget authority enacted for 2000 and requested for 2001 and later years in this budget.

Outlays for direct physical investment for nondefense purposes are estimated to be \$22.4 billion in 2001. These outlays include \$13.3 billion for construction and rehabilitation. This amount includes funds for water, power, and natural resources projects of the Army Corps of Engineers, the Bureau of Reclamation within the Department of the Interior, the Tennessee Valley Authority, and the power administrations in the Department of Energy; construction and rehabilitation of veterans hospitals and Postal Service facilities; facilities for space and science programs, and Indian Health Service hospitals and clinics. Outlays for the acquisition of major equipment are estimated to be \$8.2 billion in 2001. The largest amounts are for the air traffic control system and the Postal Service. For the purchase or sale of land and structures, disbursements are estimated to exceed collections by \$0.8 billion in 2001. These purchases are largely for buildings and land for parks and other recreation purposes.

Grants to State and local governments for physical investment are estimated to be \$51.7 billion in 2001. Almost two-thirds of these outlays, or \$33.6 billion, are to assist States and localities with transportation infra-

Table 6-1. COMPOSITION OF FEDERAL INVESTMENT OUTLAYS

(In billions of dollars)

	1999 actual	Estimate	
		2000	2001
Federal Investment			
Major public physical capital investment:			
Direct Federal:			
National defense	53.9	53.3	56.2
Nondefense	20.8	22.4	22.4
Subtotal, direct major public physical capital investment	74.7	75.7	78.5
Grants to State and local governments	43.9	48.7	51.7
Subtotal, major public physical capital investment	118.6	124.4	130.2
Conduct of research and development:			
National defense	40.3	40.4	40.9
Nondefense	33.9	36.1	39.4
Subtotal, conduct of research and development	74.1	76.5	80.4
Conduct of education and training:			
Grants to State and local governments	28.4	33.1	34.9
Direct Federal	19.0	20.3	21.7
Subtotal, conduct of education and training	47.4	53.4	56.6
Total, major Federal investment outlays	240.2	254.3	267.2
MEMORANDUM			
Major Federal investment outlays:			
National defense	94.2	93.7	97.1
Nondefense	146.0	160.6	170.1
Total, major Federal investment outlays	240.2	254.3	267.2
Miscellaneous physical investments:			
Commodity inventories	—*	–0.2	–0.3
Other physical investment (direct)	2.6	3.3	4.1
Total, miscellaneous physical investment	2.5	3.1	3.8
Total, Federal investment outlays, including miscellaneous physical investment	242.7	257.4	271.0

* Indicates \$50 million or less.

structure, primarily highways. Other major grants for physical investment fund sewage treatment plants, community development, and public housing.

Conduct of research and development.—Outlays for the conduct of research and development are estimated to be \$80.4 billion in 2001. These outlays are devoted to increasing basic scientific knowledge and promoting research and development. They increase the Nation's security, improve the productivity of capital and labor for both public and private purposes, and enhance the quality of life. Slightly more than half of these outlays, an estimated \$40.9 billion in 2001, are for national defense. Physical investment for research and development facilities and equipment is included in the physical investment category.

Nondefense outlays for the conduct of research and development are estimated to be \$39.4 billion in 2001. This is largely for the space programs, the National Science Foundation, the National Institutes of Health, and research for nuclear and non-nuclear energy programs.

Conduct of education and training.—Outlays for the conduct of education and training are estimated to be \$56.6 billion in 2001. These outlays add to the stock of human capital by developing a more skilled and productive labor force. Grants to State and local governments for this category are estimated to be \$34.9 billion in 2001, more than three-fifths of the total. They include education programs for the disadvantaged and the handicapped, vocational and adult education programs, training programs in the Department of Labor, and Head Start. Direct Federal education and training outlays are estimated to be \$21.7 billion in 2001. Programs in this category are primarily aid for higher education through student financial assistance, loan subsidies, the veterans GI bill, and health training programs.

This category does not include outlays for education and training of Federal civilian and military employees. Outlays for education and training that are for physical investment and for research and development are in the categories for physical investment and the conduct of research and development.

Miscellaneous Physical Investment Outlays

In addition to the categories of major Federal investment, several miscellaneous categories of investment outlays are shown at the bottom of Table 6–1. These items, all for physical investment, are generally unrelated to improving Government operations or enhancing economic activity.

Outlays for commodity inventories are for the purchase or sale of agricultural products pursuant to farm price support programs and the purchase and sale of other commodities such as oil and gas. Sales are estimated to exceed purchases by \$0.3 billion in 2001.

Outlays for other miscellaneous physical investment are estimated to be \$4.1 billion in 2001. This category includes primarily conservation programs. These are entirely direct Federal outlays.

Detailed Tables on Investment Spending

This section provides data on budget authority as well as outlays for major Federal investment. These estimates extend four years beyond the budget year to 2005. Table 6–2 displays budget authority (BA) and outlays (O) by major programs according to defense and nondefense categories. The greatest level of detail appears in Table 6–3, which shows budget authority and outlays divided according to grants to State and local governments and direct Federal spending. Miscellaneous investment is not included in these tables because it is generally unrelated to improving Government operations or enhancing economic activity.

Table 6-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS

(in millions of dollars)

Description	1999 Actual	Estimate						
		2000	2001	2002	2003	2004	2005	
NATIONAL DEFENSE								
Major public physical investment:								
Construction and rehabilitation	BA	5,083	5,556	4,568	4,775	4,434	4,590	4,810
	O	4,871	4,915	5,120	4,577	4,471	4,444	4,588
Acquisition of major equipment	BA	51,165	54,351	60,045	62,276	65,915	67,063	70,444
	O	49,040	48,444	51,076	53,405	59,248	62,874	65,607
Purchase or sale of land and structures	BA	-31	-30	-27	-29	-29	-29	-29
	O	-31	-30	-27	-29	-29	-29	-29
Subtotal, major public physical investment	BA	56,217	59,877	64,586	67,022	70,320	71,624	75,225
	O	53,880	53,329	56,169	57,953	63,690	67,289	70,166
Conduct of research and development	BA	41,275	41,263	41,369	41,867	41,096	40,890	39,794
	O	40,276	40,409	40,914	40,990	40,827	40,621	39,987
Conduct of education and training (civilian)	BA	3	8	7	10	10	10	10
	O	6	8	7	10	10	10	10
Subtotal, national defense investment	BA	97,495	101,148	105,962	108,899	111,426	112,524	115,029
	O	94,162	93,746	97,090	98,953	104,527	107,920	110,163
NONDEFENSE								
Major public physical investment:								
Construction and rehabilitation:								
Highways	BA	29,164	31,115	33,339	30,579	30,595	31,192	31,802
	O	22,723	25,420	27,210	27,875	27,348	27,166	27,184
Mass transportation	BA	4,753	5,513	6,136	6,558	7,025	7,166	7,309
	O	4,024	4,301	4,466	5,223	5,740	6,403	6,755
Rail transportation	BA	6	11	37	37	37	18	18
	O	61	61	10	26	32	32	27
Air transportation	BA	2,382	1,973	2,037	2,088	2,142	2,198	2,254
	O	1,619	1,969	1,984	2,031	2,086	2,144	2,191
Community development block grants	BA	4,893	4,781	4,900	4,900	4,959	5,077	5,188
	O	4,804	4,856	4,826	4,957	4,998	5,073	4,979
Other community and regional development	BA	1,552	1,523	2,015	2,015	2,034	2,085	2,124
	O	1,289	1,512	1,572	1,713	1,868	2,019	2,078
Pollution control and abatement	BA	4,118	4,064	3,505	3,505	3,545	3,628	3,706
	O	3,749	3,917	4,111	4,065	4,013	4,012	4,045
Water resources	BA	3,176	3,166	3,782	3,819	3,866	3,965	4,056
	O	2,845	3,771	3,740	3,821	3,974	4,009	4,106
Housing assistance	BA	6,982	6,849	7,196	7,196	7,282	7,463	7,627
	O	6,389	7,122	7,675	7,479	7,779	8,443	8,656
Energy	BA	957	977	865	906	892	1,128	1,200
	O	955	975	863	903	889	1,126	1,198
Veterans hospitals and other health	BA	1,479	1,237	1,323	1,325	1,316	1,345	1,376
	O	1,427	1,302	1,402	1,399	1,350	1,352	1,368
Postal Service	BA	1,629	1,457	1,017	1,485	1,742	1,509	1,625
	O	1,675	1,225	1,044	1,457	1,574	1,609	1,580
GSA real property activities	BA	1,452	753	1,501	1,199	1,180	1,189	1,154
	O	958	976	1,116	1,155	1,295	1,387	1,324
Other programs	BA	3,760	2,815	3,932	4,125	4,024	3,721	3,768
	O	2,884	3,734	3,644	3,711	3,993	3,950	3,756
Subtotal, construction and rehabilitation	BA	66,303	66,234	71,585	69,737	70,639	71,684	73,207
	O	55,402	61,141	63,663	65,816	66,939	68,726	69,249
Acquisition of major equipment:								
Air transportation	BA	2,130	2,032	2,455	2,505	2,567	2,643	2,733
	O	2,234	1,806	1,965	2,294	2,410	2,576	2,650
Postal Service	BA	580	848	818	745	744	530	610
	O	467	736	714	778	588	832	520
Other	BA	5,754	5,230	6,422	6,384	6,388	6,398	6,490
	O	4,598	5,480	5,568	5,953	6,207	6,217	6,340
Subtotal, acquisition of major equipment	BA	8,464	8,110	9,695	9,634	9,699	9,571	9,833
	O	7,299	8,022	8,247	9,025	9,205	9,625	9,510
Purchase or sale of land and structures	BA	676	921	688	365	375	700	704
	O	1,014	910	866	581	640	896	921

Table 6-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS—Continued

(in millions of dollars)

Description	1999 Actual	Estimate						
		2000	2001	2002	2003	2004	2005	
Other physical assets (grants)	BA	990	1,074	1,481	1,504	1,555	1,587	1,629
	O	1,048	1,023	1,280	1,314	1,379	1,446	1,491
Subtotal, major public physical investment	BA	76,433	76,339	83,449	81,240	82,268	83,542	85,373
	O	64,763	71,096	74,056	76,736	78,163	80,693	81,171
Conduct of research and development:								
General science, space and technology	BA	12,983	13,386	14,355	14,792	15,297	15,928	16,345
	O	12,547	13,100	13,564	14,327	15,098	15,638	16,191
Energy	BA	1,196	1,259	1,340	1,341	1,356	1,401	1,432
	O	1,285	1,373	1,543	1,660	1,667	1,660	1,658
Transportation	BA	1,665	1,495	1,534	1,524	1,557	1,583	1,601
	O	1,582	1,249	1,507	1,531	1,558	1,581	1,597
Health	BA	15,476	17,683	18,634	18,626	18,821	19,283	19,706
	O	13,696	15,448	17,703	18,759	18,652	18,895	19,284
Natural resources and environment	BA	1,997	1,911	1,941	1,943	1,967	2,017	2,062
	O	1,732	1,671	1,689	1,748	1,797	1,825	1,852
All other research and development	BA	3,245	3,294	3,504	3,379	3,423	3,506	3,581
	O	3,018	3,213	3,441	3,560	3,712	3,793	3,873
Subtotal, conduct of research and development	BA	36,562	39,028	41,308	41,605	42,421	43,718	44,727
	O	33,860	36,054	39,447	41,585	42,484	43,392	44,455
Conduct of education and training:								
Education, training, employment and social services:								
Elementary, secondary, and vocational education	BA	16,804	17,113	26,744	26,742	26,876	27,161	27,419
	O	17,530	21,240	22,406	24,088	26,590	26,916	27,170
Higher education	BA	13,674	12,356	13,448	14,849	16,046	16,436	17,086
	O	11,773	11,634	12,387	4,043	5,130	15,833	16,397
Research and general education aids	BA	2,277	2,303	2,424	2,439	2,477	2,504	2,560
	O	2,036	2,409	2,427	2,389	2,407	2,463	2,514
Training and employment	BA	6,683	2,849	5,997	5,950	6,022	6,171	6,306
	O	4,890	6,024	6,441	5,930	6,186	6,108	6,152
Social services	BA	7,371	6,668	9,187	8,910	9,060	9,299	9,524
	O	7,178	7,708	8,277	8,697	8,715	8,841	9,033
Subtotal, education, training, and social services	BA	46,809	41,289	57,800	58,890	60,481	61,571	62,895
	O	43,407	49,015	51,938	45,147	49,028	60,161	61,266
Veterans education, training, and rehabilitation	BA	1,360	1,697	1,886	1,906	1,909	1,925	1,955
	O	1,643	1,737	1,937	1,904	1,909	1,923	1,968
Health	BA	1,021	1,090	1,067	1,067	1,079	1,103	1,125
	O	891	1,007	1,050	1,083	1,071	1,083	1,104
Other education and training	BA	1,663	1,680	1,824	1,724	1,745	1,790	1,835
	O	1,453	1,641	1,658	1,717	1,755	1,761	1,779
Subtotal, conduct of education and training	BA	50,853	45,756	62,577	63,587	65,214	66,389	67,810
	O	47,394	53,400	56,583	49,851	53,763	64,928	66,117
Subtotal, nondefense investment	BA	163,848	161,123	187,334	186,432	189,903	193,649	197,910
	O	146,017	160,550	170,086	168,172	174,410	189,013	191,743
Total, Federal investment	BA	261,343	262,271	293,296	295,331	301,329	306,173	312,939
	O	240,179	254,296	267,176	267,125	278,937	296,933	301,906

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS

(in millions of dollars)

Description	1999 Actual	Estimate						
		2000	2001	2002	2003	2004	2005	
GRANTS TO STATE AND LOCAL GOVERNMENTS								
Major public physical investments:								
Construction and rehabilitation:								
Highways	BA	28,964	31,115	33,339	30,579	30,595	31,192	31,802
	O	22,722	25,416	27,205	27,875	27,348	27,166	27,184
Mass transportation	BA	4,753	5,517	6,136	6,558	7,025	7,166	7,309
	O	4,024	4,301	4,466	5,223	5,740	6,403	6,755
Rail transportation	BA							
	O	32	17					
Air transportation	BA	2,322	1,896	1,950	1,999	2,050	2,103	2,158
	O	1,565	1,896	1,899	1,943	1,994	2,049	2,095
Pollution control and abatement	BA	2,769	2,787	2,071	2,071	2,096	2,147	2,195
	O	2,180	2,470	2,726	2,656	2,551	2,486	2,466
Other natural resources and environment	BA	52	46	17	17	17	18	18
	O	53	72	59	39	34	26	27
Community development block grants	BA	4,893	4,781	4,900	4,900	4,959	5,077	5,188
	O	4,804	4,856	4,826	4,957	4,998	5,073	4,979
Other community and regional development	BA	1,208	1,210	1,435	1,435	1,449	1,483	1,511
	O	983	1,252	1,222	1,307	1,356	1,447	1,493
Housing assistance	BA	6,956	6,821	7,156	7,156	7,242	7,422	7,585
	O	6,368	7,096	7,643	7,440	7,739	8,402	8,614
Other construction	BA	166	264	251	253	254	260	264
	O	126	220	294	305	295	283	287
Subtotal, construction and rehabilitation	BA	52,083	54,437	57,255	54,968	55,687	56,868	58,028
	O	42,857	47,596	50,340	51,745	52,055	53,335	53,900
Other physical assets	BA	1,050	1,121	1,639	1,662	1,694	1,691	1,737
	O	1,081	1,102	1,344	1,416	1,505	1,581	1,609
Subtotal, major public physical capital	BA	53,133	55,558	58,894	56,630	57,381	58,559	59,767
	O	43,938	48,698	51,684	53,161	53,560	54,916	55,509
Conduct of research and development:								
Agriculture	BA	239	257	273	258	261	268	273
	O	210	233	255	239	256	261	261
Other	BA	178	209	239	228	227	230	233
	O	98	134	222	227	232	234	236
Subtotal, conduct of research and development	BA	417	466	512	486	488	498	506
	O	308	367	477	466	488	495	497
Conduct of education and training:								
Elementary, secondary, and vocational education	BA	15,548	15,336	22,582	22,441	22,549	22,776	22,983
	O	16,684	20,035	20,804	21,267	22,789	22,793	22,969
Higher education	BA	157	190	233	233	236	242	248
	O	65	157	190	168	175	220	225
Research and general education aids	BA	573	438	508	524	532	522	532
	O	389	592	501	476	479	490	497
Training and employment	BA	5,110	1,774	3,882	3,852	3,898	3,995	4,082
	O	3,712	4,558	4,938	4,394	4,585	4,465	4,476
Social services	BA	7,072	6,340	8,814	8,753	8,901	9,136	9,358
	O	7,027	7,235	7,933	8,485	8,560	8,691	8,880
Agriculture	BA	437	434	443	428	433	444	454
	O	416	460	432	433	438	444	451
Other	BA	114	114	119	117	117	121	123
	O	92	107	108	114	111	111	113
Subtotal, conduct of education and training	BA	29,011	24,626	36,581	36,348	36,666	37,236	37,780
	O	28,385	33,144	34,906	35,337	37,137	37,214	37,611
Subtotal, grants for investment	BA	82,561	80,650	95,987	93,464	94,534	96,293	98,051
	O	72,631	82,209	87,067	88,964	91,185	92,625	93,617
DIRECT FEDERAL PROGRAMS								
Major public physical investment:								
Construction and rehabilitation:								
National defense:								
Military construction	BA	3,553	4,053	3,193	3,625	3,255	3,376	3,568

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	1999 Actual	Estimate						
		2000	2001	2002	2003	2004	2005	
Family housing	O	3,369	3,274	3,660	3,468	3,335	3,292	3,407
	BA	709	772	752	527	549	566	581
Atomic energy defense activities and other	O	731	898	801	445	464	467	481
	BA	821	731	623	623	630	648	661
	O	771	743	659	664	672	685	700
Subtotal, national defense	BA	5,083	5,556	4,568	4,775	4,434	4,590	4,810
	O	4,871	4,915	5,120	4,577	4,471	4,444	4,588
International affairs	BA	544	370	726	824	922	1,021	1,021
	O	368	395	455	565	650	732	782
General science, space, and technology	BA	424	377	612	621	625	632	640
	O	413	494	616	634	641	646	655
Water resources projects	BA	3,124	3,125	3,765	3,802	3,849	3,947	4,038
	O	2,793	3,705	3,682	3,783	3,941	3,984	4,080
Other natural resources and environment	BA	1,818	1,699	1,810	1,813	1,828	1,867	1,903
	O	1,809	1,845	1,742	1,756	1,800	1,871	1,926
Energy	BA	957	977	865	906	892	1,128	1,200
	O	955	975	863	903	889	1,126	1,198
Postal Service	BA	1,629	1,457	1,017	1,485	1,742	1,509	1,625
	O	1,675	1,225	1,044	1,457	1,574	1,609	1,580
Transportation	BA	501	224	284	286	292	280	285
	O	242	309	269	287	287	294	296
Housing assistance	BA	26	28	40	40	40	41	42
	O	21	26	32	39	40	41	42
Veterans hospitals and other health facilities	BA	1,389	1,147	1,263	1,265	1,255	1,283	1,312
	O	1,387	1,238	1,317	1,314	1,275	1,292	1,308
Federal Prison System	BA	364	441	713	807	590	137	140
	O	387	365	568	650	811	650	376
GSA real property activities	BA	1,452	753	1,501	1,199	1,180	1,189	1,154
	O	958	976	1,116	1,155	1,295	1,387	1,324
Other construction	BA	1,992	1,199	1,734	1,721	1,738	1,783	1,819
	O	1,537	1,992	1,619	1,528	1,681	1,759	1,782
Subtotal, construction and rehabilitation	BA	19,303	17,353	18,898	19,544	19,387	19,407	19,989
	O	17,416	18,460	18,443	18,648	19,355	19,835	19,937
Acquisition of major equipment:								
National defense:								
Department of Defense	BA	50,983	54,191	59,890	62,121	65,760	66,902	70,281
	O	48,824	48,282	50,918	53,243	59,082	62,706	65,436
Atomic energy defense activities	BA	182	160	155	155	155	161	163
	O	216	162	158	162	166	168	171
Subtotal, national defense	BA	51,165	54,351	60,045	62,276	65,915	67,063	70,444
	O	49,040	48,444	51,076	53,405	59,248	62,874	65,607
General science and basic research	BA	398	410	476	481	477	482	488
	O	372	382	411	448	473	481	488
Space flight, research, and supporting activities	BA	666	582	587	586	558	559	555
	O	662	581	575	581	562	554	551
Energy	BA	123	121	118	241	247	165	187
	O	123	121	118	241	247	165	187
Postal Service	BA	580	848	818	745	744	530	610
	O	467	736	714	778	588	832	520
Air transportation	BA	2,130	2,032	2,455	2,505	2,567	2,643	2,733
	O	2,234	1,806	1,965	2,294	2,410	2,576	2,650
Water transportation (Coast Guard)	BA	418	254	343	343	347	356	364
	O	266	282	269	313	317	328	340
Other transportation (railroads)	BA	609	571	989	521	527	540	552
	O	244	597	598	686	901	958	1,025
Social security	BA							
	O	72	44	21	22	24	26	27
Hospital and medical care for veterans	BA	253	550	626	626	634	649	663
	O	172	474	561	555	562	574	587
Department of Justice	BA	389	566	612	613	619	636	650
	O	338	686	570	628	644	659	673

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	1999 Actual	Estimate						
		2000	2001	2002	2003	2004	2005	
Department of the Treasury	BA	852	293	403	571	574	581	588
	O	594	489	406	452	516	530	539
GSA general supply fund	BA	585	610	644	676	709	744	781
	O	534	610	644	676	709	744	781
Other	BA	1,401	1,226	1,466	1,568	1,557	1,582	1,554
	O	1,188	1,135	1,331	1,249	1,126	1,063	1,024
Subtotal, acquisition of major equipment	BA	59,569	62,414	69,582	71,752	75,475	76,530	80,169
	O	56,306	56,387	59,259	62,328	68,327	72,364	74,999
Purchase or sale of land and structures:								
National defense	BA	-31	-30	-27	-29	-29	-29	-29
	O	-31	-30	-27	-29	-29	-29	-29
International affairs	BA	83	254	27	31	35	38	38
	O	83	167	177	195	204	186	194
Privatization of Elk Hills	BA					-323		
	O					-323		
Other	BA	593	667	661	334	663	662	666
	O	931	743	689	386	759	710	727
Subtotal, purchase or sale of land and structures	BA	645	891	661	336	346	671	675
	O	983	880	839	552	611	867	892
Subtotal, major public physical investment	BA	79,517	80,658	89,141	91,632	95,208	96,608	100,833
	O	74,705	75,728	78,541	81,526	88,293	93,065	95,828
Conduct of research and development:								
National defense								
Defense military	BA	38,569	38,471	38,254	38,752	37,945	37,633	36,492
	O	37,571	37,619	37,805	37,845	37,653	37,364	36,691
Atomic energy and other	BA	2,706	2,792	3,115	3,115	3,151	3,257	3,302
	O	2,705	2,790	3,109	3,145	3,174	3,257	3,296
Subtotal, national defense	BA	41,275	41,263	41,369	41,867	41,096	40,890	39,794
	O	40,276	40,409	40,914	40,990	40,827	40,621	39,987
International affairs	BA	190	142	114	114	115	118	120
	O	220	179	189	304	329	342	365
General science, space and technology								
NASA	BA	8,281	8,481	8,813	9,240	9,732	10,291	10,614
	O	8,316	8,479	8,503	8,849	9,419	9,938	10,388
National Science Foundation	BA	2,477	2,676	3,193	3,189	3,227	3,306	3,378
	O	2,144	2,364	2,701	3,010	3,196	3,229	3,323
Department of Energy	BA	2,225	2,229	2,349	2,363	2,338	2,331	2,353
	O	2,087	2,257	2,360	2,468	2,483	2,471	2,480
Subtotal, general science, space and technology	BA	13,173	13,528	14,469	14,906	15,412	16,046	16,465
	O	12,767	13,279	13,753	14,631	15,427	15,980	16,556
Energy	BA	1,196	1,259	1,340	1,341	1,356	1,401	1,432
	O	1,285	1,373	1,543	1,660	1,667	1,660	1,658
Transportation:								
Department of Transportation	BA	428	422	566	535	542	555	571
	O	395	403	511	540	516	527	538
NASA	BA	1,098	924	819	851	877	888	887
	O	1,117	759	826	815	869	883	887
Subtotal, transportation	BA	2,722	2,605	2,725	2,727	2,775	2,844	2,890
	O	2,797	2,535	2,880	3,015	3,052	3,070	3,083
Health:								
National Institutes of Health	BA	14,778	16,900	17,909	17,909	18,098	18,546	18,953
	O	13,027	14,702	16,932	18,025	17,930	18,172	18,553
All other health	BA	688	772	714	706	712	725	741
	O	659	735	760	723	711	711	719
Subtotal, health	BA	15,466	17,672	18,623	18,615	18,810	19,271	19,694

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	1999 Actual	Estimate					
		2000	2001	2002	2003	2004	2005
O	13,686	15,437	17,692	18,748	18,641	18,883	19,272
Agriculture	BA 1,049	1,148	1,177	1,117	1,133	1,158	1,181
O	990	1,069	1,139	1,147	1,168	1,178	1,188
Natural resources and environment	BA 1,997	1,911	1,941	1,943	1,967	2,017	2,062
O	1,732	1,671	1,689	1,748	1,797	1,825	1,852
National Institute of Standards and Technology	BA 392	336	449	449	454	466	476
O	404	377	412	387	441	458	468
Hospital and medical care for veterans	BA 641	652	652	652	660	676	691
O	637	643	666	658	663	678	693
All other research and development	BA 705	710	760	710	722	742	762
O	539	676	739	785	807	825	846
Subtotal, conduct of research and development	BA 77,420	79,825	82,165	82,986	83,029	84,110	84,015
O	73,828	76,096	79,884	82,109	82,823	83,518	83,945
Conduct of education and training:							
Elementary, secondary, and vocational education	BA 1,256	1,777	4,162	4,301	4,327	4,385	4,436
O	846	1,205	1,602	2,821	3,801	4,123	4,201
Higher education	BA 13,517	12,166	13,215	14,616	15,810	16,194	16,838
O	11,708	11,477	12,197	3,875	4,955	15,613	16,172
Research and general education aids	BA 1,704	1,865	1,916	1,915	1,945	1,982	2,028
O	1,647	1,817	1,926	1,913	1,928	1,973	2,017
Training and employment	BA 1,573	1,075	2,115	2,098	2,124	2,176	2,224
O	1,178	1,466	1,503	1,536	1,601	1,643	1,676
Health	BA 1,007	1,076	1,053	1,053	1,065	1,088	1,110
O	877	993	1,036	1,068	1,056	1,068	1,088
Veterans education, training, and rehabilitation	BA 1,360	1,697	1,886	1,906	1,909	1,925	1,955
O	1,643	1,737	1,937	1,904	1,909	1,923	1,968
General science and basic research	BA 673	684	750	725	734	752	768
O	560	649	680	691	709	720	736
National defense	BA 3	8	7	10	10	10	10
O	6	8	7	10	10	10	10
International affairs	BA 293	209	226	226	229	234	239
O	273	247	226	231	235	236	238
Other	BA 459	581	673	399	405	417	432
O	277	665	570	475	432	415	410
Subtotal, conduct of education and training	BA 21,845	21,138	26,003	27,249	28,558	29,163	30,040
O	19,015	20,264	21,684	14,524	16,636	27,724	28,516
Subtotal, direct Federal investment	BA 178,782	181,621	197,309	201,867	206,795	209,880	214,888
O	167,548	172,087	180,109	178,161	187,752	204,308	208,289
Total, Federal investment	BA 261,343	262,271	293,296	295,331	301,329	306,173	312,939
O	240,179	254,296	267,176	267,125	278,937	296,933	301,906

Part II: PLANNING, BUDGETING, AND ACQUISITION OF CAPITAL ASSETS

The previous section discussed Federal investment broadly defined. The focus of this section is much narrower—the review of planning and budgeting during the past year and the resultant budget proposals for capital assets owned by the Federal Government and used to deliver Federal services. Capital assets consist of Federal buildings, information technology, and other facilities and major equipment, including weapons systems, federally owned infrastructure, and space satellites.¹ With proposed major agency restructuring, organizational streamlining, and other reforms, good planning may suggest reduced spending for some assets, such as office buildings, and increased spending for others, such as information technology, to increase the productivity of a smaller workforce.

In recent years the Administration and the Congress have reviewed the Federal Government's performance in planning, budgeting, risk management, and the acquisition of capital assets. The reviews indicate that the performance is uneven across the Government; the problems have many causes, and as a result, there is no single solution. However, in meeting the objective of improving the Government's performance, it is essential that the caliber of Government planning and budgeting for capital assets be improved.

Improving Planning, Budgeting, and Acquisition of Capital Assets

Risk Management

Recent Executive Branch reviews have found a recurring theme in many capital asset acquisitions—that risk management should become more central to the planning, budgeting, and acquisition process. Failure to analyze and manage the inherent risk in all capital asset acquisitions may have contributed to cost overruns, schedule shortfalls, and acquisitions that fail to perform as expected. Failure to adopt capital asset requirements that are within the capabilities of the market and budget limitations may also have contributed to these problems. For each major project a risk analysis that includes how risks will be isolated, minimized, monitored, and controlled may help prevent these problems. The proposals in this budget, together with recent legislation enacted by Congress, are designed to help the Government manage better its portfolio of capital assets.

Long-Term Planning and Analysis

Planning and managing capital assets, especially better management of risk, has historically been a low priority for some agencies. Attention focuses on coming-year appropriations, and justifications are often limited to lists of desired projects. The increased use of long-

range planning linked to performance goals required by the Government Performance and Results Act would provide a better basis for justifications. It would increase foresight and improve the odds for cost-effective investments.

A need for better risk management, integrated life-cycle planning, and operation of capital assets at many agencies was evident in the Executive Branch reviews. Research equipment was acquired with inadequate funding for its operation. New medical facilities sometimes were built without funds for maintenance and operation. New information technology sometimes was acquired without planning for associated changes in agency operations.

Congressional concern.—Congress has expressed its concern about planning for capital assets with legislation and other actions that complement Administration efforts to ensure better performance:

- The Government Performance and Results Act of 1993 (GPRA) is designed to help ensure that program objectives are more clearly defined and resources are focused on meeting these objectives.
- The Federal Acquisition Streamlining Act of 1994 (FASA), Title V, requires agencies to improve the management of large acquisitions. Title V requires agencies to institute a performance-based planning, budgeting, and management approach to the acquisition of capital assets. As a result of improved planning efforts, agencies are required to establish cost, schedule, and performance goals that have a high probability of successful achievement. For projects that are not achieving 90 percent of original goals, agencies are required to discuss corrective actions taken or planned to bring the project within goals. If they cannot be brought within goals, agencies should identify how and why the goals should be revised, whether the project is still cost beneficial and justified for continued funding, or whether the project should be canceled.
- The Clinger-Cohen Act of 1996 is designed to ensure that information technology acquisitions support agency missions developed pursuant to GPRA. The Clinger-Cohen Act also requires a performance-based planning, budgeting, and management approach to the acquisition of capital assets.
- The General Accounting Office published a study, *Budget Issues: Budgeting for Federal Capital* (November 1996), written in response to a congressional request, which recommended that the Office of Management and Budget (OMB) continue its focus on capital assets.

Administration concern.—Since 1994, the Administration has devoted particular attention to improving the process of planning, budgeting, and acquiring capital assets. After seeking out and analyzing the problems, which differed from agency to agency, OMB issued guidance on this issue in 1994. This guidance has been

¹This is almost the same as the definition in Part I of this chapter for spending for direct Federal construction and rehabilitation, major equipment, and purchase of land, except that capital assets excludes grants to private groups for these purposes (e.g., grants to universities for research equipment and grants to AMTRAK). A more complete definition can be found in the glossary to the "Principles of Budgeting for Capital Asset Acquisitions," which is at the end of this Part.

issued for several years, most recently as OMB Circular A-11: Part 3: "Planning, Budgeting, and Acquisition of Capital Assets" (July 1999) (hereafter referred to as Part 3). Part 3 identified other OMB guidance on this issue.²

Part 3 requests agencies to approach planning for capital assets in the context of strategic plans to carry out their missions, and to consider alternative methods of meeting their goals. Systematic analysis of the full life-cycle expected costs and benefits is required, along with risk analysis and assessment of alternative means of acquiring assets. The Administration proposes to make agencies responsible for using good capital programming principles for managing the capital assets they use, and to work throughout the coming year to improve agency practices in risk management, planning, budgeting, acquisition, and operation of these assets.

In support of this, in July 1997 OMB issued a *Capital Programming Guide*, a Supplement to Part 3. This Guide was developed by an interagency task force with representation from 14 executive agencies and the General Accounting Office. The Guide's purpose is to provide professionals in the Federal Government a basic reference on capital assets management principles to assist them in planning, budgeting, acquiring, and managing the asset once in use. The Guide emphasizes risk management and the importance of analyzing capital assets as a portfolio. In addition, other recent actions by the Administration include:

- OMB memorandum 97-02, "Funding Information Systems Investments" (October 25, 1996) was issued to establish clear and concise decision criteria regarding investments in major information technology investments. This guidance is now part OMB Circular A-11.
- As part of this budget, the Administration is:
 - requesting full funding in regular or advance appropriations for new capital projects and for many capital projects formerly funded incrementally. These requests are shown in Table 6-5 and discussed in the accompanying text.
 - reissuing the "Principles of Budgeting for Capital Asset Acquisitions," which appear at the end of this Part. These principles offer guidelines to agencies to help carry out better planning, anal-

ysis, risk management, and budgeting for capital asset acquisitions.

From Planning to Budgeting

Long-range agency plans should channel fully justified budget-year and out-year capital acquisition proposals into the budget process. Agencies were asked to submit projections of both budget authority and outlays for high-priority capital asset proposals not only for the budget year but for the four subsequent years through 2005 as well. In addition, agency-specific capital asset issues were highlighted in the agency reviews.

Attention was given to whether the "lumpiness" of some capital assets—large one-year temporary increases in funding—disadvantaged them in the budget review process. In some cases, agencies aggregate capital asset acquisitions into budget accounts containing only such acquisitions; such accounts tend to smooth out year-to-year changes in budget authority and outlays and avoid crowding other expenditures. In other cases, agencies or program managers do not hesitate to request "spikes" in spending for asset acquisitions, and the review process accommodates them. But some agencies go out of their way to avoid such spikes, and some agencies have trouble accommodating them. Part 3 encouraged agencies to accommodate justified spikes in their own internal reviews.

Full funding of capital assets.—Good budgeting requires that appropriations for the full costs of asset acquisition be provided up front to help ensure that all costs and benefits are fully taken into account when decisions are made about providing resources. Full funding was endorsed by the General Accounting Office in its report, *Budgeting for Federal Capital* (November 1996). This rule is followed for most Department of Defense procurement and construction programs and for General Services Administration buildings. In other areas, however, too often it is not. When it is not followed and capital assets are funded in increments, without certainty if or when future funding will be available, it can and occasionally does result in poor risk management, weak planning, acquisition of assets not fully justified, higher acquisition costs, cancellation of major projects, the loss of sunk costs, and inadequate funding to maintain and operate the assets. Full funding is also an important element in managing large acquisitions effectively and holding management responsible for achieving goals. As noted at the beginning of this chapter, the *Report of the President's Commission to Study Capital Budgeting* endorsed full funding of capital assets.

This budget requests full funding with regular or advance appropriations for new capital projects and for many capital projects funded incrementally in the past. Projects that might have been funded in increments in past years and are fully funded in this budget are identified below in Table 6-5 and discussed in the accompanying text. Efforts continue to include full funding for new capital projects, or at least economically

²Other guidance published by OMB with participation by other agencies includes: (1) OMB Circular No. A-109, *Major System Acquisitions*, which establishes policies for planning major systems that are generally applicable to capital asset acquisitions. (2) OMB Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs*, which provides guidance on benefit-cost, cost-effectiveness, and lease-purchase analysis to be used by agencies in evaluating Federal activities including capital asset acquisition. It includes guidelines on the discount rate to use in evaluating future benefits and costs, the measurement of benefits and costs, the treatment of uncertainty, and other issues. This guidance must be followed in all analyses in support of legislative and budget programs. (3) Executive Order No. 12893, "Principles for Federal Infrastructure Investments," which provides principles for the systematic economic analysis of infrastructure investments and their management. (4) OMB Bulletin No. 94-16, *Guidance on Executive Order No. 12893, "Principles for Federal Infrastructure Investments,"* which provides guidance for implementing this order and appends the order itself. (5) the revision of OMB Circular A-130, *Management of Federal Information Resources* (February 20, 1996), which provides principles for internal management and planning practices for information systems and technology (a further revision is currently under review); and (6) OMB Circular No. A-127, *Financial Management Systems*, which prescribes policies and standards for executive departments and agencies to follow in developing, evaluating, and reporting on financial management systems.

and programmatically viable segments (or modules) of new projects.

Other budgeting issues.—Other budgeting decisions can also aid in acquiring capital assets. Availability of funds for one year often may not be enough time to complete the acquisition process. Most agencies request that funds be available for more than one year to complete acquisitions efficiently, and Part 3 encourages this. As noted, many agencies aggregate asset acquisition in budget accounts to avoid lumpiness. In some cases, these are revolving funds that “rent” the assets to the agency’s programs.

To promote better program performance, agencies are also being encouraged by OMB to examine their budget account structures to align them better with program outputs and outcomes and to charge the appropriate account with significant costs used to achieve these results. The asset acquisition rental accounts, mentioned above, would contribute to this. Budgeting this way would provide information and incentives for better resource allocation among programs and a continual search for better ways to deliver services. It would also provide incentives for efficient capital asset acquisition and management.

Acquisition of Capital Assets

Improved planning, budgeting, and acquisition strategies are necessary to increase the ability of agencies to acquire capital assets within, or close to, the original estimates of cost, schedule, and performance used to justify project budgets and to maintain budget discipline. The Administration initiative along with enactment of FASA (Title V) and the Clinger-Cohen Act require agencies to institute a performance-based planning, budgeting, and management approach to the acquisition of capital assets.

OMB, working with the agencies over the last several years, began separate but related efforts to develop an integrated management approach that employs performance based acquisition management as part of a disciplined capital programming process. The Administration also wants the capital asset acquisition goals incorporated into the annual performance plan called for by GPRA so that a unified picture of agency management activities is presented and acquisition performance goals are linked to the achievement of program and policy goals. This integrated approach will not only eliminate duplication in reporting agency actions but, most importantly, will foster more effective implementation of performance-based acquisition management.

One of the first efforts was the issuance of OMB Circular A-11, Part 3, “Planning, Budgeting and Acquisition of Capital Assets,” in July 1996. Part 3 has been reissued annually since then. The *Capital Programming Guide* was issued as a Supplement to Part 3 in June 1997. These documents present unified guidance on planning, budgeting, acquisition, and management of capital assets. They also present unified guidance designed to coordinate the collection of agency information for reports to the Congress required by FASA Title V. Part 3 for this year asked agencies to report on

all major acquisitions and provide information on the extent of planning and risk mitigation efforts accomplished for new projects to ensure a high probability that the cost, schedule and performance goals established will be successfully achieved. For ongoing projects agencies are to provide information on the achievement of, or deviation from, goals. For projects that are not achieving 90 percent of original goals, agencies are required to discuss corrective actions taken, or contemplated, to bring the project within goals. If the project cannot be brought within goals, agencies should explain how and why the goals should be revised and whether the project is still cost beneficial and justifies continued funding, or whether the project should be canceled. Approved acquisition goals submitted with the 2001 budget are the baseline goals for all future monitoring of project progress for both management purposes and reporting to Congress as required by FASA Title V. This more disciplined capital management approach is new to many agencies, and some agencies were not yet able to provide all the required information for all major acquisitions for this year. OMB expects that agencies will be able to meet the requirements for next year’s budget.

Part 3 incorporates OMB memorandum 97-02, “Funding Information Systems Investments” (October 25, 1996), which was issued to establish clear and concise decision criteria regarding investments in major information technology investments. These policy documents establish the general presumption that OMB will recommend new or continued funding only for those major investments in assets that comply with good capital programming principles.

At the Appendix to this Part are the “Principles of Budgeting for Capital Asset Acquisitions,” which incorporate the above criteria and expand coverage to all capital investments. The Administration recognizes that many agencies are in the middle of projects initiated prior to enactment of the Clinger-Cohen Act and FASA Title V, and may not be able to satisfy the criteria immediately. For those systems that do not satisfy the criteria, the Administration considered requests to use 2000 and 2001 funds to support reevaluation and re-planning of the project as necessary to achieve compliance with the criteria or to determine that the project would not meet the criteria and should be canceled.

As a result of these two initiatives, capital asset acquisitions are to have baseline cost, schedule, and performance goals for future tracking purposes or they are to be either reevaluated and changed or canceled if no longer cost beneficial.

Outlook

The effort to improve planning and budgeting for capital assets will continue in 2000 and 2001.

- The Administration will work with the Congress to increase the number of projects that are fully funded with regular or advance appropriations.
- OMB will be working with congressional committees, the President’s Management Council, the Chief Financial Officers Council, the Chief Infor-

mation Officers Council, the Procurement Executives Council, and other groups to help agencies with their responsibility for capital assets through the alignment of budgetary resources with program results. OMB will also work with these groups to implement the “Principles of Budgeting for Capital Asset Acquisitions,” which are shown as an Appendix to this Part.

- Interagency working groups will be established to address: (1) program manager qualification standards; (2) enhanced systems of incentives to encourage excellence in the acquisition workforce; and (3) government-wide implementation of performance-based management systems (e.g., earned value or similar systems) to monitor achievement or deviation from goals of in-process acquisitions.
- In the review process, proposals for the acquisition of capital assets and related issues of lumpiness or “spikes” will continue to receive special attention. Agencies will be encouraged to give the same special attention to future asset acquisition proposals.
- To ensure that the full costs and benefits of all budget proposals are fully taken into account in allocating resources, agencies will be required to propose full funding for acquisitions in their budget requests.

Major Acquisition Proposals

For the definition of major capital assets described above, this budget requests \$86.0 billion of budget authority for 2001. This includes \$63.8 billion for the Department of Defense and \$22.2 billion for other agencies. The major requests are shown in the accompanying Table 6-4: “Capital Asset Acquisitions,” which distributes the funds according to the categories for construction and rehabilitation, major equipment, and purchases of land and structures.

Construction and Rehabilitation

This budget includes \$17.0 billion of budget authority for 2001 for construction and rehabilitation.

Department of Defense.—The budget requests \$3.9 billion for 2001 for general construction on military bases and family housing. This funding will be used to:

- support the fielding of new systems;
- enhance operational readiness, including deployment and support of military forces;
- provide housing for military personnel and their families;
- implement base closure and realignment actions; and
- correct safety deficiencies and environmental problems.

Corps of Engineers.—This budget requests \$3.4 billion for 2001 for construction and rehabilitation for the Corps of Engineers. These funds finance construction, rehabilitation, and related activity for water resources development projects that provide navigation, flood control, environmental restoration, and other benefits.

Table 6-4. CAPITAL ASSET ACQUISITIONS

(Budget authority in billions of dollars)

	1999 actual	2000 estimate	2001 proposed
MAJOR ACQUISITIONS			
Construction and rehabilitation:			
Defense military construction and family housing	4.3	4.8	3.9
Corps of Engineers	2.7	2.7	3.4
General Services Administration	1.5	0.8	1.5
Department of Energy	1.2	1.1	1.2
Other agencies	7.8	6.4	7.0
Subtotal, construction and rehabilitation	17.4	15.8	17.0
Major equipment:			
Department of Defense	51.0	54.2	¹ 59.9
Department of Transportation	2.5	2.2	2.8
General Services Administration	0.6	0.6	0.7
Department of Justice	0.4	0.6	0.6
NASA	0.7	0.6	0.6
Department of Commerce	0.6	0.6	0.6
Department of Veterans Affairs	0.3	0.6	0.6
Other agencies	2.7	2.2	2.5
Subtotal, major equipment	58.8	61.6	68.4
Purchases of land and structures	0.6	0.9	0.7
Total, major acquisitions ²	76.9	78.3	86.0

¹ Does not include \$0.4 billion of non-equipment expenditures related to procurement for 2001. The 2001 request for total Procurement for the Department of Defense is \$60.3 billion.

² This total is derived from the direct Federal major public physical investment budget authority on Table 6-3 (\$89.1 billion for 2001). Table 6-4 excludes an estimate of spending for assets not owned by the Federal Government (\$3.1 billion for 2001).

General Services Administration (GSA).—The 2001 budget includes \$1.5 billion in budget authority for GSA for the construction or major renovation of buildings. These funds will allow for new construction and the acquisition of courthouses, border stations, and general purpose office space in locations where long-term needs show that ownership is preferable to leasing.

Department of Energy.—This budget requests \$1.2 billion for 2001 for construction and rehabilitation for the Department of Energy. One of the largest projects is the National Ignition Facility, which will be used to perform experiments, including inertial confinement fusion experiments, at high pressures and temperatures. The Spallation Neutron Source is discussed in the text that accompanies Table 6-5.

Other agencies.—This budget includes \$7.0 billion for construction and rehabilitation for other agencies in 2001. The largest items are for the Postal Service (\$1.0 billion); the Department of the Interior (\$1.0 billion), largely for the Bureau of Indian Affairs, water resources, and parks; and the Department of Justice (\$0.8 billion), mostly for prisons.

Major Equipment

This category covers capital purchases for major equipment, including weapons systems; information technology, such as computer hardware, major software, and renovations required for this equipment; and other types of equipment. This budget requests \$68.4 billion in budget authority for 2001 for the purchase of major equipment. For information on information technology investments, see Chapter 23 in this volume, “Program

Performance Benefits from Major Information Technology Investments.”

Department of Defense.—The budget includes \$59.9 billion for equipment purchases and \$0.4 billion for non-equipment purchases related to procurement for 2001 of weapons systems, related support equipment, and purchase of other capital goods. This includes tactical fighter aircraft, airlift aircraft, naval vessels, tanks, helicopters, missiles, and vehicles.

Department of Transportation.—The budget requests \$2.8 billion in budget authority for the Department of Transportation for major equipment, which includes \$2.4 billion to modernize the air traffic control system and \$0.3 billion for the Coast Guard to acquire vessels and other equipment. Requests for advance appropriations for the air traffic control system in the Federal Aviation Administration are discussed with Table 6–5.

Department of Justice.—The budget requests \$0.6 billion for the Department of Justice, largely for the Federal Bureau of Investigation and the Drug Enforcement Administration.

National Aeronautics and Space Administration (NASA).—The budget requests \$0.6 billion in budget authority to procure major equipment for programs in human space flight, science, aeronautics, and technology. Most of the equipment is to be acquired for Space Shuttle upgrades, such as orbiter improvements, Space Shuttle main engines, solid rocket booster improvements, and launch site equipment.

Department of Commerce.—The budget requests \$0.6 billion for the Department of Commerce, largely for the continued acquisition of more sophisticated and advanced weather satellites and related technology.

Department of Veterans Affairs.—This budget requests \$0.6 billion for medical equipment for health care facilities. These funds will be used to continue to provide quality health care services for veterans.

Other agencies.—This budget requests \$2.5 billion for major equipment for other agencies for 2001. The largest amount is for the Postal Service (\$0.8 billion). Other agencies include the General Services Administration (\$0.7 billion), largely for vehicles; and the Department of Energy (\$0.5 billion) for science and other projects.

Purchase and Sale of Land and Structures

This budget includes \$0.7 billion for 2001 for the purchase of land and structures. This includes \$0.4 billion for purchases by the Department of the Interior for parks and other recreational purposes.

Full Funding of Major Projects

This budget proposes full funding for new capital projects and for many projects formerly funded incrementally. The requests for advance appropriations shown in Table 6–5 demonstrate the Administration’s continuing support for full funding of capital investments.

The importance of full funding was discussed earlier in this Part and is also explained in the “Principles of Budgeting for Capital Asset Acquisitions,” which appears as an Appendix to this Part. Full funding was

also supported by the *Report of the President’s Commission to Study Capital Budgeting*, as noted at the beginning of this chapter.

This budget requests \$5.9 billion in budget authority for 2001 and \$22.9 billion in advance appropriations for later years, for a total request of \$28.8 billion for these projects for these years.

Department of Commerce

National Oceanic and Atmospheric Administration (NOAA).—This budget requests \$635 million for 2001 and \$6,417 million in advance appropriations for capital asset acquisitions in NOAA for 2002–2019.

These acquisitions support the largest modernization in the history of the National Weather Service. The modernization is well underway and demonstrating improvements in weather forecasts and warnings that lead to lives and property saved. The budget supports this multi-year effort to develop and deploy advanced technology, including advanced radar equipment, other ground observing systems, and geostationary and polar-orbiting satellites that will greatly improve the timeliness and accuracy of severe weather and flood warnings while reducing staffing requirements.

Department of Defense

This budget requests \$821 million in advance appropriations for 2002–2005 to fully fund selected military construction and family housing projects in the Department of Defense. The budget requests \$414 million for these projects in 2001.

Department of Energy

This budget requests \$281 million in 2001 and \$797 million in advance appropriations to finance the Spallation Neutron Source (SNS). This facility is being built at Oak Ridge National Laboratory in Tennessee and will deliver the world’s highest power neutron pulse to a suite of “best of class” scientific instruments. Neutron scattering and materials irradiation research helps scientists design higher performing electronic, magnetic, ceramic, and plastic materials and design better pharmaceuticals by providing information about the shapes of biological molecules.

Department of Health and Human Services

This budget requests \$259 million for 2001 in regular appropriations and \$109 million in advance appropriations for projects in the Department of Health and Human Services for the Food and Drug Administration, the Indian Health Service, the Centers for Disease Control and Prevention, and the National Institutes of Health. The funds will allow for the construction of new facilities and improvements to existing facilities.

Department of the Interior

National Park Service.—This budget requests \$20 million in budget authority for 2001 and \$49 million in advance appropriations for 2002–2004 to fully fund projects in the National Park Service.

Table 6-5. PROPOSED SPENDING TO FULLY FUND SELECTED CAPITAL ASSET ACQUISITIONS

(Budget authority in millions of dollars)

	Regular appropriations 2001	Advance appropriations					Total Advance Appropriations
		2002	2003	2004	2005	After 2005	
DEPARTMENT OF COMMERCE							
National Oceanic and Atmospheric Administration Procurement, acquisition and construction	635	732	705	706	657	3,617	6,417
DEPARTMENT OF DEFENSE							
Military construction and family housing	414	510	231	61	19		821
DEPARTMENT OF ENERGY							
Science programs	281	300	232	150	115		797
DEPARTMENT OF HEALTH AND HUMAN SERVICES							
Food and Drug Administration	20	23					23
Indian Health Service	65	18					18
Centers for Disease Control and Prevention	127	21	21				42
National Institutes of Health	47	26					26
Subtotal, Department of Health and Human Services	259	88	21				109
DEPARTMENT OF THE INTERIOR							
National Park Service: Construction and major maintenance	20	21	17	11			49
DEPARTMENT OF JUSTICE							
Federal Prison System buildings and facilities	713	791	535				1,326
DEPARTMENT OF STATE							
Embassy security, construction, and maintenance	500	650	800	950	950		3,350
DEPARTMENT OF TRANSPORTATION							
Federal Aviation Administration: Facilities and equipment	622	638	590	565	537	614	2,944
DEPARTMENT OF THE TREASURY							
Internal Revenue Service: Information technology investments	119	375					375
DEFENSE CIVILIAN PROGRAMS							
Armed forces retirement home	8	6					6
GENERAL SERVICES ADMINISTRATION							
Federal buildings fund	101	219	163	96			478
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION							
Human space flight	2,115	1,859	1,452	1,327	1,275		5,913
NATIONAL SCIENCE FOUNDATION							
Major research equipment	119	144	58	50	14		266
SMITHSONIAN INSTITUTION							
Repair, restoration, and alteration of facilities	17	17	18				35
Construction	2	2					2
Subtotal, Smithsonian Institution	19	19	18				37
Total	5,925	6,352	4,822	3,916	3,567	4,231	22,888

Note: For these capital projects, budget authority for the project is requested partly in the budget year and partly in future years in advance appropriations.

Department of Justice

This budget requests \$713 million in 2001 and advanced appropriations of \$791 million in 2002 and \$535 million in 2003 for the Federal Prison System to support a multi-year prison construction program aimed at reversing worsening overcrowding in Federal facilities.

Department of State

This budget requests \$500 million in regular appropriations in 2001 and \$3,350 million in advance appropriations for 2002–2005 for embassy and consulate construction. This request would support a program to provide a sustained, increasing funding path to meet overseas facility security needs.

Department of Transportation

Federal Aviation Administration.—This budget requests \$622 million in 2001 and an additional \$2,944 million for 2002–2008 for 11 multi-year capital projects to improve and modernize the FAA's air traffic control, communications, and aviation weather information systems. These projects are: Aviation Weather Services Improvements, Terminal Digital Radar, Terminal Automation (STARS), Wide Area Augmentation System for GPS, Display System Replacement, Weather and Radar Processor, Voice Switching and Control System, Oceanic Automation, Aeronautical Data Link, Operational and Supportability Implementation System (OASIS), and Beacon Interrogation Replacement.

Department of the Treasury

Internal Revenue Service (IRS).—This budget requests \$119 million in 2001 and \$375 million in advance appropriations for 2002 to finance information technology investments. The IRS and the Treasury Department are significantly modifying the business plans for modernizing the IRS tax administration and systems by focusing on reengineering work processes and exploring private sector technology opportunities. These efforts will ensure that future capital investments by the IRS will improve customer service by providing alternative means of filing returns and paying taxes, improve telephone service for taxpayers; and give employees immediate access to complete information and modern tools to do their jobs.

Defense Civilian Programs

Armed Forces Retirement Home. This request for \$8 million in regular appropriations in 2001 and \$6 million in 2002 in advance appropriations will allow for construction of a 110-bed health care addition to the Naval home in Gulfport, Mississippi.

General Services Administration

This budget requests \$101 million for 2001 and \$478 million in advance appropriations for 2002–2004. The Budget requests \$219 million in advance appropriations for 2002, including \$185 million for the construction of new laboratory and office space for the Food and Drug Administration's Center for Devices and Radiological Health in White Oak, Maryland, and \$34 million for construction of a new office building to replace the deteriorating National Oceanic and Atmospheric Administration building in Suitland, Maryland. In addition, advance appropriations of \$163 million in 2003 and \$96 million in 2004 are provided for the FDA consolidation project in White Oak, MD.

National Aeronautics and Space Administration (NASA)

Human Space Flight (International Space Station).—This budget requests \$2,115 million in budget authority for 2001, and \$5,913 million in advance appropriations over the years 2002–2005 for the space station. This will be an international laboratory in low earth orbit on which American, Russian, Canadian, European, and Japanese astronauts will conduct unique scientific and technological investigations in a microgravity environment. During 1993 the program underwent a major redesign to reduce program costs. The first two launches beginning construction of the Station took place in 1998 and final assembly will be complete by 2005. Advance appropriations will enable NASA to complete the development program on schedule and at minimal total cost.

National Science Foundation (NSF)

This budget requests \$119 million in 2001 and \$266 million in advance appropriations for 2002–2005 for five NSF projects

The Large Hadron Collider will be the largest particle accelerator in the world and will be owned and operated by the European Laboratory for Particle Physics (CERN). NSF is collaborating with the Department of Energy in the development of detectors for the project.

The Network for Earthquake Engineering Simulation is a network to connect and integrate a distributed collection of earthquake engineering facilities that will facilitate the future replacement of mechanical earthquake simulation with model-based computer simulation.

The Terascale Computing System will provide two sites in the United States with supercomputer capability of at least 10 teraflops that will be available for use by U.S. researchers through a merit-based, competitive process.

Earthscope: SAFOD/U.S. Array is an array of seismic instruments that will be displayed at depth in the San Andreas fault and on the surface throughout the United States to greatly improve resolution of subsurface and fault structure.

The National Ecological Observatory Network is a pole-to-pole network of research sites with state-of-the-art platforms and equipment to enable ecological and biocomplexity research.

Smithsonian Institution

The budget requests \$19 million in budget authority in 2001 and \$37 million in advance appropriations for 2002–2003 primarily for the major capital renewal of the Patent Office Building. This building houses the Smithsonian's Museum of American Art and the National Portrait Gallery.

Appendix to Part II: PRINCIPLES OF BUDGETING FOR CAPITAL ASSET ACQUISITIONS

Introduction and Summary

The Administration plans to use the following principles in budgeting for capital asset acquisitions. These principles address planning, costs and benefits, financing, and risk management requirements that should be satisfied before a proposal for the acquisition of capital assets can be included in the Administration's budget. A Glossary describes key terms. A *Capital Programming Guide* has been published that provides detailed information on planning and acquisition of capital assets.

The principles are organized in the following four sections:

A. *Planning*. This section focuses on the need to ensure that capital assets support core/priority missions of the agency; the assets have demonstrated a projected return on investment that is clearly equal to or better than alternative uses of available public resources; the risk associated with the assets is understood and managed at all stages; and the acquisition is implemented in phased, successive segments, unless it can be demonstrated there are significant economies of scale at acceptable risk from funding more than one segment or there are multiple units that need to be acquired at the same time.

B. *Costs and Benefits*. This section emphasizes that the asset should be justified primarily by benefit-cost analysis, including life-cycle costs; that all costs are understood in advance; and that cost, schedule, and performance goals are identified that can be measured using an earned value management system or similar system.

C. *Principles of Financing*. This section stresses that useful segments are to be fully funded with regular or advance appropriations; that as a general rule, planning segments should be financed separately from procurement of the asset; and that agencies are encouraged to aggregate assets in capital acquisition accounts and take other steps to accommodate lumpiness or "spikes" in funding for justified acquisitions.

D. *Risk Management*. This section is to help ensure that risk is analyzed and managed carefully in the acquisition of the asset. Strategies can include separate accounts for capital asset acquisitions, the use of apportionment to encourage sound management, and the selection of efficient types of contracts and pricing mechanisms in order to allocate risk appropriately between the contractor and the Government. In addition cost, schedule, and performance goals are to be controlled and monitored by using an earned value management system or a similar system; and if progress toward these goals is not met there is a formal review process to evaluate whether the acquisition should continue or be terminated.

A Glossary defines key terms, including capital assets. As defined here, capital assets are land, structures, equipment, and intellectual property (including software) that are used by the Federal Government,

including weapon systems. Not included are grants to States or others for their acquisition of capital assets.

A. Planning

Investments in major capital assets proposed for funding in the Administration's budget should:

1. support core/priority mission functions that need to be performed by the Federal Government;
2. be undertaken by the requesting agency because no alternative private sector or governmental source can support the function more efficiently;
3. support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology;
4. demonstrate a projected return on the investment that is clearly equal to or better than alternative uses of available public resources. Return may include: improved mission performance in accordance with measures developed pursuant to the Government Performance and Results Act; reduced cost; increased quality, speed, or flexibility; and increased customer and employee satisfaction. Return should be adjusted for such risk factors as the project's technical complexity, the agency's management capacity, the likelihood of cost overruns, and the consequences of under- or non-performance;
5. for information technology investments, be consistent with Federal, agency, and bureau information architectures which: integrate agency work processes and information flows with technology to achieve the agency's strategic goals; reflect the agency's technology vision and compliance plan for this budget year; and specify standards that enable information exchange and resource sharing, while retaining flexibility in the choice of suppliers and in the design of local work processes;
6. reduce risk by: avoiding or isolating custom-designed components to minimize the potential adverse consequences on the overall project; using fully tested pilots, simulations, or prototype implementations when necessary before going to production; establishing clear measures and accountability for project progress; and, securing substantial involvement and buy-in throughout the project from the program officials who will use the system;
7. be implemented in phased, successive segments as narrow in scope and brief in duration as practicable, each of which solves a specific part of an overall mission problem and delivers a measurable net benefit independent of future segments, unless it can be demonstrated that there are significant economies of scale at acceptable risk from funding more than one segment or there are multiple units that need to be acquired at the same time; and

8. employ an acquisition strategy that appropriately allocates risk between the Government and the contractor, effectively uses competition, ties contract payments to accomplishments, and takes maximum advantage of commercial technology.

Prototypes require the same justification as other capital assets.

As a general presumption, the Administration will recommend new or continued funding only for those capital asset investments that satisfy good capital programming policies. Funding for those projects will be recommended on a phased basis by segment, unless it can be demonstrated that there are significant economies of scale at acceptable risk from funding more than one segment or there are multiple units that need to be acquired at the same time. (For more information, see the Glossary entry, "capital project and useful segments of a capital project.")

The Administration recognizes that many agencies are in the middle of ongoing projects, and they may not be able immediately to satisfy the criteria. For those projects that do not satisfy the criteria, OMB will consider requests to use 2000 and 2001 funds to finance additional planning, as necessary, to support the establishment of realistic cost, schedule, and performance goals for the completion of the project. This planning could include: the redesign of work processes, the evaluation of alternative solutions, the development of information system architectures, and, if necessary, the purchase and evaluation of prototypes. Realistic goals are necessary for agency portfolio analysis to determine the viability of the project, to provide the basis for fully funding the project to completion, and setting the baseline for management accountability to deliver the project within goals.

Because the Administration considers this information essential to agencies' long-term success, the Administration will use this information both in preparing

its budget and, in conjunction with cost, schedule, and performance data, as apportionments are made. Agencies are encouraged to work with their OMB representative to arrive at a mutually satisfactory process, format, and timetable for providing the requested information.

B. Costs and Benefits

The justification of the project should evaluate and discuss the extent to which the project meets the above criteria and should also include:

1. an analysis of the project's total life-cycle costs and benefits, including the total budget authority required for the asset, consistent with policies described in OMB Circular A-94: "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs" (October 1992);
2. an analysis of the risk of the project including how risks will be isolated, minimized, monitored, and controlled, and, for major programs, an evaluation and estimate by the Chief Financial Officer of the probability of achieving the proposed goals;
3. if, after the planning phase, the procurement is proposed for funding in segments, an analysis showing that the proposed segment is economically and programmatically justified—that is, it is programmatically useful if no further investments are funded, and in this application its benefits exceed its costs; and
4. show cost, schedule, and performance goals for the project (or the useful segment being proposed) that can be measured throughout the acquisition process using an earned value management system or similar system. Earned value is described in OMB Circular A-11, Part 3, "Planning, Budgeting and Acquisition of Capital Assets," (July 1999), Appendix 300C.

C. Principles of Financing

Principle 1: Full Funding

Budget authority sufficient to complete a useful segment of a capital project (or the entire capital project, if it is not divisible into useful segments) must be appropriated before any obligations for the useful segment (or project) may be incurred.

Explanation: Good budgeting requires that appropriations for the full costs of asset acquisition be enacted in advance to help ensure that all costs and benefits are fully taken into account at the time decisions are made to provide resources. Full funding with regular appropriations in the budget year also leads to tradeoffs within the budget year with spending for other capital assets and with spending for purposes other than capital assets. Full funding increases the opportunity to use performance-based fixed price contracts, allows for more efficient work planning and management of the

capital project, and increases the accountability for the achievement of the baseline goals.

When full funding is not followed and capital projects or useful segments are funded in increments, without certainty if or when future funding will be available, the result is sometimes poor planning, acquisition of assets not fully justified, higher acquisition costs, cancellation of major projects, the loss of sunk costs, or inadequate funding to maintain and operate the assets.

Principle 2: Regular and Advance Appropriations

Regular appropriations for the full funding of a capital project or a useful segment of a capital project in the budget year are preferred. If this results in spikes that, in the judgment of OMB, cannot be accommodated by the agency or the Congress, a combination of regular and advance appropriations that together provide full

funding for a capital project or a useful segment should be proposed in the budget.

Explanation: Principle 1 (Full Funding) is met as long as a combination of regular and advance appropriations provide budget authority sufficient to complete the capital project or useful segment. Full funding in the budget year with regular appropriations alone is preferred because it leads to tradeoffs within the budget year with spending for other capital assets and with spending for purposes other than capital assets. In contrast, full funding for a capital project over several years with regular appropriations for the first year and advance appropriations for subsequent years may bias tradeoffs in the budget year in favor of the proposed asset because with advance appropriations the full cost of the asset is not included in the budget year. Advance appropriations, because they are scored in the year they become available for obligation, may constrain the budget authority and outlays available for regular appropriations of that year.

If, however, the lumpiness caused by regular appropriations cannot be accommodated within an agency or Appropriations Subcommittee, advance appropriations can ameliorate that problem while still providing that all of the budget authority is enacted in advance for the capital project or useful segment. The latter helps ensure that agencies develop appropriate plans and budgets and that all costs and benefits are identified prior to providing resources. In addition, amounts of advance appropriations can be matched to funding requirements for completing natural components of the useful segment. Advance appropriations have the same benefits as regular appropriations for improved planning, management, and accountability of the project.

Principle 3: Separate Funding of Planning Segments

As a general rule, planning segments of a capital project should be financed separately from the procurement of a useful asset.

Explanation: The agency must have information that allows it to plan the capital project, develop the design, and assess the benefits, costs, and risks before proceeding to procurement of the useful asset. This is especially important for high risk acquisitions. This information comes from activities, or planning segments, that include but are not limited to market research of available solutions, architectural drawings, geological studies, engineering and design studies, and prototypes. The construction of a prototype that is a capital asset, because of its cost and risk, should be justified and planned as carefully as the project itself. The process of gathering information for a capital project may consist of one or more planning segments, depending on the nature of the asset. Funding these segments separately will help ensure that the necessary information is available to establish cost, schedule, and performance goals before proceeding to procurement.

If budget authority for planning segments and procurement of the useful asset are enacted together, the Administration may wish to apportion budget authority

for one or several planning segments separately from procurement of the useful asset.

Principle 4: Accommodation of Lumpiness or “Spikes” and Separate Capital Acquisition Accounts

To accommodate lumpiness or “spikes” in funding justified capital acquisitions, agencies, working with OMB, are encouraged to aggregate financing for capital asset acquisitions in one or several separate capital acquisition budget accounts within the agency, to the extent possible within the agency’s total budget request.

Explanation: Large, temporary, year-to-year increases in budget authority, sometimes called lumps or spikes, may create a bias against the acquisition of justified capital assets. Agencies, working with OMB, should seek ways to avoid this bias and accommodate such spikes for justified acquisitions. Aggregation of capital acquisitions in separate accounts may:

- reduce spikes within an agency or bureau by providing roughly the same level of spending for acquisitions each year;
- help to identify the source of spikes and to explain them. Capital acquisitions are more lumpy than operating expenses; and with a capital acquisition account, it can be seen that an increase in operating expenses is not being hidden and attributed to one-time asset purchases;
- reduce the pressure for capital spikes to crowd out operating expenses; and
- improve justification and make proposals easier to evaluate, since capital acquisitions are generally analyzed in a different manner than operating expenses (e.g., capital acquisitions have a longer time horizon of benefits and life-cycle costs).

D. Risk Management

Risk management should be central to the planning, budgeting, and acquisition process. Failure to analyze and manage the inherent risk in all capital asset acquisitions may contribute to cost overruns, schedule shortfalls, and acquisitions that fail to perform as expected. For each major capital project a risk analysis that includes how risks will be isolated, minimized, monitored, and controlled may help prevent these problems.

The project cost, schedule and performance goals established through the planning phase of the project are the basis for approval to procure the asset and the basis for assessing risk. During the procurement phase performance-based management systems (earned value or similar system) must be used to provide contractor and Government management visibility on the achievement of, or deviation from, goals until the asset is accepted and operational. If goals are not being met, performance-based management systems allow for early identification of problems, potential corrective actions, and changes to the original goals needed to complete the project and necessary for agency portfolio analysis decisions. These systems also allow for Administration decisions to recommend meaningful modifications for

increased funding to the Congress, or termination of the project, based on its revised expected return on investment in comparison to alternative uses of the funds. Agencies must ensure that the necessary acquisition strategies are implemented to reduce the risk of cost escalation and the risk of failure to achieve schedule and performance goals. These strategies may include:

1. having budget authority appropriated in separate capital asset acquisition accounts;
2. apportioning budget authority for a useful segment;
3. establishing thresholds for cost, schedule, and performance goals of the acquisition, including return on investment, which if not met may result in cancellation of the acquisition;
4. selecting types of contracts and pricing mechanisms that are efficient and that provide incentives to contractors in order to allocate risk appropriately between the contractor and the Government;
5. monitoring cost, schedule, and performance goals for the project (or the useful segment being proposed) using an earned value management system or similar system. Earned value is described in OMB Circular A-11, Part 3, "Planning, Budgeting and Acquisition of Capital Assets" (July 1999), Appendix 300C; and
6. if progress is not within 90 percent of goals, or if new information is available that would indicate a greater return on investment from alternative uses of funds, institute senior management review of the project through portfolio analysis to determine the continued viability of the project with modifications, or the termination of the project, and the start of exploration for alternative solutions if it is necessary to fill a gap in agency strategic goals and objectives.

E. Glossary

Appropriations

An appropriation provides budget authority that permits Government officials to incur obligations that result in immediate or future outlays of Government funds.

Regular annual appropriations: These appropriations are:

- enacted normally in the current year;
- scored entirely in the budget year; and
- available for obligation in the budget year and subsequent years if specified in the language. (See "Availability," below.)

Advance appropriations: Advance appropriations may be accompanied by regular annual appropriations to provide funds available for obligation in the budget year as well as subsequent years. Advance appropriations are:

- enacted normally in the current year;

- scored after the budget year (e.g., in each of one, two, or more later years, depending on the language); and
- available for obligation in the year scored and subsequent years if specified in the language. (See "Availability," below.)

Availability: Appropriations made in appropriations acts are available for obligation only in the budget year unless the language specifies that an appropriation is available for a longer period. If the language specifies that the funds are to remain available until the end of a certain year beyond the budget year, the availability is said to be "multi-year." If the language specifies that the funds are to remain available until expended, the availability is said to be "no-year." Appropriations for major procurements and construction projects are typically made available for multiple years or until expended.

Capital Assets

Capital assets are land, structures, equipment, and intellectual property (including software) that are used by the Federal Government and have an estimated useful life of two years or more. Capital assets exclude items acquired for resale in the ordinary course of operations or held for the purpose of physical consumption such as operating materials and supplies. The cost of a capital asset includes both its purchase price and all other costs incurred to bring it to a form and location suitable for its intended use.

Capital assets may be acquired in different ways: through purchase, construction, or manufacture; through a lease-purchase or other capital lease, regardless of whether title has passed to the Federal Government; through an operating lease for an asset with an estimated useful life of two years or more; or through exchange. Capital assets include leasehold improvements and land rights; assets owned by the Federal Government but located in a foreign country or held by others (such as Federal contractors, state and local governments, or colleges and universities); and assets whose ownership is shared by the Federal Government with other entities. Capital assets include not only the assets as initially acquired but also additions; improvements; replacements; rearrangements and re-installations; and major repairs but not ordinary repairs and maintenance.

Examples of capital assets include the following, but are not limited to them: office buildings, hospitals, laboratories, schools, and prisons; dams, power plants, and water resources projects; furniture, elevators, and printing presses; motor vehicles, airplanes, and ships; satellites and space exploration equipment; information technology hardware and software; and Department of Defense weapons systems. Capital assets may or may not be capitalized (i.e., recorded in an entity's balance sheet) under Federal accounting standards. Examples of capital assets not capitalized are Department of Defense weapons systems, heritage assets, stewardship land, and some software. Capital assets do not include grants for acquiring capital assets made to State and

local governments or other entities (such as National Science Foundation grants to universities or Department of Transportation grants to AMTRAK). Capital assets also do not include intangible assets such as the knowledge resulting from research and development or the human capital resulting from education and training, although capital assets do include land, structures, equipment, and intellectual property (including software) that the Federal Government uses in research and development and education and training.

Capital Project and Useful Segments of a Capital Project

The total capital project, or acquisition of a capital asset, includes useful segments that are either planning segments or useful assets.

Planning segments: A planning segment of a capital project provides information that allows the agency to develop the design; assess the benefits, costs, and risks; and establish realistic baseline cost, schedule, and performance goals before proceeding to full acquisition of the useful asset (or canceling the acquisition). This information comes from activities, or planning segments, that include but are not limited to market research of available solutions, architectural drawings, geological studies, engineering and design studies, and prototypes. The process of gathering information for a capital project may consist of one or more planning segments, depending on the nature of the asset. If the project includes a prototype that is a capital asset, the prototype may itself be one segment or may be divisible into more than one segment. Because of uncertainty regarding the identification of separate planning segments for research and development activities, the application of full funding concepts to research and development planning will need more study.

Useful asset: A useful asset is an economically and programmatically separate segment of the asset procurement stage of the capital project that provides an asset for which the benefits exceed the costs, even if no further funding is appropriated. The total capital asset procurement may include one or more useful assets, although it may not be possible to divide all procurements in this way. Illustrations follow:

Illustration 1: If the construction of a building meets the justification criteria and has benefits greater than its costs without further investment, then the construction of that building is a “useful segment.” Excavation is not a useful segment because no useful asset results from the excavation alone if no further funding becomes available. For a campus of several buildings, a useful segment is one complete building if that building has programmatic benefits that exceed its costs regardless of whether the other buildings are constructed, even though that building may not be at its maximum use.

Illustration 2: If the full acquisition is for several items (e.g., aircraft), the useful segment would be the number of complete aircraft required to achieve benefits that exceed costs even if no further funding becomes available. In contrast, some portion of several aircraft (e.g., engines for five aircraft) would not be a useful

segment if no further funding is available, nor would one aircraft be a useful segment if two or more are required for benefits to exceed costs.

Illustration 3: For information technology, a module (the information technology equivalent of “useful segment”) is separable if it is useful in itself without subsequent modules. The module should be designed so that it can be enhanced or integrated with subsequent modules if future funding becomes available.

Earned Value

Earned value refers to a performance-based management system for establishing baseline cost, schedule, and performance goals for a capital project and measuring progress against the goals. Earned value is described in OMB Circular A-11, Part 3, “Planning, Budgeting and Acquisition of Capital Assets” (July 1999), Appendix 300C.

Funding

Full funding: Full funding means that appropriations—regular appropriations or advance appropriations—are enacted that are sufficient in total to complete a useful segment of a capital project before any obligations may be incurred for that segment. Full funding for an entire capital project is required if the project cannot be divided into more than one useful segment. If the asset can be divided into more than one useful segment, full funding for a project may be desirable, but is not required to constitute full funding.

Incremental (partial) funding: Incremental (partial) funding means that appropriations—regular appropriations or advance appropriations—are enacted for just part of a useful segment of a capital project, if the project has useful segments, or for part of the capital project as a whole, if it is not divisible into useful segments. Under incremental funding for a capital asset, which is not permitted under these principles, the funds could be obligated to start the segment (or project) despite the fact that they are insufficient to complete a useful segment or project.

Risk Management

Risk management is an organized method of identifying and measuring risk and developing, selecting, and managing options for handling these risks. Before beginning any procurement, managers should review and revise as needed the acquisition plan to ensure that risk management techniques considered in the planning phase are still appropriate.

There are three key principles for managing risk when procuring capital assets: (1) avoiding or limiting the amount of development work; (2) making effective use of competition and financial incentives; and (3) establishing a performance-based acquisition management system that provides for accountability for program successes and failures, such as an earned value system or similar system.

There are several types of risk an agency should consider as part of risk management. The types of risk include:

- schedule risk;
- cost risk;
- technical feasibility;
- risk of technical obsolescence;
- dependencies between a new project and other projects or systems (e.g., closed architectures); and
- risk of creating a monopoly for future procurement.

Part III: FEDERALLY FINANCED CAPITAL STOCKS

Federal investment spending creates a “stock” of capital that is available in the future for productive use. Each year, Federal investment outlays add to the stock of capital. At the same time, however, wear and tear and obsolescence reduce it. This section presents very rough measures over time of three different kinds of capital stocks financed by the Federal Government: public physical capital, research and development (R&D), and education.

Federal spending for physical assets adds to the Nation’s capital stock of tangible assets, such as roads, buildings, and aircraft carriers. These assets deliver a flow of services over their lifetime. The capital depreciates as the asset ages, wears out, is accidentally damaged, or becomes obsolete.

Federal spending for the conduct of research, development, and education adds to an “intangible” asset, the Nation’s stock of knowledge. Although financed by the Federal Government, the research and development or education can be performed by Federal or State government laboratories, universities and other nonprofit organizations, or private industry. Research and development covers a wide range of activities, from the investigation of subatomic particles to the exploration of outer space; it can be “basic” research without particular applications in mind, or it can have a highly specific practical use. Similarly, education includes a wide variety of programs, assisting people of all ages beginning with pre-school education and extending through graduate studies and adult education. Like physical assets, the capital stocks of R&D and education provide services over a number of years and depreciate as they become outdated.

For this analysis, physical and R&D capital stocks are estimated using the perpetual inventory method. In this method, the estimates are based on the sum of net investment in prior years. Each year’s Federal outlays are treated as gross investment, adding to the capital stock; depreciation reduces the capital stock. Gross investment less depreciation is net investment. A limitation of the perpetual inventory method is that investment spending may not accurately measure the value of the asset created. However, alternative methods for measuring asset value, such as direct surveys of current market worth or indirect estimation based on an expected rate of return, are especially difficult to apply to assets that do not have a private market, such as highways or weapons systems.

In contrast to physical and R&D stocks, the estimate of the education stock is based on the replacement cost method. Data on the total years of education of the U.S. population are combined with data on the cost of education and the Federal share of education spend-

ing to yield the cost of replacing the Federal share of the Nation’s stock of education.

Additional detail about the methods used to estimate capital stocks appears in a methodological note at the end of this section. It should be stressed that these estimates are rough approximations, and provide a basis only for making broad generalizations. Errors may arise from uncertainty about the useful lives and depreciation rates of different types of assets, incomplete data for historical outlays, and imprecision in the deflators used to express costs in constant dollars.

The Stock of Physical Capital

This section presents data on stocks of physical capital assets and estimates of the depreciation on these assets.

Trends.—Table 6–6 shows the value of the net federally financed physical capital stock since 1960, in constant fiscal year 1996 dollars.³ After rising in the 1960s, the total stock held constant through the 1970s and began rising again in the early 1980s. The stock amounted to \$2,013 billion in 1999 and is estimated to increase slightly to \$2,065 billion by 2001. In 1999, the national defense capital stock accounted for \$671 billion, or 33 percent of the total, and nondefense stocks for \$1,342 billion, or 67 percent of the total.

Real stocks of defense and nondefense capital show very different trends. Nondefense stocks have grown consistently since 1970, increasing from \$536 billion in 1970 to \$1,342 billion in 1999. With the investments proposed in the budget, nondefense stocks are estimated to grow to \$1,417 billion in 2001. During the 1970s, the nondefense capital stock grew at an average annual rate of 4.3 percent. In the 1980s, however, the growth rate slowed to 2.7 percent annually, with growth continuing at about that rate since then.

Real national defense stocks began in 1970 at a relatively high level, and declined steadily throughout the decade, as depreciation from the Vietnam era exceeded new investment in military construction and weapons procurement. Starting in the early 1980s, however, a large defense buildup began to increase the stock of defense capital. By 1987, the defense stock had exceeded its size at the height of the Vietnam War. In the last few years, depreciation on this increased stock and a slower pace of defense investment have begun to reduce the stock from its recent levels. The stock is estimated to fall from \$671 billion in 1999 to \$648 billion in 2001.

³Constant dollar stock estimates are expressed in chained 1996 dollars, consistent with the October 1999 revisions to the National Income and Product Accounts (NIPAs). The shift to a more recent base year changes the reported level of real stocks, but leaves the year-to-year trends largely the same.

Table 6-6. NET STOCK OF FEDERALLY FINANCED PHYSICAL CAPITAL

(In billions of 1996 dollars)

Fiscal Year	Total	National Defense	Nondefense								
			Total Non-defense	Direct Federal Capital			Capital Financed by Federal Grants				
				Total	Water and Power	Other	Total	Transportation	Community and Regional	Natural Resources	Other
Five year intervals:											
1960	978	682	296	145	89	56	151	93	27	21	10
1965	1,056	644	412	181	108	72	231	163	33	23	12
1970	1,200	664	536	205	123	82	331	237	47	27	20
1975	1,245	587	658	226	139	88	432	291	75	41	25
1980	1,338	518	820	253	159	94	567	350	116	76	26
1985	1,550	606	944	278	171	107	666	406	140	96	25
1990	1,823	756	1,068	309	180	129	759	473	151	108	27
Annual data:											
1995	1,956	742	1,214	347	187	160	867	546	160	117	44
1996	1,969	721	1,248	355	188	168	893	562	163	119	49
1997	1,982	701	1,281	362	187	175	919	578	166	120	54
1998	1,993	685	1,308	364	187	178	944	594	169	121	60
1999	2,013	671	1,342	372	187	185	970	611	171	123	65
2000 est.	2,038	658	1,380	380	188	192	1,000	631	174	124	71
2001 est.	2,065	648	1,417	387	189	199	1,030	651	177	125	77

Another trend in the Federal physical capital stocks is the shift from direct Federal assets to grant-financed assets. In 1960, 49 percent of federally financed non-defense capital was owned by the Federal Government, and 51 percent was owned by State and local governments but financed by Federal grants. Expansion in Federal grants for highways and other State and local capital, coupled with relatively slow growth in direct Federal investments by agencies such as the Bureau of Reclamation and Corps of Engineers, shifted the composition of the stock substantially. In 1999, 28 percent of the nondefense stock was owned by the Federal Government and 72 percent by State and local governments.

The growth in the stock of physical capital financed by grants has come in several areas. The growth in the stock for transportation is largely grants for highways, including the Interstate Highway System. The growth in community and regional development stocks occurred largely with the enactment of the community development block grant in the early 1970s. The value of this capital stock has grown only slowly in the past few years. The growth in the natural resources area occurred primarily because of construction grants for sewage treatment facilities. The value of this federally financed stock has increased about 30 percent since the mid-1980s.

Table 6-7 shows nondefense physical capital outlays both gross and net of depreciation since 1960. Total nondefense net investment has been consistently positive over the period covered by the table, indicating that new investment has exceeded depreciation on the existing stock. For some categories in the table, such as water and power programs, however, net investment has been negative in some years, indicating that new investment has not been sufficient to offset estimated depreciation. The net investment in this table is the

change in the net nondefense physical capital stock displayed in Table 6-6.

The Stock of Research and Development Capital

This section presents data on the stock of research and development, taking into account adjustments for its depreciation.

Trends.—As shown in Table 6-8, the R&D capital stock financed by Federal outlays is estimated to be \$898 billion in 1999 in constant 1996 dollars. About two-fifths is the stock of basic research knowledge; about three-fifths is the stock of applied research and development.

The total federally financed R&D stock in 1999 was about evenly divided between defense and nondefense. Although investment in defense R&D has exceeded that of nondefense R&D in every year since 1981, the non-defense R&D stock is actually the larger of the two, because of the different emphasis on basic research and applied research and development. Defense R&D spending is heavily concentrated in applied research and development, which depreciates much more quickly than basic research. The stock of applied research and development is assumed to depreciate at a ten percent geometric rate, while basic research is assumed not to depreciate at all.

The defense R&D stock rose slowly during the 1970s, as gross outlays for R&D trended down in constant dollars and the stock created in the 1960s depreciated. A renewed emphasis on defense R&D spending from 1980 through 1990 led to a more rapid growth of the R&D stock. Since then, real defense R&D outlays have tapered off, depreciation has grown, and, as a result, the net defense R&D stock has stabilized.

The growth of the nondefense R&D stock slowed from the 1970s to the late 1980s, from an annual rate of

Table 6-7. COMPOSITION OF GROSS AND NET FEDERAL AND FEDERALLY FINANCED NONDEFENSE PUBLIC PHYSICAL INVESTMENT

(In billions of 1996 dollars)

Fiscal Year	Total nondefense investment			Direct Federal investment					Investment financed by Federal grants						
	Gross	Depreciation	Net	Gross	Depreciation	Net	Composition of net investment		Gross	Depreciation	Net	Composition of net investment			
							Water and power	Other				Transportation (mainly highways)	Community and regional development	Natural resources and environment	Other
Five year intervals:															
1960	26.6	5.7	21.0	9.8	3.3	6.4	3.4	3.0	16.9	2.3	14.5	13.8	0.1	0.1	0.5
1965	35.4	7.8	27.6	11.7	4.3	7.4	3.4	4.0	23.8	3.6	20.2	17.0	2.2	0.4	0.5
1970	33.9	10.2	23.7	7.4	5.0	2.5	2.0	0.4	26.5	5.2	21.3	13.3	5.4	1.0	1.7
1975	34.8	12.3	22.4	10.1	5.4	4.7	3.7	1.0	24.6	6.9	17.7	8.0	4.4	4.6	0.7
1980	49.2	15.0	34.2	12.0	6.0	6.1	3.9	2.1	37.1	9.0	28.1	13.6	7.7	7.0	-0.2
1985	46.2	18.0	28.1	14.1	7.4	6.7	2.2	4.6	32.1	10.7	21.4	14.2	4.1	3.2	-0.1
1990	46.5	22.4	24.1	16.2	10.2	6.1	1.9	4.1	30.3	12.2	18.1	13.0	1.6	2.0	1.4
Annual data:															
1995	59.9	26.1	33.9	19.5	12.2	7.4	1.4	6.0	40.4	13.9	26.5	16.4	2.7	2.0	5.4
1996	61.1	26.9	34.1	20.7	12.6	8.1	0.4	7.7	40.3	14.3	26.0	16.1	3.0	1.5	5.5
1997	60.9	27.8	33.1	20.0	13.1	6.9	-0.5	7.5	40.9	14.8	26.1	16.5	2.8	1.4	5.3
1998	55.7	28.5	27.2	15.5	13.3	2.2	-0.4	2.6	40.2	15.2	25.0	15.5	2.7	1.0	5.8
1999	63.1	29.2	33.9	21.1	13.6	7.4	0.2	7.2	42.1	15.6	26.5	17.4	2.7	1.1	5.2
2000 est.	67.7	30.1	37.6	22.3	14.0	8.3	1.1	7.2	45.4	16.1	29.3	19.5	2.7	1.3	5.7
2001 est.	68.8	31.1	37.7	21.9	14.5	7.4	0.8	6.6	46.9	16.6	30.3	20.1	2.5	1.5	6.2

Table 6-8. NET STOCK OF FEDERALLY FINANCED RESEARCH AND DEVELOPMENT¹

(In billions of 1996 dollars)

Fiscal Year	National Defense			Nondefense			Total Federal		
	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development
Five year intervals:									
1970	245	15	231	202	63	139	447	78	370
1975	260	19	240	247	91	155	507	111	396
1980	263	23	240	292	124	169	555	147	408
1985	302	28	274	319	164	155	621	192	429
1990	379	34	345	360	215	145	739	249	490
Annual data:									
1995	398	40	358	434	277	157	832	317	515
1996	400	41	359	447	289	157	847	331	516
1997	402	42	359	461	303	158	863	345	518
1998	403	43	359	477	315	161	879	359	521
1999	404	44	360	494	329	165	898	373	524
2000 est.	405	46	359	512	343	169	917	389	528
2001 est.	405	47	359	532	359	173	938	406	532

¹ Excludes outlays for physical capital for research and development, which are included in Table 6-6.

3.8 percent in the 1970s to a rate of 1.8 percent from 1980 to 1988. Gross investment in real terms fell during much of the 1980s, and about three-fourths of new outlays went to replacing depreciated R&D. Since 1988, however, nondefense R&D outlays have been on an upward trend while depreciation has edged down. As a result, the net nondefense R&D capital stock has grown more rapidly.

The Stock of Education Capital

This section presents estimates of the stock of education capital financed by the Federal government.

As shown in Table 6-9, the federally financed education stock is estimated at \$964 billion in 1999 in

constant 1996 dollars, rising to \$1,085 billion in 2001. The vast majority of the Nation's education stock is financed by State and local governments, and by students and their families themselves. This federally financed portion of the stock represents about 3 percent of the Nation's total education stock.⁴ Nearly three-quarters is for elementary and secondary education, while the remaining one quarter is for higher education.

Despite a slowdown in growth during the early 1980s, the stock grew at an average annual rate of 5.4 percent from 1970 to 1999, and the expansion of the education stock is projected to continue under this budget.

⁴For estimates of the total education stock, see Table 2-4 in Chapter 2, "Stewardship: Toward a Federal Balance Sheet."

Table 6-9. NET STOCK OF FEDERALLY FINANCED EDUCATION CAPITAL

(In billions of 1996 dollars)

Fiscal Year	Total Education Stock	Elementary and Secondary Education	Higher Education
Five year intervals:			
1960	66	48	19
1965	92	66	26
1970	212	166	46
1975	305	245	60
1980	432	336	96
1985	533	397	136
1990	701	517	184
Annual data:			
1995	791	574	217
1996	822	596	226
1997	859	623	237
1998	912	663	249
1999	964	705	260
2000 est.	1,027	756	271
2001 est.	1,085	804	282

Note on Estimating Methods

This note provides further technical detail about the estimation of the capital stock series presented in Tables 6-6 through 6-9.

As stated previously, the capital stock estimates are very rough approximations. Sources of possible error include:

Methodological issues.—The stocks of physical capital and research and development are estimated with the perpetual inventory method. A fundamental assumption of this method is that each dollar of investment spending adds a dollar to the value of the capital stock in the period in which the spending takes place. In reality, the value of the asset created could be more or less than the investment spending. As an extreme example, in cases where a project is canceled before completion, the spending on the project does not result in the creation of any asset. Even where asset value is equal to investment spending, there might be timing differences in spending and the creation of a capital asset. For example, payments for constructing an aircraft carrier might be made over a period of years, with the capital asset only created at the end of the period.

The historical outlay series.—The historical outlay series for physical capital was based on budget records since 1940 and was extended back to 1915 using data from selected sources. There are no consistent outlay data on physical capital for this earlier period, and the estimates are approximations. In addition, the historical outlay series in the budget for physical capital extending back to 1940 may be incomplete. The historical outlay series for the conduct of research and development began in the early 1950s and required selected sources to be extended back to 1940. In addition, separate outlay data for basic research and applied R&D were not available for any years and had to be estimated from obligations and budget authority. For education, data for Federal outlays from the budget were combined with data for non-Federal spending from the

institution or jurisdiction receiving Federal funds, which may introduce error because of differing fiscal years and confusion about whether the Federal Government was the original source of funding.

Price adjustments.—The prices for the components of the Federal stock of physical, R&D, and education capital have increased through time, but the rates of increase are not accurately known. Estimates of costs in fiscal year 1996 prices were made through the application of price measures from the National Income and Product Accounts (NIPAs), but these should be considered only approximations of the costs of these assets in 1996 prices.

Depreciation.—The useful lives of physical, R&D, and education capital, as well as the pattern by which they depreciate, are very uncertain. This is compounded by using depreciation rates for broad classes of assets, which do not apply uniformly to all the components of each group. As a result, the depreciation estimates should also be considered approximations. This limitation is especially important in capital financed by grants, where the specific asset financed with the grant is often subject to the discretion of the recipient jurisdiction.

Research continues on the best methods to estimate these capital stocks. The estimates presented in the text could change as better information becomes available on the underlying investment data and as improved methods are developed for estimating the stocks based on those data.

Physical Capital Stocks

For many years, current and constant-cost data on the stock of most forms of public and private physical capital—e.g., roads, factories, and housing—have been estimated annually by the Bureau of Economic Analysis (BEA) in the Department of Commerce. With two recent comprehensive revisions of the NIPAs in January 1996 and October 1999, government investment has taken

increased prominence. Government investment in physical capital is now reported separately from government consumption expenditures, and government consumption expenditures include depreciation as a measure of the services provided by the existing capital stock. Government purchases of software are now included as investment.⁵ In addition, as part of the most recent revisions, a new table will explicitly link investment and capital stocks by reporting the net stock of Government physical capital and decomposing the annual change in the stock into investment, depreciation, extraordinary changes such as disasters, and revaluation.⁶

The BEA data are not directly linked to the Federal budget, do not extend to the years covered by the budget, and do not separately identify the capital financed but not owned by the Federal Government. For these reasons, OMB prepares separate estimates for budgetary purposes, using techniques that roughly follow the BEA methods.

Method of estimation.—The estimates were developed from the OMB historical data base for physical capital outlays and grants to State and local governments for physical capital. These are the same major public physical capital outlays presented in Part I. This data base extends back to 1940 and was supplemented by rough estimates for 1915–1939.

The deflators used to convert historical outlays to constant 1996 dollars were based on composite NIPA deflators for Federal, State, and local consumption of durables and gross investment, as revised in BEA's October 1999 comprehensive NIPA revisions. Because BEA had not yet released certain revised data prior to calendar year 1959, deflators were estimated for 1930 to 1959 based on the growth rates in BEA's pre-revision data. For 1915 through 1929, deflators were estimated from Census Bureau historical statistics on constant price public capital formation.

The resulting capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those of BEA, which estimates depreciation using much more detailed categories.⁷ The geometric rates were 1.9 percent for water and power projects; 2.4 percent for other direct non-defense construction and rehabilitation; 20.3 percent for non-defense equipment; 14.0 percent for defense equipment; 2.1 percent for defense structures; 1.6 percent for transportation grants; 1.7 percent for community and regional development grants; 1.5 percent for natural resources and environment grants; and 1.8 percent for other nondefense grants.

Research and Development Capital Stocks

Method of estimation.—The estimates were developed from a data base for the conduct of research and devel-

opment largely consistent with the data in the Historical Tables. Although there is no consistent time series on basic and applied R&D for defense and nondefense outlays back to 1940, it was possible to estimate the data using obligations and budget authority. The data are for the conduct of R&D only and exclude outlays for physical capital for research and development, because those are included in the estimates of physical capital. Nominal outlays were deflated by the chained price index for gross domestic product (GDP) in fiscal year 1996 dollars to obtain estimates of constant dollar R&D spending.

The appropriate depreciation rate of intangible R&D capital is even more uncertain than that of physical capital. Empirical evidence is inconclusive. It was assumed that basic research capital does not depreciate and that applied research and development capital has a ten percent geometric depreciation rate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stock financed by private industry.⁸ More recent experimental work at BEA, extending estimates of tangible capital stocks to R&D, used slightly different assumptions. This work assumed straight-line depreciation for all R&D over a useful life of 18 years, which is roughly equivalent to a geometric depreciation rate of 11 percent. The slightly higher depreciation rate and its extension to basic research would result in smaller stocks than the method used here.⁹

Education Capital Stocks

Method of estimation.—The estimates of the federally financed education capital stock in Table 6–9 were calculated by first estimating the Nation's total stock of education capital, based on the current replacement cost of the total years of education of the population, including opportunity costs. To derive the Federal share of this total stock, the Federal share of total educational expenditures was applied to the total amount. The percent in any year was estimated by averaging the prior years' share of Federal education outlays in total education costs. For more information, refer to the technical note in Chapter 2, "Stewardship: Toward a Federal Balance Sheet."

The stock of capital estimated in Table 6–9 is based only on spending for education. Stocks created by other human capital investment outlays included in Table 6–1, such as job training and vocational rehabilitation, were not calculated because of the lack of historical data prior to 1962 and the absence of estimates of depreciation rates.

⁵This change aligns BEA's treatment of software with OMB's definitions, which include purchase and in-house development of major software as investment.

⁶BEA's most recent estimates of capital stocks, prepared prior to the October 1999 comprehensive revisions, appear in "Fixed Reproducible Tangible Wealth in the United States: Revised Estimates for 1995–97 and Summary Estimates for 1925–97," *Survey of Current Business*, September 1998, pp. 36–46. Estimates reflecting the October 1999 revisions are tentatively scheduled for publication in the March 2000 *Survey of Current Business*.

⁷BEA presented its depreciation methods and rates in "Improved Estimates of Fixed Reproducible Tangible Wealth, 1929–95," *Survey of Current Business*, May 1997, pp. 69–76.

⁸See U.S. Department of Labor, Bureau of Labor Statistics, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989.

⁹See "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994, pp. 37–71.

Part IV: ALTERNATIVE CAPITAL BUDGET AND CAPITAL EXPENDITURE PRESENTATIONS

A capital budget would separate Federal expenditures into two categories: spending for investment and all other spending. In this sense, Part I of the present chapter provides a capital budget for the Federal Government, distinguishing outlays that yield long-term benefits from all others. But alternative capital budget presentations have also been suggested, and a capital budget process may take many different forms.

The Federal budget mainly finances investment for two quite different types of reasons. It invests in capital—such as office buildings, computers, and weapons systems—that primarily contributes to its ability to provide governmental services to the public; some of these services, in turn, are designed to increase economic growth. And it invests in capital—such as highways, education, and research—that contributes more directly

to the economic growth of the Nation. Most of the capital in the second category, unlike the first, is not owned or controlled by the Federal Government. In the discussion that follows, the first is called “Federal capital” and the second is called “national capital.” Table 6–10 compares total Federal investment as defined in Part I of this chapter with investment in Federal capital, which was defined as “capital assets” in Part II of this chapter, and with investment in national capital. Some Federal investment is not classified as either Federal or national capital, and a relatively small part is included in both categories.

Capital budgets and other changes in Federal budgeting have been suggested from time to time for the Government’s investment in both Federal and national

Table 6–10. ALTERNATIVE DEFINITIONS OF INVESTMENT OUTLAYS, 2001

(In millions of dollars)

	Investment Outlays		
	All types of capital ¹	Federal capital	National capital
Construction and rehabilitation:			
Grants:			
Transportation	33,570	.....	33,570
Natural resources and environment	2,785	.....	2,785
Community and regional development	6,048	.....	1,009
Housing assistance	7,643	.....	.....
Other grants	294	.....	182
Direct Federal:			
National defense	5,120	5,120	.....
General science, space, and technology	616	584	616
Natural resources and environment	5,424	4,128	5,129
Energy	863	863	863
Transportation	269	259	269
Veterans and other health facilities	1,317	1,317	1,317
Postal Service	1,044	1,044	1,044
GSA real property activities	1,116	1,116	.....
Other construction	2,674	2,193	1,237
Total construction and rehabilitation	68,783	16,624	48,021
Acquisition of major equipment (direct):			
National defense	51,076	51,076	.....
Postal Service	714	714	714
Air transportation	1,965	1,965	1,965
Other	5,504	4,728	3,333
Total major equipment	59,259	58,483	6,012
Purchase or sale of land and structures	839	839	.....
Other physical assets (grants)	1,344	.....	64
Total physical investment	130,225	75,946	54,097
Research and development:			
Defense	40,914	.....	1,184
Nondefense	39,447	.....	38,889
Total research and development	80,361	.....	40,073
Education and training	56,590	.....	56,214
Total investment outlays	267,176	75,946	150,384

¹ Total outlays for “all types of capital” are equal to the total for “major Federal investment outlays” in Table 6–1. Some capital is not classified as either Federal or national capital, and a relatively small part is included in both categories.

capital. These proposals differ widely in coverage, depending on the rationale for the suggestion. Some would include all the investment shown in Table 6–1, or more, whereas others would be narrower in various ways. These proposals also differ in other respects, such as whether investment would be financed by borrowing and whether the non-investment budget would necessarily be balanced. Some of these proposals are discussed below and illustrated by alternative capital budget and other capital expenditure presentations, although the discussion does not address matters of implementation such as the effect on the Budget Enforcement Act. The planning and budgeting process for capital assets, which is a different subject, is discussed in Part II of this chapter together with the steps this Administration is taking to improve it.

As discussed at the beginning of this chapter, the *Report of the President's Commission to Study Capital Budgeting* considered both capital budgets and the broader question of the planning and budgeting process for capital assets. It made a series of recommendations to improve budgeting for capital and setting priorities for the Federal Government, but it did not recommend changing the budget to make the size of the deficit or surplus depend on the amount of expenditures defined as capital, to finance capital spending by borrowing, or to make a single decision about how much to spend for “capital” under some definition.

Investment in Federal Capital

The goal of investment in Federal capital is to deliver the right amount of Government services as efficiently and effectively as possible. The Congress allocates resources to Federal agencies to accomplish a wide variety of programmatic goals. Because these goals are diverse and most are not measured in dollars, they are difficult to compare with each other. Policy judgments must be made as to their relative importance.

Once amounts have been allocated for one of these goals, however, analysis may be able to assist in choosing the most efficient and effective means of delivering service. This is the context in which decisions are made on the amount of investment in Federal capital. For example, budget proposals for the Department of Justice must consider whether to increase the number of FBI agents, the amount of justice assistance grants to State and local governments, or the number of Federal prisons in order to accomplish the department's objectives. The optimal amount of investment in Federal capital derives from these decisions. There is no efficient target for total investment in Federal capital as such either for a single agency or for the Government as a whole.

The universe of Federal capital encompasses all federally owned capital assets. It excludes Federal grants to States for infrastructure, such as highways, and it excludes intangible investment, such as education and research. Investment in Federal capital in 2001 is estimated to be \$75.9 billion, or 28 percent of the total Federal investment outlays shown in Table 6–1. Of the

investment in Federal capital, 74 percent is for defense and 26 percent for nondefense purposes.

A Capital Budget for Capital Assets

Discussion of a capital budget has often centered on Federal capital, called “capital assets” in Part II of this chapter—buildings, other construction, equipment, and software that support the delivery of Federal services. This includes capital commonly available from the commercial sector, such as office buildings, computers, military family housing, veterans hospitals, research and development facilities, and associated equipment; it also includes special purpose capital such as weapons systems, military bases, the space station, and dams. This definition excludes capital that the Federal Government has financed but does not own.¹⁰

Some capital budget proposals would partition the unified budget into a capital budget, an operating budget, and a total budget. Table 6–11 illustrates such a capital budget for capital assets as defined above. It is accompanied by an operating budget and a total budget. The operating budget consists of all expenditures except those included in the capital budget, plus depreciation on the stock of assets of the type purchased through the capital budget. The capital budget consists of expenditures for capital assets and, on the income side of the account, depreciation. The total budget is the present unified budget, largely based on cash for its measure of transactions, which records all outlays and receipts of the Federal Government. It consolidates the operating and capital budgets by adding them together and netting out depreciation as an intragovernmental transaction. The operating budget has a smaller surplus than the unified budget. This reflects both the relatively small Federal investment in new capital assets and the offsetting effect of depreciation on the existing stock. Depreciation is larger than capital expenditures by \$4 billion. The figures in Table 6–11 and the subsequent tables of this section are rough estimates, intended only to be illustrative and to provide a basis for broad generalizations.

Some proposals for a capital budget would exclude defense capital (other than military family housing). These exclusions—weapons systems, military bases, and so forth—would comprise three-fourths of the expenditures shown in the capital budget of Table 6–11. If they were excluded, the operating budget would have a surplus that was a little more than the unified budget surplus: a surplus \$6 billion higher than the unified budget surplus instead of \$4 billion lower as shown above for the complete coverage of Federal capital. Excluding defense makes such a large difference because of its large relative size and the recent pattern of capital asset purchases. The large defense buildup that began in the early 1980s raised the capital stock and depreciation; the buildup was followed by a sharp decline in purchases, while the capital stock and depreciation have declined more slowly. (See the previous sec-

¹⁰This definition of “capital assets” is the same as used in the budget in recent years. Narrower definitions of “fixed assets” were used in earlier budgets.

**Table 6-11. CAPITAL, OPERATING, AND UNIFIED BUDGETS:
FEDERAL CAPITAL, 2001¹**

(In billions of dollars)

Operating Budget	
Receipts	2,019
Expenses:	
Depreciation	80
Other	1,759
Subtotal, expenses	1,839
Surplus or deficit (-)	180
Capital Budget	
Income: depreciation	80
Capital expenditures	76
Surplus or deficit (-)	4
Unified Budget	
Receipts	2,019
Outlays	1,835
Surplus or deficit (-) ²	184

¹Historical data to estimate the capital stocks and calculate depreciation are not readily available for Federal capital. Depreciation estimates were based on the assumption that outlays for Federal capital were a constant percentage of the larger categories in which such outlays were classified. They are also subject to the limitations explained in Part III of this chapter. Depreciation is measured in terms of current cost, not historical cost.

²The surplus allocation for debt reduction is part of the President's overall budgetary framework to extend the solvency of Social Security and Medicare, and is shown in Table S-1 in Part 6 of the 2001 Budget.

tion of this chapter.) As a result, capital expenditures for defense in 2001 are estimated to be \$10 billion less than depreciation, whereas capital expenditures for nondefense purposes (plus military family housing) are estimated to be \$6 billion more.

Budget Discipline and a Capital Budget

Many proposals for a capital budget, though not all, would effectively dispense with the unified budget and make expenditure decisions on capital asset acquisitions in terms of the operating budget instead. When the Government proposed to purchase a capital asset, the operating budget would include only the estimated depreciation. For example, suppose that an agency proposed to buy a \$50 million building at the beginning of the year with an estimated life of 25 years and with depreciation calculated by the straightline method. Operating expense in the budget year would increase by \$2 million, or only 4 percent of the asset cost. The same amount of depreciation would be recorded as an increase in operating expense for each year of the asset's life.¹¹

Recording the annual depreciation in the operating budget each year would provide little control over the decision about whether to invest in the first place. Most Federal investments are sunk costs and as a practical matter cannot be recovered by selling or renting the asset. At the same time, there is a significant risk that the need for a capital asset may change over a period of years, because either the need was not perma-

¹¹The amount of depreciation that typically would be recorded as an expense in the budget year is overstated by this illustration. First, most assets are purchased after the beginning of the year, in which case less than a full year's depreciation would be recorded. Second, assets may be constructed or built to order, in which case no depreciation would be recorded until the work was completed and the asset put into service. This could be several years after the initial expenditure.

nent, it was initially misjudged, or other needs become more important. Since the cost is sunk, however, control cannot be exercised later on by comparing the annual benefit of the asset services with depreciation and interest and then selling the asset if its annual services are not worth this expense. Control can only be exercised up front when the Government commits itself to the full sunk cost. By spreading the real cost of the project over time, however, use of the operating budget for expenditure decisions would make the budgetary cost of the capital asset appear very cheap when decisions were being made that compared it to alternative expenditures. As a result, there would be an incentive to purchase capital assets with little regard for need, and also with little regard for the least-cost method of acquisition.

A budget is a financial plan for allocating resources—deciding how much the Federal Government should spend in total, program by program, and for the parts of each program. The budgetary system provides a process for proposing policies, making decisions, implementing them, and reporting the results. The budget needs to measure costs accurately so that decision makers can compare the cost of a program with its benefit, the cost of one program with another, and the cost of alternative methods of reaching a specified goal. These costs need to be fully included in the budget up front, when the spending decision is made, so that executive and congressional decision makers have the information and the incentive to take the total costs into account in setting priorities.

The unified budget does this for investment. By recording investment on a cash basis, it causes the total cost to be compared up front in a rough and ready way with the total expected future net benefits. Since the budget measures only cost, the benefits with which these costs are compared, based on policy makers' judgment, must be presented in supplementary materials. Such a comparison of total cost with benefits is consistent with the formal method of cost-benefit analysis of capital projects in government, in which the full cost of a capital asset as the cash is paid out is compared with the full stream of future benefits (all in terms of present values).¹² This comparison is also consistent with common business practice, in which capital budgeting decisions for the most part are made by comparing cash flows. The cash outflow for the full purchase price is compared with expected future cash inflows, either through a relatively sophisticated technique of discounted cash flows—such as net present value or internal rate of return—or through cruder methods such as payback periods.¹³ Regardless of the

¹²For example, see Edward M. Gramlich, *A Guide to Benefit-Cost Analysis* (2nd ed.; Englewood Cliffs: Prentice Hall, 1990), chap. 6; or Joseph E. Stiglitz, *Economics of the Public Sector* (2nd ed.; New York: Norton, 1988), chap. 10. This theory is applied in formal OMB instructions to Federal agencies in OMB Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (October 29, 1992). General Accounting Office, *Discount Rate Policy*, GAO/OCE-17.1.1 (May 1991), discusses the appropriate discount rate for such analysis but not the foundation of the analysis itself, which is implicitly assumed.

¹³For a full textbook analysis of capital budgeting techniques in business, see Harold Bierman, Jr., and Seymour Smidt, *The Capital Budgeting Decision* (8th ed.; Saddle River, N.J.: Prentice-Hall, 1993). Shorter analyses from the standpoints of corporate finance and cost accounting may be found, for example, in Richard A. Brealey and Stewart C. Myers,

specific technique adopted, it usually requires comparing future returns with the entire cost of the asset up front—not spread over time through annual depreciation.¹⁴

Practice Outside the Federal Government

The proponents of making investment decisions on the basis of an operating budget with depreciation have sometimes claimed that this is the common practice outside the Federal Government. However, while the practice of others may differ from the Federal budget and the terms “capital budget” and “capital budgeting” are often used, these terms do not normally mean that capital asset acquisitions are decided on the basis of annual depreciation cost. The use of these terms in business and State government also does not mean that businesses and States finance all their investment by borrowing. Nor does it mean that under a capital budget the extent of borrowing by the Federal Government to finance investment would be limited by the same forces that constrain business and State borrowing for investment.

Private business firms call their investment decision making process “capital budgeting,” and they record the resulting planned expenditures in a “capital budget.” However, decisions are normally based on up-front comparisons of the cash outflows needed to make the investment with the resulting cash inflows expected in the future, as explained above, and the capital budget records the period-by-period cash outflows proposed for capital projects.¹⁵ This supports the business’s goal of deciding upon and controlling the use of its resources.

The cash-based focus of business budgeting for capital is in contrast to business financial statements—the income statement and balance sheet—which use accrual accounting for a different purpose, namely, to record how well the business is meeting its objective of earning profit and accumulating wealth for its owners. For this purpose, the income statement shows the profit in a year from earning revenue net of the expenses incurred. These expenses include depreciation, which is an allocation of the cost of capital assets over their estimated useful life. With similar objectives in mind, the Office of Management and Budget, the Treasury Department, and the General Accounting Office have adopted the use of depreciation on general property, plant, and equipment owned by the Federal Government as a

measure of expense in financial statements and cost accounting for Federal agencies.¹⁶

Businesses finance investment from net income, cash on hand, and other sources as well as borrowing. When they borrow to finance investment, they are constrained in ways that Federal borrowing is not. The amount that a business borrows is limited by its own profit motive and the market’s assessment of its capacity to repay. The greater a business’s indebtedness, other things equal, the more risky is any additional borrowing and the higher is the cost of funds it must pay. Since the profit motive ensures that a business will not want to borrow unless the expected return is at least as high as the cost of funds, the amount of investment that a business will want to finance is limited; it has an incentive to borrow only for projects where the expected return is as high or higher than the cost of funds. Furthermore, if the risk is great enough, a business may not be able to find a lender.

No such constraint limits the Federal Government—either in the total amount of its borrowing for investment, or in its choice of which assets to buy—because of its sovereign power to tax and the wide economic base that it taxes. It can tax to pay for investment; and, if it borrows, its power to tax ensures that the credit market will judge U.S. Treasury securities free from any risk of default even if it borrows “excessively” or for projects that do not seem worthwhile.

Most *States* also have a “capital budget,” but the operating budget is not like the operating budget envisaged by proponents of making Federal investment decisions on the basis of depreciation. State capital budgets differ widely in many respects but generally relate some of the State’s purchases of capital assets to borrowing and other earmarked means of financing. For the debt-financed portion of investment, the interest and repayment of principal are usually recorded as expenditures in the operating budget. For the portion of investment purchased in the capital budget but financed by Federal grants or State taxes, which may be substantial, State operating budgets do not record any amount. No State operating budget is charged for depreciation.¹⁷

States also do not record depreciation expense in the financial accounting statements for governmental funds. They currently record depreciation expense only in their proprietary (commercial-type) funds and in those trust funds where net income, expense, or capital

Principles of Corporate Finance (5th ed.; New York: McGraw-Hill, 1996), chap. 2, 5, and 6; Charles T. Horngren et al., *Cost Accounting* (9th ed.; Upper Saddle River, N.J.: Prentice-Hall, 1997), chap. 22 and 23; Jerold L. Zimmerman, *Accounting for Decision Making and Control* (Chicago: Irwin, 1995), chap. 3; and Surendra S. Singhvi, “Capital-Investment Budgeting Process” and “Capital-Expenditure Evaluation Methods,” chap. 19 and 20 in Robert Rachlin, ed., *Handbook of Budgeting* (4th ed.; New York: Wiley, 1999).

¹⁴Two surveys of business practice conducted a few years ago found that such techniques are predominant. See Thomas Klammer et al., “Capital Budgeting Practices—A Survey of Corporate Use,” *Journal of Management and Accounting Research*, vol. 3 (Fall 1991), pp. 113–30; and Glenn H. Petry and James Sprow, “The Theory and Practice of Finance in the 1990s,” *The Quarterly Review of Economics and Finance*, vol. 33 (Winter 1993), pp. 359–82. Petry and Sprow also found that discounted cash flow techniques are recommended by the most widely used textbooks in managerial finance.

¹⁵A business capital budget is depicted in Glenn A. Welsch et al., *Budgeting: Profit Planning and Control* (5th ed.; Englewood Cliffs: Prentice Hall, 1988), pp. 396–99.

¹⁶Office of Management and Budget, Statement of Federal Financial Accounting Standards No. 6, *Accounting for Property, Plant, and Equipment* (November 30, 1995), pp. 5–14 and 34–35. This Statement was recommended by the Federal Accounting Standards Advisory Board. Depreciation is not used as a measure of expense for heritage assets, or for weapons systems and other national defense property, plant, and equipment. Depreciation also is not used as a measure of expense for physical property financed by the Federal Government but owned by State and local governments, or for investment that the Federal Government finances in human capital and research and development.

¹⁷The characteristics of State capital budgets were examined in a survey of State budget officers for all 50 States in 1986. See Lawrence W. Hush and Kathleen Peroff, “The Variety of State Capital Budgets: A Survey,” *Public Budgeting and Finance* (Summer 1988), pp. 67–79. More detailed results are available in an unpublished OMB document, “State Capital Budgets” (July 7, 1987). Two GAO reports examined State capital budgets and reached similar conclusions on the issues in question. See *Budget Issues: Capital Budgeting Practices in the States*, GAO/AFMD-86-63FS (July 1986), and *Budget Issues: State Practices for Financing Capital Projects*, GAO/AFMD-89-64 (July 1989). For further information about state capital budgeting, see National Association of State Budget Officers, *Capital Budgeting in the States* (September 1997).

maintenance is measured.¹⁸ Under new financial accounting standards, however, depreciation on most capital assets will be recognized as an expense in government-wide financial statements. This will become effective for fiscal periods beginning during 2001–03, depending on the size of the government.¹⁹

State borrowing to finance investment, like business borrowing, is subject to limitations that do not apply to Federal borrowing. Like business borrowing, it is constrained by the credit market's assessment of the State's capacity to repay, which is reflected in the credit ratings of its bonds. Rating agencies place significant weight on the amount of debt outstanding compared to the economic output generated by the State. Furthermore, borrowing is usually designated for specified investments, and it is almost always subject to constitutional limits or referendum requirements.

Other *developed nations* tend to show a more systematic breakdown between investment and operating expenditures within their budgets than does the United States, even while they record capital expenditures on a cash basis within the same budget totals. The French budget, for example, is divided into separate titles of which some are for current expenditures and others for capital expenditures. However, a recent study of European countries found only four that had a real difference between a current budget and a capital budget (Greece, Ireland, Luxembourg, and Portugal);²⁰ and a survey by the Congressional Budget Office in 1993 found only two developed nations, Chile and New Zealand, that recognize depreciation in their budgets.²¹ New Zealand, moreover, while budgeting on an accrual basis that generally includes depreciation, requires the equivalent of appropriations for the full cost up front before a department can make net additions to its capital assets or before the government can acquire certain capital assets such as state highways.²²

More recently, Australia has adopted an accrual budget as of its 1999–2000 fiscal year, although appropriations are required for departments with inadequate funds to replace capital assets. The budget has several measures of fiscal position: the operating balance is fully accrual; while the fiscal balance, the primary fiscal measure, is closer to a cash basis and includes the purchase of property, plant, and equipment rather than depreciation. The United Kingdom has adopted a rule that it will borrow only for net investment (after depreciation), averaged over the economic cycle. It plans to budget on an accrual basis, including the depreciation of capital assets, beginning with its budget for 2001–02;

¹⁸ Governmental Accounting Standards Board (GASB), *Codification of Governmental Accounting and Financial Reporting Standards* as of June 30, 1999, sections 1100.107 and 1400.114–1400.118.

¹⁹ Governmental Accounting Standard Board, Statement No. 34, *Basic Financial Statements—Management's Discussion and Analysis—for State and Local Governments* (October 1999), paragraphs 18–29 and 44–45. For discussion, see paragraphs 330–43.

²⁰ M. Peter van der Hoek, "Fund Accounting and Capital Budgeting: European Experience," *Public Budgeting and Financial Management*, vol. 8 (Spring 1996), pp. 39–40.

²¹ Robert W. Hartman, Statement before the Subcommittee on Economic Development, Committee on Public Works and Transportation, U.S. House of Representatives (May 26, 1993). Hartman stated: "to our knowledge, only two developed countries, Chile and New Zealand, recognize depreciation in their budgets."

²² New Zealand's use of depreciation in its budget is discussed in GAO, *Budget Issues: The Role of Depreciation in Budgeting for Certain Federal Investments*, GAO/AIMD–95–34 (February 1995), pp. 13 and 16–17.

an appropriation would be required for cash payments for capital assets made in the fiscal year, but this would not be included in the "resource budget." On the other hand, some countries—including Sweden, Denmark, Finland, and the Netherlands—formerly had separate capital budgets but abandoned them a number of years ago.²³

Many *developing countries* operate a dual budget system comprising a regular or recurrent budget and a capital or development budget. The World Bank staff has concluded that:

"The dual budget may well be the single most important culprit in the failure to link planning, policy and budgeting, and poor budgetary outcomes. The dual budget is misconceived because it is based on a false premise that capital expenditure by government is more productive than current expenditure. Separating development and recurrent budgets usually leads to the development budget having a lower hurdle for entry. The result is that everyone seeks to redefine their expenditure as capital so it can be included in the development budget. Budget realities are left to the recurrent budget to deal with, and there is no pretension that expenditure proposals relate to policy priorities."²⁴

Conclusions

It is for reasons such as these that the General Accounting Office issued a report in 1993 that criticized budgeting for capital in terms of depreciation. Although the criticisms were in the context of what is termed "national capital" in this chapter, they apply equally to "Federal capital."

"Depreciation is not a practical alternative for the Congress and the administration to use in making decisions on the appropriate level of spending intended to enhance the nation's long-term economic growth for several reasons. Currently, the law requires agencies to have budget authority before they can obligate or spend funds. Unless the full amount of budget authority is appropriated up front, the ability to control decisions when total resources are committed to a particular use is reduced. Appropriating only annual depreciation, which is only a fraction of the total cost of an investment, raises this control issue."²⁵

After further study of the role of depreciation in budgeting for national capital, GAO reiterated that con-

²³ The budgets in Sweden, Great Britain, Germany, and France are described in GAO, *Budget Issues: Budgeting Practices in West Germany, France, Sweden, and Great Britain*, GAO/AFMD–87–SFS (November 1986). Sweden had separate capital and operating budgets from 1937 to 1981, together with a total consolidated budget from 1956 onwards. The reasons for abandoning the capital budget are discussed briefly in the GAO report and more extensively by a government commission established to recommend changes in the Swedish budget system. One reason was that borrowing was no longer based on the distinction between current and capital budgets. See Sweden, Ministry of Finance, *Proposal for a Reform of the Swedish Budget System: A Summary of the Report of the Budget Commission Published by the Ministry of Finance* (Stockholm, 1974), chapter 10.

²⁴ The World Bank, *Public Expenditure Management Handbook* (Washington, D.C.: The World Bank, 1998), Box 3.11, page 53.

²⁵ GAO, *Budget Issues: Incorporating an Investment Component in the Federal Budget*, GAO/AIMD–94–40 (November 1993), p. 11. GAO had made the same recommendation in earlier reports but with less extensive analysis.

clusion in another study in 1995.²⁶ “The greatest disadvantage... was that depreciation would result in a loss of budgetary control under an obligation-based budgeting system.”²⁷ Although that study also focused primarily on what is termed “national capital” in this chapter, its analysis applies equally to “Federal capital.” In 1996 GAO extended its conclusions to Federal capital as well. “If depreciation were recorded in the federal budget in place of cash requirements for capital spending, this would undermine Congress’ ability to control expenditures because only a small fraction of an asset’s cost would be included in the year when a decision was made to acquire it.”²⁸

Investment in National Capital

A Target for National Investment

The Federal Government’s investment in national capital has a much broader and more varied form than its investment in Federal capital. The Government’s goal is to support and accelerate sustainable economic growth for the Nation as a whole and in some instances for specific regions or groups of people. The Government’s investment concerns for the Nation are two-fold:

- *The effect of its own investment in national capital on the output and income that the economy can produce.* Reducing expenditure on consumption and increasing expenditure on investment that supports economic growth is a major priority for the Administration. It has reordered priorities in its budgets by proposing increases in selected investments.
- *The effect of Federal taxation, borrowing, and other policies on private investment.* The Administration’s deficit reduction policy has brought about an expansion of private investment, most notably in producers’ durable equipment.

In its 1993 report, *Incorporating an Investment Component in the Federal Budget*, the General Accounting Office (GAO) recommended establishing an investment component within the unified budget—but not a separate capital budget or the use of depreciation—for this type of investment.²⁹ GAO defined this investment as “federal spending, either direct or through grants, that is directly intended to enhance the private sector’s long-term productivity.”³⁰ To increase investment—both public and private—GAO recommended establishing targets for the level of Federal investment and for a declining path of unified budget deficits over time.³¹ Such a target for investment in national capital would focus attention on policies for growth, encourage a conscious decision about the overall level of growth-enhancing investment, and make it easier to set spending priorities in terms of policy goals for aggregate forma-

tion of national capital. GAO reiterated its recommendation in another report in 1995.³²

Table 6–12. UNIFIED BUDGET WITH NATIONAL INVESTMENT COMPONENT, 2001

(In billions of dollars)

Receipts	2,019
Outlays:	
National investment	150
Other	1,685
Subtotal, outlays	1,835
Surplus or deficit (–) ¹	184

¹ The surplus allocation for debt reduction is part of the President’s overall budgetary framework to extend the solvency of Social Security and Medicare, and is shown in Table S–1 in Part 6 of the 2001 *Budget*.

Table 6–12 illustrates the unified budget reorganized as GAO recommends to have a separate component for investment in national capital. This component is roughly estimated to be \$150 billion in 2001. It includes infrastructure outlays financed by Federal grants to State and local governments, such as highways and sewer projects, as well as direct Federal purchases of infrastructure, such as electric power generation equipment. It also includes intangible investment for non-defense research and development, for basic research financed through defense, and for education and training. Much of this expenditure consists of grants and credit assistance to State and local governments, non-profit organizations, or individuals. Only 10 percent of national investment consists of assets to be owned by the Federal Government. Military investment and some other “capital assets” as defined previously are excluded, because that investment does not primarily enhance economic growth.

A Capital Budget for National Investment

Table 6–13 roughly illustrates what a capital budget and operating budget would look like under this definition of investment—although it must be emphasized that this is *not* GAO’s recommendation. Some proponents of a capital budget would make spending decisions within the framework of such a capital budget and operating budget. But the limitations that apply to the use of depreciation in deciding on investment decisions for Federal capital apply even more strongly in deciding on investment decisions for national capital. Most national capital is neither owned nor controlled by the Federal Government. Such investments are sunk costs completely and can be controlled only by decisions made up front when the Government commits itself to the expenditure.³³

In addition to these basic limitations, the definition of investment is more malleable for national capital than Federal capital. Many programs promise long-term intangible benefits to the Nation, and depreciation rates

²⁶ GAO, *Budget Issues: The Role of Depreciation in Budgeting for Certain Federal Investments*, GAO/AIMD–95–34 (February 1995), pp. 1 and 19–20.

²⁷ *Ibid.*, p. 17. Also see pp. 1–2 and 16–19.

²⁸ GAO, *Budget Issues: Budgeting for Federal Capital*, GAO/AIMD–97–5 (November 1996), p. 28. Also see p. 4.

²⁹ *Incorporating an Investment Component in the Federal Budget*, pp. 1–2, 9–10, and 15.

³⁰ *Ibid.*, pp. 1 and 5.

³¹ *Ibid.*, pp. 2 and 13–16.

³² *The Role of Depreciation in Budgeting for Certain Investments*, pp. 2 and 19–20.

³³ GAO’s conclusions about the loss of budgetary control that were quoted at the end of the section on Federal capital came from studies that predominantly considered “national capital.”

**Table 6-13. CAPITAL, OPERATING, AND UNIFIED BUDGETS:
NATIONAL CAPITAL, 2001¹**

(In billions of dollars)

Operating Budget	
Receipts	1,981
Expenses:	
Depreciation ²	74
Other	1,685
Subtotal, expenses	1,758
Surplus or deficit (-)	222
Capital Budget	
Income:	
Depreciation ²	74
Earmarked tax receipts ³	38
Subtotal, income	112
Capital expenditures	150
Surplus or deficit (-)	-38
Unified Budget	
Receipts	2,019
Outlays	1,835
Surplus or deficit (-) ⁴	184

¹For the purpose of this illustrative table only, education and training outlays are arbitrarily depreciated over 30 years by the straight-line method. This differs from the treatment of education and training elsewhere in this chapter and in Chapter 2. All depreciation estimates are subject to the limitations explained in Part III of this chapter. Depreciation is measured in terms of current cost, not historical cost.

²Excludes depreciation on capital financed by earmarked tax receipts allocated to the capital budget.

³Consists of tax receipts of the highway and airport and airways trust funds, less trust fund outlays for operating expenditures. These are user charges earmarked for financing capital expenditures.

⁴The surplus allocation for debt reduction is part of the President's overall budgetary framework to extend the solvency of Social Security and Medicare, and is shown in Table S-1 in Part 6 of the 2001 Budget.

are much more difficult to determine for intangible investment such as research and education than they are for physical investment such as highways and office buildings. These and other definitional questions are hard to resolve. The answers could significantly affect budget decisions, because they would determine whether the budget would record all or only a small part of the cost of a decision when policy makers were comparing the budgetary cost of a project with their judgment of its benefits. The process of reaching an answer with a capital budget would open the door to manipulation, because there would be an incentive to make the operating expenses and deficit look smaller by classifying outlays as investment and using low depreciation rates. This would "justify" more spending by the program or the Government overall.³⁴

A Capital Budget and the Analysis of Saving and Investment

Data from the Federal budget may be classified in many different ways, including analyses of the Government's direct effects on saving and investment. As Parts I and III of this chapter have shown, the unified budget provides data that can be used to calculate Federal

³⁴These problems are also pointed out in GAO, *Incorporating an Investment Component in the Federal Budget*, pp. 11-12. They are discussed more extensively with respect to highway grants, research and development, and human capital in GAO, *The Role of Depreciation in Budgeting for Certain Federal Investments*, pp. 11-14. GAO found no government that budgets for the depreciation of infrastructure (whether or not owned by that government), human capital, or research and development (except that New Zealand budgets for the depreciation of research and development if it results in a product that is intended to be used or marketed).

investment outlays and federally financed capital stocks. However, the budget totals themselves do not make this distinction. In particular, the budget surplus or deficit does not measure the Government's contribution to the nation's net saving (i.e., saving net of depreciation). A capital budget, it is sometimes contended, is needed for this purpose.

This purpose, however, is now fulfilled by the Federal sector of the national income and product accounts (NIPA) according to one definition of investment. The NIPA Federal sector measures the impact of Federal current receipts, current expenditures, and the current surplus or deficit on the national economy. It is part of an integrated set of measures of aggregate U.S. economic activity that is prepared by the Bureau of Economic Analysis in the Department of Commerce in order to measure gross domestic product (GDP), the income generated in its production, and many other variables used in macroeconomic analysis. The NIPA Federal sector for recent periods is published monthly in the *Survey of Current Business* with separate releases for historical data. Estimates for the President's proposed budget through the budget year are normally published in the budget documents. The NIPA translation of the budget, rather than the budget itself, is ordinarily used by economists to analyze the effect of Government fiscal policy on the aggregate economy.³⁵

Until four years ago the NIPA Federal sector did not divide government purchases of goods and services between consumption and investment. With the comprehensive revision of the national income and product accounts in early 1996, it now makes that distinction.³⁶ The revised NIPA Federal Government account is a current account or an operating account for the Federal Government and accordingly shows current receipts and current expenditures. It excludes expenditures for structures, equipment, and software owned by the Federal Government; it includes depreciation on the federally owned stock of structures, equipment, and software as a proxy for the services of capital assets consumed in production and thus as part of the Federal Government's current expenditures. It applies this treatment to a comprehensive definition of federally owned structures, equipment, and software, both defense and non-defense, similar to the definition of "capital assets" in this chapter.³⁷

³⁵See chapter 16 of this volume, "National Income and Product Accounts," for the NIPA current account of the Federal Government based on the budget estimates for 2000 and 2001, and for a discussion of the NIPA Federal sector and its relationship to the budget.

³⁶This distinction is also made in the national accounts of most other countries and in the System of National Accounts (SNA), which is guidance prepared by the United Nations and other international organizations. Definitions of investment vary. For example, the SNA does not include the purchase of military equipment as investment.

³⁷The treatment of investment (except for the recent recognition of software) in the NIPA Federal sector is explained in *Survey of Current Business*, "Preview of the Comprehensive Revision of the National Income and Product Accounts: Recognition of Government Investment and Incorporation of a New Methodology for Calculating Depreciation" (September 1995), pp. 33-39. As is the case of private sector investment, government investment does not include expenditures on research and development or on education and training. Government purchases of structures, equipment, and software remain a part of gross domestic product (GDP) as a separate component. The NIPA State and local government account is defined in the same way and includes depreciation on structures, equipment, and software owned by State and local governments that were financed by Federal grants as well as by their own resources. Depreciation is not displayed as a separate line item in the government account: depreciation on general government capital assets is included in government "consumption expenditures"; and depreciation on the capital assets of government enterprises is subtracted in calculating the "current surplus of government enterprises."

The NIPA “current surplus or deficit” of the Federal Government thus measures the Government’s direct contribution to the Nation’s net saving (given the definition of investment that is employed). The 1999 Federal Government current account surplus was increased \$2 billion by including depreciation rather than gross investment, because depreciation of federally owned structures, equipment, and software was less than gross investment. The 2001 Federal current account surplus is estimated to be increased \$16 billion.³⁸ A capital budget is not needed to capture this effect.

Borrowing to Finance a Capital Budget

A further issue raised by a capital budget is the financing of capital expenditures. Some have argued that the Government ought to balance the operating budget and borrow to finance the capital budget—capital expenditures less depreciation. The rationale is that if the Government borrows for net investment and the rate of return exceeds the interest rate, the additional debt does not add a burden onto future generations. Instead, the burden of paying interest on the debt and repaying its principal is spread over the generations that will benefit from the investment. The additional debt is “justified” by the additional assets.

This argument is at best a justification to borrow to finance *net* investment, after depreciation is subtracted from *gross* outlays, not to borrow to finance *gross* investment. To the extent that capital is used up during the year, there are no additional assets to justify additional debt. If the Government borrows to finance *gross* investment, the additional debt exceeds the additional capital assets. The Government is thus adding onto the amount of future debt service without providing the additional capital that would produce the additional income needed to service that debt.

This justification, furthermore, requires that depreciation be measured in terms of the current replacement cost, not the historical cost. Current cost depreciation is needed in order to measure all activities in the budget on a consistent basis, since other outlays and receipts are automatically measured in the prices of the current year. Current cost depreciation is also needed to obtain a valid measure of net investment. This requires that the addition to the capital stock from new purchases and the subtraction from depreciation on existing assets both be measured in the prices of the same year. When prices change, historical cost depreciation does not measure the extent to which the capital stock is used up each year.

As a broad generalization, Tables 6–11 and 6–13 suggest that this rationale would not currently justify a great deal of Federal borrowing, if any at all, under the two capital budgets roughly illustrated in this chapter. For *Federal capital*, Table 6–11 indicates that current cost depreciation is more than gross investment for Federal capital—the capital budget surplus is \$4 billion. The rationale of borrowing to finance net invest-

ment would not justify the Federal Government borrowing at all to finance its investment in Federal capital; instead, it would have to repay this amount of debt (\$4 billion). For *national capital*, Table 6–13 indicates that current cost depreciation (plus the excise taxes earmarked to finance capital expenditures for highways and airports and airways³⁹) is less than gross investment but not by a great deal—the capital budget deficit is \$38 billion. The rationale of borrowing to finance net investment would justify the Federal Government borrowing this amount (\$38 billion) and no more to finance its investment in national capital.⁴⁰

Even with depreciation calculated in current cost, the rationale for borrowing to finance net investment is not persuasive. The Federal Government, unlike a business or household, is responsible not only for its own affairs but also for the general welfare of the Nation. To maintain and accelerate national economic growth and development, the Government needs to sustain private investment as well as its own national investment. For more than a decade, however, net national saving has been low, both by historical standards and in comparison to the amounts needed to meet the challenges expected in the decades ahead.

To the extent that the Government finances its own investment in a way that results in lower private investment, the net increase of total investment in the economy is less than the increase from the additional Federal capital outlays alone. The net increase in total investment is significantly less if the Federal investment is financed by borrowing than if it is financed by taxation, because borrowing primarily draws upon the saving available for private (and State and local government) investment whereas much of taxation instead comes out of private consumption. Therefore, the net effect of Federal investment on economic growth would be reduced if it were financed by borrowing. This would be the result even if the rate of return on Federal investment was higher than the rate of return on private investment. For example, if a Federal investment that yielded a 15 percent rate of return crowded out private investment that yielded 10 percent, the net social return would still be positive but it would only be 5 percent.⁴¹

From its outset, this Administration has taken major steps to increase the saving available for private investment while also increasing Federal investment for national capital. During the past seven years, the large deficit has been replaced by a substantial surplus, and available resources have been shifted to investment in education and training and in science and technology. The present budget proposes to continue to run substantial surpluses, paying down the debt to make room for financing private investment, while protecting high

³⁹The capital budget deficit would be about \$27 billion larger if current cost depreciation were used instead of earmarked excise taxes for investment in highways and airports and airways.

⁴⁰This discussion abstracts from non-budgetary transactions that affect Federal borrowing requirements, such as changes in the Treasury operating cash balance and the net financing disbursements of the direct loan and guaranteed loan financing accounts. See chapter 12 of this volume, “Federal Borrowing and Debt,” and the explanation of Table 12–2.

⁴¹GAO considered deficit financing of investment but did not recommend it. See *Incorporating an Investment Component in the Federal Budget*, pp. 12–13.

³⁸See actuals and estimates for 1990–2001 in table 16–2 of chapter 16 of this volume, “National Income and Product Accounts.”

priority Federal investment. A capital budget is not a justification to relax the budget constraints that are contributing to this accomplishment. Any easing would

undo the gains from achieving a surplus that have already been achieved and the further gains from the proposals in this budget.

PART V: SUPPLEMENTAL PHYSICAL CAPITAL INFORMATION

The Federal Capital Investment Program Information Act of 1984 (Title II of Public Law 98–501; hereafter referred to as the Act) requires that the budget include projections of Federal physical capital spending and information regarding recent assessments of public civilian physical capital needs. This section is submitted to fulfill that requirement.

This part is organized in two major sections. The first section projects Federal outlays for public physical capital and the second section presents information regarding public civilian physical capital needs.

Projections of Federal Outlays For Public Physical Capital

Federal public physical capital spending is defined here to be the same as the “major public physical capital investment” category in Part I of this chapter. It covers spending for construction and rehabilitation, acquisition of major equipment, and other physical assets. This section excludes outlays for human capital, such as the conduct of education and training, and outlays for the conduct of research and development.

The projections are done generally on a current services basis, which means they are based on 2000 enacted appropriations and adjusted for inflation in later years. The current services concept is discussed in Chapter 14, “Current Services Estimates.”

Federal public physical capital spending was \$118.6 billion in 1999 and is projected to increase to \$154.4 billion by 2009 on a current services basis. The largest components are for national defense and for roadways and bridges, which together accounted for almost two-thirds of Federal public physical capital spending in 1999.

Table 6–14 shows projected current services outlays for Federal physical capital by the major categories specified in the Act. Total Federal outlays for transportation-related physical capital were \$31.0 billion in 1999, and current services outlays are estimated to increase to \$45.3 billion by 2009. Outlays for nondefense housing and buildings were \$11.3 billion in 1999 and are estimated to be \$15.6 billion in 2009. Physical capital outlays for other nondefense categories were \$22.4 billion in 1999 and are projected to be \$27.8 billion by 2009. For national defense, this spending was \$53.9 billion in 1999 and is estimated on a current services basis to be \$65.7 billion in 2009.

Table 6–15 shows current services projections on a constant dollar basis, using fiscal year 1996 as the base year.

Public Civilian Capital Needs Assessments

The Act requires information regarding the state of major Federal infrastructure programs, including highways and bridges, airports and airway facilities, mass transit, railroads, federally assisted housing, hospitals, water resources projects, and space and communications investments. Funding levels, long-term projections, policy issues, needs assessments, and critiques, are required for each category.

Capital needs assessments change little from year to year, in part due to the long-term nature of the facilities themselves, and in part due to the consistency of the analytical techniques used to develop the assessments and the comparatively steady but slow changes in underlying demographics. As a result, the practice has arisen in reports in previous years to refer to earlier discussions, where the relevant information had been carefully presented and changes had been minimal.

The needs assessment material in reports of earlier years is incorporated this year largely by reference to earlier editions and by reference to other needs assessments. The needs analyses, their major components, and their critical evaluations have been fully covered in past Supplements, such as the 1990 Supplement to Special Analysis D.

It should be noted that the needs assessment data referenced here have not been determined on the basis of cost-benefit analysis. Rather, the data reflect the level of investment necessary to meet a predefined standard (such as maintenance of existing highway conditions). The estimates do not address whether the benefits of each investment would actually be greater than its cost or whether there are more cost-effective alternatives to capital investment, such as initiatives to reduce demand or use existing assets more efficiently. Before investing in physical capital, it is necessary to compare the cost of each project with its estimated benefits, within the overall constraints on Federal spending.

Table 6-14. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING
(In billions of dollars)

	1999 Actual	Estimate										
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Nondefense:												
Transportation-related categories:												
Roadways and bridges	22.8	25.5	27.2	28.1	28.7	29.2	29.8	30.5	31.1	31.7	32.3	
Airports and airway facilities	3.9	3.8	3.8	4.1	4.1	4.3	4.4	4.5	4.6	4.6	4.8	
Mass transportation systems	4.0	4.3	4.5	5.2	5.7	6.4	6.8	7.0	7.2	7.4	7.5	
Railroads	0.3	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	
Subtotal, transportation	31.0	34.3	36.1	38.0	39.2	40.6	41.6	42.6	43.6	44.5	45.3	
Housing and buildings categories:												
Federally assisted housing	7.0	7.6	8.0	7.7	8.0	8.7	8.9	9.2	9.1	9.0	9.1	
Hospitals	1.3	1.4	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.2	
Public buildings ¹	3.0	3.5	3.6	3.6	3.8	3.8	3.9	4.0	4.1	4.2	4.3	
Subtotal, housing and buildings	11.3	12.5	13.5	13.2	13.7	14.5	14.8	15.2	15.2	15.3	15.6	
Other nondefense categories:												
Wastewater treatment and related facilities	2.5	2.9	3.1	3.4	3.6	3.8	3.9	3.9	4.0	4.0	4.1	
Water resources projects	2.8	3.8	3.4	3.3	3.5	3.6	3.7	3.8	3.8	3.9	4.0	
Space and communications facilities	3.6	3.2	3.1	3.6	3.6	3.9	3.6	3.9	4.0	3.9	3.9	
Energy programs	1.1	1.1	1.0	1.0	1.1	1.0	0.9	0.8	0.8	0.8	0.8	
Community development programs	5.4	5.6	5.6	5.8	5.9	6.0	6.0	6.1	6.2	6.3	6.4	
Other nondefense	7.1	7.7	7.3	6.9	7.1	7.6	7.8	8.0	8.2	8.4	8.6	
Subtotal, other nondefense	22.4	24.1	23.5	24.0	24.8	25.9	25.9	26.5	27.0	27.3	27.8	
Subtotal, nondefense	64.8	71.0	73.1	75.2	77.6	80.9	82.3	84.3	85.8	87.1	88.7	
National defense	53.9	53.3	56.1	57.7	60.2	61.8	63.3	61.9	63.1	64.4	65.7	
Total	118.6	124.3	129.2	132.9	137.8	142.8	145.6	146.2	148.9	151.4	154.4	

¹ Excludes outlays for public buildings that are included in other categories in this table.

Table 6-15. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING
(In billions of constant 1996 dollars)

	1999 Actual	Estimate				
		2000	2001	2002	2003	2004
Nondefense:						
Transportation-related categories:						
Roadways and bridges	21.8	23.7	24.7	24.9	24.7	24.6
Airports and airway facilities	3.8	3.6	3.6	3.7	3.7	3.8
Mass transportation systems	3.9	4.0	4.1	4.6	4.9	5.4
Railroads	0.3	0.7	0.6	0.6	0.6	0.6
Subtotal, transportation	29.8	32.1	33.0	33.8	34.0	34.3
Housing and buildings categories:						
Federally assisted housing	6.8	7.1	7.2	6.8	6.9	7.3
Hospitals	1.3	1.4	1.8	1.8	1.8	1.8
Public buildings ¹	3.1	3.5	3.6	3.5	3.6	3.5
Subtotal, housing and buildings	11.1	12.0	12.6	12.1	12.3	12.6
Other nondefense categories:						
Wastewater treatment and related facilities	2.4	2.7	2.8	3.0	3.1	3.2
Water resources projects	2.8	3.8	3.4	3.2	3.3	3.3
Space and communications facilities	3.7	3.2	3.0	3.4	3.4	3.6
Energy programs	1.1	1.1	1.0	0.9	1.0	0.9
Community development programs	5.2	5.2	5.1	5.1	5.1	5.1
Other nondefense	7.1	7.5	7.0	6.5	6.6	6.9
Subtotal, other nondefense	22.2	23.4	22.3	22.2	22.5	23.0
Subtotal, nondefense	63.1	67.5	67.9	68.2	68.7	69.9
National defense	54.6	53.2	54.9	55.4	56.6	57.0
Total	117.7	120.8	122.8	123.5	125.3	126.9

¹ Excludes outlays for public buildings that are included in other categories in this table.

Significant Factors Affecting Infrastructure Needs Assessments

Highways

1. Projected annual average growth in travel to the year 2015	1.96 percent
2. Annual cost to maintain overall 1995 conditions and performance on highways eligible for Federal-aid	\$33.4 billion (1995 dollars)
3. Annual cost to maintain overall 1995 conditions on bridges	\$5.6 billion (1995 dollars)

Airports and Airway Facilities

1. Airports in the National Plan of Integrated Airport Systems with scheduled passenger traffic	528
2. Air traffic control towers	451
3. Airport development eligible under airport improvement program for period 1993–1997	\$29.7 billion (\$9.4 billion for capacity) (1992 dollars)

Mass Transportation Systems

1. Yearly cost to maintain condition and performance of rail facilities over a period of 20 years	\$6.1 billion (1995 dollars)
2. Yearly cost to replace and maintain the urban, rural, and special services bus fleet and facilities	\$3.6 billion (1995 dollars)

Wastewater Treatment

1. Total remaining needs of sewage treatment facilities	\$128 billion (1996 dollars)
2. Total Federal expenditures under the Clean Water Act of 1972 through 2000	\$74 billion
3. The population served by centralized treatment facilities: percentage that benefits from at least secondary sewage treatment systems	98 percent
4. States and territories served by State Revolving Funds	51

Housing

1. Total unsubsidized very low income renter households with worst case needs (5.3 million*)	
A. In severely substandard units	0.4 million
B. With a rent burden greater than 50 percent	5.0 million

*The total is less than the sum because some renter families have both problems.

Indian Health (IHS) Care Facilities

1. IHS hospital occupancy rates (1999)	48.0 percent
2. Average length of stay, IHS hospitals (days) (1999)	3.9
3. Hospital admissions (1999)	49,753
4. Outpatient visits (1998)	4,407,000
5. Eligible population (2000)	1,511,135

Department of Veterans Affairs (VA) Hospitals (1998)

1. Hospitals	166
2. Ambulatory clinics	544
3. Domiciliaries	40
4. Vet centers	206
5. Nursing homes	132

Water Resources

Water resources projects include navigation (deepwater ports and inland waterways); flood and storm damage protection; irrigation; hydro-power; municipal and industrial water supply; recreation; fish and wildlife mitigation, enhancement, and restoration; and soil conservation.

Potential water resources investment needs typically consist of the set of projects that pass both a benefit-cost test for economic feasibility and a test for environmental acceptability. In the case of fish and wildlife mitigation or restoration projects, the set of eligible projects includes those that pass a cost-effectiveness test.

Investment Needs Assessment References

General

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7. RESEARCH AND DEVELOPMENT FUNDING

Investments in scientific discovery and technological development—both public and private—have driven economic growth and improvements in the quality of life in America for long as our Nation has existed. In the last 50 years, developments in science and technology have generated at least half of the Nation's productivity growth, creating millions of high-skill, high-wage jobs and leading to advances in the economy, national security, the environment, transportation and medical care. Federal government support for science and technology has helped put Americans on the moon, boosted agricultural productivity, harnessed the atom, devised more effective treatments for cancers, tracked weather patterns and earthquake faults, and deciphered the chemistry of life.

Because technological advances are key to progress and economic growth, in 1993 President Clinton took office committed to expanding Federal investment in civilian research and development. The President's economic strategy relied upon the critical element of investing in people and proposed targeted investments to help the Nation compete in the global economy and improve our quality of life.

The Administration's support for R&D has been essential to the flow of innovative ideas, which have resulted in everything from the discovery of the first multi-planet system beyond our own to unraveling human, plant and microbial genomes, a critical step in understanding the function of genes, and, in turn, potentially treating and curing diseases that are now beyond the reach of medical science. Investments in science and technology can bring us breakthroughs in the areas of the environment, health, national security, and more, including, for example: fuel economies that are double those of today; a strong defense that continually hones its technological edge; and fundamental research that may be able to unlock the answers to some of the most basic questions: why cells age and die, how human beings learn and remember information, and whether there is life on other planets.

Over the last several years, private industry has expanded its support for research and development, but most of these efforts focus on bringing new products to market rather than funding the basic research that can lead to break-through applications in a wide range of fields. By supporting fundamental research that can provide the foundation for tomorrow's technologies, the Federal Government can act as a catalyst for these breakthroughs. Federal investment in basic research increased by nearly 45 percent from 1993 to 2000, with emphasis on health research. The budget proposes

\$20.3 billion to advance a balanced portfolio in basic research, an increase of \$1.3 billion, or 7 percent, over 2000.

Basic university-based research plays a special role in the development of scientific advances. The competitive grants process upon which university research relies fosters innovation and expands scientific frontiers. At the same time, these research grants provide a training ground for the next generation of scientists and engineers. Funding support for universities has grown to roughly \$17.8 billion, a 53 percent increase, since 1993. Funding the academic researcher through a peer-reviewed, merit-based competitive process is the Federal government's strategy for pursuing the most promising long-term research. Researchers at national laboratories, in the private sector, and at non-profit companies may also be funded through such a competition. In 2001, \$28.2 billion in research funds will be awarded through a peer-reviewed, merit-based competitive process.

Other processes for allocating research dollars are appropriate in special cases. For example, agencies may decide that they wish to spearhead research in a particularly risky, but highly promising, field that can further the agency's mission. Agency program managers with in-depth knowledge and expertise are likely to have the best judgement for making such decisions. One example of this approach is the National Science Foundation, where program managers may award up to 5 percent of their funds through "Small Grants for Exploratory Research," which are made at the program manager's discretion, without peer review. In other agencies, there are well-known centers of excellence at the national laboratories, where there are unique capabilities. An agency may determine that maintaining and exploiting this excellence requires long-term financial stability for expensive world-class machines that will ultimately benefit many researchers.

In the appropriations process, Congress may require awards to be made to a single performer or collection of performers without competitive selection. This Congressional direction may be established in law, report language, or by other means. As a result of a recommendation in the National Science and Technology Council's report on the Government-University Partnership, agencies have reported the amount of funding that was awarded through such Congressional direction. The Administration is in the process of developing consistent measures across Federal agencies for these latter two categories of research, in order to publish the data in the 2002 budget.

The tables below provide data on Federal spending for research and development. Table 7-1 shows agency-by-agency spending on basic and applied research, development, and equipment and facilities. Table 7-2

shows agency-by-agency spending for two initiatives of the National Science and Technology Council, which are required by statute.

Table 7-1. FEDERAL RESEARCH AND DEVELOPMENT SPENDING

(Budget authority, dollar amounts in millions)

	1999 Actual	2000 Estimate	2001 Proposed	Dollar Change: 2000 to 2001	Percent Change: 2000 to 2001
By Agency					
Defense	38,850	38,719	38,640	-79	0%
Health and Human Services	15,797	18,063	18,998	935	5%
National Aeronautics and Space Administration	9,715	9,753	10,035	282	3%
Energy	6,992	7,091	7,655	564	8%
National Science Foundation	2,702	2,903	3,464	561	19%
Agriculture	1,645	1,773	1,828	55	3%
Commerce	1,084	1,073	1,152	79	7%
Interior	786	585	731	146	25%
Transportation	670	648	679	31	5%
Veterans Affairs	644	655	655	0	0%
Environmental Protection Agency	500	584	590	6	1%
Education	205	233	271	38	16%
Other	752	664	635	-26	-4%
TOTAL	80,342	82,744	85,333	2,589	3%
Basic Research					
Defense	1,082	1,175	1,230	55	5%
Health and Human Services	8,642	9,857	10,422	565	6%
National Aeronautics and Space Administration	1,981	1,947	1,895	-52	-3%
Energy	2,228	2,242	2,379	137	6%
National Science Foundation	2,330	2,512	3,000	488	19%
Agriculture	634	692	740	48	7%
Commerce	39	39	52	13	33%
Transportation	42	46	69	23	50%
Environmental Protection Agency	57	58	76	18	31%
Veterans Affairs	263	268	268	0	0%
Interior	50	61	63	2	3%
Education	2	2	2	0	0%
Other	118	128	132	4	3%
SUBTOTAL	17,468	19,027	20,328	1,301	7%
Applied Research					
Defense	3,064	3,383	3,087	-296	-9%
Health and Human Services	4,998	5,728	5,935	207	4%
National Aeronautics and Space Administration	2,306	2,365	2,817	452	19%
Energy	1,810	1,913	2,174	261	14%
National Science Foundation	147	164	193	29	18%
Agriculture	743	807	821	14	2%
Commerce	799	770	834	64	8%
Transportation	368	384	477	93	24%
Environmental Protection Agency	401	387	377	-10	-3%
Veterans Affairs	365	370	370	0	0%
Interior	418	482	486	4	1%
Education	141	150	165	15	10%
Other	355	290	290	0	0%
SUBTOTAL	15,915	17,193	18,026	833	5%
Development					
Defense	34,423	33,913	33,937	24	0%
Health and Human Services	1,919	2,229	2,408	179	8%
National Aeronautics and Space Administration	5,092	5,093	4,920	-173	-3%
Energy	2,003	2,036	2,163	127	6%
National Science Foundation	0	0	0	0	NA
Agriculture	109	109	118	9	8%
Commerce	137	106	176	70	66%
Transportation	161	145	171	26	18%
Environmental Protection Agency	96	93	84	-9	-10%

Table 7-1. FEDERAL RESEARCH AND DEVELOPMENT SPENDING—Continued
(Budget authority, dollar amounts in millions)

	1999 Actual	2000 Estimate	2001 Proposed	Dollar Change: 2000 to 2001	Percent Change: 2000 to 2001
Veterans Affairs	16	17	17	0	0%
Interior	25	24	34	10	42%
Education	62	81	104	23	28%
Other	259	225	189	-36	-16%
SUBTOTAL	44,302	44,071	44,321	250	1%
Facilities and Equipment					
Defense	281	248	386	138	56%
Health and Human Services	238	249	233	-16	-6%
National Aeronautics and Space Administration	336	348	403	55	16%
Energy	951	900	939	39	4%
National Science Foundation	225	227	271	44	19%
Agriculture	159	165	149	-16	-10%
Commerce	109	158	90	-68	-43%
Transportation	215	10	14	4	40%
Environmental Protection Agency	116	110	142	32	29%
Veterans Affairs	0	0	0	0	NA
Interior	7	17	7	-10	-59%
Education	0	0	0	0	NA
Other	20	21	24	3	14%
SUBTOTAL	2,657	2,453	2,658	205	8%

NA = Not applicable.

Table 7-2. AGENCY DETAIL OF MAJOR INITIATIVES
(Budget authority, dollar amounts in millions)

	1999 Actual	2000 Estimate	2001 Proposed	Dollar Change: 2000 to 2001	Percent Change: 2000 to 2001
Information Technology R&D*					
National Science Foundation	393	517	740	223	43%
Energy (Defense—Advanced Strategic Computing Initiative)	301	397	477	80	20%
Energy (Civilian programs)	139	120	190	70	57%
Defense	215	282	397	115	41%
Health and Human Services	118	191	233	42	22%
National Aeronautics and Space Administration	106	174	230	56	32%
Commerce	25	36	44	8	22%
Environmental Protection Agency	4	4	4	0	0%
TOTAL	1,301	1,721	2,315	594	35%
U.S. Global Change Research Program					
National Aeronautics and Space Administration	1,155	1,173	1,149	-24	-2%
National Science Foundation	182	187	187	0	0%
Energy	114	120	123	3	2%
Commerce	63	67	93	26	39%
Agriculture	52	53	85	32	60%
Health and Human Services	40	46	48	2	4%
Interior	27	27	25	-2	-7%
Environmental Protection Agency	17	21	23	2	10%
Smithsonian Institution	7	7	7	0	0%
TOTAL	1,657	1,701	1,740	39	2%

*Merges both the High Performance Computing and Communications program and the Information Technology Initiative (IT²).

8. CREDIT AND INSURANCE

Federal programs offer direct loans and/or loan guarantees for a wide range of activities, primarily housing, education, business, and exports. At the end of 1999, there were \$234 billion in Federal direct loans outstanding and \$976 billion in guaranteed loans. The Federal Government also insures bank, thrift, and credit union deposits up to \$100,000, guarantees private vested defined-benefit pensions, and insures against disasters, specified international investment risks, and various other risks.

In addition, the net loans outstanding of Government-sponsored enterprises (GSEs)—privately owned companies and cooperatives that operate under Federal charters—totaled \$2.4 trillion, including asset-backed securities guaranteed by the GSEs. GSEs are chartered to carry out specified public purposes through financing activities in the housing, education, and agriculture sectors. GSEs are not part of the Federal Government, however, and their securities are not federally guaranteed. By law, the GSEs' securities carry a disclaimer of any U.S. obligation. Congress has authorized the Secretary of the Treasury, at his discretion, to purchase up to \$2.25 billion of obligations issued by Fannie Mae and Freddie Mac, up to \$4 billion by the Federal Home Loan Bank System, and up to \$1 billion by Sallie Mae. Farmer Mac may sell up to \$1.5 billion of its obligations to Treasury under specified, limited conditions.

These diverse programs and GSEs are operating in the context of an accelerating evolution of financial markets that is generating many new risks, as well as new opportunities. Federal program managers will need to reassess their roles and improve their effectiveness to adapt to dynamic market conditions.

The introduction to this chapter summarizes key changes in financial markets and their effects on Federal programs.

- The first section is a crosscutting assessment of the rationale for a continued Federal role in providing credit and insurance, performance measures for credit programs, and criteria for re-engineering credit programs so as to enhance their benefits in relation to costs.
- The second section reviews Federal credit programs and GSEs in four sectors: housing, education, business and community development, and exports. It notes the rationale and goals of these programs and the related activities of the GSEs.
- The final section assesses recent developments in Federal deposit insurance, pension guarantees, and disaster insurance.

Evolving Financial Markets

The Financial Services Modernization Act, signed November 12, 1999, replaces a legal structure created in

the Great Depression with one that is more appropriate to the rapidly changing and integrated financial markets of today. The Act repeals restrictions on bank affiliation with securities firms and removes the remaining statutory limitations on the financial activities allowable in banking organizations for qualified bank holding companies. It permits securities and insurance agency activities to be conducted in bank and financial holding company subsidiaries, municipal securities underwriting to be conducted in a national bank or in bank subsidiaries, and merchant banking and insurance underwriting to be conducted in financial holding company subsidiaries.

The financial sector has already undergone substantial change. The number of banking organizations has shrunk by a quarter in the last decade and is roughly half the level 20 years ago. Consolidation has raised the share of industry assets at the 100 largest banks to 70 percent in 1998 from about 50 percent in the mid-1980s. With easing restrictions over the years, interstate banking and branching have become nationwide, and 51 securities affiliates are operating in bank holding companies. International lending by U.S. commercial banks resumed growth in the early 1990s following large losses on developing country loans in the 1980s, but has become increasingly concentrated in large banks. Meanwhile, U.S. banking assets of foreign banks have grown from 12 percent of all U.S. commercial banking assets in 1980 to a 23–25 percent share during the 1990s.

Financial innovation and integration have enabled funds to flow more readily to their most productive uses across the country and around the world. Capital market financing is available to smaller companies and for a broader range of purposes than before. Specialized financial firms and nonfinancial firms, particularly suppliers, are helping to funnel funds from capital markets to small clients in cities and in rural areas. Venture capital providers and sub-prime lenders are fueling the growth of new businesses. Data on small business lending show that institutions outside the local community have become an important source of credit for many businesses.

The 1990s have been a time of robust growth in mortgage markets; the net change in home mortgages rose from \$180 billion in 1995 to \$424 billion in the second quarter of 1999. Federal Reserve staff estimate that about 40 percent of the growth in outstanding home mortgage debt during the past five years financed the extraction of home equity. Secondary markets are the main source of financing for mortgages, and a rapidly growing source of financing for household durables, consumer credit, and small business loans.

Both intermediaries—banks and the many nonbank firms engaged in financial services—and capital markets have been reaching out to new clients that they did not serve a few years ago. Massive data bases and increasingly sophisticated analytical methods are finding creditworthy borrowers among people and businesses previously unlikely to receive private credit. Faster and cheaper information and communications systems also have revolutionized “back office” functions. These have been consolidated to achieve economies of scale and located anywhere in the world where capable workers are available. From these locations, satellite communications can bring the “back office” to any desktop computer. From a timely information base, credit servicing and workout have become much more efficient.

While the increased globalization of financial institutions and capital markets provides extensive benefits, it also makes domestic market conditions more sensitive to events abroad. In 1997 and 1998, the Asian crisis and further events in Russia and Brazil resulted in a flight to liquidity and safety. Market conditions also worsened in 1998 when a heavily exposed hedge fund required a capital contribution from major lenders to avoid bankruptcy and further market disruption. These events drove down U.S. Treasury bond yields dramatically, and raised rates on all but the highest quality corporate bonds. Some credit markets were temporarily disrupted; related to this was an increase in business borrowing from banks, rather than directly from capital markets. Less-creditworthy borrowers faced higher rates or were temporarily unable to find funds.

Conditions returned to near normal liquidity during 1999, but rate spreads between most private loans and securities and Treasury debt remained abnormally high. Problem loans at banks have increased about 70 percent compared with 1998, and banks have tightened underwriting standards. As a result of these experiences, awareness of the potential for discontinuities in financial markets has increased.

Impact on Federal Programs

These changes are affecting the roles, risks, and operations of Federal credit and insurance programs.

The Federal Role

In most lines of credit and insurance, the private market efficiently allocates resources to meet societal demands, and Federal intervention is unnecessary. However, Federal intervention may improve on the market outcome in some situations. The following are six standard situations where this may be the case¹,

- In some cases, private credit and insurance markets may evolve sufficiently to take over functions previously left to Federal programs. More likely, they may take away the best risks among those who have been borrowing from the Government or with its guarantee, leaving Federal programs facing a smaller pool of riskier clients. If the Government is aware of this in time, the result may be new benefit/cost calculations that might help to redesign—or to end—a particular program. If the Government is caught unaware, the result may be greater cost for taxpayers.
- At the same time, managers of Federal programs can take advantage of the growing private capability. With careful attention to the incentives faced by the private sector, they can develop a variety of partnerships with private entities. And they can contract with the private sector wherever it can provide specific credit servicing, collection, or asset disposition services more efficiently.

Insurance programs, too, are affected by the evolution of the financial marketplace. That is most obvious for deposit insurance. It now backs a recovered industry, but one with an increasing concentration of “large complex banking organizations” that have assumed the risks inherent in providing a growing array of increasingly sophisticated services, including many off-balance sheet activities, often on a worldwide basis. Regulators face challenges ranging from the complexity of assessing the risks of evolving financial services firms to the continuing need to monitor for fraud. In pensions, the Government guarantees defined benefit plans, but their role is diminishing as defined contribution plans attract the support of younger workers in an aging workforce. This trend may accelerate as the retirement of the baby boom generation nears. In disaster insurance, private firms are gaining a better understanding of their risks and exploring ways to diversify them in capital markets.

In this changing environment for Federal credit and insurance programs, this chapter asks three questions. First, what is our current understanding of the roles of these programs? Second, how well are they achieving their goals? And finally, could they be re-engineered to achieve greater benefits in relation to costs?

I. A CROSS-CUTTING ASSESSMENT

together with some examples of Federal programs that address them.

- *Information failures* occur when there is an asymmetry in the information available to different agents in the marketplace. A common Federal intervention in such cases is to require the more knowledgeable agent, such as a financial institution, to provide certain information to the other party, for example, the borrower or investor. A different sort of information failure occurs when the private market deems it too risky to develop a new financial instrument or market. This is rare

¹Economics textbooks also list pure public goods, like national defense, where it is difficult or impossible to exclude people from sharing the full benefits of the goods or services once they have been produced. It is hard to imagine credit or insurance examples in this category.

nowadays, but it is worth remembering that the Federal Government developed the market for amortized, fixed-rate mortgages and other innovations in housing finance.

- *Externalities* occur when people or entities either do not pay the full cost of their activities (e.g., pollution) or do not receive the full return. Federal credit assistance for students is justified in part because, although people with more education are likely to have higher income and better health, these individuals do not receive the full benefits of their education. Their colleagues at work, the residents of their community, and the citizens of the Nation also benefit from their greater knowledge and productivity.
- *Economic disequilibrium* is a third rationale for Federal intervention. This is one rationale for deposit insurance. If many banks and thrifts are hurt simultaneously by an economic shock, such as accelerating inflation in the 1970s, and depositors have a hard time knowing which ones may become insolvent, deposit insurance prevents a contagious rush to withdraw deposits that could harm the whole economy.
- *Failure of competition*, resulting from barriers to entry, economies of scale, or foreign government intervention, may also argue for Federal intervention—for example, by reducing barriers to entry, as has often been done recently, by negotiating to eliminate or reduce foreign government subsidies, or by providing countervailing Federal credit assistance to American exporters.
- *Incomplete markets* occur if producers do not provide credit or insurance even though customers might be willing to pay for it. One example would be catastrophic insurance, where there is a small risk of a very large loss; a disaster that occurred sooner rather than later could bankrupt the insurer even if premiums were set at an appropriate level to cover long-term cost. Another example is caused by “moral hazard” problems, where the borrower or insured could behave so as to take advantage of the lender or insurer. This is the case for pension guarantees, where sponsors might underfund plans, and for deposit insurance, where banks might take more risk to earn a higher return. In these cases, the Government’s legal and regulatory powers provide an advantage in comparison with a private insurer.
- In addition to correcting market failures, Federal credit programs are often used to *redistribute resources* by providing subsidies from the general taxpayer to disadvantaged regions or segments of the population.

In reviewing its credit and insurance programs, the Federal Government must continually reassess whether the direct and indirect benefits to the economy exceed the direct and indirect costs. This assessment should include the costs associated with redirecting scarce resources away from other investments. In some situa-

tions, the market may have recently become capable of providing financial services, and older Federal programs may need to be modified or ended to make room for private markets to develop. Private providers in similar circumstances might go bankrupt, merge, or change their line of business; for Federal programs, a policy decision and usually a change in law are needed to eliminate overcapacity. In other instances, Federal programs may be redesigned to encourage the development of private credit market institutions or to target Federal assistance more efficiently to groups still unable to obtain credit and insurance in the private market.

What Are We Trying to Achieve?

If the main Federal role is to provide credit and insurance that private markets would not provide—to stretch the boundaries in providing credit and insurance—the Federal goal is to achieve a net impact that benefits society. Together, these objectives make the standard for success of a Federal credit or insurance program more daunting than for a private credit or insurance firm.

For credit and insurance, as for all other programs, implementation of the Government Performance and Results Act (GPRA) will help to assess whether programs are achieving their intended results in practice—and will improve the odds for success. GPRA requires agencies to develop strategic plans in consultation with the Executive Branch, the Congress, and interested parties; this process should refine and focus agency missions. The strategic plans set long-range goals, annual performance plans set milestones to be reached in the coming year, and annual performance reports measure agency progress toward achieving their goals.

GPRA defines four kinds of measures for assessing programs: inputs (the resources used), outputs (the goods or services produced), outcomes (the gross effects on society achieved by the program), and net impacts (the effects net of those that would have occurred in the absence of the program, e.g., with private financing). For credit and insurance programs, interesting interrelationships among these measures provide the keys to program success.

Net impacts assess the net effect of the program on intended outcomes compared with what would have occurred in the absence of the program. They exclude, for example, effects that would have been achieved with private credit in the absence of the program. Among the net impacts toward which Federal credit programs strive are: a net increase in home ownership, a net increase in higher education graduates, a net increase in small businesses, a net increase in exports, and a net increase in jobs.

For credit programs, the first key to achieving any of these net impacts is outreach. In the spirit of the Federal role, program managers need to identify borrowers who would not get private credit. They need to reach out to underserved populations (e.g., low-income or minority people) and neighborhoods (urban and

rural). They need to encourage the start-up of new activities (e.g., beginning farmers, new businesses, new exporters). They need to reach their legislatively targeted populations (e.g., students, veterans). Federal lending is often to higher-risk borrowers, or for higher-risk purposes. In order to assist certain target groups or encourage certain activities, credit may be extended for longer periods or at a lower cost to the borrower.

Achieving program objectives, however, also means finding ways to assist those borrowers at the boundary of private credit markets to repay their loans. This is not just a financial goal; it is necessary to achieve the program's social purpose. Home ownership requires mortgage repayment. Education that enhances income is associated with repayment of student loans. Remaining in business with a good credit rating requires repayment of small business, farm, and export loans. And loan repayment is inherent in program cost-effectiveness. Moreover, when the Federal Government bears risk for less-creditworthy borrowers and does so in a way that fails to assist them to repay, they struggle with high debt burdens and are left with poor credit records.

Implementation of the Federal Credit Reform Act of 1990 gave Federal credit program managers the incentive to reconcile the tension between helping certain groups or purposes and "businesslike" financial management. With the implementation of GPRA, they may begin to see program success and financial success as two facets of the same goal. The challenge is usually to identify "boundary" borrowers and to structure the loan and its servicing (including technical assistance) so as to pull those borrowers toward financial and programmatic success. In some cases, savings from improved credit program management may be reinvested to pull more borrowers across that boundary.

Outputs and outcomes, therefore, have an interrelationship which is crucial to the performance of credit programs. The most obvious output of Federal credit programs is the number and value of direct loans originated or loans guaranteed. But volume alone does not achieve the objectives of Federal credit programs; indeed, a large volume or market share may mean that private lenders are displaced. Loans must have certain characteristics in order to achieve the desired outcomes and net impacts; these characteristics are therefore part of the desired program output.

The narrow Federal role means output measures should include an estimate of the percent of loans or guarantees originated going to borrowers who would otherwise not have access to private credit, and the percent of loans or guarantees originated going to specific target groups (e.g., veterans) or for specific purposes. Because of the Federal goal, output measures should include the percent of loans or guarantees that are current. This should be compared with the percent that were expected to be current at this point in the repayment cycle.

To assess the latter, program data should be analyzed to determine whether repayment prospects are en-

hanced by particular characteristics of loan structure (such as higher initial borrower equity), of loan origination (such as verifying borrower financial status), of loan servicing (such as prompt counseling), or of guarantee conditions (such as lender risk-sharing). When such characteristics help to control the cost of credit programs and to achieve desired outcomes, then these characteristics should be measured as part of the program's output.

The linkage between such output characteristics and the outcomes of Federal credit programs is not always fully recognized. For example, one desired outcome is to reach underserved populations or neighborhoods. To achieve this outcome, it would be useful to monitor whether loans are going to borrowers who would not otherwise have access to credit, or to specific target groups. Other desired outcomes include supporting investment important to the economy, encouraging start-up of new activities, or contributing to sustained economic development. To achieve these outcomes, it would be useful to monitor whether the program's loans and operating procedures have characteristics that would enhance borrower repayment.

Inputs. The true cost of credit and insurance guarantees may also be considered a performance measure. For credit and insurance programs, it is a continuing challenge to understand and control the risks that the Government assumes and to measure the inherent cost. This is especially important in view of the rapid changes in financial markets discussed above and the increasingly complex financial instruments.

The subsidy cost of Federal credit programs, cumulated over time for each cohort of the program's loans or loan guarantees, is the main input. Another is the administrative cost of the program, including the cost of credit extension, direct loan servicing and guaranteed loan monitoring, collecting on delinquent loans and collateral, and other administrative costs such as policy making or systems development.

The relationship between these inputs is also crucial for credit programs. Careful servicing of loans, for example, can reduce default costs, and perhaps total program costs. So good servicing is good financial management for the taxpayer. But good servicing is also an art, which can—by assisting borrowers to repay—help to achieve the program's performance objectives. Private servicing of loans offers many examples of the gains from matching repayment to the borrower's flow of income, treating borrowers in different circumstances differently, and in other ways maximizing the borrower's chances to make good.

In sum, there are three relationships that seem to hold the key to excellence in credit program performance: the relationship between repayment and the achievement of program objectives, the relationship between the characteristics of credit program outputs and desired outcomes, and the relationship between subsidy cost and good servicing and program administration. Another important key to success is the speed with which the program adapts to market changes, including

its ability to provoke or harness private markets into meeting Federal goals.

Principles for Re-engineering

In order to improve the effectiveness of Federal credit programs, OMB will be working with agencies to identify ways to re-engineer credit management. This effort will focus on improving servicing, will consider consolidation of functions such as data collection and asset disposition, will rely on the private sector when that would improve efficiency, will devise incentives to improve management and reduce cost, and will ensure the development of data for management and subsidy estimation.

The focus will be on managing the servicing, workout, and sale of any collateral efficiently. For example, why does the Federal Government pay claims on guaranteed loans and handle the workout, instead of leaving this to the originating lender? Why does the Government

take over collateral? How do the timing and results of our asset disposition compare with private practice? Why do we make loans to finance purchases of collateral? What incentives and penalties would be useful for programs and program staff? For guaranteed loan originators? For contractors who service Federal loans or dispose of collateral?

OMB has developed a tentative set of principles for re-engineering credit programs that builds on OMB Circular A-129 and initial research. These will be modified by lessons learned as they are put into practice. The resulting principles are intended to improve the performance of Federal credit programs in the years ahead. Because private markets are extending credit where it was formerly unavailable, and because there is little purpose to re-engineering programs which are not justified, these principles start with basic questions of program justification. But their main focus is on how programs should be carried out.

Program Justification

1. *Credit assistance should be provided only when it has been demonstrated that private credit markets cannot achieve clearly defined Federal objectives.* What is the objective? Is access to private credit available? If not, why not? If so, is there a reason why private terms and conditions should be supplemented or subsidized? To what extent?
2. *Credit assistance should be provided only when it is the best means to achieve Federal objectives.* Can private credit markets be developed? Can market imperfections be overcome by information, regulatory changes, or other means? Would small grants for down payments, capitalization for State, local, or non-profit revolving funds, or other approaches be more efficient?
3. *Credit assistance should be provided only when its benefits exceed its cost.* Analyze benefits and costs in accordance with OMB Circular A-94.

Program Design

4. *Credit programs should minimize substitution of public for private credit.* What features of program design minimize displacement? Encourage and supplement private lending? To what extent is credit for this objective expanded by this program compared with what would be available in the absence of the program? What is the economic cost of the lending bumped from the credit queue?
5. *Credit programs should stretch their resources and better meet their objectives by controlling the risk of default.* What features of program design minimize risk? Are there incentives and penalties for loan originators and servicers to minimize risk? What features of the loan contract, the process of origination, the quality of servicing, and the workout procedures minimize risk? Do borrowers have an equity interest? Is maturity shorter than the economic life of the asset financed? Are the timing and amount of payment matched with availability of resources? Is timely reminder and technical assistance provided? How well is risk understood, measured, and monitored?
6. *Credit programs should stretch their resources to better meet their objectives by minimizing cost; most should be self-sustaining.* Do fees and interest cover the Government's cost, including administration? Are interest rates specified as a percent of market rates on comparable maturity Treasury securities? Are charges for riskier borrowers proportional to their higher cost?

Program Operations

7. *Credit programs should take advantage of the capacity, flexibility, and expertise available in competitive private markets unless the benefits of direct Federal operations can be shown to exceed the cost.* Private financial institutions may offer convenient access for borrowers, potential for graduation to private credit, economies of scale, ready adjustment to changing volume or location of loans, and knowledge of current credit conditions and techniques.

8. *8. The lender (in the case of a loan guarantee), the servicer, and the providers of workout and asset disposition services should have a stake in the successful and timely repayment of the loan or collections on claims and collateral.* Originators of guaranteed loans should bear a share of each dollar of default loss, and unless other arrangements can be shown to be more cost-effective should be responsible for handling workouts. Each contract should include incentives for good performance, and penalties, including loss of business, for poor performance. The duration and scope of each contract or agreement should be limited so as to maximize specialization and competition, unless those are offset by economies of scale in operations and monitoring.
9. *Criteria should be established for participation in Federal loan guarantee programs by lenders, servicers, and providers of workout and asset disposition services.* These criteria should include financial and capital requirements for lenders and servicers not regulated by a Federal financial institution regulatory agency, and may include fidelity/surety bonding and/or errors and omissions insurance, qualification requirements for officers and staff, and requirements of good standing and performance in relation to other contracts and debts. Lenders transferring and/or assigning servicing, and lenders or servicers transferring and/or assigning workout or asset disposition, must use only entities which have qualified under the Federal participation criteria.
10. *When there are economies of scope or scale, the data gathering and analysis, servicing, workout, asset disposition, or other functions of specific credit programs should be combined or coordinated.* The sequence of operations should be streamlined, and accountability for each step clearly defined.

Program Monitoring

11. *Each program should maintain or receive monthly loan-by-loan transaction data and a system whereby this information triggers servicing, workout, and follow-up actions.* These data shall be linked by loan number to an analytical database showing characteristics of loans, borrowers, projects financed, financial information, credit ratings, and other data in a form suitable for use in subsidy estimation and loan pricing.
12. *Each program should design and carry out steps to foresee problems, and to inspect, audit, and assess the program's operations.* Methods should be benchmarked against the best practices used elsewhere. The program and its lenders, servicers, and other contractors should experiment with and assess ways in which the effectiveness or efficiency of the program might be improved or costs reduced.

The Federal Credit Policy Working Group

A Federal Credit Policy Working Group Task Force, led by OMB and the Department of the Treasury's Financial Management Service, last year made recommendations for revising OMB Circular A-129, "Policies for Federal Credit Programs and Non-Tax Receivables," which elucidates the above principles. OMB Circular A-129 provides guidance to agencies on budget and legislative policies to ensure effective credit programs, and prescribes agencies' responsibilities in managing all non-tax receivables so that debts owed to the Federal Government are collected efficiently. The major credit agencies reviewed Government-wide policy guidance on credit extension, receivables management, and delinquent debt collection. The revision of A-129 will

be issued by OMB in 2000. Significant changes clarify credit budgeting guidance, reflect the requirements of the Debt Collection Improvement Act of 1996, require sale of seriously delinquent debt that is not referred to Treasury or to Justice for collection, and revise write-off procedures for seriously delinquent accounts.

To help implement this guidance, GSA created a Financial Asset Services Multiple Award Schedule with 52 contracts from which agencies can readily acquire help in portfolio management. Available services include overall management for an asset sale, account servicing, post-sale analyses, and review of credit reform analyses. Agencies using private sector advisors have included Treasury, Education, Navy, Housing and Urban Development, and the Small Business Administration.

II. CREDIT IN FOUR SECTORS

Housing Credit Programs and GSEs

The Federal Government provides loans and loan guarantees to expand access to home ownership to people who lack the savings, income, or credit history to qualify for a conventional home mortgage and to finance rental housing for low-income persons. The De-

partments of Housing and Urban Development (HUD), Veterans Affairs (VA), and Agriculture (USDA) supported \$177 billion of loan and loan guarantee commitments in 1999, helping nearly two million households. Roughly one out of six single-family mortgages origi-

nated in the United States receives assistance from one of these programs.

- HUD's Federal Housing Administration (FHA) operates the Mutual Mortgage Insurance Fund which insured \$113 billion in mortgages for 1.2 million households in 1999. Over 80 percent of FHA's home purchase mortgages went to first-time homebuyers.
- The VA assists veterans, members of the Selected Reserve, and active duty personnel to purchase homes as a recognition of their service to the Nation. The program substitutes the Federal guarantee for the borrower's down payment. In 1999, VA provided \$44 billion in guarantees to 396,399 borrowers.
- USDA's Rural Housing Service (RHS) guarantees up to 90 percent of an unsubsidized home loan. The program's emphasis is on reducing the number of moderate income rural residents living in substandard housing. In 1999, \$3 billion of guarantees went to 39,752 households (2.8 percent of which went to low income borrowers). The Budget includes a legislative proposal to increase the premium charged on the RHS single family guaranteed loans from one to 2 percent, which would allow RHS to provide more loans at less cost to the taxpayers.

In addition, RHS offers a single-family direct loan program and both direct and guaranteed multi-family mortgages, along with supporting rural housing assistance grants. FHA insures mortgages for multi-family housing and other specialized properties. The VA provides financing to the public ("vendee" or direct loans) when it sells property acquired from defaults. These direct loans are, in turn, pooled and sold as securities.

Housing Finance Challenges and Opportunities

Private banks, thrifts, and mortgage bankers, which originate the mortgages that FHA insures and VA and RHS guarantee, may deal with all three programs, as well as with the Government National Mortgage Association (Ginnie Mae, an agency of the Department of Housing and Urban Development), which guarantees timely payment on securities based on pools of these mortgages. In addition, the same private firms originate conventional mortgages, many of which are securitized by Government-sponsored enterprises—the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac).

Many of these firms already use or are moving toward electronic loan origination and automated underwriting. Behind such underwriting are data warehouses that show default experience by type of loan, borrower characteristics, home location, originator, and servicer, and models relating these factors to default cost. These technological developments offer challenges and opportunities to the Federal mortgage guarantors and Ginnie Mae. Federal credit program managers are challenged to make programs electronically accessible to their clients and loan originators. They are motivated to assess

and monitor their risks more closely as private firms are reaching out to the better risks among their potential clients. They also have an opportunity to provide better service at a lower cost, to target their efforts to help borrowers retain their homes, and to reach further to bring affordable housing and home ownership opportunities to those who are not currently served.

The Housing Credit Consortium. In 1998, the FHA, VA, and RHS housing credit programs and Ginnie Mae formed The Federal Housing Credit Consortium to adapt to the rapid development of electronic underwriting and other technological developments in the private mortgage market. The Consortium's role is to keep abreast of changes in the housing credit market, accelerate adoption of best practices, and establish common standards where possible.

The Consortium members are currently working to create a prototype data-sharing capability through which all members will have access to integrated data on program and borrower characteristics, lender and loan performance. It will provide timely, easily retrievable information, giving managers the ability to monitor the changing risk and cost of guarantees and the performance of guaranteed loan originators and servicers. By analyzing information from the data warehouse and by sharing information with each other and the private sector, the Consortium will seek to improve loan origination, performance measurement, risk sharing and pricing, and asset disposition.

The Consortium is working with Ginnie Mae to integrate and enhance Ginnie's two databases for use by all Consortium members. Ginnie's databases, the Issuer Portfolio Analysis Database System (IPADS) and the Correspondence Portfolio Analysis Database System (CPADS), receive monthly data from issuers of mortgage-backed securities, and monitor current performance by loan, originator, servicer, mortgage pool, security, and security issuer. Performance can be tracked and compared, taking account of differences by region, economic conditions, size and type of business, and age of portfolio. The vast majority of the FHA and VA loans are placed in Ginnie Mae's Mortgage-Backed Securities program. About 65 percent of RHS's single-family loans is also placed in Ginnie Mae pools. Thus, although the current analytical system is designed to fill Ginnie Mae's needs, the same data produced by the system is useful to all three Federal programs. For example, CPADS enables FHA and VA to monitor and assess how well the firms that originate and service the loans they guarantee are performing. Ginnie Mae has shared CPADS with FHA and VA for many years. RHS continued its partnership with Ginnie Mae in 1999, and now has access to loan and lender performance data to analyze RHS loan guarantees.

Ginnie Mae has committed to making enhancements to IPADS/CPADS that will provide additional benefits to all three loan guarantee programs. IPADS and CPADS were integrated last year and an initial round of enhancements will be implemented this year. Further enhancements are planned in the future to enable

the agencies to monitor and respond effectively to technological, institutional, and financial developments in the residential mortgage market.

Loan Origination. Electronic underwriting provides convenient, faster service at a lower cost to both lenders and borrowers. Both FHA and VA now permit mortgage lenders to use approved automated underwriting systems, including Freddie Mac's "Loan Prospector" and Fannie Mae's "Desktop Underwriter," to originate these loans. FHA also has approved the pmiAURASM system and is developing its own "universal" mortgage scorecard to be used on all FHA approved automated underwriting systems.

In 1999, RHS developed an Internet-based system that will, with future planned enhancements, provide the capacity to accept electronic loan originations from their participating lenders. Using electronic loan origination will significantly improve loan processing efficiency and timeliness for both RHS and the lenders. RHS is also exploring using automated underwriting and credit scoring. These improvements will be implemented as soon as possible, but complete adoption is several years away.

Performance Measurement. Measuring loan servicing performance establishes a baseline for assessing changes to servicing practice. Monthly data will not only give housing programs a better understanding of how their guarantee portfolios behave, but also how the federally guaranteed housing market as a whole performs. This information is critical for developing effective performance standards.

FHA has created a loss mitigation program that scores lender performance on loss mitigation annually and provides financial incentives to lenders to hold down mortgage defaults and minimize FHA claim and property disposition costs relative to other lenders in each FHA insuring district. FHA processed over 20,000 new loss mitigation claims (partial claims, special lender forbearance, and loan recashing) in 1999. These options allowed families to stay in their homes, rather than have the properties go to pre-foreclosure sale or foreclosure, and provided significant savings to FHA.

VA plans aggressive intervention to reduce the likelihood of foreclosure when loans are referred to VA after missing three payments, in order to help veterans retain their homes and avoid the expense and damage to their credit from foreclosure. VA was successful in 37 percent of their 1998 interventions, and their goal is to increase that to 40 percent in 2001.

RHS reviews at least 10 percent of the loans serviced by state-based lenders every two years. If deficiencies in loan servicing or underwriting are noted, the lender is requested to take corrective action; its eligibility will be terminated if it does not comply. Since 1998, RHS has commissioned external audits of its largest nationally based loan servicers. The audits focus on both loan origination and loan servicing requirements. These audits have helped to pinpoint program weaknesses contributing to loan delinquencies. In addition, they serve

to alert and train servicers on RHS guidelines and reporting requirements.

Managing Risk. Risk-based pricing is emerging in the conventional mortgage market as an important means by which lenders can take on more risk. Technology is giving lenders much more precise ability to assess the initial default risk associated with making a particular loan. This increasingly precise underwriting technology, in turn, allows lenders and insurers to adjust fees or loan rates and/or raise insurance premiums to reflect risk and loan cost accurately. Federal loan guarantee programs will need to assess the impact of private sector customization on their loan portfolios, and may need to adopt a similar pricing structure or face adverse selection and larger losses. Currently, premiums are fixed in statute and vary only slightly with one dimension of risk, the initial loan-to-value ratio. FHA has mitigated some of the risk on its adjustable-rate mortgages by tightening the underwriting standards to require borrowers to qualify at one percent above the initial rate and to prohibit interest rate buy downs.

Asset Disposition. Common wisdom in the mortgage industry is to avoid foreclosure because that process involves significant losses, including costs for maintenance and marketing. Managers of Federal guarantee programs have found that the best practice is to allow the more experienced private sector to foreclose on, manage, and dispose of properties.

RHS already operates under the "best practice" for asset disposition. The lender is paid the loss claim, including costs incurred for up to six months after the default. After the loss claim is paid, RHS has no involvement in the loan, and it becomes the sole responsibility of the lender. In 2001, RHS will shorten the loss claim period from six months to three months through regulatory changes to encourage lenders to dispose of properties as efficiently as possible.

In 1999 Congress passed legislation giving new authority to FHA to pay claims prior to foreclosure, thereby allowing FHA to pass along defaulted notes to the private sector for servicing and/or disposition. When fully implemented, this new authority will reduce foreclosures and, for properties that do go into foreclosure, this new authority will greatly reduce the time such properties remain on the market. In the meantime FHA has turned over management and marketing of most of its single family properties to contractors, who, within the first six months of the contracts, are providing encouraging levels of returns on claims and timely turnaround on these properties.

VA is continuing its efforts to reduce administrative costs through restructuring, consolidations, and a study of its property management function. The study, which will be completed at the end of fiscal year 2000, will determine whether it would be cost effective to contract property management activities.

RHS Direct Loans

RHS provides subsidized single-family direct loans to very-low- and low-income borrowers unable to get credit elsewhere to purchase, rehabilitate, or repair homes. The most recent and on-going servicing improvement effort is the implementation of the Dedicated Loan Origination Service System (DLOS), which centralizes the servicing of the 502 Direct Loan program. DLOS, along with two regulations implemented between 1996 and 1997, reduced RHS's direct loan subsidy rate by 40 percent.

RHS also offers direct loans to private developers to construct and rehabilitate multi-family rental housing for very-low- to low-income residents, elderly households, or handicapped individuals. It provided \$114 million in direct loans in 1999, which will finance 2,100 units for very-low-income tenants. RHS committed \$75 million in loan guarantees for multi-family housing in 1999. The loan level is proposed to increase to \$200 million for 2001, financing 3,200 new units for low- to moderate- income tenants. The cost of this program is primarily due to the subsidized interest component because expected default rates are low. The Budget includes a legislative proposal to remove the requirement to provide subsidized interest on these loans; this would result in a negative subsidy. The Budget also provides \$45 million, a 20 percent increase over 2000, for the farm labor housing program (\$30 million in loans; \$15 million in grants) as part of USDA's civil rights initiative, which will provide an estimated 925 units for minority farm workers and their families.

Fannie Mae and Freddie Mac

Fannie Mae and Freddie Mac, the largest Government-sponsored enterprises (GSEs), are required by their charters to increase the liquidity of mortgage funds. They carry out this function by purchasing residential mortgages in the secondary market and funding these purchases by issuing mortgage-backed securities (MBS) and debt. As of September 1999, Fannie Mae and Freddie Mac had \$2.0 trillion outstanding in mortgages that they had purchased or guaranteed. Of this, \$835 billion was retained in the GSEs' portfolios, and \$1.2 trillion was issued as MBSs (excluding MBSs held in portfolio).

As the dominant firms in the secondary mortgage market, the GSEs tend to set the standards for the entire mortgage industry. Their business activities also have a significant impact on the primary mortgage market; together, the two firms purchased 43 percent of all single-family mortgages originated in 1998.

The Federal Housing Enterprises Safety and Soundness Act of 1992 reformed Federal regulation of Fannie Mae and Freddie Mac. The Act created the Office of Federal Housing Enterprise Oversight (OFHEO) to conduct safety and soundness examinations and enforce minimum and risk-based capital requirements on Fannie Mae and Freddie Mac. OFHEO has solicited public comment on an extensive range of issues related to a risk-based capital regulation in two Notices of Pro-

posed Rulemaking (NPRs). The comment period for the second risk-based capital NPR closes on March 10, 2000. After OFHEO has reviewed the comments on both NPRs, it will publish the final risk-based capital regulation or revise its proposal. The risk-based capital regulation will become enforceable one year after the final regulation is published.

In recent years, the GSEs' rapid growth in earnings has been accompanied by even more rapid growth of their debt-financed holdings of mortgage assets. From September 1997 to September 1999, outstanding retained GSE holdings grew 76 percent in dollar volume. Increased retained portfolios may imply increased interest rate exposure. In recent years, both Fannie Mae and Freddie Mac have tried to limit the interest rate risk on their portfolios. However, hedges do not eliminate all risk of funding long-term, mostly fixed-rate assets with uncertain payment streams. Implementation of an appropriate risk-based capital regulation should help ensure that potential losses associated with these risks are manageable.

The average credit quality of loans owned or guaranteed by the GSEs has remained steady in recent years. The performance of existing loans has benefitted from strong housing markets that have improved collateral values, and the credit risk to the GSEs from new or outstanding loans is limited by their extensive use of mortgage insurance and other credit enhancements. Although both GSEs are increasingly active purchasers of subprime loans (A-minus and Alt-A), outstanding volumes remain very small relative to their overall size. Risks on such loans are mitigated somewhat by higher fees and credit enhancements.

Under the 1992 Act and their Federal charters, Fannie Mae and Freddie Mac have an affirmative obligation to promote access to mortgage credit for low- and moderate-income families and in underserved areas. Accordingly, the Secretary of Housing and Urban Development (HUD) establishes affordable housing goals for the GSEs. The current goals, which have been in effect since 1997, require each GSE to devote:

- 42 percent of its mortgage purchases to finance dwelling units that are affordable by low- and moderate-income families (Low- and Moderate-Income Housing Goal);
- 24 percent of its purchases to finance units in central cities, rural areas, and other metropolitan areas with low and moderate median income and high concentrations of minority residents (Geographically Targeted Goal); and
- 14 percent of its purchases to finance units that are special affordable housing for very-low-income families and low-income families living in low-income areas (Special Affordable Housing Goal).

Fannie Mae and Freddie Mac have met or exceeded these goals in each year. New affordable housing goals for the GSEs for the years 2000 through 2003 would be set by a proposed rule that HUD is publishing for public comment. In this proposed rule, after a transition period, the level of the Low- and Moderate-Income

Housing Goal would be 50 percent; the level of the Geographically Targeted Goal would be 31 percent; and the level of the Special Affordable Housing Goal would be 20 percent.

If the trend toward bank consolidation continues, the resulting fewer, larger banks may have somewhat more market power than they have today in negotiating with the GSEs over guarantee fees and fees for automated underwriting services. Fannie Mae and Freddie Mac may also see increased competition from the Federal Home Loan Bank System. However, the GSEs' advantages in financing a retained mortgage portfolio were not affected by the financial modernization legislation enacted in 1999. Thus, the GSEs likely will remain each other's main competition.

Another set of challenges is posed by the firms' own growth and earnings targets, which create significant market expectations for future performance, including continued record earnings. Once implemented, OFHEO's risk-based capital requirements may also affect the GSEs.

Federal Home Loan Bank System

The Federal Home Loan Bank System (FHLBS) was established in 1932 to provide liquidity to home mortgage lenders. The FHLBS carries out this mission by issuing debt and using the proceeds to make secured loans, called advances, to its members. Member institutions primarily secure advances with residential mortgages and other housing related assets.

The Financial Services Modernization Act of 1999 repealed the requirement that federally chartered thrifts be members of the FHLBS. Membership will be open to federally chartered and state-chartered thrifts, commercial banks, credit unions, and insurance companies on a voluntary basis. As of September 30, 1999, 7,226 financial institutions were FHLBS members, an increase of 420 over September 1998. About 72 percent of members are commercial banks, 22 percent are thrifts, and the remaining 6 percent are credit unions and insurance companies. However, nearly 47 percent of outstanding FHLBS advances were held by federally chartered thrifts as of September 30, 1999.

The FHLBS reported net income of \$2.0 billion for the year ending September 30, 1999, up from \$1.6 billion in the previous 12 months. System capital rose from \$21 billion to \$27 billion, but the ratio of capital to assets fell from 5.4 percent to 5.1 percent. Average return on equity was about 7.3 percent, after adjustment for payment of interest to the Resolution Funding Corporation (REFCORP). Outstanding advances to members reached \$367 billion at September 30, 1999, a 48 percent increase over the \$246 billion outstanding a year earlier.

The Financial Services Modernization Act requires the System to adopt a risk-based capital structure, and it changed the FHLBS's annual payment toward the interest payments on bonds issued by the REFCORP from \$300 million annually to 20 percent of net earnings. The FHLBS are also required by law to pay

the greater of 10 percent of net income or \$100 million to the Affordable Housing Program (AHP) and to provide discounted advances for targeted housing and community investment lending through a Community Investment Program (CIP). The need to generate income to meet these obligations and provide a return to members was behind the substantial increase in the System's investment activity in recent years.

The FHLBS' exposure to credit risk on advances has traditionally been virtually nonexistent. All advances to member institutions are collateralized, and the FHLBS can call for additional or substitute collateral during the life of an advance. No FHLBS has ever experienced a loss on an advance.

Unlike the System's advance activities, its investment activities, including certain "pilots," do create certain risks. To control the System's risk exposure, the Federal Housing Finance Board (FHFB), the System's regulator, has established regulations and policies that the FHLBS must follow to evaluate and manage their credit and interest rate risk. FHLBS must file periodic compliance reports, and the FHFB conducts an annual on-site examination of each FHLBS. Each FHLBS's board of directors must establish risk management policies that comport with FHFB guidelines.

The FHLBS hold \$1.8 billion in assets in pilot projects, approximately one-half of one percent of total System assets. The pilots offer members an alternative way of granting credit, which will be evaluated by the FHFB in 2000. In one pilot, the FHLBS finance the loans and assume the interest-rate and prepayment risks, while the members originate and service the loans and assume most of the credit risk. All assets held by a FHLBS under this pilot are required, pursuant to the terms of the program, to be credit enhanced to at least the level of an investment grade security.

The FHLBS's investment activities pose an important public policy issue regarding the degree to which their asset composition adequately reflects the mission of the System. However, over the last year, outstanding advances increased by six percentage points in relation to the System's outstanding debt. As of September 30, 1999, about 56 percent of advances outstanding had a remaining maturity of greater than one year; that is down slightly from last year's level of 61 percent, but up from the 40 percent level two years ago. Although System investments other than advances rose to \$155 billion, as a percentage of total assets, they fell to 29 percent on September 30, 1999. A year earlier, investments stood at \$136 billion, or 35 percent of total assets. Non-advance investments are used to conduct extensive arbitrage; like other GSEs, the System issues debt securities at close to U.S. Treasury rates and invests the proceeds in higher yielding securities. In fact, in 1999 the FHLBS issued \$3.1 trillion in debt securities. However, the majority of debt issued by the System is overnight or short-term, and total debt outstanding was about \$477 billion at the end of 1999.

An enormous, liquid, and efficient capital market exists for conventional home mortgages today. As a result of increasing Government Sponsored Enterprise (GSE) and Federal agency sponsorship of secondary markets and the increasing presence of private securitizers, lenders have access to substantial liquidity sources, in

addition to FHLBS advances, for financing home mortgages. However, the Financial Services Modernization Act increases access to the FHLBS for community financial institutions with \$500 million or less in assets and permits advance borrowing that provides funds for small businesses, farms, and agri-businesses.

Education Credit Programs and GSEs

Student Loans

The Department of Education helps to finance student loans through two major programs: the Federal Family Education Loan (FFEL) program and the William D. Ford Federal Direct Student Loan (Direct Loan) program. Eligible institutions of higher education may choose to participate in either program. Loans are available to students and their parents regardless of income. Borrowers with low family incomes are eligible for higher interest subsidies.

In 2001, more than 6 million borrowers will receive 9.4 million loans totaling nearly \$42 billion. Of this amount, \$33 billion is for new loans, and the remainder is to consolidate existing loans. Loan levels have risen dramatically over the past 10 years as a result of rising educational costs, higher loan limits, and more eligible borrowers.

The Federal Family Education Loan program provides loans through a complex administrative structure involving over 4,100 lenders, 36 State and private guaranty agencies, 50 participants in the secondary market, and over 4,000 participating schools. Under FFEL, banks and other eligible lenders loan private capital to students and parents, guaranty agencies insure the loans, and the Federal Government reinsures the loans against borrower default. In 2001, FFEL lenders will disburse more than 6 million loans exceeding \$26 billion in principal. Lenders bear two percent of the default risk, and the Government and guaranty agencies are responsible for the remainder. The Department also makes administrative payments to guaranty agencies and pays interest subsidies to lenders.

The William D. Ford Direct Student Loan program was authorized by the Student Loan Reform Act of 1993 to enable students and parents to obtain and repay loans more easily than under the FFEL program. Under Direct Loans, the Federal Government provides loan capital directly to nearly 1,300 schools, which then disburse loan funds to students—greatly streamlining loan delivery for students, parents, and schools. In 2001, the Direct Loan program will generate more than 3.2 million loans with a total value in excess of \$15 billion. The program offers a variety of flexible repayment plans including income-contingent repayment, under which annual repayment amounts vary based on the income of the borrower and payments can be made over 25 years.

Reform proposals. The Administration is proposing a number of reforms to the guaranteed loan system that will ensure that financial returns to program par-

ticipants are both reasonable and equitably distributed, improve the efficiency of loan default collection efforts, and return unneeded funds to the Federal Treasury. Proposed changes are estimated to save \$3.8 billion over five years.

As part of the Ticket to Work and Work Incentive Improvement Act of 1999, the basis for interest subsidies to FFEL lenders was changed from the 91-day Treasury bill—the instrument upon which student interest rates are based—to 3-month commercial paper rates. This change, opposed by the Administration and a number of higher education organizations, was portrayed by both its congressional sponsors and advocates in the lending community as not increasing lender returns. In fact, the change increases lender yields in two ways. Under current economic forecasts, Federal interest subsidies to lenders are actually 11 basis points higher than they would have been under the previous formula. In addition, the move to commercial paper also reduces lender costs by 20 basis points by eliminating the need for hedging—insurance against future interest rate changes. In order to reestablish the cost-neutrality of the change to commercial paper, the Administration is therefore proposing to reduce lender subsidies by a total of 31 basis points.

In addition, the Administration is proposing to eliminate interest subsidy payments on FFEL loans funded through tax-exempt securities that are currently subject to a 9.5 percent interest rate floor. Lenders with access to tax-exempt financing have a lower cost of funds than their private competitors; the proposed elimination of Federal interest subsidies on loans subject to this unnecessary floor provision will bring the return on tax-exempt-funded loans roughly in line with those realized on loans funded with private capital.

The Administration is proposing to improve the management and collection of defaulted loans through two new initiatives. First, the amount guaranty agencies may retain on default collections will be reduced from 24 percent to 18.5 percent—approximately the rate paid on loans collected by the Department of Education through competitively awarded contracts. This will provide the guaranty agencies greater incentive to increase collections on defaulted loans in order to bolster revenues. Second, the Administration proposes to further reduce guaranty agency retention to 12 percent for collections stemming from the consolidation of defaulted loans, the Department's cost for similar loans, reflecting the lower cost associated with this type of collection.

Beginning in 2001, all guaranty agencies will be able to participate in voluntary agreements created by the

Higher Education Amendments of 1998 (HEA) to create a more flexible regulatory framework that recognizes the unique circumstances of individual agencies. For example, agencies could use these agreements to pilot streamlined or targeted default collection strategies that are not allowed under current regulations. (A small number of agencies are currently working with the Department of Education to establish pilot agreements that would go into effect during 2000.) The broad availability of these voluntary flexible agreements will reduce the need for agencies to hold Federal reserve funds; accordingly, the Administration is proposing to bring forward to 2001 recalls of \$359 million in future reserves enacted in the HEA and the Balanced Budget Act of 1997. The Administration is also proposing to recall \$950 million in surplus reserves during fiscal year 2001.

The Department of Education continues to improve program integrity and reduce default costs. The Department is taking advantage of new automated systems to review and analyze institutional eligibility information, and target its regulatory and enforcement efforts on high-risk institutions. Over the past several years, improvements in oversight and termination of schools with high default rates have led to the removal of more than 1,700 schools. This enhanced scrutiny has helped reduced the national student loan cohort default rate from 9.6 percent for 1996 to 8.8 percent for 1997, the sixth straight year of decline. This rate is the percentage of borrowers who enter repayment in a given year and for whom a default claim is paid before the end of the following year.

As one of Education's Performance Management Objectives, modernizing student aid benefit delivery is a key priority. Accordingly, the Department has converted the Office of Student Financial Assistance into the Government's first Federal performance-based organization (PBO). The PBO is designed to improve the management of all student aid programs, using its expanded procurement and contracting flexibilities. This new or-

ganization is focusing on re-engineering information systems and expanding electronic data exchange to improve customer service, enhance data quality, and lower costs. The PBO is working with students, lenders, guaranty agencies, and others to develop a strategic performance plan to address customer needs, enabling more students to gain information on Federal aid on the Internet, apply for it electronically, and have their eligibility determined quickly.

Sallie Mae

The Student Loan Marketing Association (Sallie Mae) was chartered by Congress in 1972 as a for-profit, shareholder-owned, Government-sponsored enterprise (GSE). Sallie Mae was privatized in 1997 pursuant to the authority granted by the Student Loan Marketing Association Reorganization Act of 1996. The GSE is a wholly owned subsidiary of SLM Holding Corporation and must wind-down and be liquidated by September 30, 2008. The Omnibus Consolidated and Emergency Supplemental Appropriations for 1999 allows the SLM Holding Corporation to affiliate with a financial institution upon the approval of the Secretary of the Treasury. Any affiliation will require the holding company to dissolve the GSE within two years of the affiliation date (unless such period is extended by the Department of the Treasury).

Sallie Mae makes funds available for student loans by providing liquidity to lenders participating in the FFEL program. Sallie Mae purchases insured student loans from eligible lenders and makes warehousing advances (secured loans to lenders). Generally, under the privatization legislation, the GSE cannot engage in any new business activities or acquire any additional program assets other than purchasing student loans. The GSE can continue to make warehousing advances under contractual commitments existing on August 7, 1997. Sallie Mae currently holds about one-third of all outstanding guaranteed student loans.

Business and Rural Development Credit Programs and GSEs

Small Business Administration

Over the past six years, SBA has expanded small businesses' access to credit, increasing its annual loan volume by 62 percent, from \$7.4 billion in 1993 to \$12.1 billion in 1999. This increase, across all of SBA's business credit programs, has occurred while staffing has been reduced by about 20 percent.

SBA's principal program, Section 7(a) General Business Loans, has improved access to credit for the Nation's most under-served small businesses over the last three years through several successful initiatives. The Low Documentation (LowDoc) initiative reduced the application form for 7(a) loans under \$150,000 to a single page, allowing both lenders and SBA to process loans in less than two days. The SBAExpress program (the former FA\$TRACK pilot, now permanent) allows lenders to use their own forms and procedures in exchange

for a reduced Government guarantee. These initiatives and aggressive lending goals have helped to increase loan approvals to minority- and women-owned businesses from \$1.8 billion in 1993 to \$4.6 billion in 1999.

Increasing Access to Credit

SBA is proposing several new initiatives to further expand access to credit by qualified borrowers who are unable to secure financing without Government participation.

Targeting "new markets." With the \$16.5 million appropriated in FY 2000 (contingent upon authorization), SBA proposes to target "new markets"—regions where small business growth has been very limited. The proposed initiatives will provide patient capital and technical assistance to private-sector lenders and non-

financial intermediaries in underserved inner cities and rural areas. SBA will also expand the number of participating intermediaries in the microloan program, which to date has experienced no defaults as a result of strict agency oversight, rigorous reserve requirements, and a companion technical assistance program to increase the borrower's probability of success.

Financing smaller loans. Commercial lenders frequently avoid making smaller loans due to high fixed costs per dollar lent, resulting in an access barrier for many startup firms or established firms whose financing needs do not meet the lenders' minimum thresholds. To close this access gap, SBA's 2001 request proposes to standardize the guarantee fee and to increase the guarantee percentage on loans up to \$150,000 in order to provide an incentive to lenders to make these loans. These changes would result in higher subsidy costs due to reduced fee revenue and higher claim payments in the event of default. However, SBA is also proposing a fee simplification plan which will make the combined impact of all changes subsidy rate neutral.

Integrating Private Sector Practices

Reliance on private sector partners. With its portfolio growing from \$20.7 billion in 1993 to more than \$32.5 billion in 1999, SBA has relied increasingly on private sector partners for loan servicing and liquidation. The 7(a) program, which accounted for more than 70 percent of SBA's business lending in 1999, has experienced the greatest shift to private partnership. Under the Preferred Lender Program (PLP), SBA's most experienced lenders have authority to approve, service, and liquidate SBA-guaranteed loans in exchange for a reduced guarantee. Loans approved through PLP lenders comprised 58 percent of all 7(a) loan approval dollars in 1999. SBA also requires all non-PLP lenders to service and liquidate their SBA-guaranteed loans. These policies have shifted SBA's principal role from origination and servicing to one of oversight and monitoring of private sector partners.

Need for better oversight tools. Over the past six years, SBA has significantly increased its loan portfolio, reduced staffing, and delegated its servicing and liquidating authorities to its private sector partners. During this period, commercial small business lenders have become increasingly more sophisticated in identifying credit risk, and many of them now pursue aggressive small business lending goals. This expands small businesses' access to capital, but may also concentrate higher-risk loans in SBA loan guarantee programs.

These trends reinforce SBA's need to improve oversight tools. SBA continues to struggle with antiquated financial systems. Its managers need improved access to timely and accurate analysis of portfolio trends and information on the performance of its private sector partners. To ensure that the agency meets its portfolio management responsibilities, SBA will invest \$8 million in 2000 to modernize the Agency's information systems.

An additional \$13 million is requested for 2001. This funding will allow SBA to improve internal accounting systems, recruit expertise in lender oversight, develop the necessary in-house systems to support lender monitoring, and create a centralized corporate database.

Reform initiatives. In 2000, SBA will continue to shift from loan servicing to lender oversight. Initiatives already in progress include: (1) selling all direct loans and defaulted guaranteed loans, and (2) making strategic investments in better portfolio oversight tools. This will allow SBA to focus on its goals of increasing access to credit, while relying on private lenders to perform functions where they have historically been more efficient. In conjunction with this shift in agency focus, SBA is proposing to implement a multi-year workforce transition strategy, beginning in 2000, to retrain workers in the skills needed in the SBA of the 21st Century, move employees to those functions where their skills will be most utilized, and provide retirement incentives for those employees who do not wish to participate in the transition effort.

Loan asset sales. One of the most significant events in completing the transition from loan servicing to lender oversight is SBA's sale of its current portfolio of defaulted guaranteed loans and direct loans in 1999, 2000, and 2001. In its first asset sale in 1999, SBA sold more than 4,000 loans for \$195 million—a \$90 million premium over the \$105 million that the agency estimated it would have collected if it held these loans to maturity. The portfolio included performing and non-performing 7(a) and Certified Development Companies (CDC) loans. Two sales of approximately \$1 billion each are currently scheduled for 2000; these will include 7(a), CDC and disaster assistance business and home loans. Drawing on experience of other Federal agencies, the SBA's analysis of its portfolio value stemming from its Liquidation Improvement Project, and the results of the initial asset sale, the Administration estimates that SBA's business loan assets can be sold at a gain to the Government. It is anticipated that the planned sales will also yield future operational cost savings.

USDA Rural Infrastructure and Business Development Programs

USDA provides grants, loans, and loan guarantees to communities for constructing facilities such as health-care clinics, day-care centers, and water and wastewater systems. Direct loans are available at lower interest rates for lower-income communities. The community facility programs are targeted to rural communities with fewer than 20,000 residents (fewer than 10,000 for the water and wastewater programs).

USDA also provides grants, direct loans, and loan guarantees to assist rural businesses, including cooperatives, to increase employment and diversify the rural economy. In 2001, USDA proposes to provide \$1.3 billion in loan guarantees to rural businesses, and \$50 million in direct loans. USDA's assistance to rural businesses has grown from \$100 million in 1993 to almost

\$1.2 billion in 1999. The default rate for these programs is currently low.

The 1996 Farm Bill created the Rural Community Assistance Program (RCAP). Funding for 12 USDA rural development activities was consolidated into a "performance partnership" to provide more flexibility in targeting Federal assistance to the highest-priority needs of States and localities. In 1997, Congress provided increased flexibility through three funding "streams," but blocked transfers among streams. In 1998, Congress consolidated the three streams into one RCAP account, but the 1998 through 2000 appropriation bills still did not allow transfers between funding streams. The Budget proposes \$763 million for a fully flexible RCAP.

Electric and Telecommunications Loans

USDA's rural electric and telecommunications program makes new loans to maintain existing infrastructure and to modernize electric and telephone service. Historically, the Federal risk associated with the \$40 billion loan portfolio in electric and telephone loans has been small, although several large defaults occurred in the electric program, primarily as a result of nuclear power construction loans, and \$667 million was written off in 1997. As we move into the 21st century both the telephone and electric industries are moving into a more competitive environment.

In the electric industry, increased deregulation may erode loan security and the ability of some borrowers to repay. Maintaining the goal of "affordable, universal service" is also of concern to USDA. Many rural co-operatives are by nature high cost providers of electricity, since there are fewer subscribers per line-mile than in urban areas. USDA's Rural Utilities Service (RUS) proposes to make \$1.6 billion in direct and guaranteed loans in 2001 to rural electric cooperatives, public bodies, nonprofit associations, and other utilities in rural areas for generating, transmitting, and distributing electricity. Included in this funding request is \$400 million for private sector guarantees. The demand for loans to rural electric co-operatives is expected to continue to rise as borrowers replace many of the 40-year-old electric plants.

The Distance Learning and Telemedicine program provides grants (\$25 million in 2001) and loans (\$300 million in 2001) to encourage and improve telemedicine and distance learning services in rural areas through the use of telecommunications, computer networks, and related advanced technologies by students, teachers, medical professionals, and rural residents. As part of the Digital Divide Initiative, RUS will create a pilot program to fund \$2 million in grants and \$100 million in Treasury rate loans in 2001 to be used in a grant/loan combination to finance installation of broadband transmission capacity (i.e. the fiber optic cable capacity needed to provide enhanced services such as the Internet or high speed modems) to and through rural communities. The other purpose for which RUS would provide a loan and grant combination would be local dial-

up Internet service to underserved areas. These funds could be targeted to communities that currently lack Internet access via a local call. Recipients of these loans and grants would be current RUS telecommunication co-ops and businesses serving rural areas and rural communities.

The Rural Telephone Bank (RTB) provides financing for rural telecommunications systems. The 2001 Budget re-proposes legislation to charter the RTB as a performance-based organization (PBO). As a PBO, the RTB would remain under the Secretary of Agriculture through majority Federal membership on the RTB Board of Directors. The RTB's managers would be required to set strategic and financial goals. A key goal would be to achieve full privatization within 10 years; the RTB would be on-budget until fully privatized.

As a PBO, the RTB would have authority to hire its own personnel, and appoint its own CEO and CFO. It could seek waivers from certain Government-wide regulations, policies, and procedures. Funding for both administrative expenses and subsidy budget authority would be provided from the RTB's retained earnings beginning in 2001. The RTB would be free to establish its interest rates or charge administrative fees and institute an essentially private governance structure, which would allow the RTB to demonstrate its ability to be financially self-sufficient. This would be the necessary stepping stone to full privatization.

Loans to Farm Operators

Farm Service Agency (FSA) direct and guaranteed operating loans provide credit to farmers and ranchers for annual production expenses and purchases of livestock, machinery, and equipment. Direct and guaranteed farm ownership loans assist producers in acquiring their farming or ranching operations.

As a condition of eligibility for direct loans, borrowers must have been denied private credit at reasonable rates and terms, or they must be beginning or socially disadvantaged farmers. Loans are provided at Treasury rates or 5 percent. As FSA is the "lender of last resort," high defaults and delinquencies are inherent in the direct loan program; over \$15 billion in direct farm loans have been written off since 1988, compared to just over \$40 billion in loans disbursed and guaranteed.

FSA-guaranteed farm loans are made to more credit-worthy borrowers who have access to private credit markets. Because the private loan originators must retain 10 percent of the risk, they exercise care in examining borrower repayment ability despite the Federal guarantee. As a result of this incentive and the difference in borrower characteristics, guaranteed farm loans have not experienced losses as high as those on direct loans.

The Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act of 1999 changed portions of the servicing requirements for delinquent borrowers. A borrower who has received an FSA loan write-down or write-off may now be eligible for an additional farm operating loan when

the borrower is current under a debt reorganization plan or in certain emergency circumstances. Property acquired through foreclosure on direct loans must now be sold at auction within 105 days of acquisition, and leasing of inventory property is no longer permitted except to beginning farmers. Prior to the 1996 Farm Bill, acquired property remained in inventory on average for five years before the FSA could dispose of it.

As part of USDA's Civil Rights Initiative, a reserve of loan funding is established each year for targeted lending to socially disadvantaged farmers and ranchers. In 1999, over \$290 million in loans to socially disadvantaged producers were made, and that number is expected to more than double in 2000.

The Farm Credit System and Farmer Mac

The Farm Credit System (FCS) and the Federal Agricultural Mortgage Corporation (Farmer Mac) are GSEs that enhance credit availability for the agricultural sector. The FCS is a direct lender, financing its loans largely through bond sales in the national credit markets, while Farmer Mac facilitates a secondary market for agricultural loans. Both GSEs face a business risk exceeding that of other GSEs because their borrowers are generally dependent on a single economic sector; agriculture. The Farm Credit Banks are also geographically limited, often to areas dependent on one or a few commodities. The downturn in the agricultural economy in the 1980s led the FCS to the brink of insolvency. Legislation in 1987 provided Federal assistance to bail out the FCS and created Farmer Mac.

The Nation's agricultural sector and its lenders continue to exhibit stability in their incomes and balance sheets, thanks in part to record Government emergency assistance payments in 1999. Commodity prices remained low in 1999, and long term forecasts are for very gradual recovery. Farm income levels, including Government payments, have enabled most borrowers to maintain strong debt-to-asset ratios, and lenders to keep loan delinquencies well below problem thresholds. Farmland values gained modestly in 1999 as interest rates and inflationary expectations remain low. However, such aggregate facts mask the problems of a significant number of individual small farmers. Further, regulators have voiced concern over the extent to which credit card financing may be in use among farmers and ranchers, a statistic they are unable to monitor.

Another sign of the generally stable condition of agricultural finance is the greater share of credit provided by commercial banks. From 1986 to 1998, commercial banks' share of all farm debt increased from 24 percent to 41 percent, while the share for FCS declined from 29 percent to 26 percent. USDA direct farm loan programs went from a market share of 12 percent to 5 percent though, if adjusted for its guaranteed loans issued through private banks, that percentage would more than double. FCS is expected to maintain 1998 market share levels in 1999.

The Farm Credit System

The financial condition of the Farm Credit System banks and associations during 1999 continues an 11-year trend of improving financial health and performance. Nonperforming loans decreased to 1.5 percent of the portfolio, down from 1.6 percent in 1998. Loan volume has gradually increased since 1992, although the \$69.7 billion in September, 1999 is well below the high of over \$80 billion in the early 1980s. Increases in loan volume and declines in the cost of funds have widened the FCS's net margin between interest received and interest paid from less than one percent in 1987 to 2.75 percent in 1999.

Improved asset quality and income enabled FCS to post record capital levels: by September 30, 1999, capital stood at \$13.2 billion—an increase of 6 percent for the year, primarily as a result of retained earnings. Included in this capital are investments set aside to repay about \$600 million of the \$1.3 billion of Federal assistance provided through the Financial Assistance Corporation (FAC) due beginning in 2003. The System has adopted an annual repayment mechanism required of FCS institutions to cover the remainder. The FCS has further reduced its risk exposure by retiring all of its high-coupon long-term debt, using marginal cost loan pricing, and adopting asset/liability management practices designed to reduce its interest rate risk.

Operating risk is also being reduced. Substantial consolidation has occurred in the structure of the FCS. In January 1988, there were 12 FCS districts with 36 banks plus 376 associations; by October 1999, there were only 6 FCS districts, 7 banks, and 178 associations.

The 1987 Act established the FCS Insurance Corporation (FCSIC) to insure timely payment of interest and principal on FCS obligations. Insurance fund balances, largely comprised of premiums paid by FCS institutions, supplement the System's capital, the joint and several liability of all System banks for FCS obligations, and the Farm Credit Administration's enforcement authorities. On September 30, 1999, the Insurance Fund's net assets were \$1.3 billion, and are estimated to maintain the legally required level of at least two percent of outstanding debt in 2000.

Improvement in the FCS' financial condition is also reflected in the evaluations of FCS member institutions by the Farm Credit Administration (FCA), its Federal regulator. The FCA rates each of the System's institutions for capital, asset quality, management, earnings, and liquidity (CAMEL). At the end of 1990, 94 institutions carried the best "CAMEL" ratings of "1" or "2," and 40 were rated in the problem range of "4" or "5." By September 1999, in contrast, 180 institutions were given the top ratings, only 5 received the mid-range rating of "3," and none was rated "4." Enforcement actions to correct illegal or unsafe operations were applied to 77 institutions, with 80 percent of the FCS's assets, in 1991, but none were in effect on September 30, 1999.

FCS loans outstanding as of September 1999 were \$66 billion, up 6 percent over 1998, and representing a 34 percent increase since 1990. Loans to farmers and other eligible producers comprise 74 percent of the System's portfolio. The volume of lending secured by farm land has been generally stagnant since 1990, but farm operating loans have increased over 40 percent since 1992. Loans to finance processing, marketing, credit cooperatives, and rural utilities cooperatives accounted for 21 percent of FCS's portfolio at fiscal year-end 1999. The remaining 3 percent of the portfolio is made up of non-farm rural home loans (2 percent) and international loans (3 percent).

The System expects 1999 farm earnings to be a near-record \$48 billion, up from \$44 billion in 1998. These strong reported earnings, and farm income generally, have relied heavily on Government assistance payments in recent years. Federal payments of \$12 billion in 1998 and \$22 billion in 1999 to farmers and ranchers compensated for depressed commodity prices and declining exports. The Farm Credit System, while continuing to record strong earnings and capital growth, remains exposed to numerous risks, including concentration risk, changes in Government assistance payments, and the volatility of exports and crop prices.

Farmer Mac

Farmer Mac was established in 1987 to create and oversee a secondary market for, and to guarantee securities based on, farm real estate and rural housing loans. Since the 1987 Act, Farmer Mac's authorities have been legislatively expanded to permit it to issue its own debt securities, and to purchase and securitize the guaranteed portions of farm program, rural busi-

ness, and community development loans guaranteed by the USDA (known as the "Farmer Mac II" program). The Farm Credit System Reform Act of 1996 transformed Farmer Mac from just a guarantor of securities formed from loan pools into a direct purchaser of mortgages in order to form pools to securitize.

The 1996 Act was passed in response to a steady erosion of Farmer Mac's capital base. Revenues had not met expectations and showed no prospect of improvement. The new powers increase commercial banks' incentives to participate in Farmer Mac. However, these powers also subject the Corporation to more credit and interest rate risk. As a direct purchaser of loans with no required subordination other than a maximum 75 percent loan-to-value ratio for loans to qualify for purchase, Farmer Mac is exposed to greater risk and must set appropriate fees and level of capital reserves. Loan purchases and guarantees have both increased since the passage of the 1996 Act. Both trends indicate positive progress in the slowly developing agricultural secondary markets.

The 1996 Act gave Farmer Mac three additional years to reach its capital requirements, and two years to raise capital to \$25 million. In December 1996, Farmer Mac sold 1.4 million shares of Class C common stock, generating \$32 million of new equity. In November 1997, Farmer Mac completed its second public offering, selling 400,000 shares of Class C common stock and raising \$23 million of new equity. Farmer Mac's year-end 1999 capital is estimated to be about \$87 million—three times greater than the 1996 statutory capital requirement and fully compliant with the revised regulatory capital requirements.

International Credit Programs

Seven Federal agencies, the Departments of Agriculture, Defense, State, and Treasury and the Agency for International Development, the Export-Import Bank, and the Overseas Private Investment Corporation, provide direct loans, loan guarantees, and insurance to a variety of foreign private and sovereign borrowers.

Overall, globalization of private capital markets has led private lending to dominate officially supported direct and guaranteed credit. Aggregate net resource flows to all developing countries grew from \$152 billion in 1992 to \$275 billion in 1998. In comparison, resource flows from official direct or guaranteed credit were about the same in 1998 (\$24 billion) as in 1992 (\$25 billion).

Federal international lending agencies coordinate for consistent policy design and credit implementation to level the playing field for U.S. exporters, deliver robust support for U.S. manufactured goods, stabilize international financial markets, and promote sustainable development.

Coordination: International credit programs are coordinated through two groups to ensure consistency in policy design, and credit implementation. The Trade Promotion Coordinating Committee (TPCC), works within its membership and the Administration to develop a unified National Export Strategy to make the delivery of trade promotion support more effective and convenient for U.S. exporters.

The Interagency Country Risk Assessment System (ICRAS) standardizes the way in which agencies budget for the risk of international lending. The cost of lending by the agencies is governed by ratings and premia established by the ICRAS. These premia use assumptions about default risk in international lending based on international bond market data. The premia for 2001 have been updated to reflect more recent data. Because the eighteen months of additional bond market data captured many bonds issued or traded during the height of the global financial crisis, the risk premia increased on average by 25 percent. All else being equal, the impact of the change in premia will constrain the level of lending an agency may be able to implement. However, the practical impact of the premia

change will depend on a host of other factors such as maturity, risk mix, and fees.

For the purpose of significantly improving the U.S. Government's reporting and analysis of foreign credits, including loans, guarantees, and insurance, the Treasury Department is coordinating the development, with interagency support, of the Foreign Credit Reporting System (FCRS). The system will provide government officials with desktop internet access to cross-cutting foreign credit information for policymaking and analytical purposes. While the system is currently under development, a prototype is expected during 2000, followed by a fully operational system in 2001.

Leveling the playing field. The Federal Government provides credit to U.S. exporters to offset the subsidies that foreign governments, largely in Europe and Japan, provide their exporters usually through export credit agencies (ECAs). Although the Arrangement on Official Export Credits of the Organization for Economic Cooperation and Development (OECD) has significantly constrained direct interest rate subsidies and tied-aid grants, foreign ECAs continue to provide implicit subsidies (by charging interest rates or fees that do not fully compensate for risk).

The Export-Import Bank (Eximbank) attempts to strategically "level the playing field" and to fill gaps in the availability of private export credit. Compared to the other major ECAs, Eximbank provides the most unrestricted financing, and provides this financing in almost twice as many markets as its nearest competitor.

Supporting more manufacturing exports. In 1999, Eximbank supported exports totaling \$13 billion with a budget of \$676.5 million. Eximbank's role is important in developing markets where the international financial crisis has rolled back private finance, or in markets where there is officially supported ECA competition. The 2001 Budget proposes \$963 million in credit resources for Eximbank, an increase of \$207 million or 27 percent above its 2000 budget of \$756 million—so that Eximbank can:

- *Partially offset the higher risks and costs, of international lending.* The revised ICRAS premia recognize the risk in the marketplace, and so significantly increases the cost of lending for Eximbank, especially at the maturities and in the markets in which Eximbank is most needed.
- *Help meet the demand for financing aircraft and capital equipment exports in developing markets.* One of every four U.S. commercial aircraft is sold to an Asian airline, but commercial credit has decreased drastically because of Asia's economic problems. Eximbank currently finances 10 percent of all U.S. capital equipment exports to the developing world. More funding will allow Eximbank to provide significantly more long-term financing for exports of U.S. manufactured capital goods and aircraft.

- *Finance exports to riskier markets.* U.S. exporters increasingly seek Eximbank financing to meet the demand in riskier markets, but the higher cost of providing such financing uses a greater proportion of Eximbank's budgetary resources. Eximbank support is critical in these markets because bank financing often is unavailable, and U.S. exporters compete with government-financed foreign firms.

USDA's GSM-102 and 103 programs guarantee credit extended by private U.S. exporters and U.S. financial institutions to facilitate exports to buyers in countries where credit is necessary to maintain or increase U.S. sales of agricultural products. The GSM programs are targeted to countries where government guarantees are needed to counter competition from countries that offer credit through ECAs or commodity marketing boards.

Stabilizing international financial markets. In today's global economy, the health and prosperity of the American economy depend importantly on the stability of the global financial system and the economic health of our major trading partners. The United States has several ways in which it can help to stabilize world financial markets. It can provide resources on a multilateral basis through the IMF (discussed in other sections of the Budget), or through a loan provided by the Exchange Stabilization Fund (ESF).

The ESF may provide "bridge loans" to other countries in times of short-term liquidity problems and financial crises. In the past, "bridge loans" from ESF provided dollars to a country over a short period before the disbursement under an IMF loan. A package of up to \$20 billion of ESF financial support was made available to Mexico during its crisis in 1995. Such support was essential in helping to stabilize Mexican and global financial markets. Mexico paid back its borrowings under this package ahead of schedule in 1997, and the United States earned almost \$600 million in interest. There was zero subsidy cost for the United States as defined under credit reform, as the medium-term credit carried interest rates with an appropriate country risk premium built in.

The United States was also willing to provide ESF support in response to the financial crises affecting some countries such as South Korea in 1997 or Brazil in 1998. It did not prove necessary to develop an actual ESF credit facility for Korea, but the United States agreed to use up to \$5 billion from the ESF as part of a multilateral guarantee of a Bank for International Settlements credit facility for Brazil. Such support helped to provide the international confidence needed by these countries to begin the stabilization process.

Using credit to promote sustainable development. Credit has become an increasingly important tool in U.S. bilateral assistance to promote sustainable development. In 1999, OMB certified that USAID could adequately manage its credit programs as required in the 1998 Foreign Operations Appropriations Act. USAID's newest credit tool is the Development Credit Authority (DCA) that provides non-sovereign loans and

loan guarantees in cases where credit is more effective than grants to achieve sustainable development, such as more effective financial markets or reductions in global climate change-causing emissions. A consolidation of all of USAID's credit programs is requested in the 2001 Budget to create a unified Office of Development Credit. This office will encompass DCA activities as well as USAID's traditional microenterprise and urban environmental credit programs.

III. INSURANCE PROGRAMS

Deposit Insurance

Federal deposit insurance was begun in the 1930s to protect depositors against losses from failures of insured institutions. Deposit insurance also protects the Nation against widespread disruption in financial markets by reducing the probability that the failure of one financial institution will lead to a cascade of other failures. The Federal Deposit Insurance Corporation (FDIC) insures the deposits of banks and savings associations (thrifts) through separate insurance funds, the Bank Insurance Fund (BIF) and the Savings Association Insurance Fund (SAIF). Deposits of credit unions are insured through the National Credit Union Administration (NCUA).

Deposits are currently insured up to \$100,000 per account. The FDIC insures over \$2.8 trillion of deposits at over 8,600 commercial banks and almost 1,700 savings institutions. The NCUA insures 10,841 credit unions with \$323 billion in insured shares.

Current Industry and Insurance Fund Conditions

The 1980s and early 1990s were a turbulent period for the bank and thrift industries, with over 1,400 bank failures and 1,100 thrift failures. The Federal Government responded with the Financial Institutions Reform, Recovery and Enforcement Act of 1989 and the Federal Deposit Insurance Corporation Improvement Act of 1991. These reforms, combined with more favorable economic conditions, helped to restore the health of depository institutions and the deposit insurance system. Only one thrift failed in 1999, becoming the first SAIF-member to fail since 1996. Five commercial banks failed during 1999. Eighteen credit unions with \$67 million in assets failed during 1999. The FDIC currently classifies only 80 institutions with \$8 billion in assets as "problem" institutions, compared to nearly 318 institutions with \$73 billion in assets just five years ago.

Banks have achieved record levels of earnings in recent years. As of September 30, 1999, BIF had estimated reserves of \$29 billion, 1.38 percent of insured deposits.

The earnings of the thrift industry also have improved significantly in recent years. As of September 30, 1999, SAIF's reserves reached an estimated \$10.2 billion or 1.44 percent of insured deposits. This total includes the \$978 million SAIF Special Reserve that was established on January 1, 1999, in accordance with the Deposit Insurance Funds Act (DIFA) of 1996. The

OPIC investment guarantees also support development by promoting U.S. direct investment in developing countries. This can transfer skills and technology and create more efficient financial markets. OPIC has implemented investment funds, on-lending facilities, and bond insurance—building onto its traditional political risk insurance, lending, and guarantee products.

Special Reserve has now been eliminated by the Financial Services Modernization Act of 1999.

The FDIC continues to maintain deposit insurance premiums in a range from zero for the healthiest institutions to 27 cents per \$100 of deposits for the riskiest institutions. Due to the strong financial condition of the industry and the insurance funds, 94 percent of commercial banks and 91 percent of thrifts did not pay insurance premiums in 1999.

The National Credit Union Share Insurance Fund (NCUSIF) also remains strong with assets of \$4.2 billion. Each insured credit union is required to deposit and maintain in the fund an amount equal to 1 percent of its member share accounts. In 1999, the income generated from the 1 percent deposit eliminated the need to assess an additional insurance premium, and after the end of the fiscal year, the NCUA Board approved a dividend to reduce the Fund's equity ratio to the statutory ceiling of 1.30 percent. This was the fifth consecutive year that the Fund paid a dividend to federally insured credit unions. The Board also waived premiums for 2000.

Although depository institutions and their Federal insurance funds currently are in good financial condition, the U. S. economy has experienced strong growth in recent years. This trend is unlikely to continue indefinitely. An economic downturn, international events, or other changes in the industry could put pressure on industry profits and ultimately on the deposit insurance funds. For example, the spate of mergers among large banks in the last several years has increased the probability that a failure of one of America's 25 largest banks would bankrupt the deposit insurance funds. Even in good economic times, occurrences of substantial fraud—such as the failure of First National Bank in Keystone, West Virginia, which is expected to cost the FDIC up to \$850 million to resolve—can significantly reduce the deposit funds' balances. On the other hand, the President's signature of the Financial Services Modernization Act may make future failures less likely by allowing banks to diversify their activities, though this remains to be seen.

Legislative, Judicial and Regulatory Developments

On November 12, 1999, the President signed the Financial Services Modernization Act of 1999 (P.L. 106-102), thereby making the most important legisla-

tive changes to the structure of the U.S. financial system since the 1930s. This historic Act will stimulate greater innovation and competition in the financial services industry. Specifically, the Act repeals provisions of the Glass-Steagall Act that, since the Great Depression, have restricted affiliations between banks and securities firms. It also amends the Bank Holding Company Act to remove restrictions on affiliations between banks and insurance companies. Furthermore, it grants banks significant new authority to conduct many newly authorized activities through operating subsidiaries.

The Act also ensures that the needs of all communities are met and consumer rights are protected. It preserves the significance of the Community Reinvestment Act (CRA), by requiring that financial institutions that take advantage of the new opportunities created by the Act, have a satisfactory record of meeting the needs of all the communities that they serve. Also under the Act, financial institutions must clearly disclose their privacy policies to customers up front and annually, allowing consumers to make informed choices about protecting their financial privacy. For the first time, consumers will have a right to know if their financial institution intends to share or sell their personal financial data, within the corporate family or with an unaffiliated third-party. Consumers will have the right to "opt out" of such information sharing with unaffiliated third parties.

In 1999 the National Credit Union Administration promulgated rules to implement the historic Credit Union Membership Access Act, which was signed into law in 1998. These rules will allow credit unions to accept members from multiple employers with fewer than 3,000 employees; implement prompt corrective action; and implement changes to the National Credit Union Share Insurance Fund's equity ratio calculation and dividend policies.

The Federal regulators of depository institutions (FDIC, the Federal Reserve Board, the Comptroller of the Currency, the Office of Thrift Supervision, and the NCUA) assisted banks, thrifts, and credit unions throughout the Nation in making a smooth transition to the Year 2000. During the Year 2000 transition, the Nation's payment systems functioned well, and currency supplies were adequate to meet demand. Credit cards, debit cards, checks and automated teller machines worked normally. The successful transition marks the end of three years of preparation for the century date change.

Pension Guarantees

The Pension Benefit Guaranty Corporation (PBGC) insures most defined-benefit pension plans sponsored by private employers. PBGC pays the benefits guaranteed by law when a company with an underfunded pension plan becomes insolvent. PBGC's exposure to claims relates to the underfunding of pension plans, that is, to any amount by which vested guaranteed future benefits exceed plan assets. In the near term, its loss expo-

sure results from financially distressed firms with underfunded plans. In the longer term, additional loss exposure results from firms that are currently healthy but become distressed, and from changes in the funding of plans and their investment results.

The number of plans insured by PBGC has been declining as small companies with defined benefit plans terminate them and shift to defined contribution pension arrangements such as 401(k) accounts. The number of plans with 1,000 or more participants has increased slightly since 1980. However, the number of active workers in defined benefit plans declined from 29 million in 1985 to fewer than 24 million in 1995. If the trend continues, by 2003 fewer than half of the participants in defined benefit plans will be active workers; the rest will be retirees.

In 1999, PBGC posted a positive financial position for the fourth straight year after 21 years of being in a deficit position. This was due to good economic conditions and favorable investment returns. But risk remains. That risk has been reduced somewhat by steps taken by PBGC and the Congress. Since 1990, PBGC has been working more actively to prevent and mitigate losses. Under its Early Warning Program, PBGC has negotiated 90 major settlements with companies, providing nearly \$17.5 billion in extra contributions and other protections that improved pension security for over 2 million people and reduced PBGC's future exposure. In 1995, the Early Warning Program was one of the first six Federal programs to receive an award from the Ford Foundation and Harvard's Kennedy School of Government. The program also received the National Performance Review's Hammer Award.

PBGC's single-employer program fared well in 1999, with no major terminations. Overall investment returns were positive. Strong performance in its trust funds, which are invested in equities, offset losses in its revolving funds, which are invested in U.S. Government securities. Premium revenues dropped for the third year in a row, partly reflecting a previously enacted increase in the statutory interest rate for calculating underfunding.

PBGC's multiemployer program, which guarantees pension benefits of certain unionized plans offered by several employers in an industry, remained financially strong despite a large loss from one plan. The Administration proposes to increase the maximum guarantee level on pension benefits paid to retirees in multiemployer plans for the first time since 1980. It would be increased from \$5,580 to \$12,870 per year for retirees with 30 years of service.

This Budget proposes a new and simplified defined benefit pension plan for small businesses, featuring accounts for individual participants. The new plan guarantees a known level of annual income throughout a worker's retirement years. The new plan is designed to be fully funded virtually constantly, but also would be protected by PBGC at a reduced premium. The Budget also proposes to phase-in the PBGC's variable rate premium for new plans, a lower flat-rate premium

and no variable rate premium for the first five years of new plans of small employers. In addition, the Budget proposes expanding the PBGC's missing participant program to terminating multiemployer and terminating defined contribution plans, and simplifying the guarantee rules for business owners.

Disaster Insurance

Flood Insurance

The Federal Government provides flood insurance through the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA). This insurance is available to property owners living in communities that have adopted and enforced appropriate floodplain management measures. Coverage is limited to buildings and their contents. Policies for structures built before a community joined the flood insurance program are subsidized by law, while policies for structures built after a community joined the NFIP are actuarially rated.

When the Federal flood insurance program was created in the early 1970s, private insurance companies, with little information on flood risks by geographic area, had deemed the risk of floods uninsurable. In response, the NFIP provided insurance coverage, required building standards and other mitigation efforts to reduce losses, and undertook flood hazard mapping to quantify the geographic risk of flooding. The program has substantially met these goals.

The flood insurance policy base increased by nearly 70,000 policies in 1999. The NFIP's "Cover America" initiative, which is a major marketing and advertising campaign, continues to increase awareness of flood insurance and educate people about the risks of floods. FEMA is using three strategies to increase the number of flood insurance policies in force: lender compliance, program simplification, and expanded marketing.

The NFIP's Community Rating System now allows policyholders in nearly 900 communities to receive discounts of at least 5 percent on their premiums by undertaking activities which will reduce flood losses, facilitate more accurate insurance rating, and promote public awareness of flood insurance and flood risk.

In 1997, the NFIP offered expanded insurance to cover increased costs of compliance, as authorized by the National Flood Insurance Reform Act of 1994. This separate coverage, which took effect May 1, 1997, allows repetitively flooded or substantially damaged structures to be rebuilt in accordance with existing floodplain management requirements. This will reduce the amount and cost of future flood damage and allow those structures to be actuarially rated.

FEMA will continue efforts to reduce future flood damage by educating Federal financial regulators about mandatory flood insurance requirements for federally related home and business loans on properties located in flood hazard areas; simplifying policy language; using mitigation insurance to allow flood victims to rebuild to code, thereby reducing future flood damage costs;

and using flood insurance premium adjustments to encourage community and State mitigation activities beyond those required by the NFIP.

The 2001 Budget proposes two additional reforms of this program. First, the Administration seeks authorization to use up to \$50 million from FEMA's Disaster Relief Fund to begin the process of purchasing and/or elevating insured properties that have flooded repeatedly over the last 10 years. This effort will ultimately result in lower claims payments. Second, the Budget includes a proposal to charge a \$12 license fee for the use of FEMA's flood hazard maps to support a multi-year program to update and modernize FEMA's inventory of floodplain maps. These maps are essential in developing appropriate risk-based flood insurance premium charges, will ensure that property owners have appropriate levels of insurance, and will result in a more actuarially sound program.

Crop Insurance

Subsidized Federal crop insurance administered by USDA assists farmers in managing yield shortfalls due to bad weather or other natural disasters. Private companies are unwilling to offer multi-peril crop insurance without Government reinsurance because losses tend to be correlated across geographic areas, and the companies are therefore exposed to large losses. For example, a drought will affect many farms at the same time. Damage from hail, on the other hand, tends to be more localized, and a private market for hail insurance has existed for over 100 years.

The USDA crop insurance program is a cooperative effort between the Federal Government and the private insurance industry. Private insurance companies sell and service crop insurance policies. The Federal Government reimburses private companies for part of the administrative expenses associated with providing crop insurance and reinsures the private companies for excess insurance losses on all policies. The Federal Government also subsidizes premiums for farmers.

A major program reform was enacted in 1994 to address a growing problem caused by the repeated provision of Federal ad hoc agricultural disaster payments. Participation in the crop insurance program had been kept low by the availability of post-event disaster aid to farmers from the Federal Government. Because disaster payments were no-cost grants, farmers had little incentive to purchase Federal crop insurance. The 1994 reform repealed agricultural disaster payment authorities and substituted a "catastrophic" insurance policy that indemnifies farmers at a rate roughly equal to the previous disaster payments. The catastrophic policy is free to farmers except for an administrative fee. Private companies sell and adjust the catastrophic portion of the crop insurance program, and also provide higher levels of coverage (which are also federally subsidized.) In 1995, 82 percent of eligible acres participated in the program—140 percent more than in 1994. However, the 1996 Farm Bill eliminated the requirement that farmers participating in USDA's commodity programs

carry crop insurance, and participation dropped in 1997 to an estimated 61 percent of eligible acres. That number increased to 67 percent in 1999 due to the crop insurance purchase requirement attached to disaster benefits provided in 1999. That requirement is in place for just two years and 61 percent is considered the average expected participation level absent such requirements.

The 1996 Farm Bill significantly changed USDA's commodity programs and associated price and income support for farmers. When the President signed the Farm Bill, he stated: "The fixed payments in the bill do not adjust to changes in market conditions, which would leave farmers, and the rural communities in which they live, vulnerable to reductions in crop prices or yields. I am firmly committed to submitting legislation and working with the Congress next year to strengthen the farm safety net." To begin to address the safety net problem, the 1998 Budget proposed to expand the crop insurance program to include "revenue insurance" coverage. Revenue insurance protects farmers against lost revenue caused by low prices, low yields, or any combination of the two. Revenue insurance programs are now available in 36 states and further expansion is being studied.

In 1999, USDA unveiled a pilot "whole farm" revenue insurance plan to cover diversified farming and ranching operations with a single revenue insurance policy. The Adjusted Gross Revenue (AGR) policy insures the five-year average revenue of a farming or ranching operation on the basis of the producer's Schedule F for Farm Income on Federal tax returns. In addition to being USDA's first insurance policy to cover livestock, AGR marks a departure from the expensive, labor-intensive approach to crop insurance which currently requires considerable information collection, and farm visits for loss adjustment and compliance verification.

Emergency funding in 1999 and 2000 added more crop insurance premium subsidies for those years and raised program participation to record levels. In the 1999 crop year, gross liability insured reached over \$30 billion in crop production value compared to \$26 billion in 1998. The program is expected to sustain or increase these participation levels if the Administration's proposal to strengthen the farm safety net is enacted by Congress. The proposal, discussed in the main Budget volume, includes increased subsidies for producers purchasing crop insurance in order to provide incentives for greater coverage, as well as a pilot livestock insurance program, multi-year loss policies, increased risk management education, and outreach to producers.

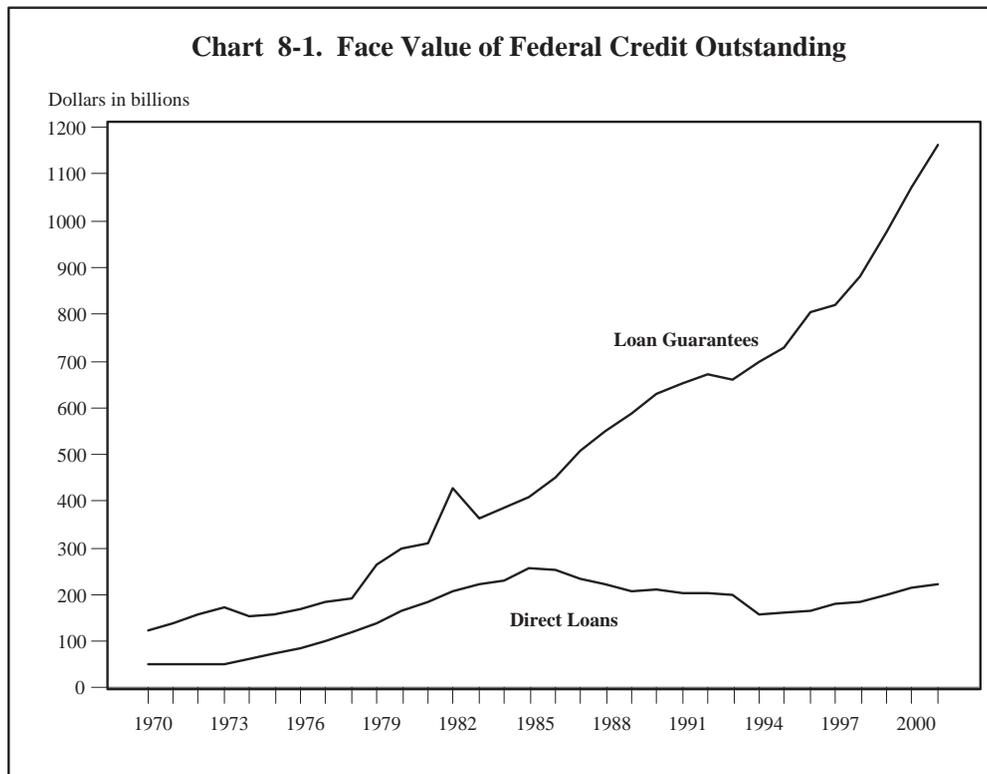


Table 8-1. ESTIMATED FUTURE COST OF OUTSTANDING FEDERAL CREDIT PROGRAMS
(in billions of dollars)

Program	Outstanding 1998	Estimated Future Costs of 1998 Out- standing ¹	Outstanding 1999	Estimated Future Costs of 1999 Out- standing ¹
Direct Loans ²:				
Federal Student Loan Programs	47	2	65	2
Farm Service Agency (excl.CCC), Rural Development, Rural Housing	46	14	45	12
Rural Electrification Admin. and Rural Telephone Bank	34	4	29	3
Housing and Urban Development	14	2	14	3
Agency for International Development	12	6	11	6
Public Law 480	11	7	11	8
Export-Import Bank	11	3	12	6
Commodity Credit Corporation	8	2	7	3
Federal Communications Commission	7	2	8	5
Disaster Assistance	7	1	7	2
Other Direct Loan Programs	20	3	22	2
Total Direct Loans	217	45	234	50
Guaranteed Loans ²:				
FHA Mutual Mortgage Insurance Fund	380	-2	411	-3
VA Mortgage	211	5	221	6
Federal Family Education Loan Program	118	12	127	12
FHA General/Special Risk Insurance Fund	89	7	93	7
Small Business	37	2	39	2
Export-Import Bank	22	1	25	1
International Assistance	19	2	19	2
Farm Service Agency and Rural Housing	14	0	17	0
Commodity Credit Corporation	4	2	7	1
Other Loan Guarantee Programs	20	0	16	0
Total Guaranteed Loans	916	29	976	29
Total Federal Credit	1,133	74	1,210	80

Note: Detail may not add to total due to rounding.

¹ Direct loan future costs are the financing account allowance for subsidy cost and the liquidating account allowance for estimated uncollectible principal and interest. Loan guarantee future costs are estimated liabilities for loan guarantees.

² Excludes loans and guarantees by deposit insurance agencies and programs not included under credit reform, such as CCC commodity price supports. Defaulted guaranteed loans which become loans receivable are accounted for as direct loans.

Table 8-2. FACE VALUE OF GOVERNMENT-SPONSORED ENTERPRISE LENDING

(in billions of dollars)

	Outstanding	
	1998	1999
Government Sponsored Enterprises: ¹		
Fannie Mae	989	1,141
Freddie Mac	702	843
Federal Home Loan Banks ²	246	367
Sallie Mae ³	0	0
Farm Credit System	60	66
Total	1,997	2,417

¹ Net of purchases of federally guaranteed loans.

² The lending by the Federal Home Loan Banks measures their advances to member thrift and other financial institutions. In addition, their investment in private financial instruments at the end of 1999 was \$155 billion, including federally guaranteed securities, GSE securities and money market instruments.

³ The face value of Federal Family Education Loans in the Student Loan Marketing Association's portfolio is included in the totals for that program under guaranteed loans in table 8-1.

Table 8-3. REESTIMATES OF CREDIT SUBSIDIES ON LOANS DISBURSED BETWEEN 1992—1999¹

(In millions of dollars)

Program	1994	1995	1996	1997	1998	1999	2000
Direct Loans:							
Agriculture credit insurance fund	-72	28	2	-31	23		321
Agricultural conservation	-1						
Rural electrification and telephone loans	*	61	-37	84		-39	
Rural telephone bank	1			10		-9	-1
Rural housing insurance fund	2	152	46	-73		71	
Rural economic development loans				1		-1	*
Rural development loan program		1				-6	
Rural community advancement program ²				8		5	
P.L. 480 Title I loan program			-37	-1			-253
Federal direct student loans:							
Technical reestimate ³			3	-83	172	-361	-2,442
Volume reestimate							
Bureau of Reclamation direct loans							3
BIA-Indian direct loans						1	4
DoT-High priority corridor loans					-3		
DoT-Alameda corridor loan							-55
Community Development Financial Institutions fund							*
Veterans housing benefit program fund	-39	30	76	-72	465	-111	-13
FEMA-Disaster assistance							47
Foreign military financing				13	4	1	152
Debt restructuring							5
SBA-Disaster loans					-193	246	
Export-Import Bank direct loans	-28	-16	37				-177
Spectrum auction program					4,592	980	-1,501
Loan Guarantees:							
Agriculture credit insurance fund	5	14	12	-51	96		-130
Commodity Credit Corporation export guarantees	3	103	-426	343			-253
Rural development insurance fund	49			-3			
Rural housing insurance fund	2	10	7	-10		109	
Rural community advancement program ²				-10		41	
P.L. 480 Title I Food for Progress credits		84	-38				
Fisheries finance, guaranteed loans					-2		
Federal family education: ⁴							
Technical reestimate ³	97	421	60			63	415
Volume reestimate			535	99		-216	362
FHA-Mutual mortgage				-340		3,789	
FHA-General and special risk ⁵	-175		-110	-25	743	79	
BIA-Indian guaranteed loans				31			-18
Maritime guaranteed loans (Title XI)						-71	27
Veterans housing benefit fund guarantees	-447	167	334	-706	38	492	242
AID housing guaranty	-2	-1	-7		-14		
Assistance to the New Independent States of the former Soviet Union							-30
SBA-Business loans			257	-16	-279	-545	-239
Export-Import Bank guarantees	-11	-59	13				-185
Total	-616	995	727	-832	5,642	4,518	-3,720

* \$500 thousand or less.

¹ Additional information on credit reform subsidy rates is contained in the Federal Credit Supplement to the budget for 2001.² Includes rural water and waste disposal, rural community facilities, and rural business and industry programs.³ 2000 figure includes interest on reestimate.⁴ Volume reestimates in mandatory loan guarantee programs represent a change in volume of loans disbursed in the prior years. These estimates are the result of guarantee programs where data from loan issuers on actual disbursements of loans are not received until after the close of the fiscal year.⁵ 1999 figure includes interest on reestimate.

Table 8-4. ESTIMATED 2001 SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS FOR DIRECT LOANS ¹

(in millions of dollars)

Agency and Program	Weighted average subsidy as a percentage of disbursements	Subsidy budget authority	Estimated loan levels
Agriculture:			
Agricultural credit insurance fund	10.26	114	1,080
Farm storage facility loans	2.85	4	150
Watershed and flood prevention operations	6.95	4	60
Rural community advancement program	12.91	172	1,332
Rural electrification and telecommunications loans	0.24	4	1,645
Rural telephone bank	1.48	3	175
Distance learning and telemedicine program	-0.61	-2	400
Farm labor	52.59	16	30
Rural housing insurance fund	19.15	284	1,485
Rural development loan fund	50.91	33	64
Rural economic development loans	26.07	4	15
P.L. 480	71.51	114	160
Commerce:			
Fisheries finance	1.00	5	324
Defense—Military:			
Family housing improvement fund	38.80	38	99
Education:			
School renovation	17.20	1,125	6,541
Federal direct student loan program	-3.04	-517	16,972
Housing and Urban Development:			
FHA-Mutual mortgage insurance			250
FHA-General and special risk			50
Interior:			
Bureau of Reclamation loans	52.99	9	27
State:			
Repatriation loans	80.00	1	1
Transportation:			
Transportation infrastructure finance and innovation (TIFIA) program	5.74	75	1,320
Treasury:			
Community development financial institutions fund	43.41	4	10
Veterans Affairs:			
Veterans housing benefit program	1.82	12	649
Miscellaneous veterans housing program	7.72		2
Miscellaneous veterans programs	35.02		3
Federal Emergency Management Agency:			
Disaster assistance direct loans	6.71	2	25
International Assistance Programs:			
Overseas Private Investment Corporation	11.00	14	127
Small Business Administration:			
Disaster loans	17.46	142	871
Business loans	8.95	5	60
Other Independent Agencies:			
Export-Import Bank loans	7.50	72	960
Total	N/A	1,737	34,887

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.

Table 8-5. ESTIMATED 2001 SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS FOR LOAN GUARANTEES ¹

(in millions of dollars)

Agency and Program	Weighted average subsidy as a percentage of disbursements	Subsidy budget authority	Estimated loan levels
Agriculture:			
Agricultural credit insurance fund	2.06	71	3,478
Commodity Credit Corporation export loans	8.52	323	3,792
Rural community advancement program	0.52	8	1,535
Rural electrification and telecommunications loans	0.01	.....	400
Rural housing insurance fund	0.18	7	3,900
Defense—Military:			
Family housing improvement fund	8.86	45	507
Education:			
Federal family education loan	11.22	2,760	29,853
Health and Human Services:			
Health resources and services	2.11	1	51
Housing and Urban Development:			
Indian housing loan guarantee fund	8.13	6	72
Title VI Indian loan guarantees	11.07	5	43
Community development loan guarantees	2.30	28	1,217
America's private investment companies	3.60	36	1,000
FHA-Mutual mortgage insurance	-2.57	-3,675	160,000
FHA-General and special risk	-0.12	-21	21,000
Interior:			
Indian guaranteed loans	6.73	5	82
Transportation:			
Minority business resource center	11.00	2	14
Transportation infrastructure finance and innovation (TIFIA) program	2.00	18	880
Maritime guaranteed loans (Title XI)	4.97	2	40
Veterans Affairs:			
Veterans housing benefit program	0.51	154	30,334
Miscellaneous veterans housing program	48.25	6	13
International Assistance Programs:			
Development credit authority	7.04	15	213
Overseas Private Investment Corporation	1.00	10	1,000
Small Business Administration:			
Business loans	1.08	194	17,955
Other Independent Agencies:			
Export-Import Bank loans	6.70	1,007	15,040
Presidio Trust	0.46	1	200
Total	N/A	1,008	292,619
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS			
GNMA:			
Guarantees of mortgage-backed securities	-0.36	-356	200,000

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.

Table 8-6. SUMMARY OF FEDERAL DIRECT LOANS AND LOAN GUARANTEES

(In billions of dollars)

	Actual					Estimate	
	1995	1996	1997	1998	1999	2000	2001
Direct Loans:							
Obligations	30.9	23.4	33.6	28.8	38.4	38.5	44.2
Disbursements	22.0	23.6	32.2	28.7	37.7	37.3	35.8
Subsidy budget authority ¹	2.6	1.8	2.4	6.5	2.6	-4.3	1.7
Loan Guarantees: ²							
Commitments	138.5	175.4	172.3	218.4	252.4	255.1	289.0
Lender Disbursements	117.9	143.9	144.7	199.5	224.7	234.0	257.9
Subsidy budget authority ¹	4.6	4.0	3.6	2.6	4.3	3.2	0.8

¹ Excludes subsidy reestimates made prior to 1998.² GNMA secondary guarantees of loans that are guaranteed by FHA, VA and RHS are excluded from the totals to avoid double-counting.

Table 8-7. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS

Agency and Program	In millions of dollars			As a percentage of outstanding loans ¹		
	1999 actual	2000 estimate	2001 estimate	1999 actual	2000 estimate	2001 estimate
DIRECT LOAN WRITEOFFS						
Agriculture:						
Agricultural credit insurance fund	278	284	344	3.00	3.06	3.87
Rural community advancement program		6	10		0.12	0.17
Rural development insurance fund	2	3	3	0.05	0.09	0.09
Rural housing insurance fund	95	92	91	0.33	0.32	0.32
Rural development loans	1	1	1	0.31	0.29	0.27
Commerce:						
Economic development loans	3	1	1	6.97	2.50	2.85
Education:						
Student financial assistance	15	9	10	23.43	14.75	17.54
Federal direct student loan program	41	86	118	0.08	0.16	0.18
Housing and Urban Development:						
Revolving fund (liquidating programs)	6			3.42		
FHA—Mutual mortgage insurance			2			1.07
Interior:						
BIA—Indian direct loans	1	7	2	1.40	10.60	3.41
State:						
Repatriation loans	1	1	1	25.00	25.00	25.00
Veterans Affairs:						
Veterans housing benefit program	74	82	87	3.88	4.48	5.46
Federal Emergency Management Agency:						
FEMA—disaster assistance	1			0.54		
International Assistance Programs:						
Military debt reduction		11	8		110.00	133.33
Overseas Private Investment Corporation	1	1	1	1.28	1.27	1.23
Small Business Administration:						
Disaster loans	21	10		0.31	0.15	
Business loans	26	26	10	3.09	3.30	1.43
Other Independent Agencies:						
Bank insurance fund	38			38.00		
Tennessee Valley Authority fund	1	1	1	2.12	1.96	1.69
Total, direct loan writeoffs	605	621	690	0.30	0.29	0.31
GUARANTEED LOAN TERMINATIONS FOR DEFAULT						
Agriculture:						
Agricultural credit insurance fund	61	94	104	0.80	1.17	1.19
CCC export guarantee programs	248	425	390	3.68	6.83	7.23
Rural community advancement program	33	33	33	1.10	0.93	0.71
Rural electrification and telecommunications	107			25.17		
Rural development insurance fund	1	18	11	0.76	17.06	17.05
Rural housing insurance fund	40	62	79	0.40	0.56	0.58
Commerce:						
NOAA—Federal ship financing		2	2		1.85	2.68
Defense—Military:						
Defense export loan guarantee program			1			10.52
Education:						
Federal family education	2,555	3,824	4,014	2.01	2.95	2.97
Health and Human Services:						
Health education assistance loan program	22	37	42	0.76	1.30	1.53
Housing and Urban Development:						
FHA—Mutual mortgage insurance	5,876	3,779	4,538	1.42	0.85	0.87
FHA—General and special risk	1,070	1,536	2,292	1.15	1.59	2.19
Interior:						
BIA—Indian loan guarantee	1	1	1	0.65	0.60	0.49
Transportation:						
Federal ship financing fund	4			1.24		

Table 8-7. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS—Continued

Agency and Program	In millions of dollars			As a percentage of outstanding loans ¹		
	1999 actual	2000 estimate	2001 estimate	1999 actual	2000 estimate	2001 estimate
Veterans Affairs:						
Veterans housing benefit program	2,381	3,030	3,370	1.07	1.37	1.55
International Assistance Programs:						
Foreign military financing	1	5	8	0.02	0.10	0.18
Microenterprise and other development	2	1	1	4.76	1.88	1.44
AID—Housing and other credit guaranty programs	56	32	40	2.44	1.41	1.83
Overseas Private Investment Corporation	6	64	50	0.20	2.12	1.58
Small Business Administration:						
Business loans	699	684	684	1.77	1.66	1.52
Pollution control equipment	11	11	11	23.91	27.16	37.28
Other Independent Agencies:						
Export-Import Bank	1,000	284	425	3.94	1.00	1.38
Total, guaranteed loan terminations for default	14,174	13,922	16,096	0.91	0.86	0.93
Total, direct loan writeoffs and guaranteed loan terminations	14,779	14,543	16,786	0.84	0.80	0.86
ADDENDUM: WRITEOFFS OF DEFAULTED GUARANTEED LOANS THAT RESULT IN LOANS RECEIVABLE						
Education:						
Federal family education	587	459	473	2.68	2.03	1.98
Health and Human Services:						
Health education assistance loan program	29	29	29	5.43	5.44	5.46
Housing and Urban Development:						
FHA—Mutual mortgage insurance	17	85	1	2.66	25.07	1.96
FHA—General and special risk	172	229	652	7.22	9.80	31.27
Interior:						
BIA—Indian loan guarantee	2			2.85		
Veterans Affairs:						
Veterans housing benefit program	113	83	79	14.65	10.29	8.98
Small Business Administration:						
Business loans	320	173	71	15.01	8.48	3.67
Total, writeoffs of loans receivable	1,240	1,058	1,305	3.69	3.10	3.72

¹ Average of loans outstanding for the year.

Table 8-8. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS ¹

(In millions of dollars)

Agency and Program	1999 Actual	Estimate	
		2000	2001
DIRECT LOAN OBLIGATIONS			
Agriculture:			
Agricultural credit insurance fund	872	1,797	1,080
Distance learning and telemedicine	55	200	400
Rural electrification and telecommunications	1,911	2,610	1,645
Rural telephone bank	158	175	175
Rural water and waste disposal direct loans	707	679	1,032
Rural housing insurance fund	1,167	1,360	1,515
Rural community facility direct loans	162	167	250
Rural economic development	15	15	15
Rural development loan fund	33	38	64
Rural business and industry direct loans	50	50	50
P.L. 480 direct credit	282	907	160
Commerce:			
Fisheries finance	229	28	324
Education:			
Historically black college and university capital financing	375	364	339
Housing and Urban Development:			
FHA-General and special risk	50	50	50
FHA-Mutual mortgage insurance	100	100	250
Interior:			
Bureau of Reclamation	38	43	27
Assistance to American Samoa		19	
State:			
Repatriation loans	1	1	1
Transportation:			
Minority business resource center	14	14	
Transportation infrastructure finance and innovation (TIFIA) program	893	1080	1,320
Treasury:			
Community development financial institutions fund	32	53	53
Federal Emergency Management Agency:			
Disaster assistance	30	25	25
General Services Administration:			
Columbia Hospital for Women		14	
International Assistance Programs:			
Military debt reduction	1	11	
Total, limitations on direct loan obligations	7,175	9,800	8,775
LOAN GUARANTEE COMMITMENTS			
Agriculture:			
Agricultural credit insurance fund	2,551	4,042	3,478
Rural electrification and telecommunications guaranteed loans	150	500	400
Rural water and waste water disposal guaranteed loans	75	75	75
Rural housing insurance fund	3,075	3,300	3,900
Rural community facility guaranteed loans	210	210	210
Rural business and industry guaranteed loans	1,000	850	1,250
Commerce:			
Emergency oil and gas guaranteed loans		500	
Emergency steel guaranteed loans		1,000	
Defense—Military:			
Defense export loan guarantee	14,980	14,980	14,980
Health and Human Services:			
Health centers		100	51

Table 8-8. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS¹—Continued
(In millions of dollars)

Agency and Program	1999 Actual	Estimate	
		2000	2001
Housing and Urban Development:			
Indian housing loan guarantee fund	81	72	72
Title VI Indian federal guarantees	55	55	43
Community development loan guarantees	1,261	1,261	1,217
America's private investment companies .....	.....	541	1,000
FHA-General and special risk	18,100	18,100	21,000
FHA-Loan guarantee recovery fund	8	7	.....
FHA-Mutual mortgage insurance	140,000	140,000	160,000
Interior:			
Indian	60	60	82
Transportation:			
Minority business resource center .....	.....	.....	14
Transportation infrastructure finance and innovation program loan guarantees	600	720	880
Maritime guaranteed loan (Title XI)	1,767	1,505	40
International Assistance Programs:			
Overseas private investment corporation	2,333	2,333	1,000
Small Business Administration:			
Business loan guarantees	13,500	16,500	18,213
Other Independent Agencies:			
Presidio Trust .....	.....	200	200
Total, limitations on loan guarantee commitments	199,806	206,911	228,105
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS			
Housing and Urban Development:			
Guarantees of mortgage-backed securities	200,000	200,000	200,000
Total, limitations on secondary guaranteed loan commitments	200,000	200,000	200,000

¹ Data represents loan level limitations enacted or proposed to be enacted in appropriation acts. For information on actual and estimated loan levels supportable by new subsidy budget authority requested, see Tables 8-4 and 8-5.

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Obligations			
Loan disbursements	1	2	2
Change in outstandings	-882	-967	-985
Outstandings	5,817	4,850	3,865
Farm storage facility direct loan financing account:			
Obligations		350	150
Loan disbursements		350	150
Change in outstandings		350	66
Outstandings		350	416
Agricultural credit insurance fund direct loan financing account:			
Obligations	999	1,723	1,080
Loan disbursements	1,278	1,637	1,026
Change in outstandings	728	949	267
Outstandings	3,443	4,392	4,659
Commodity Credit Corporation fund:			
Obligations	8,358	9,399	9,257
Loan disbursements	8,358	9,399	9,257
Change in outstandings	213	-79	-312
Outstandings	2,846	2,767	2,455
Natural Resources Conservation Service			
Watershed and flood prevention operations direct loan financing account:			
Obligations			60
Loan disbursements			7
Change in outstandings			7
Outstandings			7
Rural Utilities Service			
Rural communication development fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-1	
Outstandings	7	6	6
Distance learning and telemedicine direct loan financing account:			
Obligations	55	200	400
Loan disbursements	1	101	232
Change in outstandings	1	93	206
Outstandings	1	94	300
Rural development insurance fund liquidating account:			
Obligations			
Loan disbursements	2		
Change in outstandings	-338	-281	-258
Outstandings	3,470	3,189	2,931
Rural electrification and telecommunications direct loan financing account:			
Obligations	1,763	2,610	1,645
Loan disbursements	1,093	1,689	1,582
Change in outstandings	760	1,547	1,412
Outstandings	5,949	7,496	8,908
Rural telephone bank direct loan financing account:			
Obligations	114	175	175
Loan disbursements	58	117	145
Change in outstandings	49	107	134
Outstandings	246	353	487
Rural water and waste disposal direct loans financing account:			
Obligations	721	679	1,032
Loan disbursements	619	835	862
Change in outstandings	535	786	803
Outstandings	3,345	4,131	4,934

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Rural electrification and telecommunications liquidating account:			
Obligations			
Loan disbursements	19	8	19
Change in outstandings	-1,209	-1,030	-1,189
Outstandings	25,867	24,837	23,648
Rural telephone bank liquidating account:			
Obligations			
Loan disbursements	17	15	13
Change in outstandings	-186	-110	-106
Outstandings	986	876	770
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1,331	-1,127	-1,052
Outstandings	18,373	17,246	16,194
Rural housing insurance fund direct loan financing account:			
Obligations	1,169	1,371	1,515
Loan disbursements	1,137	1,332	1,448
Change in outstandings	769	993	1,046
Outstandings	10,180	11,173	12,219
Rural community facility direct loans financing account:			
Obligations	163	185	250
Loan disbursements	168	226	178
Change in outstandings	141	204	153
Outstandings	747	951	1,104
Rural Business—Cooperative Service			
Rural economic development loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-1	-1
Outstandings	2	1	
Rural economic development direct loan financing account:			
Obligations	15	15	15
Loan disbursements	23	16	15
Change in outstandings	16	6	5
Outstandings	66	72	77
Rural development loan fund direct loan financing account:			
Obligations	33	38	64
Loan disbursements	44	42	41
Change in outstandings	40	36	33
Outstandings	249	285	318
Rural business and industry direct loans financing account:			
Obligations	26	50	50
Loan disbursements	20	31	51
Change in outstandings	19	23	37
Outstandings	38	61	98
Rural development loan fund liquidating account:			
Obligations			
Loan disbursements		1	1
Change in outstandings	-5	-4	-4
Outstandings	72	68	64
Foreign Agricultural Service			
Expenses, P.L. 480, foreign assistance programs, Agriculture liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-336	-275	-539
Outstandings	8,810	8,535	7,996

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
P.L. 480 direct credit financing account:			
Obligations	282	907	160
Loan disbursements	401	777	195
<i>Change in outstandings</i>	398	772	187
Outstandings	1,927	2,699	2,886
P.L. 480 Title I food for progress credits, financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>			
Outstandings	508	508	508
Debt reduction—financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>		-2	-2
Outstandings	63	61	59
Department of Commerce			
Economic Development Administration			
Economic development revolving fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-11	-6	-4
Outstandings	43	37	33
National Oceanic and Atmospheric Administration			
Fisheries finance, direct loan financing account:			
Obligations	229	28	324
Loan disbursements	98	159	160
<i>Change in outstandings</i>	96	155	153
Outstandings	122	277	430
Department of Defense—Military			
Family Housing			
Family housing improvement, direct loan financing account:			
Obligations		74	99
Loan disbursements		11	
<i>Change in outstandings</i>		11	
Outstandings		11	11
Department of Education			
Office of Elementary and Secondary Education			
School renovation, direct loan financing account:			
Obligations			6,541
Loan disbursements			327
<i>Change in outstandings</i>			281
Outstandings			281
Office of Postsecondary Education			
College housing and academic facilities loans liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-47	-43	-43
Outstandings	519	476	433
College housing and academic facilities loans financing account:			
Obligations			
Loan disbursements	4	1	4
<i>Change in outstandings</i>	4	1	4
Outstandings	25	26	30
Historically black college and university capital financing, direct loan financing account:			
Obligations	11	25	25
Loan disbursements	6	25	25
<i>Change in outstandings</i>	6	25	25
Outstandings	11	36	61

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Office of Student Financial Assistance			
Student financial assistance:			
Obligations			
Loan disbursements			
Change in outstandings	-73	-6	-2
Outstandings	64	58	56
Federal direct student loan program, financing account:			
Obligations	19,243	16,135	16,971
Loan disbursements	18,070	14,636	15,429
Change in outstandings	12,465	12,646	12,535
Outstandings	45,830	58,476	71,011
Department of Energy			
Power Marketing Administration			
Bonneville Power Administration fund:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	2	2	2
Department of Health and Human Services			
Health Resources and Services Administration			
Medical facilities guarantee and loan fund:			
Obligations			
Loan disbursements			
Change in outstandings	-2	-7	-8
Outstandings	15	8	
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Obligations			
Loan disbursements			
Change in outstandings	-71	-71	-71
Outstandings	1,421	1,350	1,279
Community Planning and Development			
Revolving fund (liquidating programs):			
Obligations			
Loan disbursements			
Change in outstandings	-45	-35	-30
Outstandings	175	140	110
Community development loan guarantees liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-17	-4	-4
Outstandings	13	9	5
Housing Programs			
Nonprofit sponsor assistance liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	1	1	1
Flexible subsidy fund:			
Obligations			
Loan disbursements	17	14	20
Change in outstandings	17	10	16
Outstandings	786	796	812
FHA-Mutual mortgage and cooperative housing insurance funds liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-4	
Outstandings	4		

Table 8-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
FHA-General and special risk insurance funds liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-4	-4
Outstandings	68	64	60
FHA-General and special risk direct loan financing account:			
Obligations		17	17
Loan disbursements	1	17	17
Change in outstandings	1	16	16
Outstandings	1	17	33
Housing for the elderly or handicapped fund liquidating account:			
Obligations			
Loan disbursements	3		
Change in outstandings	-98	-87	-86
Outstandings	8,045	7,958	7,872
FHA-Mutual mortgage insurance direct loan financing account:			
Obligations	1	100	250
Loan disbursements	1	90	227
Change in outstandings	-2	84	197
Outstandings	3	87	284
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Obligations			
Loan disbursements	101	112	101
Change in outstandings	2	-18	-17
Outstandings	360	342	325
Department of the Interior			
Bureau of Reclamation			
Bureau of reclamation loan liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-3	-3	-4
Outstandings	66	63	59
Water and related resources:			
Obligations			
Loan disbursements			
Change in outstandings			-1
Outstandings	3	3	2
Bureau of Reclamation direct loan financing account:			
Obligations	25	43	27
Loan disbursements	26	30	27
Change in outstandings	26	29	24
Outstandings	146	175	199
National Park Service			
Construction and major maintenance:			
Obligations			
Loan disbursements			
Change in outstandings		-1	
Outstandings	6	5	5
Bureau of Indian Affairs			
Revolving fund for loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-3	-3
Outstandings	43	40	37
Indian direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-7	-2
Outstandings	28	21	19

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Insular Affairs			
Assistance to territories:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1	-1	-1
Outstandings	16	15	14
Assistance to American Samoa direct loan financing account:			
Obligations		19	
Loan disbursements		14	5
<i>Change in outstandings</i>		13	4
Outstandings		13	17
Department of State			
Administration of Foreign Affairs			
Repatriation loans financing account:			
Obligations	1	1	1
Loan disbursements	1	1	1
<i>Change in outstandings</i>			
Outstandings	4	4	4
Department of Transportation			
Office of the Secretary			
Minority business resource center direct loan financing account:			
Obligations	6	14	
Loan disbursements	3	7	7
<i>Change in outstandings</i>	1	-2	-3
Outstandings	8	6	3
Federal Highway Administration			
Transportation infrastructure finance and innovation (TIFIA) program direct loan financing account:			
Obligations	873	990	1,210
Loan disbursements		992	858
<i>Change in outstandings</i>		992	858
Outstandings		992	1,850
Transportation infrastructure finance and innovation (TIFIA) program line of credit financing account:			
Obligations	20	90	110
Loan disbursements			
<i>Change in outstandings</i>			
Outstandings			
Right-of-way revolving fund liquidating account:			
Obligations			
Loan disbursements	36	3	3
<i>Change in outstandings</i>	12	-21	-21
Outstandings	194	173	152
Federal Railroad Administration			
Amtrak corridor improvement loans liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1	-1	-1
Outstandings	5	4	3
Alameda corridor direct loan financing account:			
Obligations			
Loan disbursements	120		
<i>Change in outstandings</i>	120		-400
Outstandings	400	400	
Railroad rehabilitation and improvement liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-3	-5	-4
Outstandings	53	48	44

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Railroad rehabilitation and improvement direct loan financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>			
Outstandings	4	4	4
Department of the Treasury			
Departmental Offices			
Community development financial institutions fund direct loan financing account:			
Obligations	8	10	10
Loan disbursements	5	5	7
<i>Change in outstandings</i>	5	5	6
Outstandings	10	15	21
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans housing benefit program fund liquidating account:			
Obligations			
Loan disbursements	10	9	9
<i>Change in outstandings</i>	-10	-28	-25
Outstandings	317	289	264
Veterans housing benefit program fund direct loan financing account:			
Obligations	1,648	1,992	649
Loan disbursements	1,648	1,992	649
<i>Change in outstandings</i>	484	-129	-290
Outstandings	1,588	1,459	1,169
Miscellaneous veterans housing loans direct loan financing account:			
Obligations	2	2	2
Loan disbursements	2	2	1
<i>Change in outstandings</i>	1	2	1
Outstandings	17	19	20
Miscellaneous veterans programs loan fund direct loan financing account:			
Obligations	2	3	3
Loan disbursements			
<i>Change in outstandings</i>			
Outstandings	1	1	1
Environmental Protection Agency			
Abatement, control, and compliance direct loan financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-5	-5	-5
Outstandings	51	46	41
Federal Emergency Management Agency			
Disaster assistance direct loan liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>			
Outstandings	37	37	37
Disaster assistance direct loan financing account:			
Obligations	3	25	25
Loan disbursements	3	25	25
<i>Change in outstandings</i>	1	19	9
Outstandings	148	167	176
General Services Administration			
Real Property Activities			
Columbia hospital for women direct loan financing account:			
Obligations		14	
Loan disbursements		14	
<i>Change in outstandings</i>		14	
Outstandings		14	14

Table 8-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Obligations			
Loan disbursements	7	7	7
Change in outstandings	-582	-535	-444
Outstandings	4,805	4,270	3,826
Foreign military financing direct loan financing account:			
Obligations			
Loan disbursements	345	466	594
Change in outstandings	83	153	221
Outstandings	1,665	1,818	2,039
Military debt reduction financing account:			
Obligations	1	11	
Loan disbursements	1	11	
Change in outstandings	1		-8
Outstandings	10	10	2
Agency for International Development			
Economic assistance loans—liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-775	-596	-530
Outstandings	10,660	10,064	9,534
Debt reduction, financing account:			
Obligations			
Loan disbursements		72	3
Change in outstandings	-65	15	-54
Outstandings	217	232	178
Microenterprise and small enterprise development credit direct loan financing account:			
Obligations	2		
Loan disbursements	1	1	1
Change in outstandings			
Outstandings	3	3	3
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-10	-5	-6
Outstandings	14	9	3
Overseas Private Investment Corporation direct loan financing account:			
Obligations	136	136	127
Loan disbursements	7	20	23
Change in outstandings	1	6	10
Outstandings	64	70	80
Small Business Administration			
Business direct loan financing account:			
Obligations	15	30	60
Loan disbursements	15	30	60
Change in outstandings	-6	16	45
Outstandings	93	109	154
Disaster direct loan financing account:			
Obligations	814	221	951
Loan disbursements	755	650	1,192
Change in outstandings	53	169	-1,375
Outstandings	5,658	5,827	4,452
Disaster loan fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-187	-580	-487
Outstandings	1,067	487	

Table 8-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Business loan fund liquidating account:			
Obligations			
Loan disbursements	34	32	22
Change in outstandings	-242	-127	-107
Outstandings	748	621	514
Other Independent Agencies			
Export-Import Bank of the United States			
Export-Import Bank liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-552	-349	-353
Outstandings	5,169	4,820	4,467
Debt reduction financing account:			
Obligations			
Loan disbursements	44	118	
Change in outstandings	44	118	
Outstandings	108	226	226
Export-Import Bank direct loan financing account:			
Obligations	903	836	960
Loan disbursements	2,375	1,117	790
Change in outstandings	2,027	424	-27
Outstandings	7,054	7,478	7,451
Farm Credit System Financial Assistance Corporation			
Financial Assistance Corporation assistance fund, liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-33	-17	-15
Outstandings	900	883	868
Federal Communications Commission			
Spectrum auction direct loan financing account:			
Obligations	733	2	2
Loan disbursements	733	2	2
Change in outstandings	1,498	-8	-36
Outstandings	8,287	8,279	8,243
Bank Insurance			
Bank insurance fund:			
Obligations			
Loan disbursements			
Change in outstandings	-44	-100	
Outstandings	100		
FSLIC Resolution			
FSLIC resolution fund:			
Obligations			
Loan disbursements			
Change in outstandings	-34	-11	
Outstandings	75	64	64
National Credit Union Administration			
Community development credit union revolving loan fund:			
Obligations	2	6	4
Loan disbursements	2	6	4
Change in outstandings		3	1
Outstandings	7	10	11
Tennessee Valley Authority			
Tennessee Valley Authority fund:			
Obligations	16	22	22
Loan disbursements	16	22	22
Change in outstandings	4	8	8
Outstandings	47	55	63

Table 8-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Subtotal, direct loan transactions:			
Obligations	38,392	38,548	44,243
Loan disbursements	37,729	37,291	35,846
Change in outstandings	13,403	14,104	9,851
Outstandings	200,416	214,520	224,371
ADDENDUM: DEFAULTED GUARANTEED LOANS THAT RESULT IN A LOAN RECEIVABLE			
Department of Agriculture			
Farm Service Agency			
Commodity Credit Corporation export guarantee financing account:			
Claim payments	248	425	390
Change in outstandings	240	418	381
Outstandings	336	754	1,135
Commodity Credit Corporation guaranteed loans liquidating account:			
Claim payments			
Change in outstandings	-82	-114	-158
Outstandings	4,210	4,096	3,938
Department of Commerce			
National Oceanic and Atmospheric Administration			
Federal ship financing fund, fishing vessels liquidating account:			
Claim payments			
Change in outstandings			
Outstandings	24	24	24
Department of Education			
Office of Student Financial Assistance			
Federal family education loan liquidating account:			
Claim payments	314	190	109
Change in outstandings	-2,122	-795	-724
Outstandings	13,187	12,392	11,668
Federal family education loan program, financing account:			
Claim payments	2,045	3,352	3,604
Change in outstandings	255	2,111	1,998
Outstandings	8,701	10,812	12,810
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Claim payments	9	22	28
Change in outstandings	6	19	24
Outstandings	38	57	81
Health education assistance loans liquidating account:			
Claim payments	20	23	18
Change in outstandings	2	-21	-26
Outstandings	496	475	449
Department of Housing and Urban Development			
Housing Programs			
FHA-Mutual mortgage and cooperative housing insurance funds liquidating account:			
Claim payments	11	5	3
Change in outstandings	-24	-266	2
Outstandings	270	4	6
FHA-General and special risk insurance funds liquidating account:			
Claim payments	172	136	170
Change in outstandings	-99	-393	-776
Outstandings	1,890	1,497	721
FHA-General and special risk guaranteed loan financing account:			
Claim payments	243	407	510
Change in outstandings	110	302	365
Outstandings	491	793	1,158

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
FHA-Mutual mortgage insurance guaranteed loan financing account:			
Claim payments	35	14	26
Change in outstandings	21	-334	22
Outstandings	369	35	57
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Claim payments			
Change in outstandings	-3	-2	-2
Outstandings	29	27	25
Indian guaranteed loan financing account:			
Claim payments	3	1	1
Change in outstandings	-3		
Outstandings	41	41	41
Department of Transportation			
Maritime Administration			
Federal ship financing fund liquidating account:			
Claim payments	4		
Change in outstandings	-26	-5	-5
Outstandings	20	15	10
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans housing benefit program fund liquidating account:			
Claim payments	103	87	75
Change in outstandings	-46	-19	-14
Outstandings	574	555	541
Veterans housing benefit program fund guaranteed loan financing account:			
Claim payments	114	121	136
Change in outstandings	94	89	91
Outstandings	197	286	377
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Claim payments	24	14	21
Change in outstandings	13	11	21
Outstandings	14	25	46
Agency for International Development			
Housing and other credit guaranty programs liquidating account:			
Claim payments	56	32	40
Change in outstandings	15	8	14
Outstandings	500	508	522
Microenterprise and small enterprise development guaranteed loan financing account:			
Claim payments	2	1	1
Change in outstandings	2	1	1
Outstandings	3	4	5
Overseas Private Investment Corporation			
Overseas Private Investment Corporation guaranteed loan financing account:			
Claim payments	5	50	50
Change in outstandings	2	45	33
Outstandings	17	62	95
Small Business Administration			
Pollution control equipment fund liquidating account:			
Claim payments	3		
Change in outstandings	2	-1	-1
Outstandings	47	46	45

Table 8-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Business guaranteed loan financing account:			
Claim payments	630	643	656
<i>Change in outstandings</i>	-81	-15	241
Outstandings	753	738	979
Business loan fund liquidating account:			
Claim payments	69	41	28
<i>Change in outstandings</i>	-88	-168	-278
Outstandings	1,378	1,210	932
Subtotal, defaulted guaranteed loans that result in a loan receivable:			
Claim payments	4,110	5,564	5,866
<i>Change in outstandings</i>	-1,812	871	1,209
Outstandings	33,585	34,456	35,665
Total:			
Obligations	38,392	38,548	44,243
Loan disbursements	41,839	42,855	41,712
<i>Change in outstandings</i>	11,591	14,975	11,060
Outstandings	234,001	248,976	260,036

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-182	-205	-112
Outstandings	594	389	277
Agricultural credit insurance fund guaranteed loan financing account:			
Commitments	2,551	4,042	3,478
New guaranteed loans	2,349	3,083	3,130
Change in outstandings	731	959	724
Outstandings	7,023	7,982	8,706
Commodity Credit Corporation export guarantee financing account:			
Commitments	3,045	3,787	3,792
New guaranteed loans	244	3,501	3,501
Change in outstandings	-87	-1,050	-590
Outstandings	6,739	5,689	5,099
Commodity Credit Corporation guaranteed loans liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-214		
Outstandings			
Natural Resources Conservation Service			
Agricultural resource conservation demonstration guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings			
Outstandings	24	24	24
Rural Utilities Service			
Rural communication development fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-1		
Outstandings	4	4	4
Rural development insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-96	-51	-31
Outstandings	131	80	49
Rural electrification and telecommunications guaranteed loans financing account:			
Commitments	150	500	400
New guaranteed loans	16	133	176
Change in outstandings	16	131	173
Outstandings	16	147	320
Rural water and waste water disposal guaranteed loans financing account:			
Commitments	6	75	75
New guaranteed loans	20	69	44
Change in outstandings	19	67	41
Outstandings	20	87	128
Rural electrification and telecommunications liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-152	-20	-20
Outstandings	409	389	369
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-4	-2	-3
Outstandings	23	21	18

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Rural housing insurance fund guaranteed loan financing account:			
Commitments	3,052	3,300	3,900
New guaranteed loans	3,085	2,966	3,497
Change in outstandings	2,566	2,287	2,661
Outstandings	9,772	12,059	14,720
Rural community facility guaranteed loans financing account:			
Commitments	107	210	210
New guaranteed loans	59	131	165
Change in outstandings	39	119	147
Outstandings	194	313	460
Rural Business—Cooperative Service			
Rural business and industry guaranteed loans financing account:			
Commitments	1,281	869	1,250
New guaranteed loans	1,027	1,134	1,059
Change in outstandings	887	956	838
Outstandings	2,763	3,719	4,557
Department of Commerce			
Departmental Management			
Emergency oil and gas guaranteed loan financing account:			
Commitments		500	
New guaranteed loans		500	
Change in outstandings		500	-50
Outstandings		500	450
Emergency steel guaranteed loan financing account:			
Commitments		1,000	
New guaranteed loans		1,000	
Change in outstandings		1,000	-100
Outstandings		1,000	900
Economic Development Administration			
Economic development revolving fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-10	-2	
Outstandings	3	1	1
National Oceanic and Atmospheric Administration			
Fisheries finance, guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-9	-24	-24
Outstandings	71	47	23
Federal ship financing fund, fishing vessels liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-14	-10	-9
Outstandings	54	44	35
Department of Defense—Military			
Operation and Maintenance			
Defense export loan guarantee financing account:			
Commitments			
New guaranteed loans	5		
Change in outstandings	1	-4	-5
Outstandings	16	12	7
Procurement			
Arms initiative guaranteed loan financing account:			
Commitments		8	
New guaranteed loans		8	
Change in outstandings		7	-2
Outstandings	10	17	15

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Family Housing			
Family housing improvement guaranteed loan financing account:			
Commitments		563	507
New guaranteed loans		29	
Change in outstandings		29	
Outstandings		29	29
Department of Education			
Office of Student Financial Assistance			
Federal family education loan liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-4,387	-4,084	-2,781
Outstandings	13,910	9,826	7,045
Federal family education loan program financing account:			
Commitments	27,497	28,326	29,853
New guaranteed loans	21,914	25,261	26,472
Change in outstandings	13,260	9,524	7,958
Outstandings	112,768	122,292	130,250
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-11	-23	-30
Outstandings	1,551	1,528	1,498
Health education assistance loans liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-69	-83	-87
Outstandings	1,343	1,260	1,173
Health center guaranteed loan financing account:			
Commitments		100	51
New guaranteed loans		100	51
Change in outstandings		100	51
Outstandings	9	109	160
Medical facilities guarantee and loan fund:			
Commitments			
New guaranteed loans			
Change in outstandings	-37	-30	-15
Outstandings	45	15	
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Commitments			
New guaranteed loans			
Change in outstandings	-281	-281	-281
Outstandings	3,026	2,745	2,464
Indian housing loan guarantee fund financing account:			
Commitments	12	72	72
New guaranteed loans	17	40	40
Change in outstandings	9	37	37
Outstandings	47	84	121
Title VI Indian federal guarantees financing account:			
Commitments		55	43
New guaranteed loans		55	43
Change in outstandings		52	40
Outstandings		52	92

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Community Planning and Development			
Revolving fund (liquidating programs):			
Commitments			
New guaranteed loans			
Change in outstandings	-1	-1	
Outstandings	1		
Community development loan guarantees financing account:			
Commitments	432	1,261	1,217
New guaranteed loans	468	650	825
Change in outstandings	320	450	575
Outstandings	1,509	1,959	2,534
Community development loan guarantees liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-31	-25	-25
Outstandings	134	109	84
America's private investment companies financing account:			
Commitments		541	1,000
New guaranteed loans		395	771
Change in outstandings		395	771
Outstandings		395	1,166
Housing Programs			
FHA-Mutual mortgage and cooperative housing insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-15,164	-8,482	-6,897
Outstandings	55,866	47,384	40,487
FHA-General and special risk insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-3,685	-2,852	-2,151
Outstandings	32,905	30,053	27,902
FHA-General and special risk guaranteed loan financing account:			
Commitments	16,924	15,905	16,677
New guaranteed loans	16,074	15,330	16,551
Change in outstandings	6,995	9,974	11,146
Outstandings	59,692	69,666	80,812
FHA-Loan guarantee recovery fund—financing account:			
Commitments	1	7	
New guaranteed loans	1	4	4
Change in outstandings	1	4	4
Outstandings	2	6	10
FHA-Mutual mortgage insurance guaranteed loan financing account:			
Commitments	123,546	122,658	158,993
New guaranteed loans	113,174	122,341	149,883
Change in outstandings	46,299	74,358	85,830
Outstandings	355,608	429,966	515,796
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-95,853		-2
Outstandings	156	156	154
Guarantees of mortgage-backed securities financing account:			
Commitments	163,508	114,311	96,262
New guaranteed loans	163,508	114,311	96,262
Change in outstandings	123,697	30,255	7,437
Outstandings	569,312	599,567	607,004

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-8	-7	-6
Outstandings	32	25	19
Indian guaranteed loan financing account:			
Commitments	32	60	82
New guaranteed loans	32	60	82
Change in outstandings	7	33	53
Outstandings	120	153	206
Department of Transportation			
Office of the Secretary			
Minority business resource center guaranteed loan financing account:			
Commitments			14
New guaranteed loans			7
Change in outstandings			5
Outstandings			5
Federal Highway Administration			
Transportation infrastructure finance and innovation (TIFIA) program loan guarantee financing account:			
Commitments	600	720	880
New guaranteed loans		1,320	880
Change in outstandings		1,320	880
Outstandings		1,320	2,200
Maritime Administration			
Federal ship financing fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-76	-52	-57
Outstandings	321	269	212
Maritime guaranteed loan (Title XI) financing account:			
Commitments	1,767	1,505	40
New guaranteed loans	1,767	1,505	40
Change in outstandings	954	1,334	-192
Outstandings	3,411	4,745	4,553
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans housing benefit program fund liquidating account:			
Commitments			
New guaranteed loans	38		
Change in outstandings	-5,770	-4,425	-3,372
Outstandings	17,638	13,213	9,841
Veterans housing benefit program fund guaranteed loan financing account:			
Commitments	44,061	34,104	30,334
New guaranteed loans	44,061	34,104	30,334
Change in outstandings	16,263	2,647	-3,085
Outstandings	203,651	206,298	203,213
Miscellaneous veterans housing loans guaranteed loan financing account:			
Commitments		20	13
New guaranteed loans		20	13
Change in outstandings		20	11
Outstandings		20	31

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-380	-371	-357
Outstandings	4,924	4,553	4,196
Agency for International Development			
Loan guarantees to Israel financing account:			
Commitments			
New guaranteed loans			
Change in outstandings			
Outstandings	9,226	9,226	9,226
Development credit authority guaranteed loan financing account:			
Commitments	93	69	213
New guaranteed loans		75	114
Change in outstandings		75	114
Outstandings		75	189
Housing and other credit guaranty programs liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-74	-76	-84
Outstandings	1,760	1,684	1,600
Private sector revolving fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings			
Outstandings	1	1	1
Microenterprise and small enterprise development guaranteed loan financing account:			
Commitments	50	56	
New guaranteed loans	39	44	30
Change in outstandings	11	22	10
Outstandings	42	64	74
Urban and environmental credit guaranteed loan financing account:			
Commitments	12	11	
New guaranteed loans	147	37	11
Change in outstandings	127	11	-16
Outstandings	534	545	529
Assistance for the independent states of the former Soviet Union: Ukraine export credit insurance financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-61		
Outstandings			
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-12	-14	-55
Outstandings	69	55	
Overseas Private Investment Corporation guaranteed loan financing account:			
Commitments	2,333	2,333	1,000
New guaranteed loans	426	600	800
Change in outstandings	291	100	250
Outstandings	2,904	3,004	3,254
Small Business Administration			
Pollution control equipment fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-11	-11	-11
Outstandings	46	35	24

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	1999 Actual	Estimate	
		2000	2001
Business guaranteed loan financing account:			
Commitments	12,652	17,760	19,784
New guaranteed loans	10,785	7,534	7,738
Change in outstandings	3,072	4,150	4,261
Outstandings	36,767	40,917	45,178
Business loan fund liquidating account:			
Commitments			
New guaranteed loans	2	1	1
Change in outstandings	-1,152	-579	-432
Outstandings	2,652	2,073	1,641
Other Independent Agencies			
Export-Import Bank of the United States			
Export-Import Bank liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-493	-350	-317
Outstandings	1,214	864	547
Export-Import Bank guaranteed loan financing account:			
Commitments	12,165	14,664	15,040
New guaranteed loans	8,901	11,998	11,512
Change in outstandings	1,437	6,015	-554
Outstandings	24,151	30,166	29,612
National Credit Union Administration			
Credit union share insurance fund:			
Commitments	1	1	1
New guaranteed loans	1	1	1
Change in outstandings			
Outstandings	1	1	1
Presidio Trust			
Presidio Trust guaranteed loan financing account:			
Commitments			100
New guaranteed loans			100
Change in outstandings			100
Outstandings			100
Subtotal, guaranteed loans (gross)			
Commitments	415,878	369,393	385,281
New guaranteed loans	388,160	348,340	354,137
Change in outstandings	88,677	123,817	102,364
Outstandings	1,545,214	1,669,031	1,771,395
Less, secondary guaranteed loans: ¹			
GNMA guarantees of FmHA/VA/FHA pools:			
Commitments	-163,508	-114,311	-96,262
New guaranteed loans	-163,508	-114,311	-96,262
Change in outstandings	-27,844	-30,255	-7,435
Outstandings	-569,468	-599,723	-607,158
Total, primary guaranteed loans: ²			
Commitments	252,370	255,082	289,019
New guaranteed loans	224,652	234,029	257,875
Change in outstandings	60,833	93,562	94,929
Outstandings	975,746	1,069,308	1,164,237

¹ Loans guaranteed by FHA, VA, or FmHA are included above. GNMA places a secondary guarantee on these loans, so they are deducted here to avoid double counting.

² When guaranteed loans result in loans receivable, they are shown in the direct loan table.

Table 8–11. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES (GSEs)¹
(in millions of dollars)

Enterprise	1999 Actual	Estimate	
		2000	2001
LENDING			
Student Loan Marketing Association:			
<i>Net change</i>	8,329	-3,927	-6,030
Outstandings	37,797	33,870	27,840
Federal National Mortgage Association:			
Portfolio programs:			
<i>Net change</i>	125,419	81,090	92,389
Outstandings	518,629	599,719	692,108
Mortgage-backed securities:			
<i>Net change</i>	46,936	20,023	29,285
Outstandings	674,297	694,320	723,605
Federal Home Loan Mortgage Corporation:			
Portfolio programs:			
<i>Net change</i>	99,446	39,843	40,008
Outstandings	315,968	355,811	395,819
Mortgage-backed securities:			
<i>Net change</i>	38,526	87,619	101,540
Outstandings	529,213	616,832	718,372
Farm Credit System:			
Agricultural credit bank: ²			
<i>Net change</i>	1,481	452	1,176
Outstandings	18,093	18,545	19,721
Farm credit banks:			
<i>Net change</i>	1,762	1,143	1,973
Outstandings	45,823	46,966	48,939
Federal Agricultural Mortgage Corporation:			
<i>Net change</i>	1,009	1,261	1,576
Outstandings	2,057	3,318	4,894
Federal Home Loan Banks:			
<i>Net change</i>	121,375	2,043	2,043
Outstandings	366,842	368,885	370,928
Subtotal GSE lending (gross):			
<i>Net change</i>	444,283	229,547	263,960
Outstandings	2,508,719	2,738,266	3,002,226
Less guaranteed loans purchased by:			
Student Loan Marketing Association:			
<i>Net change</i>	8,329	-3,927	-6,030
Outstandings	37,797	33,870	27,840
Federal National Mortgage Association:			
<i>Net change</i>	20,484	-254	1,220
Outstandings	52,110	51,856	53,076
Other:			
<i>Net change</i>	6,269	.....	.....
Outstandings	20,794	20,794	20,794
Total GSE lending (net):			
<i>Net change</i>	409,201	181,872	268,770
Outstandings	2,398,018	2,652,540	2,900,516
BORROWING			
Student Loan Marketing Association:			
<i>Net Change</i>	8,074	-4,466	-6,910
Outstandings	41,591	37,125	30,215
Federal National Mortgage Association:			
Portfolio programs:			
<i>Net Change</i>	94,297	84,687	92,494
Outstandings	524,879	609,566	702,060
Mortgage-backed securities:			
<i>Net Change</i>	46,936	20,023	29,285
Outstandings	674,297	694,320	723,605

Table 8-11. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES (GSEs) ¹—
Continued
(in millions of dollars)

Enterprise	1999 Actual	Estimate	
		2000	2001
Federal Home Loan Mortgage Corporation:			
Portfolio programs:			
<i>Net Change</i>	104,627	62,427	39,088
Outstandings	341,014	403,441	442,529
Mortgage-backed securities:			
<i>Net Change</i>	38,526	87,619	101,540
Outstandings	529,213	616,832	718,372
Farm Credit System:			
Agricultural credit bank: ²			
<i>Net Change</i>	1,389	486	1,266
Outstandings	19,468	19,954	21,220
Farm credit banks:			
<i>Net Change</i>	2,373	1,818	2,169
Outstandings	50,087	51,905	54,074
Federal Agricultural Mortgage Corporation:			
<i>Net Change</i>	975	288	9
Outstandings	2,573	2,861	2,870
Federal Home Loan Banks:			
<i>Net Change</i>	141,210	.....	.....
Outstandings	477,472	477,472	477,472
Subtotal GSE borrowing (gross):			
<i>Net change</i>	349,182	142,934	124,681
Outstandings	1,425,742	1,568,676	1,693,357
Less borrowing from other GSEs:			
<i>Net Change</i>	30,390	.....	.....
Outstandings	96,387	96,387	96,387
Less purchase of Federal debt securities:			
<i>Net Change</i>	-292	14	9
Outstandings	1,668	1,682	1,691
Less borrowing to purchase loans guaranteed by:			
Student Loan Marketing Association:			
<i>Net Change</i>	8,329	-3,927	-6,030
Outstandings	37,797	33,870	27,840
Federal National Mortgage Association:			
<i>Net Change</i>	20,484	-254	1,220
Outstandings	52,110	51,856	53,076
Other:			
<i>Net Change</i>	6,269	.....	.....
Outstandings	20,794	20,794	20,794
Total GSE borrowing (net):			
<i>Net change</i>	284,002	147,101	129,482
Outstandings	1,216,986	1,364,087	1,493,569

¹ The estimates of borrowing and lending were developed by the GSEs based on certain assumptions but are subject to periodic review and revision and do not represent official GSE forecasts of future activity, nor are they reviewed by the President. The data for all years include programs of mortgage-backed securities. In cases where a GSE owns securities issued by the same GSE, including mortgage-backed securities, the borrowing and lending data for that GSE are adjusted to remove double-counting.

² The remaining Bank for Cooperatives was combined with the Agricultural credit bank as of July 1, 1999. Agricultural credit bank data for 1999 include data for Bank for Cooperatives.

Table 8-12. GOVERNMENT-SPONSORED ENTERPRISE PARTICIPATION IN THE CREDIT MARKET¹

(dollar amounts in billions)

	Actual										
	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999
Total net lending in credit market ²	66.8	88.2	169.6	336.9	829.3	704.1	720.4	727.1	713.5	975.3	1,091.4
Government-sponsored enterprise loans	1.2	4.9	5.3	21.4	57.9	115.4	125.7	141.5	112.8	293.1	284.0
GSE lending participation rate (percent)	1.8	5.6	3.1	6.4	7.0	16.4	17.4	19.5	15.8	30.1	26.0
Total net borrowing in credit market ²	66.8	88.2	169.6	336.9	829.3	704.1	720.4	727.1	713.5	975.3	1,091.4
Government-sponsored enterprise borrowing ..	1.4	5.2	5.5	24.1	60.7	90.0	68.2	161.2	107.9	276.2	346.8
GSE borrowing participation rate (percent)	2.1	5.9	3.2	7.2	7.3	12.8	9.5	35.7	15.1	36.6	31.8

¹ Government-sponsored enterprises (GSEs) are financial intermediaries. GSE borrowing (lending) is nevertheless compared with total credit market borrowing (lending) by nonfinancial sectors, because GSE borrowing (lending) is a proxy for the borrowing (lending) by nonfinancial sectors that the GSEs assist through intermediation. The GSEs assist the ultimate nonfinancial borrower by purchasing its loans from the initial, direct lender or by other methods, which they finance by issuing securities themselves in the credit market. Borrowing and lending include mortgage-backed securities, because the GSEs assist nonfinancial borrowers through this type of intermediation as well as by types of intermediation that involve financial instruments recognized on the GSEs' balance sheets. The data for this table are adjusted, with some degree of approximation, to remove double counting in making a comparison with other Federal and federally guaranteed transactions. GSE borrowing and lending are calculated net of transactions between components of GSEs and transactions in guaranteed loans; GSE borrowing is also calculated net of borrowing from other GSEs and purchases of Federal debt securities.

² Total net borrowing (or lending) in credit market by domestic nonfinancial sectors, excluding equities. Credit market borrowing (lending) is the acquisition (loan) of funds other than equities through formal credit channels. Financial sectors are omitted from the series used in this table to avoid double counting, since financial intermediaries borrow in the credit market primarily in order to finance lending in the credit market. Equities, trade credit, security credit, and other sources of funds are also excluded from this series. Source: Federal Reserve Board flow of funds accounts. Estimates for 2000 and 2001 are not available.

Table 8-13. BORROWING BY FINANCING VEHICLES ¹

(in millions of dollars)

Financing Vehicle	1999 Actual	Estimate	
		2000	2001
Financing Corporation (FICO):			
<i>Net change</i>	1	1	2
Outstandings	8,146	8,147	8,149
Resolution Funding Corporation (REFCORP):			
<i>Net change</i>	-2	-3	-2
Outstandings	30,067	30,064	30,062
Subtotal, gross borrowing:			
<i>Net change</i>	-1	-2	0
Outstandings	38,213	38,211	38,211
Less purchases of Federal debt securities:			
<i>Net change</i>	7	551	595
Outstandings	6,617	7,168	7,763
Total, net borrowing:			
<i>Net change</i>	-8	-549	-595
Outstandings	31,596	31,047	30,452

¹ Financing vehicles are Government corporations established pursuant to law in order to provide financing for a Federal program but excluded from the on-budget and off-budget totals. FICO and REFCORP borrowed from the public in the past but have not loaned to the public. During the period covered by this table, the change in debt outstanding is due solely to the amortization of discounts and premiums. No sale or redemption of debt securities occurred in 1999 or is estimated to occur in 2000 or 2001.

9. AID TO STATE AND LOCAL GOVERNMENTS ¹

State and local governments have a vital constitutional responsibility to provide government services. They have the major role in providing domestic public services, such as public education, law enforcement, roads, water supply, and sewage treatment. The Federal Government contributes to that role both by promoting a healthy economy and by providing grants, loans, and tax subsidies to State and local governments.

Federal grants help State and local governments finance programs covering most areas of domestic public spending, including income support, infrastructure, education, and social services. Federal grant outlays were \$267.1 billion in 1999 and are estimated to increase to \$284.1 billion in 2000 and \$305.6 billion in 2001.

Grant outlays for payments for individuals, such as Medicaid, are estimated to be 62 percent of total grants in 2001; for physical capital investment, 17 percent; and for all other purposes, largely education, training, and social services, 21 percent.

Federal aid to State and local governments is also provided through tax expenditures. Tax expenditures are revenue losses due to preferential provisions of the Federal tax laws, such as special exclusions, exemptions, deductions, credits, deferrals, or tax rates.

The two major tax expenditures benefitting State and local governments are the deductibility of personal income and property taxes from gross income for Federal income tax purposes, and the exclusion of interest on State and local public purpose bonds from Federal taxation. These provisions, on an outlay equivalent basis, are estimated to be \$95.4 billion in 2000 and \$98.7 billion in 2001. A detailed discussion of the measurement and definition of tax expenditures and a complete list of the amount of specific tax expenditures are in Chapter 5, "Tax Expenditures." As discussed in that chapter, there are generally interactions among tax ex-

penditure provisions, so that the estimates above only approximate the aggregate effect of these provisions.

Tax expenditures that especially aid State and local governments are displayed separately at the end of Table 5-5 in that chapter.

Table 9-1. FEDERAL GRANT OUTLAYS BY AGENCY

(In billions of dollars)

Agency	1999 actual	Estimate	
		2000	2001
Department of Agriculture	18.8	19.7	20.4
Department of Commerce	0.5	0.6	0.7
Department of Education	19.4	22.8	23.5
Department of Energy	0.2	0.1	0.2
Department of Health and Human Services	148.8	160.7	174.7
Department of Housing and Urban Development	27.7	24.9	26.2
Department of the Interior	2.0	2.2	2.2
Department of Justice	4.5	3.8	6.4
Department of Labor	7.6	8.3	8.7
Department of Transportation	28.9	32.3	34.3
Department of the Treasury	0.5	0.5	0.5
Department of Veterans Affairs	0.3	0.4	0.4
Environmental Protection Agency	3.0	3.3	3.6
Federal Emergency Management Agency	3.4	2.7	2.1
Other agencies	1.8	1.8	1.6
Total	267.1	284.1	305.6

Table 9-1 shows the distribution of grants by agency. Grant outlays for the Department of Health and Human Services are estimated to be \$174.7 billion in 2001, 57 percent of total grants, more than five times as much as any other agency.

HIGHLIGHTS OF THE FEDERAL AID PROGRAM

Major proposals in this budget affect Federal aid to State and local governments and the important relationships between the levels of government. Through the use of grants, the Federal government can share with State and local governments the cost and, ultimately, the benefits of a better educated, healthier, and safer citizenry. The Administration is committed to working with State and local governments to make our Federal system more efficient and effective and to improving the design and administration of Federal grant programs. One way the Administration will do this is

by leading a governmentwide effort to use electronic processing in the administration of grant programs.

This budget continues the Administration's commitment to giving State and local governments increased flexibility. Through the use of grants, Federal agencies can create partnerships with State and local governments that focus on joint goals and the progress made toward meeting them. The Administration's efforts to improve the grant administration process will include efforts to identify statutory impediments to grants simplification and encourage flexible legislation, such as

¹Federal aid to State and local governments is defined as the provision of resources by the Federal Government to support a State or local program of governmental service

to the public. The three primary forms of aid are grants, loan subsidies, and tax expenditures.

the Workforce Investment Act of 1998, which allows Federal agencies to streamline the delivery of grants.

In addition, this budget proposes several initiatives to increase access to health care, to increase child care assistance for low-income families, to help States recruit new teachers and reduce class sizes, to encourage investment in distressed communities, and to protect the environment and encourage "smart-growth."

Highlights of grants to State and local governments follow. For additional information on grants, see the detailed Table 9-3 in this Chapter, or information in the Budget volume.

Education

This budget requests \$23.5 billion in budget authority for 2001 for grants to State and local governments for education, an increase of \$7.5 billion above the 2000 amount of \$16.0 billion. The education proposals in this budget will help States improve accountability for school and student performance, enhance teacher quality, acquire better technology, and support innovative programs.

The budget includes \$8.4 billion for Title I grants to local educational agencies, providing \$250 million for an Accountability Fund to help accelerate States' implementation of accountability provisions in the Title I program, nearly doubling the amount available in 2000. The Accountability Fund will help States identify their lowest performing schools, intervene with effective strategies to improve student outcomes, and report on their results.

The budget proposes \$1,750 million, an increase of \$450 million over 2000, as the third installment of the President's plan to help schools recruit, hire, and train 100,000 new teachers by 2005 and reduce class size in the early grades. The budget provides \$1.0 billion to help States and districts provide sustained, content-rich professional development, and support State efforts to align curricula and assessments with content standards.

The Administration's education technology programs serve to make modern computers and technologies accessible to all students; connect classrooms to the Internet; make high-quality educational software an integral part of the curriculum; and enable teachers to effectively integrate technology into their instruction. The budget provides \$903 million for education technology.

A variety of innovative programs to improve the educational development of the Nation's students are proposed, or expanded from previous funding levels. As part of a comprehensive approach to fix failing schools the budget more than doubles the funding of the 21st Century Community Learning Centers/After School Programs to \$1.0 billion. In 2001 more than 10,000 schools will receive 21st Century Community Learning Center grants. The budget requests \$247 million in competitive grants under the interagency Safe Schools/Healthy Students program, which includes contributions from the Departments of Health and Human Services, Justice, and Labor; \$50 million for the newly es-

tablished Coordinator initiative to ensure that more than 1,300 middle schools have a director of drug and violence prevention programs to monitor local programs and link school-based programs to community-based programs; and \$10 million for Project SERV, a resource for responding to school violence incidents. The Administration proposes \$175 million in funding for charter schools, enough to support 2,400 schools in 2001 and continue progress toward the President's goal of 3,000 charter schools by 2002. In addition, in 2001, \$1.3 billion is requested to repair the Nation's schools.

For higher education, this budget proposes to increase funds for GEAR-UP by \$125 million in 2001. This program provides funds for States and for local partnerships to help students in high-poverty schools prepare for and attend college.

Training and Employment

Several initiatives in the budget continue the Administration's efforts to reform the Nation's workforce development system and increase job training opportunities to help workers succeed in the economy of the 21st Century.

The Workforce Investment Act of 1998 (WIA) takes full effect on July 1, 2000, as the Job Training Partnership Act is repealed and all States fully implement the WIA requirements. The budget includes funding for initiatives to ensure that: (1) all displaced workers would receive the training they want and need; (2) individuals who lose their job due to no fault of their own could get re-employment services; and (3) every American would have access to One-Stop Career Centers. The budget proposes \$1.8 billion for dislocated workers, an increase of \$181 million over 2000. The Employment Service provides a free labor exchange for all workers and job seekers, and is growing more effective through implementation of One-Stop Career Centers. The budget proposes \$1.0 billion for these activities.

In order to enhance the prospects of employment for individuals with disabilities, the budget includes \$20 million for competitive grants to partnerships or consortia in each State to provide new services and information for individuals with disabilities who want to return to work. To boost the skills and productivity of the U.S. workforce, the budget includes \$30 million for competitive grants to States for training and upgrading the skills of currently employed workers. Applicants would be required to provide non-Federal matching resources, and employers that received grant assistance would be expected to demonstrate that training increased participant earnings.

The Youth Opportunity Grants initiative addresses the special problems of out-of-school youth, especially in inner-cities and other areas where unemployment rates are high. The budget provides a total of \$375 million for this program, including \$250 million for the third year of 5-year competitive grants to 25-30 communities and \$125 million for this first year of competitive grants to 12-15 additional communities serving a total of about 85,000 disadvantaged youth.

To build on the investments and partnerships begun under the Welfare-to-Work program and the Workforce Investment Act, this budget includes an additional \$255 million for FathersWork/Families Win. This initiative would help low income noncustodial parents work and pay child support and help custodial parents stay in their jobs, move up the career ladder and remain off cash assistance. This program includes a \$10 million set aside to provide grants to Native Americans.

In 2001, the Responsible Reintegration of Young Offenders initiative will provide competitive grants to serve almost 19,000 young ex-offenders. The budget includes \$75 million for this new initiative to establish partnerships between the criminal justice system and local one-stop delivery systems created under the Workforce Investment Act.

Social Services

Head Start, America's premiere early childhood development program, supports working families by helping parents get involved in their children's educational lives and providing services to the entire family. In proposing the expansion of Head Start funding by \$1.0 billion and adding 61,000 Head Start pre-school slots and 9,000 Early Head Start slots, the Administration intends to increase participation in these programs by under-represented groups in specifically targeted areas.

This budget proposes to fund the social services block grant at \$1,775 million, \$75 million more than the authorized level to maintain funding at the 2000 level. Of this amount, \$25 million will be available to support second-chance homes for unmarried teen parents and their children. This block grant provides funding to States to support a wide range of programs including child protection and child welfare, child care, and services for the elderly and disabled.

Income Support

Welfare-to-work.—In addition to the \$16.5 billion per year provided through the Temporary Assistance for Needy Children Program, the Administration sought, and Congress provided, a total of \$3 billion in 1998 and 1999. This budget provides for a two-year extension of the time period grantees have to spend for their funds to continue their efforts and provide long-term recipients and non-custodial parents of children on welfare the work and employment services they need to help support their children.

Housing assistance.—The budget continues to reduce poverty concentrations by providing \$625 million in HOPE VI grants to local housing authorities to demolish 28,000 dilapidated non-viable public housing units over the next three years, and replace them with portable subsidies or newly constructed mixed income housing.

Food and nutrition assistance.—This budget requests \$9.4 billion for grants for the National School Lunch and School Breakfast Programs and other child

nutrition programs. These programs provide free or low-cost nutritious meals to children in participating schools. In 2001, the programs will serve an estimated 27.8 million lunches daily. The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides vouchers for nutritious supplemental food packages, nutrition education and counseling, and health and immunization referrals. This budget request \$4.1 billion for WIC for 2001 to serve by year-end 7.5 million low-income women, infants, and children who are at nutritional risk.

Other income security.—The Child Care and Development Fund provides grants to States to improve the availability, affordability, and quality of child care. This budget proposes an increase of \$817 million for child care subsidies for low-income families, which is sufficient to provide subsidies for nearly 150,000 additional children. The budget also proposes to create an Early Learning Fund, which would provide community grants for activities to improve school readiness of children under five.

Health

This budget proposes \$133.4 billion in outlays for 2001 in grants to State and local governments for health, \$10.1 billion more than for 2000.

Medicaid.—Medicaid is the largest grant program, and outlays for Medicaid are projected to be \$124.8 billion in 2001. This Federal-State health care program served about 33 million low-income Americans in 1999. The Federal Government spent \$108 billion, 57 percent of the total, on the program in 1999 while States spent \$81 billion, or 43 percent. Medicaid covers a fourth of the Nation's children and is the largest single purchaser of maternity care as well as of nursing home services and other long-term care services; the program covers almost two-thirds of nursing home residents.

This budget proposes several new initiatives in Medicaid, including eligibility expansions to parents of Medicaid and SCHIP children (see below), people with long-term care needs in community settings, and legal immigrants. This budget steps up efforts to enroll eligible individuals in the program by extending and improving the transitional Medicaid program, allowing new sites to determine presumptive eligibility, and aligning Medicaid with SCHIP enrollment processes. This budget seeks to provide States with efficiencies in the Medicaid prescription drug program and includes other Medicaid-related proposals as well.

State Children's Health Insurance Program.—More than 11 million American children lack health insurance. To increase the number of children with insurance, the State Children's Health Insurance Program (SCHIP) was established in 1997 to provide \$24 billion over five years for States to expand health insurance coverage to low-income, uninsured children. SCHIP provides States with broad flexibility in pro-

gram design while protecting beneficiaries through basic Federal standards.

This budget requests \$4.5 billion in budget authority for 2001 for this program and proposes to allow States to provide health insurance coverage to parents of children eligible for Medicaid and SCHIP.

Other health.—This budget requests increased Federal spending for certain public health programs that assist State and local governments in addressing substance abuse, mental health, and HIV/AIDS for 2001. These increases include an additional \$31 million for the substance abuse block grant and \$60 million for the mental health block grant for State governments. Increased funds for State and local governments are also included in the \$125 million overall increase for Ryan White AIDS treatment grants.

Natural Resources and Environment

Federal water infrastructure funds in the State and Tribal Assistance grants account provide capitalization grants to State revolving funds, which make low-interest loans to help municipalities pay for wastewater and drinking water treatment systems required by Federal law. The proposed \$1.6 billion in budget authority in 2001 for the State Revolving Fund capitalization grants in this account is consistent with the Administration's plans to capitalize these funds to the point where the Clean Water State Revolving Funds and the Drinking Water State Revolving Funds provide a total of \$2.5 billion in average annual assistance.

Administration of Justice

The budget requests \$4.5 billion in budget authority in 2001 to help State and local governments fight crime, including \$542 million to assist crime victims. The 2001 budget builds on the success of the Community Oriented Policing Services (COPS) program and includes \$1.3 billion for the second year of the 21st Century Policing Initiative. This program expands the concept of community policing to include community prosecution, law enforcement technology assistance, and prevention. To combat the significant problem of violence against women, the budget proposes \$462 million to enhance the States' abilities to respond, and to further expand access to previously under-served rural, Indian, and other minority populations.

Transportation

This budget requests \$42.2 billion in budget authority in 2001 for grants to State and local governments to assist with transportation infrastructure and related programs.

Highways.—The budget requests \$34.0 billion in budget authority in 2001 for grants to States and local governments for highways. Most of this, or \$33.5 billion, is in the Federal-aid highways program to maintain and improve surface transportation infrastructure. In addition, States will be provided dedicated funding to heighten enforcement of traffic laws regarding com-

mercial drivers (e.g., truck and bus drivers). Grants to States to enforce Federal and compatible State standards for commercial motor vehicle safety inspections, traffic enforcement, and compliance reviews are proposed to increase 78 percent over 2000 to \$187 million in 2001.

Other transportation.—This budget requests \$6.2 billion in budget authority for 2001 to assist State and local governments with mass transit and \$2.0 billion to assist with the construction of airports.

Community and Regional Development

Community development.—This budget proposes \$1.4 billion in mandatory grant funding for the remaining nine years for the 15 Round II Urban Zones; and \$120 million in mandatory grant funding for the remaining eight years for the 5 Rural Zones and 20 Rural Enterprise Communities as the Administration proposed in 1999 and 2000. These grants would allow communities to implement comprehensive long term strategies to address their local needs.

This budget also proposes a series of tax measures to extend and improve economic growth in the 31 existing Round I and Round II Empowerment Zones and also proposes to create a Third Round of 10 new Empowerment Zones. The total cost of the President's tax expenditure proposals is approximately \$4 billion over 10 years. To encourage employment and growth, the Budget proposes to extend until 2009 the wage credit currently available only for Round I Zones through 2004, and to make the wage credit also available in Round II and Round III Zones through 2009. To lower the cost of investment for small businesses in Empowerment Zones, the Budget proposes to allow them to deduct an additional \$35,000 in investments above the normal small business investment deductions. The proposal also will allow local governments to issue tax-exempt bonds on behalf of Empowerment Zone businesses. Finally, the President's proposal would permanently extend the Brownfields Tax Incentive in Empowerment Zones.

Area and regional development.—The Administration proposes to give States, localities, and Tribes more flexibility in how they use the Department of Agriculture's rural development grants and loans for businesses, water and wastewater facilities, and community facilities such as day care centers and health clinics. The 1996 Farm Bill authorized this approach through a new Rural Community Advancement Program (RCAP), combining 12 separate programs into a performance partnership that can tailor assistance to the unique economic development needs of each rural community. The budget proposes \$3.4 billion in loans and grants for RCAP, 29 percent more than in 2000 and the full flexibility that the 1996 Farm Bill envisioned. It also re-proposes partnership technical assistance grants and grants for early-warning weather systems in areas prone to tornadoes.

As part of the Administration's multi-agency initiative for the Mississippi Delta Region (MDR), \$2 million of the partnership technical assistance grants are targeted to MDR counties (the 219 counties of the region as defined by P.L. 100-460). In addition, there is a set-aside of \$8 million in Intermediary Re-lending Program Loans for the MDR as well. The Administration is doubling the Appalachian Regional Commission's Entrepreneurship Initiative, which funds innovative eco-

nomie development projects in the region, from \$5 million to \$10 million in 2001.

Other Functions

Discussions of these and other Federal aid programs can be found in the main budget volume in Part IV, Part V, and elsewhere. As noted earlier, a detailed listing of budget authority and outlays for all grants to State and local governments is in Table 9-3 in this chapter.

HISTORICAL PERSPECTIVES

In recent decades, Federal aid to State and local governments has become a major factor in the financing of certain government functions. The rudiments of the present system date back to the Civil War. The Morrill Act, passed in 1862, established the land grant colleges and instituted certain federally-required standards for States that received the grants, as is characteristic of the present grant programs. Federal aid was later initiated for agriculture, highways, vocational education and rehabilitation, forestry, and public health. In the depression years, Federal aid was extended to meet income security and other social welfare needs. However, Federal grants did not become a significant factor in Federal Government expenditures until after World War II.

Table 9-2 displays trends in Federal grants to State and local governments since 1960. Section A shows Federal grants by function. Functions with a substantial amount of grants are shown separately. Grants for the national defense, energy, and the veterans benefits and services functions are combined in the "other functions" line in the table.

Federal grants for transportation increased to \$3.0 billion, or 43 percent of all Federal grants, in 1960 after initiation of aid to States to build the Interstate Highway System in the late 1950s.

By 1970 there had been significant increases in the relative amounts for education, training, employment, social services, and health (largely Medicaid).

In the early and mid-1970s, major new grants were created for natural resources and environment (construction of sewage treatment plants), community and regional development (community development block grants), and general government (general revenue sharing).

Since the late 1970s changes in the relative amounts among functions reflect steady growth of grants for health (Medicaid) and income security and restraint in most other areas. The functions with the largest amount of grants are health; income security; education, training, employment, and social services; and transportation, with combined estimated grant outlays of \$281.8 billion or 92 percent of total grant outlays in 2001.

The increase in total outlays for grants overall since 1990 has been driven by increases in grants for health, which more than tripled from \$43.9 billion in 1990 to

an estimated \$133.4 billion in 2001. The income security; education, training, employment, and social services; and transportation functions also increased substantially, but at a slower rate than the increase for health.

Section B of the Table shows the distribution of grants divided into mandatory and discretionary spending.

Funding for grant programs classified as mandatory occurs in authorizing legislation. Funding levels for mandatory programs can only be changed by changing eligibility criteria or benefit formulas established in law and are usually not limited by the annual appropriations process. Outlays for mandatory grant programs are estimated to be \$179.9 billion in 2001. The three largest mandatory grant programs are Medicaid, with estimated outlays of \$124.8 billion in 2001, Temporary Assistance to Needy Families, \$15.8 billion in 2001, and Food Stamp grants for State administration and Child nutrition programs, with combined outlays of \$13.6 billion in 2001.

The funding level for discretionary grant programs is subject to approval by Congress annually through appropriations acts. Outlays for discretionary grant programs are estimated to be \$125.7 billion in 2001. Table 9-3 at the end of this chapter identifies discretionary and mandatory grant programs separately. For more information on the Budget Enforcement Act and these categories, see Chapter 24. "Budget System and Concepts and Glossary" in this volume.

Section C of the Table shows the composition of grants divided into three major categories: payments for individuals, grants for physical capital, and other grants.² Grant outlays for payments for individuals, which are mainly entitlement programs in which the Federal Government and the States share the costs, have grown significantly as a percent of total grants. They increased from 56 percent of the total in 1990 to 63 percent of the total in 1999. While payments for individuals will comprise 62 percent of grants in 2001, they are estimated to increase to an estimated 67 percent of the total by 2005.

These grants are distributed through State or local governments to provide cash or in-kind benefits that

²Certain housing grants are classified in the budget as both payments for individuals and physical capital spending. In the text and tables in this section, these grants are included in the category for physical capital spending.

Table 9-2. TRENDS IN FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS
(Outlays; dollar amounts in billions)

	Actual									Estimate					
	1960	1965	1970	1975	1980	1985	1990	1995	1999	2000	2001	2002	2003	2004	2005
A. Distribution of grants by function:															
Natural resources and environment	0.1	0.2	0.4	2.4	5.4	4.1	3.7	4.1	4.1	4.5	5.0	5.0	4.9	4.9	4.9
Agriculture	0.2	0.5	0.6	0.4	0.6	2.4	1.3	0.8	0.7	0.8	0.8	0.7	0.7	0.7	0.7
Transportation	3.0	4.1	4.6	5.9	13.0	17.0	19.2	25.8	28.9	32.3	34.3	35.9	35.9	36.4	36.8
Community and regional development	0.1	0.6	1.8	2.8	6.5	5.2	5.0	7.2	9.3	9.0	8.2	8.2	7.6	7.6	7.2
Education, training, employment, and social services	0.5	1.1	6.4	12.1	21.9	17.8	23.4	34.1	38.2	43.7	46.8	47.9	50.3	51.1	52.2
Health	0.2	0.6	3.8	8.8	15.8	24.5	43.9	93.6	114.0	123.3	133.4	145.5	160.0	174.8	189.8
Income security	2.6	3.5	5.8	9.4	18.5	27.2	35.2	55.1	64.2	63.2	67.2	70.3	73.3	75.9	77.7
Justice .....	.....	.....	*	0.7	0.5	0.1	0.6	1.2	4.8	4.2	6.7	5.2	4.7	4.5	4.5
General government	0.2	0.2	0.5	7.1	8.6	6.8	2.3	2.2	2.1	2.3	2.2	2.2	2.2	2.2	2.2
Other	0.2	0.3	0.6	7.2	9.3	7.6	3.1	3.0	0.8	0.8	0.9	0.9	0.9	1.1	1.1
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	267.1	284.1	305.6	321.8	340.4	359.1	377.2
B. Distribution of Grants by BEA Category:															
Discretionary	NA	2.9	10.2	21.0	53.3	55.5	63.3	94.0	112.0	116.8	125.7	128.3	130.2	132.3	133.7
Mandatory	NA	8.0	13.9	28.8	38.1	50.4	72.0	131.0	155.1	167.3	179.9	193.5	210.2	226.8	243.5
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	267.1	284.1	305.6	321.8	340.4	359.1	377.2
C. Composition:															
Current dollars:															
Payments for individuals ¹	2.5	3.7	8.7	16.8	32.6	49.3	75.7	141.2	167.7	175.6	189.0	203.7	220.4	237.1	253.6
Physical capital ¹	3.3	5.0	7.1	10.9	22.6	24.9	27.2	39.6	43.9	48.7	51.7	53.2	53.6	54.9	55.5
Other grants	1.2	2.2	8.3	22.2	36.2	31.6	32.5	44.2	55.5	59.8	65.0	64.9	66.5	67.1	68.1
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	267.1	284.1	305.6	321.8	340.4	359.1	377.2
Percentage of total grants:															
Payments for individuals ¹	35%	34%	36%	34%	36%	47%	56%	63%	63%	62%	62%	63%	65%	66%	67%
Physical capital ¹	47%	46%	29%	22%	25%	24%	20%	18%	16%	17%	17%	17%	16%	15%	15%
Other grants	17%	20%	34%	45%	40%	30%	24%	20%	21%	21%	21%	20%	20%	19%	18%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Constant (FY 1996) dollars:															
Payments for individuals ¹	11.2	15.7	31.3	44.9	59.8	69.3	88.6	144.0	159.9	163.0	171.3	180.1	190.0	199.2	207.7
Physical capital ¹	16.9	23.9	26.6	24.7	37.2	32.2	30.4	40.4	42.1	45.4	46.9	47.0	46.2	46.2	45.5
Other grants	8.3	12.8	36.1	67.0	72.0	45.4	38.6	45.3	51.8	54.4	57.6	56.1	55.9	55.1	54.4
Total	36.4	52.5	94.0	136.6	169.0	146.9	157.6	229.7	253.8	262.7	275.8	283.2	292.2	300.4	307.6
D. Total grants as a percent of:															
Federal outlays:															
Total	8%	9%	12%	15%	15%	11%	11%	15%	16%	16%	17%	17%	17%	18%	18%
Domestic programs ²	18%	18%	23%	22%	22%	18%	17%	22%	22%	22%	22%	23%	23%	23%	23%
State and local expenditures	19%	20%	24%	27%	30%	24%	21%	25%	25%	N/A	N/A	N/A	N/A	N/A	N/A
Gross domestic product	1%	2%	2%	3%	3%	3%	2%	3%	3%	3%	3%	3%	3%	3%	3%
E. As a share of total State and local capital spending:															
Federal capital grants	24%	25%	25%	26%	35%	30%	22%	26%	22%	N/A	N/A	N/A	N/A	N/A	N/A
State and local source financing	76%	75%	75%	74%	65%	70%	78%	74%	78%	N/A	N/A	N/A	N/A	N/A	N/A
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	N/A	N/A	N/A	N/A	N/A	N/A

ANA: Not available.

A* \$50 million or less.

¹ Grants that are both payments for individuals and capital investment are shown under capital investment.

² Excludes national defense, international affairs, net interest, and undistributed offsetting receipts.

constitute income transfers to individuals or families. The major grant in this category is Medicaid, which had outlays of \$108.0 billion in 1999, increasing to \$124.8 billion in 2001. Temporary Assistance for Needy Families, child nutrition programs, and housing assistance are also large grants in this category.

Grants for physical capital assist States and localities with construction and other physical capital activities.

The major capital grants are for highways, but there are also grants for airports, mass transit, sewage treatment plant construction, community development, and other facilities. Grants for physical capital were almost half of total grants in 1960, shortly after grants began for construction of the Interstate Highway System. The relative share of these outlays has declined, as payments for individuals have grown. In 2001, grants for

physical capital are estimated to be 17 percent of total grants.

The other grants are primarily for education, training, employment, and social services. These grants increased to 45 percent of total grants by 1975, and are projected to be 21 percent of total grants in 2001.

Section C of Table 9-2 also shows these three categories in constant dollars. In constant 1996 dollars, total grants increase from \$157.6 billion in 1990 to an estimated \$275.8 billion in 2001, an average increase of 5.2 percent per year. During this same period, grants for payments to individuals are estimated to increase an average of 6.2 percent per year; grants for physical capital an average of 4.0 percent per year, and other grants an average of 3.7 percent per year.

The real growth in grants during the 1990s is in contrast to the 1980s. During the period between 1980 and 1990, outlays for grants in constant 1996 dollars

decreased from \$169.0 billion in 1980 to \$157.6 billion in 1990.

Section D of this table shows grants as a percentage of Federal outlays, State and local expenditures, and gross domestic product. Grants have increased as a percentage of total Federal outlays from 11 percent in 1990 to an estimated 17 percent in 2001. Grants as a percentage of domestic spending are estimated to be 22 percent in 2001.

As a percentage of total State and local expenditures, grants have increased from 21 percent in 1990 to 25 percent in 1999.

Section E shows the relative contribution of physical capital grants in assisting States and localities with capital spending. After a slight increase to 26 percent of State and local capital spending in 1995, Federal capital grants have declined to be 22 percent of State and local spending in 1999, the same share as in 1990.

OTHER INFORMATION ON FEDERAL AID TO STATE AND LOCAL GOVERNMENTS

Additional information regarding aid to State and local governments can be found elsewhere in this budget and in other documents.

Major public physical capital investment programs providing Federal grants to State and local governments are identified in Chapter 6, "Federal Investment Spending and Capital Budgeting."

Data for summary and detailed grants to State and local governments can be found in many sections of a separate document entitled *Historical Tables*. Section 12 of that document is devoted exclusively to grants to State and local governments. Additional information on grants can be found in Section 6 (Composition of Federal Government Outlays); Section 9 (Federal Government Outlays for Investment: Major Physical Capital, Research and Development, and Education and Training); Section 11 (Federal Government Payments for Individuals); and Section 15 (Total (Federal and State and Local) Government Finances).

In addition to these sources, a number of other sources of information are available that use slightly different concepts of grants, provide State-by-State information, provide information on how to apply for Federal aid, or display information about audits.

Government Finances, published annually by the Bureau of the Census in the Department of Commerce, provides data on public finances, including Federal aid to State and local governments.

The *Survey of Current Business*, published monthly by the Bureau of Economic Analysis in the Department of Commerce, provides data on the national income and product accounts (NIPA), a broad statistical concept encompassing the entire economy. These accounts include data on Federal grants to State and local governments. Data using the NIPA concepts appear in this volume in Chapter 16, "National Income and Product Accounts."

The *Budget Information for States (BIS)* report provides estimates of State-by-State funding allocations for

the largest formula grant programs for the past, present, and budget year. These programs comprise approximately 85 percent of total Federal aid to State and local governments. The document is prepared by the Office of Management and Budget soon after the Budget is released.

Federal Aid to States, a report prepared by the Bureau of the Census, shows Federal spending by State for grants for the most recently completed fiscal year.

The *Consolidated Federal Funds Report* is an annual document that shows the distribution of Federal spending by State and county areas and by local governmental jurisdictions. It is released by the Bureau of the Census in the Spring.

The *Federal Assistance Awards Data System (FAADS)* provides computerized information about current grant funding. Data on all direct assistance awards are provided quarterly by the Bureau of the Census to the States and to the Congress.

The *Catalog of Federal Domestic Assistance* is a primary reference source for communities wishing to apply for grants and other domestic assistance. The Catalog is prepared by the General Services Administration with data collected by the Office of Management and Budget and is available from the Government Printing Office. The basic edition of the *Catalog* is usually published in June and an update is generally published in December. It contains a detailed listing of grant and other assistance programs; discussions of eligibility criteria, application procedures, and estimated obligations; and related information.

The *Federal Audit Clearinghouse* maintains an online database (<http://harvester.census.gov/sac>) that provides access to summary information about audits conducted under OMB Circular A-133, "Audits to States, Local Governments, and Non-Profit Organizations." Information is available for each audited entity, including the amount of Federal money expended by program and whether there were audit findings.

DETAILED FEDERAL AID TABLE

Table 9–3, “Federal Grants to State and Local Governments—Budget Authority and Outlays,” provides detailed budget authority and outlay data for grants. This table displays discretionary and mandatory grant programs separately.

Table 9–3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1999 Actual	2000 Estimate	2001 Estimate	1999 Actual	2000 Estimate	2001 Estimate
NATIONAL DEFENSE						
Discretionary:						
Federal Emergency Management Agency:						
Emergency management planning and assistance				1		
Total, discretionary				1		
Total, national defense				1		
ENERGY						
Discretionary:						
Department of Energy:						
Energy Programs:						
Energy conservation	176	145	219	158	124	151
Total, discretionary	176	145	219	158	124	151
Mandatory:						
Tennessee Valley Authority:						
Tennessee Valley Authority fund	304	306	314	304	306	314
Total, mandatory	304	306	314	304	306	314
Total, energy	480	451	533	462	430	465
NATURAL RESOURCES AND ENVIRONMENT						
Discretionary:						
Department of Agriculture:						
Natural Resources Conservation Service:						
Resource conservation and development				1	1	1
Watershed and flood prevention operations	52	41	17	52	66	58
Forest Service:						
State, private and international forestry	84	102	123	90	98	117
Management of national forest lands for subsistence uses	3		6		3	6
Department of Commerce:						
National Oceanic and Atmospheric Administration:						
Operations, research, and facilities	103	120	135	91	91	101
Pacific coastal salmon recovery		58	160		58	160
Department of the Interior:						
Office of Surface Mining Reclamation and Enforcement:						
Regulation and technology	51	51	45	50	50	54
Abandoned mine reclamation fund	170	181	196	154	152	192
Bureau of Reclamation:						
Bureau of reclamation loan subsidy	11	12	9	9	14	10
United States Geological Survey:						
Surveys, investigations and research			8			8
Surveys, investigations and research			17			16
United States Fish and Wildlife Service:						
Commercial salmon fishery capacity reduction		5			5	
Non-game wildlife state grants			100			25
Cooperative endangered species conservation fund	14	23	65	9	15	23
Wildlife conservation and appreciation fund	1	1	1	1	1	1
Miscellaneous permanent appropriations	2	2	2	2	2	2
National Park Service:						
National recreation and preservation		2	20		1	13
Land acquisition and State assistance		20	145		7	51

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1999 Actual	2000 Estimate	2001 Estimate	1999 Actual	2000 Estimate	2001 Estimate
Historic preservation fund	72	75	72	37	73	80
Departmental Management:						
Priority Federal land acquisitions and exchanges		20			10	4
Environmental Protection Agency:						
State and Tribal Assistance Grants	3,408	3,446	2,907	2,745	3,064	3,400
Hazardous substance superfund	179	166	171	156	134	141
Leaking underground storage tank trust fund	62	60	62	59	62	61
Total, discretionary	4,212	4,385	4,261	3,456	3,907	4,524
Mandatory:						
Department of the Interior:						
Bureau of Land Management:						
Miscellaneous permanent payment accounts	50	5	8	50	5	8
Minerals Management Service:						
National forests fund, payment to States	3	5	3	3	5	3
Leases of lands acquired for flood control, navigation, and allied purposes	1	1	1	1	1	1
United States Fish and Wildlife Service:						
Federal aid in wildlife restoration	199	228	237	212	202	209
Sport fish restoration	279	306	292	257	292	293
Departmental Management:						
Everglades watershed protection				119	42	
Everglades restoration account	4	1	1		4	1
Department of the Treasury:						
Financial Management Service:						
Payment to terrestrial wildlife habitat restoration trust fund	5	5	5	5	5	5
Total, mandatory	541	551	547	647	556	520
Total, natural resources and environment	4,753	4,936	4,808	4,103	4,463	5,044
AGRICULTURE						
Discretionary:						
Department of Agriculture:						
Departmental Administration:						
Outreach for socially disadvantaged farmers	3	3	10	4	3	10
Cooperative State Research, Education, and Extension Service:						
Extension activities	437	424	428	407	452	421
Research and education activities	237	237	238	206	228	238
Integrated activities		9	18		1	4
Agricultural Marketing Service:						
Payments to States and possessions	1	1	2	1	1	2
Farm Service Agency:						
State mediation grants	2	3	4	2	3	5
Total, discretionary	680	677	700	620	688	680
Mandatory:						
Department of Agriculture:						
Office of the Secretary:						
Fund for rural America	1	20	30	12	11	22
Farm Service Agency:						
Commodity credit corporation fund	27	132	93	27	132	93
Total, mandatory	28	152	123	39	143	115
Total, agriculture	708	829	823	659	831	795
COMMERCE AND HOUSING CREDIT						
Mandatory:						
Department of Commerce:						
National Oceanic and Atmospheric Administration:						
Promote and develop fishery products and research pertaining to American fisheries ..	3	1	2	5	6	3
Total, mandatory	3	1	2	5	6	3

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1999 Actual	2000 Estimate	2001 Estimate	1999 Actual	2000 Estimate	2001 Estimate
Total, commerce and housing credit	3	1	2	5	6	3
TRANSPORTATION						
Discretionary:						
Department of Transportation:						
Coast Guard:						
Boat safety				21	9	1
Federal Aviation Administration:						
Grants-in-aid for airports (Airport and airway trust fund)	2,322	1,896	1,950	1,565	1,896	1,899
Federal Highway Administration:						
State infrastructure banks	-7			29	15	12
Appalachian development highway system	132			73	118	76
Highway-related safety grants				1	1	
Federal-aid highways ¹	28,244	30,530	32,764	21,118	23,739	25,829
Miscellaneous appropriations				65	132	99
Miscellaneous highway trust funds				40	52	34
Federal Motor Carrier Safety Administration:						
National motor carrier safety program	99	105	187	87	109	128
National Highway Traffic Safety Administration:						
Highway traffic safety grants	190	197	204	180	200	207
Federal Railroad Administration:						
Emergency railroad rehabilitation and repair				6	8	
Alameda Corridor direct loan financing program				18		
Local rail freight assistance				3	3	
Alaska railroad rehabilitation	38	15		11	42	9
Railroad research and development	2	3		1	2	-1
Conrail commuter transition assistance				5	6	
Federal Transit Administration:						
Research, training, and human resources				1	2	1
Job Access and Reverse Commute Grants ¹	75	75	150		20	46
Interstate transfer grants-transit				11	6	3
Washington metropolitan area transit authority	50			162	134	94
Formula grants ¹	2,799	3,049	3,345	2,174	2,356	2,248
Capital Investment Grants ¹	2,307	2,489	2,646	251	579	1,147
Transit planning and research	74	89	91	65	64	64
Discretionary grants (Highway trust fund, Mass transit account)	-392			1,524	1,315	933
Research and Special Programs Administration:						
Research and special programs			3	1		2
Pipeline safety	15	16	24	14	15	16
Total, discretionary¹	35,948	38,464	41,364	27,426	30,823	32,847
Mandatory:						
Department of Transportation:						
Federal Highway Administration:						
Federal-aid highways	739	739	739	1,472	1,446	1,338
Federal Motor Carrier Safety Administration:						
Motor carrier safety		76	92		68	91
Research and Special Programs Administration:						
Emergency preparedness grants	7	13	13	6	7	10
Total, mandatory¹	746	828	844	1,478	1,521	1,439
Total, transportation	36,694	39,292	42,208	28,904	32,344	34,286
COMMUNITY AND REGIONAL DEVELOPMENT						
Discretionary:						
Department of Agriculture:						
Rural Development:						
Rural community advancement program	617	590	580	529	599	513
Rural Utilities Service:						
Distance learning and telemedicine program	13	21	27	9	15	18
Rural Housing Service:						
Rural community fire protection grants				2		
Rural Business—Cooperative Service:						
Rural cooperative development grants	3	6	10	3	6	7

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1999 Actual	2000 Estimate	2001 Estimate	1999 Actual	2000 Estimate	2001 Estimate
Forest Service:						
Southeast Alaska economic disaster assistance fund		22		20	10	7
Department of Commerce:						
Economic Development Administration:						
Economic development assistance programs	387	386	419	355	408	412
Department of Housing and Urban Development:						
Public and Indian Housing Programs:						
Moving to work		5			3	2
Community Planning and Development:						
Community development block grants	4,893	4,781	4,900	4,804	4,856	4,826
Urban development action grants				18	10	10
Community development loan guarantees subsidy	30	30	30	9	16	21
National cities in schools community development program	5	5	5	4	4	5
Brownfields redevelopment	25	25	50		10	28
Urban empowerment zones	45	55	150	3	17	40
Regional connections			25			1
America's private investment companies subsidy		20	37		15	28
Office of Lead Hazard Control:						
Lead hazard reduction	80	80	120	2	80	81
Department of the Interior:						
Bureau of Indian Affairs:						
Operation of Indian programs	139	135	137	132	133	131
Indian guaranteed loan subsidy	5	5	6	4	5	7
Departmental Management:						
King Cove road and airstrip	35			35		
Department of the Treasury:						
Departmental Offices:						
United States community adjustment and investment program	9	10	10	1	14	10
Federal Emergency Management Agency:						
Emergency management planning and assistance	165	173	180	73	168	176
Disaster relief	1,797	1,797	2,564	3,184	2,339	1,654
Disaster assistance for unmet needs	230				74	97
National flood mitigation fund	20	20	20	8	18	25
Appalachian Regional Commission:						
Appalachian regional commission	58	59	64	136	144	109
Commission of Fine Arts:						
D.C. arts education grants			1			
Denali Commission:						
Denali commission	20	20	20	1	19	19
Total, discretionary	8,576	8,245	9,355	9,332	8,963	8,227
Total, community and regional development	8,576	8,245	9,355	9,332	8,963	8,227
EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES						
Discretionary:						
Department of Commerce:						
National Telecommunications and Information Administration:						
Public telecommunications facilities, planning and construction	10	13	104	14	23	32
Technology Opportunity Grants	7	6	21	7	13	9
Department of Education:						
Office of Elementary and Secondary Education:						
Reading excellence	251	56	277		128	201
Indian education	65	75	113	56	79	78
Impact aid	859	901	765	1,076	1,021	783
Chicago litigation settlement				2	3	3
Education Reform	1,028	963	448	792	900	953
Education for the disadvantaged	3,647	8,667	9,120	7,534	8,354	8,533
School improvement programs	2,687	1,357	3,674	1,255	2,385	2,668
Office of Bilingual Education and Minority Languages Affairs:						
Bilingual and immigrant education	325	329	356	284	433	330
Office of Special Education and Rehabilitative Services:						
Special education	5,080	2,035	6,082	4,251	5,121	5,554
Rehabilitation services and disability research	117	120	128	87	160	125
American printing house for the blind	9	10	10	8	13	10
Office of Vocational and Adult Education:						
Vocational and adult education	1,506	851	1,636	1,336	1,512	1,600

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1999 Actual	2000 Estimate	2001 Estimate	1999 Actual	2000 Estimate	2001 Estimate
Office of Postsecondary Education:						
Higher education	132	150	193	42	127	150
Office of Student Financial Assistance:						
Student financial assistance	25	40	40	23	30	40
Office of Educational Research and Improvement:						
Education research, statistics, and improvement	230	55	56	74	216	87
Department of Health and Human Services:						
Administration for Children and Families:						
Promoting safe and stable families	4	3	3	4	3	3
Children and families services programs	5,730	5,003	7,323	5,421	5,906	6,663
Administration on Aging:						
Aging services programs	882	933	1,084	879	886	1,020
Department of the Interior:						
Bureau of Indian Affairs:						
Operation of Indian programs	91	95	101	92	93	97
Department of Labor:						
Employment and Training Administration:						
Training and employment services	3,622	1,961	3,882	3,436	3,690	4,028
Community service employment for older Americans	97	97	97	97	97	97
State unemployment insurance and employment service operations	162	163	196	45	185	164
Unemployment trust fund	963	962	974	1,026	990	939
Corporation for National and Community Service:						
Domestic volunteer service programs, Operating expenses	173	182	185	152	164	177
National and community service programs, operating expenses	90	112	112	55	64	56
Corporation for Public Broadcasting:						
Corporation for public broadcasting	150	190	224	150	181	209
District of Columbia:						
District of Columbia General and Special Payments:						
Federal payment for resident tuition support		17	17		17	17
National Endowment for the Arts:						
National endowment for the arts: Grants and administration	35	34	54	30	31	40
Institute of Museum and Library Services:						
Office of Museum Services: Grants and administration	6	6	8	5	6	6
Office of Library Services: Grants and administration	151	151	157	129	157	157
Total, discretionary	28,134	25,537	37,440	28,362	32,988	34,829
Mandatory:						
Department of Education:						
Office of Special Education and Rehabilitative Services:						
Rehabilitation services and disability research	2,304	2,339	2,400	2,536	2,279	2,381
Office of Vocational and Adult Education:						
Vocational and adult education				2		
Department of Health and Human Services:						
Administration for Children and Families:						
State legalization impact assistance grants				-1		
Job opportunities and basic skills training program				9	8	5
Promoting safe and stable families	269	289	299	242	280	282
Social services block grant	1,909	1,775	1,775	1,993	1,623	1,998
Payments to states for foster care and adoption assistance	4,922	5,697	6,406	4,707	5,495	6,294
Department of Labor:						
Employment and Training Administration:						
Welfare to work jobs	1,488	-187		267	860	905
Federal unemployment benefits and allowances	131	132	155	100	130	138
Total, mandatory	11,023	10,045	11,035	9,855	10,675	12,003
Total, education, training, employment, and social services	39,157	35,582	48,475	38,217	43,663	46,832
HEALTH						
Discretionary:						
Department of Agriculture:						
Food Safety and Inspection Service:						
Salaries and expenses	45	45	46	44	45	46
Department of Health and Human Services:						
Health Resources and Services Administration:						
Health Resources and Services	1,498	1,595	1,843	1,448	1,595	1,837

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1999 Actual	2000 Estimate	2001 Estimate	1999 Actual	2000 Estimate	2001 Estimate
Federal Emergency Management Agency: Emergency food and shelter program	100	110	140	100	110	140
Total, discretionary	25,938	21,353	31,646	32,094	29,254	31,241
Mandatory:						
Department of Agriculture: Agricultural Marketing Service: Funds for strengthening markets, income, and supply (section 32)	707	730	538	816	536	538
Food and Nutrition Service: Food stamp program	3,465	3,797	3,860	3,362	3,717	3,850
Child nutrition programs	9,041	9,403	9,389	8,735	9,198	9,728
Department of Health and Human Services: Administration for Children and Families: Payments to states for child support enforcement and family support programs	2,649	1,033	3,124	2,756	3,053	3,091
Child care entitlement to States	2,167	2,367	3,161	2,254	2,420	2,952
Temporary assistance for needy families	17,693	16,689	16,439	14,161	14,996	15,828
Children's research and technical assistance			9			9
Total, mandatory	35,722	34,019	36,520	32,084	33,920	35,996
Total, income security	61,660	55,372	68,166	64,178	63,174	67,237
VETERANS BENEFITS AND SERVICES						
Discretionary:						
Department of Veterans Affairs: Veterans Health Administration: Medical care	273	325	347	273	325	347
Construction: Grants for construction of State extended care facilities	90	90	60	40	64	85
Grants for the construction of State veterans cemeteries	10	25	25	4	8	16
Total, discretionary	373	440	432	317	397	448
Total, veterans benefits and services	373	440	432	317	397	448
ADMINISTRATION OF JUSTICE						
Discretionary:						
Department of Health and Human Services: Administration for Children and Families: Violent crime reduction programs	96	92	124	64	97	106
Department of Housing and Urban Development: Fair Housing and Equal Opportunity: Fair housing activities	40	44	50	31	36	31
Department of Justice: Office of Justice Programs: Justice assistance	72	214	238	28	188	185
State and local law enforcement assistance	547	1,520	1,577	310	496	3,236
Juvenile justice programs	231	242	251	127	147	308
Violent crime reduction programs, State and local law enforcement assistance	2,370	1,182		2,266	1,086	
Community oriented policing services	1,430	595	1,335	1,161	831	1,748
Court Services and Offender Supervision Agency for the District: Federal payment to the Court Services and Offender Supervision Agency for the District of Columbia	59	94		57	77	
Equal Employment Opportunity Commission: Salaries and expenses	29	29	29	28	28	28
State Justice Institute: State Justice Institute: Salaries and expenses	7	7	7	8	14	8
Total, discretionary	4,881	4,019	3,611	4,080	3,000	5,650
Mandatory:						
Department of Justice: Legal Activities and U.S. Marshals: Assets forfeiture fund	288	326	266	240	316	245

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1999 Actual	2000 Estimate	2001 Estimate	1999 Actual	2000 Estimate	2001 Estimate
Office of Justice Programs:						
Crime victims fund	313	495	542	341	742	690
Department of the Treasury:						
Departmental Offices:						
Department of the Treasury forfeiture fund	153	97	97	132	108	97
Total, mandatory	754	918	905	713	1,166	1,032
Total, administration of justice	5,635	4,937	4,516	4,793	4,166	6,682
GENERAL GOVERNMENT						
Discretionary:						
Department of the Interior:						
Bureau of Land Management:						
Payments in lieu of taxes	125	134	135	125	135	135
Insular Affairs:						
Trust Territory of the Pacific Islands				3	6	6
Department of the Treasury:						
Departmental Offices:						
Department-wide systems and Capital Investments Programs		3			3	
District of Columbia:						
District of Columbia Courts:						
Federal payment to the District of Columbia Criminal Justice System	4			4		
Federal payment to the District of Columbia Courts	131	100	103	128	90	103
Defender services in District of Columbia courts		33	38		30	37
District of Columbia Corrections:						
Payment to the District of Columbia Corrections Trustee, Operations	185	175	134	152	209	134
District of Columbia General and Special Payments:						
Federal payment for Management Reform	25			25		
Federal support for economic development and management reforms in the District ...	297	32	49	244	81	49
Federal payment for Medicare Coordinated Care Demonstration Project	3					
Federal Drug Control Programs:						
High intensity drug trafficking areas program	150	154	192	130	152	166
Total, discretionary	920	631	651	811	706	630
Mandatory:						
Department of Agriculture:						
Forest Service:						
Payments to states stabilization			270			270
Payments to States, northern spotted owl guarantee, Forest Service	125	120		125	120	
Forest Service permanent appropriations	109	121		109	120	
Department of Energy:						
Energy Programs:						
Payments to States under Federal Power Act	3	3	3	3	3	3
Department of the Interior:						
Bureau of Land Management:						
Miscellaneous permanent payment accounts	69	69	76	68	67	76
Minerals Management Service:						
Mineral leasing and associated payments	478	678	583	478	678	583
United States Fish and Wildlife Service:						
National wildlife refuge fund	19	19	19	19	19	19
Insular Affairs:						
Assistance to territories	66	70	74	75	67	90
Payments to the United States territories, fiscal assistance	109	109	106	109	109	106
Department of the Treasury:						
Bureau of Alcohol, Tobacco and Firearms:						
Internal revenue collections for Puerto Rico	235	285	283	235	285	283
United States Customs Service:						
Refunds, transfers, and expenses of operation, Puerto Rico	101	112	114	97	112	114
Corps of Engineers:						
Permanent appropriations	11	9	9	12	9	9
Total, mandatory	1,325	1,595	1,537	1,330	1,589	1,553
Total, general government	2,245	2,226	2,188	2,141	2,295	2,183

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	1999 Actual	2000 Estimate	2001 Estimate	1999 Actual	2000 Estimate	2001 Estimate
Total, Grants	272,814	277,907	317,716	267,081	284,072	305,645
Discretionary ¹	115,727	110,233	136,528	112,019	116,773	125,699
Mandatory ¹	157,087	167,674	181,188	155,062	167,299	179,946

¹ Budget authority for certain highway and mass transit programs is classified as mandatory in other budget presentations.

10. FEDERAL EMPLOYMENT AND COMPENSATION

This section provides information on civilian employment policy, civilian and military employment, and personnel compensation and benefits in the Executive, Legislative, and Judicial branches. A comparison of Federal employment levels, State and local government employment, and the United States population appears in the Historical Tables. Additional tables on civilian employment reductions appear in the Budget volume.

Civilian Employment Policy

The Administration policy is to provide Executive Branch agencies with flexibility to hire the right numbers of staff to meet program requirements. While it is not the norm, agency or sub-agency employment targets may be necessary when it is determined to be the most efficient or effective method of achieving Administration goals.

Federal Civilian Employment in the Executive Branch

Civilian employment in the Executive Branch is measured on the basis of full-time equivalents (FTEs). One FTE is equal to one work year or 2,080 non-overtime hours. Put simply, one full-time employee counts as one FTE, and two half-time employees also count as one FTE.

The Federal Workforce Restructuring Act (FWRA) of 1994 (P.L. 103-226) was enacted March 30, 1994. The Act established FTE limitations ("ceilings") for Executive Branch civilian employees through 1999. The starting point used to calculate FTE reductions required by the FWRA, called the 1993 base, is the estimate of FTEs for 1993 made in January of that year. Between the 1993 base and FY 1999, the Act required a cut of 272,900 FTEs. The actual cut exceeded 375,000 FTEs. The limitations established by the FWRA, as well as the reductions to date, are as follows:

Year	FWRA Ceiling	Civilian FTEs	Cumulative reduction From 1993	Reduction as percent of 272,900 cut
1993 Base	2,155,200	.....	.....	.....
1994	2,084,600	2,052,700	-102,500	38%
1995	2,043,300	1,970,200	-185,000	68%
1996	2,003,300	1,891,700	-263,500	97%
1997	1,963,300	1,834,700	-320,500	117%
1998	1,922,300	1,790,200	-365,000	134%
1999	1,882,300	1,778,400	-376,800	138%

Table 10-1 provides agency-wide totals from the 1993 base through 2001.

Allocations of FTE resources by agency are made based upon Presidential priorities and other factors. While most of the agencies in Table 10-1 show FTE

reductions between 1993 and 2001, several agencies, such as the Department of Justice, show an increase in FTEs.

Recent Trends in Civilian Employment Estimates in the Executive Branch

Each year the Budget reports actual FTEs in the prior year column, and estimates of FTEs in the current and budget years. In five of the six years since the FWRA was enacted, the current year FTE estimates for nearly all agencies in the Budget have been overstated when compared to the actual published in the following year's Budget. The table below shows this trend:

Year	Estimate	Actual	Over-Statement
1994	2,042.1	2,052.7	-10,700 (-0.5%)
1995	2,017.8	1,970.2	+47,600 (+2.4%)
1996	1,940.8	1,891.7	+49,100 (+2.5%)
1997	1,881.3	1,834.7	+46,600 (+2.5%)
1998	1,837.4	1,790.2	+47,200 (+2.6%)
1999	1,801.6	1,778.4	+23,200 (+1.3%)

Total Federal Employment Levels

The tables that follow show total Federal employment in all branches of Government, as well as the U.S. Postal Service, Postal Rate Commission, and active duty uniformed military personnel. Table 10-2 displays total Federal employment as measured by actual positions filled, i.e., the total number of employees, whether full-time, part-time or intermittent, at the end of the fiscal year. Table 10-3 shows total Federal employment as measured on an FTE basis.

Personnel Compensation and Benefits

Table 10-4 displays personnel compensation and benefits for all branches of Government, as well as for military personnel.

Direct compensation of the Federal work force includes base pay and premium pay, such as overtime. In addition, it includes other cash components, such as geographic pay differentials (i.e., locality pay, and special pay adjustments for law enforcement officers), recruitment and relocation bonuses, retention allowances, performance awards, and cost-of-living and overseas allowances.

In the case of military personnel, compensation includes basic pay, special and incentive pays (including enlistment and reenlistment bonuses), and allowances for clothing, housing, and subsistence.

Related compensation in the form of personnel benefits for current employees consists of the cost to Government agencies (as an employer) primarily for health

insurance, life insurance, Social Security (old age, survivors, disability, and health insurance) and contributions to the retirement funds to finance future retirement benefits. Compensation for former personnel includes outlays for retirement pay benefits, and the Government's share of the cost of health and life insurance.

Table 10-1. FEDERAL EMPLOYMENT IN THE EXECUTIVE BRANCH

(Civilian employment as measured by Full-Time Equivalents, in thousands)

Agency	1993 Base	Actual							Estimate		Change: 1993 base to 2001	
		1993	1994	1995	1996	1997	1998	1999	2000	2001	FTE's	Percent
Cabinet agencies:												
Agriculture ¹	115.6	114.4	109.8	103.8	100.7	98.5	96.4	95.5	98.2	100.5	-15.1	-13.1%
Commerce	36.7	36.1	36.0	35.3	33.8	32.6	35.7	47.3	133.8	42.6	5.9	16.0%
Defense-military functions	931.3	931.8	868.3	821.7	778.9	745.8	707.2	681.0	661.5	645.5	-285.9	-30.7%
Education	5.0	4.9	4.8	4.8	4.7	4.5	4.5	4.5	4.7	4.7	-0.3	-5.7%
Energy	20.6	20.3	19.8	19.7	19.1	17.3	16.3	15.9	16.2	16.1	-4.5	-21.7%
Health and Human Services ¹	65.0	66.1	62.9	59.3	57.2	57.6	57.9	58.9	61.7	63.2	-1.8	-2.8%
Social Security Administration	65.4	64.8	64.5	64.6	64.0	65.2	64.0	63.0	63.3	63.1	-2.3	-3.5%
Housing and Urban Development	13.6	13.3	13.1	12.1	11.4	11.0	9.8	10.0	10.4	10.6	-3.0	-22.3%
Interior	79.3	78.1	76.3	72.0	66.7	65.7	66.5	67.0	68.1	69.5	-9.8	-12.4%
Justice	99.4	95.4	95.3	97.9	103.8	111.0	117.3	121.3	127.9	131.5	32.1	32.3%
Labor	18.3	18.0	17.5	16.8	16.0	15.9	16.3	16.3	17.1	17.4	-0.9	-4.8%
State ²	35.0	34.2	33.5	31.8	30.2	29.2	28.9	29.4	30.0	30.2	-4.8	-13.8%
Transportation	70.3	69.1	66.4	63.2	62.4	62.5	63.4	63.7	64.1	65.1	-5.2	-7.4%
Treasury	166.1	161.1	157.3	157.5	151.1	145.5	142.1	143.7	145.5	149.6	-16.5	-10.0%
Veterans Affairs ¹	232.4	234.2	233.1	228.5	221.9	211.5	207.1	205.5	204.1	203.4	-29.1	-12.5%
Other agencies—excluding Postal Service:												
Agency for International Development ¹	4.4	4.1	3.9	3.6	3.4	2.8	2.7	2.5	2.5	2.5	-1.9	-43.8%
Corps of Engineers	29.2	28.4	27.9	27.7	27.1	26.0	24.8	24.7	24.7	24.7	-4.5	-15.4%
Environmental Protection Agency	18.6	17.9	17.6	17.5	17.2	17.0	17.7	18.1	18.1	18.0	-0.5	-2.8%
EEOC	2.9	2.8	2.8	2.8	2.7	2.6	2.5	2.6	2.8	3.1	0.2	7.0%
FEMA	2.7	4.0	4.9	4.6	4.7	5.1	4.6	5.2	4.8	4.9	2.2	79.6%
FDIC/RTC	21.6	21.9	20.0	15.7	11.8	8.7	7.9	7.4	7.5	6.8	-14.8	-68.5%
General Services Administration	20.6	20.2	19.5	17.0	15.7	14.5	14.1	14.1	14.2	14.2	-6.4	-31.1%
NASA	25.7	24.9	23.9	22.4	21.1	20.1	19.1	18.5	18.6	19.0	-6.8	-26.4%
National Archives and Records Admin.	2.8	2.6	2.6	2.4	2.5	2.5	2.4	2.4	2.6	2.7	-1	-1.3%
National Labor Relations Board	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.8	1.9	2.0	-0.1	-6.7%
National Science Foundation	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.2	-0.1	-10.3%
Nuclear Regulatory Commission	3.4	3.4	3.3	3.2	3.1	3.0	3.0	2.8	2.8	2.8	-0.6	-17.2%
Office of Personnel Management	6.2	5.9	5.3	4.2	3.4	2.8	2.8	2.8	3.0	3.0	-3.2	-51.9%
Panama Canal Commission	8.7	8.5	8.5	8.8	9.0	9.5	9.6	9.2	2.4	-0.1	-8.7	-99.8%
Peace Corps	1.3	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.2	1.2	-0.1	-7.1%
Railroad Retirement Board	1.8	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.2	-0.7	-36.8%
Securities and Exchange Commission	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	3.0	3.0	0.3	10.7%
Small Business Administration	4.0	5.6	6.3	5.7	4.7	4.5	4.4	4.7	4.6	4.6	0.6	14.9%
Smithsonian Institution	5.9	5.5	5.4	5.3	5.1	5.0	5.0	5.1	5.2	5.3	-0.6	-10.2%
Tennessee Valley Authority	19.1	17.3	18.6	16.6	16.0	14.9	14.4	13.5	13.3	13.2	-5.9	-31.0%
All other small agencies	15.9	15.2	14.7	14.9	13.9	13.6	13.6	13.9	14.5	16.1	0.2	1.2%
Total, Executive Branch civilian employment	2,155.2	2,138.8	2,052.7	1,970.2	1,891.7	1,834.7	1,790.2	1,778.4	1,856.9	1,762.4	-392.8	-18.2%
Reduction from 1993 Base .....	.....	-16.4	-102.5	-185.0	-263.5	-320.5	-365.0	-376.8	-298.3	-392.8	.....	.....
Subtotal, Defense	931.3	931.8	868.3	821.7	778.9	745.8	707.2	681.0	661.5	645.5	-285.9	-30.7%
Subtotal, Non-Defense	1,223.9	1,207.1	1,184.4	1,148.4	1,112.8	1,088.9	1,083.0	1,097.4	1,195.4	1,116.9	-107.0	-8.7%
Status of Federal Civilian Employment Relative to the Federal Workforce Restructuring Act³												
Total, Executive Branch Employment ..	NA	NA	2,052.7	1,970.2	1,891.7	1,834.7	1,790.2	1,778.4	NA	NA	.....	.....
Less: FTEs exempt from FWRA	NA	NA	5.7	5.7	7.6	7.4	5.2	5.2	NA	NA	.....	.....
Total, Executive Branch subject to FWRA Ceiling	NA	NA	2,047.0	1,964.4	1,884.1	1,827.3	1,785.0	1,773.2	NA	NA	.....	.....
FWRA Ceiling	NA	NA	2,084.6	2,043.3	2,003.3	1,963.3	1,922.3	1,882.3	NA	NA	.....	.....
Executive Branch Employment Relative to FWRA Ceiling	NA	NA	-37.6	-78.9	-119.2	-136.1	-137.3	-109.1	NA	NA	.....	.....

¹ The Departments of Agriculture, Health and Human Services, Veterans Affairs, and the Agency for International Development have components that were exempt from FTE controls. In 1999, Agriculture had 2,025 exemptions; HHS had 187 exemptions; Veterans Affairs had 3,010 exemptions and AID had 10 exemptions.

² To facilitate historical comparison, the State Department includes the Board of Broadcasting Governors (BBG), the United States Information Agency (which was absorbed into State and BBG), and the Arms Control and Disarmament Agency (which was absorbed into State).

³ FTE limitations are set for the Executive Branch in the Federal Workforce Restructuring Act of 1994 (P.L. 103-226) from 1994-99.

Table 10-2. TOTAL FEDERAL EMPLOYMENT

(As measured by total positions filled)

Description	Actual as of September 30			Change: 1997 to 1999	
	1997	1998	1999	Positions	Percent
Executive branch civilian employment:					
All agencies except Postal Service and Postal Rate Commission:					
Full-time permanent	1,651,559	1,624,152	1,603,303	-48,256	-2.9%
Other than full-time permanent ¹	220,232	231,644	216,333	-3,899	-1.8%
Subtotal	1,871,791	1,855,796	1,819,636	-52,155	-2.8%
Postal Service: ²					
Full-time permanent	648,684	660,987	670,272	21,588	3.3%
Other than full-time permanent	204,666	210,533	196,121	-8,545	-4.2%
Subtotal	853,350	871,520	866,393	13,043	1.5%
Subtotal, Executive branch civilian employment	2,725,141	2,727,316	2,686,029	-39,112	-1.4%
Military personnel on active duty: ³					
Department of Defense	1,438,562	1,406,830	1,385,703	-52,859	-3.7%
Department of Transportation (Coast Guard)	35,137	35,459	35,740	603	1.7%
Subtotal, military personnel	1,473,699	1,442,289	1,421,443	-52,256	-3.5%
Subtotal, Executive Branch	4,198,840	4,169,605	4,107,472	-91,368	-2.2%
Legislative branch:					
Full-time permanent	12,696	12,399	12,183	-513	-4.0%
Other than full-time permanent	18,659	18,075	18,170	-489	-2.6%
Subtotal, Legislative Branch	31,355	30,474	30,353	-1,002	-3.2%
Judicial Branch:					
Full-time permanent	27,567	28,487	28,875	1,308	4.7%
Other than full-time permanent	3,074	3,255	3,321	247	8.0%
Subtotal, Judicial Branch	30,641	31,742	32,196	1,555	5.1%
Grand total	4,260,836	4,231,821	4,170,021	-90,815	-2.1%
ADDENDUM					
Executive branch civilian personnel (excluding Postal Service):					
DOD-Military functions ⁴	723,032	692,552	665,679	-57,353	-7.9%
All other executive branch	1,148,759	1,163,244	1,153,957	5,198	0.5%
Total ⁵	1,871,791	1,855,796	1,819,636	-52,155	-2.8%

¹ Includes Summer Aides, Stay-in-school, Junior Fellowship, Worker-Trainee Opportunity Program, formerly exempt from employment controls.² Includes Postal Rate Commission.³ Excludes reserve components.⁴ Excludes Defense Intelligence Agency.⁵ Includes disadvantaged youth programs.

Table 10-3. TOTAL FEDERAL EMPLOYMENT
(As measured by Full-Time Equivalents)

Description	1999 actual	Estimate		Change: 1999 to 2001	
		2000	2001	FTE's	Percent
Executive branch civilian personnel:					
All agencies except Postal Service and Defense	1,097,363	1,195,437	1,116,888	19,525	1.8%
Defense-Military functions (civilians)	680,996	661,489	645,494	-35,502	-5.2%
Subtotal, excluding Postal Service	1,778,359	1,856,926	1,762,382	-15,977	-0.9%
Postal Service ¹	851,461	848,187	843,425	-8,036	-0.9%
Subtotal, Executive Branch civilian personnel	2,629,820	2,705,113	2,605,807	-24,013	-0.9%
Executive branch uniformed personnel: ²					
Department of Defense	1,387,270	1,379,070	1,379,500	-7,770	-0.6%
Department of Transportation (Coast Guard)	35,286	35,948	36,247	961	2.7%
Subtotal, uniformed military personnel	1,422,556	1,415,018	1,415,747	-6,809	-0.5%
Subtotal, Executive Branch	4,052,376	4,120,131	4,021,554	-30,822	-0.8%
Legislative Branch: ³ Total FTE ³	29,932	30,460	30,610	678	2.3%
Judicial branch: Total FTE	31,173	32,334	34,063	2,890	9.3%
Grand total	4,113,481	4,182,925	4,086,227	-27,254	-0.7%

¹ Includes Postal Rate Commission.

² Military personnel on active duty. Excludes reserve components. Data shown for Department of Defense are average strengths, not FTEs.

³ Actual 1999 FTE data not available for legislative branch.

TABLE 10-4. PERSONNEL COMPENSATION AND BENEFITS
(In millions of dollars)

Description	1999 actual	Estimate		Change: 1999 to 2001	
		2000	2001	Dollars	Percent
Civilian personnel costs:					
Executive Branch (excluding Postal Service):					
Direct compensation:					
DOD—military functions	32,000	32,303	32,753	753	2.4%
All other executive branch	58,138	63,500	64,589	6,451	11.1%
Subtotal, direct compensation	90,138	95,803	97,342	7,204	8.0%
Personnel benefits:					
DOD—military functions	7,233	7,105	7,212	-21	-0.3%
All other executive branch ¹	23,116	24,422	25,421	2,305	10.0%
Subtotal, personnel benefits	30,349	31,527	32,633	2,284	7.5%
Subtotal, executive branch	120,487	127,330	129,975	9,488	7.9%
Postal Service:					
Direct compensation	35,886	36,671	37,772	1,886	5.3%
Personnel benefits	10,177	10,761	12,011	1,834	18.0%
Subtotal	46,063	47,432	49,783	3,720	8.1%
Legislative Branch: ²					
Direct compensation	1,326	1,414	1,489	163	12.3%
Personnel benefits	301	319	346	45	15.0%
Subtotal	1,627	1,733	1,835	208	12.8%
Judicial Branch:					
Direct compensation	1,800	2,016	2,215	415	23.1%
Personnel benefits	452	514	565	113	25.0%
Subtotal	2,252	2,530	2,780	528	23.4%
Total, civilian personnel costs	170,429	179,025	184,373	13,944	8.2%
Military personnel costs:					
DOD—Military Functions:					
Direct compensation	49,247	51,256	53,063	3,816	7.7%
Personnel benefits	18,051	18,989	19,151	1,100	6.1%
Subtotal	67,298	70,245	72,214	4,916	7.3%
All other executive branch, uniformed personnel:					
Direct compensation	1,203	1,314	1,392	189	15.7%
Personnel benefits	131	143	149	18	13.7%
Subtotal	1,334	1,457	1,541	207	15.5%
Total, military personnel costs ³	68,632	71,702	73,755	5,123	7.5%
Grand total, personnel costs	239,061	250,727	258,128	19,067	8.0%
ADDENDUM					
Former Civilian Personnel:					
Retired pay for former personnel	44,767	46,488	48,636	3,869	8.6%
Government payment for Annuitants:					
Employee health benefits	4,610	4,995	5,354	744	16.1%
Employee life insurance	31	33	35	4	12.9%
Total Former Civilian Personnel	49,408	51,516	54,025	4,617	9.3%
Former Military personnel:					
Retired pay for former personnel	607	653	693	86	14.2%

¹ Includes transfers from general revenues in addition to employing agency's contributions for the cost of employee benefits. The transfers amounted to \$8,759 million in 1999 and are estimated to be \$8,838 in 2000 million and \$8,939 million in 2001.

² Excludes members and officers of the Senate.

³ Excludes reserve components.

11. STRENGTHENING FEDERAL STATISTICS

Our economy's complexity, growth, and rapid structural changes demand that public and private leaders have unbiased, relevant information on which to base their decisions. Data on real Gross Domestic Product (GDP), the Consumer Price Index (CPI), and the trade deficit, for example, have a major impact on government spending, budget projections, and the allocation of Federal funds. They also are critical inputs to monetary, fiscal, trade, and regulatory policy. Economic data, such as measures of price change, have as well a significant influence on interest rates and cost-of-living adjustments that affect every American who runs a business, saves for retirement, or mortgages a home.

Similarly, timely, comparable data on the characteristics of the U.S. population are essential to monitor societal changes. Of great import in 2001 will be the delivery of Census 2000 data used to apportion congressional seats among the States, redistrict at State and local levels, and allocate locally each year nearly \$200 billion in Federal funds. In 1999 and 2000, our Nation invested the resources necessary to plan and implement the most extensive effort ever to count every American. Greater understanding of the value and importance of accurate and complete Census 2000 data has been realized through local partnerships established nationwide and through an ambitious advertising and promotion program.

The American Community Survey (ACS) is a revolutionary initiative of the statistical system that will provide community profiles similar to those from the decennial census on a far more current basis. For geographic areas with populations greater than 65,000, these profiles will be produced every year. For smaller areas, the ACS will accumulate or average data over several years to obtain annual estimates similar in quality and reliability to those currently available only once each decade. Thus, every jurisdiction ultimately will have annual information that illuminates change over time. (The official counts of the population will continue to come from the decennial census and the intercensal estimates program.) Because the American Community Survey will provide essentially the same information as the current decennial census long form, the Census Bureau plans to eliminate the long form in the 2010 Census, thereby focusing that effort on counting the population. In 2001, continued development of the Master Address File will be a key component of this longer-term strategy.

Under the aegis of the congressionally-mandated Interagency Council on Statistical Policy (ICSP), the principal statistical agencies continue to extend their collaborative endeavors to improve the overall performance and efficiency of the Federal statistical system. For example, the ICSP is supporting FedStats

(www.fedstats.gov), the "one-stop shopping" Internet site for Federal statistics that permits easy access via an initial point of entry to the wide array of statistical information available to the public from 70 Federal agencies. In 1999, FedStats increased from 28 to 40 the number of agencies whose data series are indexed there, developed a Kid's Page to foster improvements in statistical literacy by linking to agency Web pages especially designed for children in elementary through high school, and launched an interactive map-based application to access State and county data.

The statistical system is also working effectively to enhance the quality of the data agencies produce. For example, last year the Administration actively supported House passage of the Statistical Efficiency Act of 1999 (H.R. 2885) that will permit limited sharing of confidential data among selected agencies solely for statistical purposes. Enactment of this legislation will create the framework for statistical agencies to compare and improve the quality of their data. Senate passage of this legislation, and congressional action on a companion Treasury Department proposal that would make complementary changes to provisions set forth in the "Statistical Use" section of the Internal Revenue Code, continue to be top priorities of the Administration.

Despite these accomplishments, rapid changes in our economy and society, and funding levels that do not enable statistical agencies to keep pace with them, can threaten the relevance and accuracy of our Nation's key statistics. Any growing inability of our statistical system to mirror accurately our economy and society, including the unprecedented growth of electronic commerce, could undermine core government activities, such as the accurate allocation of scarce Federal funds. Fortunately, the most serious shortcomings of our statistical infrastructure would be substantially mitigated by five proposals set forth in the Administration's budget. In particular, these initiatives would:

- develop an integrated statistical base for analysis of the effects of E-business across our Nation's products and industries, including changes in the structure of investment, pricing, and distribution practices (Bureau of Economic Analysis and the Bureau of the Census);
- support the tabulation, analysis, and dissemination of Census 2000 data and related evaluations of their accuracy and coverage in order to reap the benefits of Census 2000 investments (Bureau of the Census);
- improve coverage of the construction and service sectors in the Producer Price Index (which may also produce methodological techniques that further improve the Consumer Price Index) and en-

hance coverage of the service sector in BLS productivity estimates (Bureau of Labor Statistics);

- continue the phased implementation of the American Community Survey program to produce far more timely data for States and local areas that will be used for various purposes, including the distribution of nearly \$200 billion in Federal funds annually (Bureau of the Census); and
- provide new statutory authority for the limited sharing of data among designated Federal agencies solely for statistical purposes. The proposed changes would permit these statistical agencies to manage information in many important respects as if they were part of a single agency, thereby increasing the accuracy of statistical estimates and the efficiency of Federal data collection.

HIGHLIGHTS OF 2001 PROGRAM CHANGES FOR PRINCIPAL STATISTICAL AGENCIES

Bureau of Economic Analysis: Funding is requested to develop new data sources and methods to measure rapidly growing E-business activity and to incorporate that information into BEA's economic accounts. In order to account for the impact of E-business on the economy, BEA will work with other statistical agencies to: (1) ensure that E-business, including related investment, is captured in our estimates of Gross Domestic Product and other economic accounts data, and (2) develop estimates of the impact of E-business across products and industries, including investment, prices, and distribution.

Bureau of Justice Statistics: Funding is requested to: (1) develop an ongoing statistical program that provides systematic and recurring information on criminal victimization of persons with disabilities; (2) develop and monitor statistical measures designed to examine concerns about racial discrimination in the administration of justice; (3) gather administrative data from law enforcement agencies on the content and consequences of police-initiated stops of motorists for routine traffic violations; (4) begin converting existing paper-based collections of administrative data from State and local units of government to Internet-based, paperless collection programs; (5) gather information on changes over time in the incidence and prevalence, costs and consequences, and prosecutions, convictions, and sentencing of computer crime offenses; (6) produce consistent annual measures of the incidence of hate crimes; and (7) develop a tribal data collection program to collect data on the types and characteristics of criminal justice agencies operating in these jurisdictions.

Bureau of Labor Statistics: Funding is requested to: (1) extend Producer Price Index (PPI) coverage for the first time to the construction sector of the U.S. economy, and enhance coverage of the service sector in the PPI and in BLS productivity data; (2) begin a new survey to measure how Americans spend their time in order to improve assessments of national well-being and production, and produce diary estimates of time

Taken together, statistics produced by the Federal Government on demographic, economic, and social conditions and trends are essential to inform decisions that are made by virtually every organization and household in our Nation. The U.S. Federal statistical system comprises some 70 agencies that collect, analyze, and disseminate information for use by governments, businesses, researchers, and the public. Approximately one third of the funding for the statistical system provides resources for ten agencies that have statistical activities as their principal mission. (Please see Table 11-1.) The remaining funding is spread among some sixty agencies that carry out statistical activities in conjunction with other missions such as providing services or enforcing regulations. The following highlights elaborate on the Administration's proposals to strengthen the programs of the principal Federal statistical agencies.

spent in market work to evaluate existing estimates of hours of work; (3) provide technical guidance for a new Federal-State cooperative employment projections program to enhance the comparability of data among the States, and between State and national projections; (4) increase the scope of labor market information for States and local areas, and improve the statistical quality of local area unemployment statistics used to allocate Federal funds; (5) deploy and operate a comprehensive and sound information technology security environment (through a central Department of Labor appropriation); and (6) contract with the National Research Council (NRC) to develop improved methods to measure discrimination in labor markets and employment relationships.

Bureau of the Census: Funding is requested for Census 2000, for Census Bureau economic and demographic programs, and for renovation of the Bureau's headquarters at the Suitland Federal Center. For Census 2000, funding is requested to: (1) tabulate and disseminate data; (2) complete field work associated with the Accuracy and Coverage Evaluation (ACE) follow-up operations; (3) close out data capture centers and field offices that remained open longer as a result of increased work loads; (4) deliver to the President, by December 31, 2000, the data that will be used to apportion congressional seats among the States; (5) deliver local population counts to the States for redistricting by March 31, 2001; (6) compare data from the American Community Survey (ACS) with Census 2000 results; and (7) begin to evaluate census operations. For Census Bureau economic and demographic programs, funding is requested to: (1) measure E-business; (2) conduct an annual Survey of Minority-Owned Business Enterprises (SMOBE); (3) increase the coverage of export data; (4) continue planning for the 2002 Economic Censuses and Census of Governments; (5) improve measurement of economic well-being; and (6) redesign samples for household surveys. Funding is also requested to under-

take planning to renovate the aging, inadequate, and failing building systems at the Suitland Federal Center.

Bureau of Transportation Statistics: Funding is requested to: (1) establish a statistical consulting service to assist department-wide statistical activities and provide support for improving data quality and timeliness for departmental GPRA-related data; (2) develop measures of risk versus measures of exposure to improve the quality of transportation safety data; (3) continue work with the Federal Highway Administration to combine and coordinate the Nationwide Personal Transportation Survey with the American Travel Survey; (4) manage development of the congressionally mandated Intermodal Transportation Data Base, an Internet-based data access and dissemination tool that enables quick response to data-related questions; (5) improve data analyses on patterns of passenger travel and goods movements; (6) initiate development of a comprehensive National Spatial Data Infrastructure by integrating road network data developed at State and local levels; (7) improve statistical tools for geo-spatial data analyses and promote their use in transportation applications; and (8) undertake analyses as directed by Congress in the Transportation Equity Act for the 21st Century (TEA-21), including the International Trade Impact Study and other studies related to international transportation.

Economic Research Service: Funding is requested to: (1) analyze the effects of changes in the structure of the food and agriculture sectors on the competitiveness and efficiency of food and agricultural markets; (2) undertake research and outreach programs on international issues affecting the U.S. food and agriculture sectors and on alleviation of causes of global food insecurity; and (3) support an initiative on economic incentives for carbon sequestration and trace gas emissions control in agriculture. The decrease in ERS total funding reflects the proposal to return funds (\$12 million) for the evaluation of domestic food assistance programs to the Food and Nutrition Service.

Energy Information Administration: Funding is requested to: (1) overhaul the natural gas and electricity surveys and data systems to recognize and accommodate the changes in the natural gas and electricity industries brought on by deregulation and restructuring; (2) update EIA's 20-year-old energy consumption surveys; (3) enhance EIA's international analysis capabilities in order to assess carbon mitigation, permit trading, and other global climate change issues; (4) reverse the deterioration in data quality and accuracy in crude oil, diesel, gasoline, and natural gas production surveys;

and (5) continue development and integration of energy survey data collection and processing to reduce the costs and improve the timeliness of energy data.

National Agricultural Statistics Service: Funding is requested to: (1) establish a computer security architecture to strengthen NASS's cybersecurity in light of the market sensitivity of the reports released; (2) conduct a monthly hog survey to provide information covering the 17 largest hog-producing States, which account for 92 percent of the U.S. inventory; and (3) collect additional pesticide use information for an expanded list of field crops to address gaps in data needed for accurate chemical risk assessments under the Food Quality Protection Act. The net decrease in the Census of Agriculture program reflects the completion of the Agricultural Economics and Land Ownership Survey that is conducted once each decade.

National Center for Education Statistics: Funding is requested to: (1) continue redesign of the Integrated Postsecondary Education Data System (IPEDS) for a new web-based system; (2) improve dissemination of consumer information on college costs and prices; (3) support the Longitudinal Surveys Program, including the new Educational Longitudinal Study of 2002; (4) continue work on the Birth Cohort of the Early Childhood Longitudinal Study; (5) support Institutional Census Surveys for the Common Core of Data and Libraries programs; (6) improve the Statistics Research and Development Program; and (7) enhance the National Assessment of Educational Progress' research capabilities in Longitudinal Research and Exceptional Children Exclusion Research.

National Center for Health Statistics: Funding is requested to: (1) continue work with States to improve the vital statistics system, including movement toward implementing new model birth and death certificates, and helping to develop electronic birth and death registration systems; (2) proceed with the sample redesign for the National Health Interview Survey, part of a government-wide redesign of household surveys following the decennial census; (3) continue the field operations for the National Health and Nutrition Examination Survey; (4) make further improvements to surveys for monitoring the health care delivery system, including organizational and financial arrangements of providers, as part of a public/private effort to address major data gaps in this area; and (5) make data more readily available to users by improving timeliness and access through use of automated systems and the Internet.

Table 11-1. 1999-2001 BUDGET AUTHORITY FOR PRINCIPAL STATISTICAL AGENCIES

(In millions of dollars)

	1999 actual	2000 estimate	2001 estimate
Bureau of Economic Analysis	43.1	43.8	48.9
Bureau of Justice Statistics	25.0	25.5	33.2
Bureau of Labor Statistics	398.9	413.4	453.6 ¹
Bureau of the Census	1,384.8	4,753.3	719.2
Periodic Censuses and Programs	1,238.7	4,613.3	545.4
Salaries and Expenses	146.1	140.0	173.8
Bureau of Transportation Statistics	31.0	31.0	31.0
Economic Research Service	65.0	65.4	55.4 ²
Energy Information Administration	70.2	72.4	75.0
National Agricultural Statistics Service ³	104.0	99.4	100.6
National Center for Education Statistics	108.0	108.0	126.5
Statistics	68.0	68.0	84.0
Assessment	36.0	36.0	38.0
National Assessment Governing Board	4.0	4.0	4.5
National Center for Health Statistics	94.5	105.0	110.0
PHS Evaluation Funds	67.8	71.7	76.7
Budget Authority	26.7	33.3	33.3

¹ Increase includes a new transfer of \$20.7 million from elsewhere in the Department of Labor to centralize the preparation of labor market information.

² Decrease reflects the proposal to return the 2000 transfer of \$12 million for the evaluation of domestic food assistance programs to the Food and Nutrition Service.

³ Includes funds for the periodic Census of Agriculture and Special Studies of \$23.6, \$16.5, and \$15.0 (million) in 1999, 2000, and 2001, respectively.

6. FEDERAL INVESTMENT SPENDING AND CAPITAL BUDGETING

Investment spending is spending that yields long-term benefits. Its purpose may be to improve the efficiency of internal Federal agency operations or to increase the Nation's overall stock of capital for economic growth. The spending can be direct Federal spending or grants to State and local governments. It can be for physical capital, which yields a stream of services over a period of years, or for research and development or education and training, which are intangible but also increase income in the future or provide other long-term benefits.

Most presentations in the Federal budget combine investment spending with spending for current use. This chapter focuses solely on Federal and federally financed investment. These investments are discussed in the following sections:

- a description of the size and composition of Federal investment spending;
- a discussion of capital assets used to provide Federal services, and efforts to improve planning and budgeting for these assets. An Appendix to Part II presents the "Principles of Budgeting for Capital Asset Acquisitions," which are being used to

guide the analysis of Executive Branch requests for spending for capital assets;

- a presentation of trends in the stock of federally financed physical capital, research and development, and education;
- alternative capital budget and capital expenditure presentations; and
- projections of Federal physical capital outlays and recent assessments of public civilian capital needs, as required by the Federal Capital Investment Program Information Act of 1984.

In all of the following presentations, Department of Defense projections for 2002 and beyond represent estimates based on historical program and spending levels. The most notable exceptions are the inclusion in these estimates of \$2.6 billion for a new research and development initiative and \$400 million for a housing initiative, both proposed for 2002. All other projections, beginning in 2002, are subject to change as a result of the Defense Strategy Review now underway. Further information on Department of Defense projections can be found in Chapter 7, "Research and Development Funding," in this volume, and in the National Defense chapter in the main Budget volume.

Part I: DESCRIPTION OF FEDERAL INVESTMENT

For more than fifty years, the Federal budget has included a chapter on Federal investment—defined as those outlays that yield long-term benefits—separately from outlays for current use. Again this year the discussion of the composition of investment includes estimates of budget authority as well as outlays and extends these estimates four years beyond the budget year, to 2006.

The classification of spending between investment and current outlays is a matter of judgment. The budget has historically employed a relatively broad classification, including physical investment, research, development, education, and training. The budget further classifies investments into those that are grants to State and local governments, such as grants for highways or for elementary and secondary education, and all other investments, called "direct Federal programs," in this analysis. This "direct Federal" category consists primarily of spending for assets owned by the Federal Government, such as defense weapons systems and general purpose office buildings, but also includes grants to private organizations and individuals for investment, such as capital grants to Amtrak or higher education loans directly to individuals.

Presentations for particular purposes could adopt different definitions of investment:

- To suit the purposes of a traditional balance sheet, investment might include only those physical assets owned by the Federal Government, excluding capital financed through grants and intangible assets such as research and education.
- Focusing on the role of investment in improving national productivity and enhancing economic growth would exclude items such as national defense assets, the direct benefits of which enhance national security rather than economic growth.
- Concern with the efficiency of Federal operations would confine the coverage to investments that reduce costs or improve the effectiveness of internal Federal agency operations, such as computer systems.
- A "social investment" perspective might broaden the coverage of investment beyond what is included in this chapter to encompass programs such as childhood immunization, maternal health, certain nutrition programs, and substance abuse treatment, which are designed in part to prevent more costly health problems in future years.

The relatively broad definition of investment used in this section provides consistency over time—historical figures on investment outlays back to 1940 can be found in the separate *Historical Tables* volume. The

detailed tables at the end of this section allow disaggregation of the data to focus on those investment outlays that best suit a particular purpose.

In addition to this basic issue of definition, there are two technical problems in the classification of investment data, involving the treatment of grants to State and local governments and the classification of spending that could be shown in more than one category.

First, for some grants to State and local governments it is the recipient jurisdiction, not the Federal Government, that ultimately determines whether the money is used to finance investment or current purposes. This analysis classifies all of the outlays in the category where the recipient jurisdictions are expected to spend most of the money. Hence, the community development block grants are classified as physical investment, although some may be spent for current purposes. General purpose fiscal assistance is classified as current spending, although some may be spent by recipient jurisdictions on physical investment.

Second, some spending could be classified in more than one category of investment. For example, outlays for construction of research facilities finance the acqui-

sition of physical assets, but they also contribute to research and development. To avoid double counting, the outlays are classified in the category that is most commonly recognized as investment. Consequently outlays for the conduct of research and development do not include outlays for research facilities, because these outlays are included in the category for physical investment. Similarly, physical investment and research and development related to education and training are included in the categories of physical assets and the conduct of research and development.

When direct loans and loan guarantees are used to fund investment, the subsidy value is included as investment. The subsidies are classified according to their program purpose, such as construction, education and training, or non-investment outlays. For more information about the treatment of Federal credit programs, refer to Chapter 25, "Budget System and Concepts and Glossary."

This section presents spending for gross investment, without adjusting for depreciation. A subsequent section discusses depreciation, shows investment both gross and net of depreciation, and displays net capital stocks.

Composition of Federal Investment Outlays

Major Federal Investment

The composition of major Federal investment outlays is summarized in Table 6-1. They include major public physical investment, the conduct of research and development, and the conduct of education and training. Defense and nondefense investment outlays were \$253.6 billion in 2000. They are estimated to increase to \$270.8 billion in 2001 and, subject to the Defense Strategic Review mentioned in the introduction to this chapter, are projected to increase further to \$298.5 billion in 2002. Major Federal investment outlays will comprise an estimated 15.2 percent of total Federal outlays in 2002 and 2.7 percent of the Nation's gross domestic product (GDP). Greater detail on Federal investment is available in Tables 6-2 and 6-3 at the end of this Part. Those tables include both budget authority and outlays.

Physical investment.—Outlays for major public physical capital investment (hereafter referred to as physical investment outlays) are estimated to be \$145.7 billion in 2002. Physical investment outlays are for construction and rehabilitation, the purchase of major equipment, and the purchase or sale of land and structures. More than three-fifths of these outlays are for direct physical investment by the Federal Government, with the remaining being grants to State and local governments for physical investment.

Direct physical investment outlays by the Federal Government are primarily for national defense. Defense outlays for physical investment were \$56.1 billion in 2000 and are estimated to increase to \$58.1 billion in 2001 and \$62.3 billion in 2002. Almost all of these outlays, or an estimated \$57.1 billion in 2002, are for

the procurement of weapons and other defense equipment, and the remainder is primarily for construction on military bases, family housing for military personnel, and Department of Energy defense facilities.

Outlays for direct physical investment for nondefense purposes are estimated to be \$27.1 billion in 2002. These outlays include \$16.3 billion for construction and rehabilitation. This amount includes funds for water, power, and natural resources projects of the Corps of Engineers, the Bureau of Reclamation within the Department of the Interior, the Tennessee Valley Authority, and the power administrations in the Department of Energy; construction and rehabilitation of veterans hospitals and Postal Service facilities; facilities for space and science programs, and Indian Health Service hospitals and clinics. Outlays for the acquisition of major equipment are estimated to be \$10.3 billion in 2002. The largest amounts are for the air traffic control system. For the purchase or sale of land and structures, disbursements are estimated to exceed collections by \$0.4 billion in 2002. These purchases are largely for buildings and land for parks and other recreation purposes.

Grants to State and local governments for physical investment are estimated to be \$56.3 billion in 2002. Almost two-thirds of these outlays, or \$37.4 billion, are to assist States and localities with transportation infrastructure, primarily highways. Other major grants for physical investment fund sewage treatment plants, community development, and public housing.

Conduct of research and development.—Outlays for the conduct of research and development are estimated

Table 6-1. COMPOSITION OF FEDERAL INVESTMENT OUTLAYS
(In billions of dollars)

	2000 Actual	Estimate	
		2001	2002
Federal Investment			
Major public physical capital investment:			
Direct Federal:			
National defense	56.1	58.1	62.3
Nondefense	25.4	26.6	27.1
Subtotal, direct major public physical capital investment	81.5	84.8	89.4
Grants to State and local governments	48.7	52.9	56.3
Subtotal, major public physical capital investment	130.2	137.7	145.7
Conduct of research and development:			
National defense	41.0	41.6	46.8
Nondefense	32.9	36.8	40.4
Subtotal, conduct of research and development	73.9	78.4	87.2
Conduct of education and training:			
Grants to State and local governments	31.4	35.2	39.4
Direct Federal	18.0	19.6	26.2
Subtotal, conduct of education and training	49.5	54.8	65.6
Major Federal investment outlays	253.6	270.8	298.5
MEMORANDUM			
Major Federal investment outlays:			
National defense	97.1	99.7	109.2
Nondefense	156.4	171.1	189.3
Total, major Federal investment outlays	253.6	270.8	298.5
Miscellaneous physical investments:			
Commodity inventories	—*	0.3	-0.4
Other physical investment (direct)	2.8	3.7	3.6
Total, miscellaneous physical investment	2.8	4.0	3.2
Total, Federal investment outlays, including miscellaneous physical investment	256.3	274.8	301.7

to be \$87.2 billion in 2002. These outlays are devoted to increasing basic scientific knowledge and promoting research and development. They increase the Nation's security, improve the productivity of capital and labor for both public and private purposes, and enhance the quality of life. More than half of these outlays, an estimated \$46.8 billion in 2002, are for national defense. Physical investment for research and development facilities and equipment is included in the physical investment category.

Nondefense outlays for the conduct of research and development are estimated to be \$40.4 billion in 2002. This is largely for the space programs, the National Science Foundation, the National Institutes of Health, and research for nuclear and non-nuclear energy programs.

Conduct of education and training.—Outlays for the conduct of education and training are estimated to be \$65.6 billion in 2002. These outlays add to the stock of human capital by developing a more skilled and productive labor force. Grants to State and local governments for this category are estimated to be \$39.4 billion in 2002, three-fifths of the total. They include education

programs for the disadvantaged and the handicapped, vocational and adult education programs, training programs in the Department of Labor, and Head Start. Direct Federal education and training outlays are estimated to be \$26.2 billion in 2002. Programs in this category are primarily aid for higher education through student financial assistance, loan subsidies, the veterans GI bill, and health training programs.

This category does not include outlays for education and training of Federal civilian and military employees. Outlays for education and training that are for physical investment and for research and development are in the categories for physical investment and the conduct of research and development.

Miscellaneous Physical Investment Outlays

In addition to the categories of major Federal investment, several miscellaneous categories of investment outlays are shown at the bottom of Table 6-1. These items, all for physical investment, are generally unrelated to improving Government operations or enhancing economic activity.

Outlays for commodity inventories are for the purchase or sale of agricultural products pursuant to farm price support programs and the purchase and sale of other commodities such as oil and gas. Sales are estimated to exceed purchases by \$0.4 billion in 2002.

Outlays for other miscellaneous physical investment are estimated to be \$3.6 billion in 2002. This category includes primarily conservation programs. These are entirely direct Federal outlays.

Detailed Tables on Investment Spending

This section provides data on budget authority as well as outlays for major Federal investment. These

estimates extend four years beyond the budget year to 2006. Table 6-2 displays budget authority (BA) and outlays (O) by major programs according to defense and nondefense categories. The greatest level of detail appears in Table 6-3, which shows budget authority and outlays divided according to grants to State and local governments and direct Federal spending. Miscellaneous investment is not included in these tables because it is generally unrelated to improving Government operations or enhancing economic activity.

Table 6-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS

(in millions of dollars)

Description	2000 Actual	Estimate						
		2001	2002	2003	2004	2005	2006	
NATIONAL DEFENSE								
Major public physical investment:								
Construction and rehabilitation	BA	5,596	5,043	5,843	6,022	6,186	6,356	6,529
	O	4,713	4,925	5,113	5,181	5,360	5,580	5,694
Acquisition of major equipment	BA	54,573	62,496	60,147	62,026	63,747	65,528	67,353
	O	51,388	53,205	57,239	57,540	59,592	62,167	63,423
Purchase or sale of land and structures	BA	-45	-20	-19	-41	-41	-42	-42
	O	-45	-20	-19	-40	-41	-42	-42
Subtotal, major public physical investment	BA	60,124	67,519	65,971	68,007	69,892	71,842	73,840
	O	56,056	58,110	62,333	62,681	64,911	67,705	69,075
Conduct of research and development	BA	42,326	44,484	48,289	49,769	51,133	52,544	53,991
	O	41,050	41,596	46,850	47,145	48,803	50,850	51,883
Conduct of education and training (civilian)	BA	10	9	9	11	11	12	12
	O	8	9	15	17	18	18	19
Subtotal, national defense investment	BA	102,460	112,012	114,269	117,787	121,036	124,398	127,843
	O	97,114	99,715	109,198	109,843	113,732	118,573	120,977
NONDEFENSE								
Major public physical investment:								
Construction and rehabilitation:								
Highways	BA	29,451	35,786	34,666	30,859	31,718	32,581	33,516
	O	24,910	27,093	29,222	30,383	31,371	32,353	33,225
Mass transportation	BA	7,108	5,979	6,453	7,163	7,358	7,557	7,770
	O	5,100	5,222	5,415	5,539	6,148	6,888	7,179
Rail transportation	BA	10	54	21	21	22	22	23
	O	15	55	30	26	20	22	23
Air transportation	BA	2,872	2,637	2,985	3,416	3,505	3,596	3,689
	O	1,637	2,185	2,788	3,120	3,327	3,466	3,595
Community development block grants	BA	4,809	5,113	4,802	4,909	5,019	5,130	5,245
	O	4,955	4,940	5,044	4,979	4,913	4,944	5,042
Other community and regional development	BA	1,552	2,246	1,732	1,762	1,797	1,831	1,865
	O	1,368	1,781	1,774	1,800	1,857	1,832	1,808
Pollution control and abatement	BA	4,065	3,954	3,569	3,629	3,690	3,414	2,935
	O	4,152	4,013	3,904	3,945	3,909	3,907	3,836
Water resources	BA	3,281	3,717	3,053	3,125	3,191	3,274	3,340
	O	3,634	3,692	3,455	3,373	3,394	3,442	3,333
Housing assistance	BA	6,892	7,324	6,624	6,771	6,922	7,076	7,235
	O	7,169	7,904	7,989	7,804	7,587	7,590	7,634
Energy	BA	1,152	1,179	1,315	1,230	1,316	1,316	1,318
	O	1,151	1,177	1,318	1,232	1,318	1,318	1,319
Veterans hospitals and other health	BA	1,269	1,444	1,684	1,785	1,821	1,861	1,902
	O	1,548	1,407	1,650	1,727	1,819	1,862	1,909
Postal Service	BA	1,231	825	858	1,331	983	1,114	1,048
	O	1,500	935	975	1,025	1,083	1,068	1,083
GSA real property activities	BA	766	1,173	1,489	1,459	1,532	1,598	1,634
	O	956	1,027	1,175	1,432	1,944	2,153	2,139
Other programs	BA	5,294	7,797	6,632	6,593	6,648	6,745	6,880
	O	5,276	6,771	6,879	6,975	6,734	6,720	6,832
Subtotal, construction and rehabilitation	BA	69,752	79,228	75,883	74,053	75,522	77,115	78,400
	O	63,371	68,202	71,618	73,360	75,424	77,565	78,957
Acquisition of major equipment:								
Air transportation	BA	1,979	2,546	2,836	2,901	2,966	3,032	3,100
	O	2,060	2,005	2,302	2,523	2,704	2,940	3,006
Postal Service	BA	676	778	493	900	1,000	675	675
	O	592	735	749	821	1,204	1,021	848
Other	BA	6,418	6,801	6,996	6,930	7,014	7,131	7,263
	O	6,420	6,813	7,339	7,049	7,223	7,381	7,510
Subtotal, acquisition of major equipment	BA	9,073	10,125	10,325	10,731	10,980	10,838	11,038
	O	9,072	9,553	10,390	10,393	11,131	11,342	11,364
Purchase or sale of land and structures	BA	663	685	246	263	576	567	574
	O	781	747	377	451	838	938	985

Table 6–2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS—Continued

(in millions of dollars)

Description	2000 Actual	Estimate						
		2001	2002	2003	2004	2005	2006	
Other physical assets (grants)	BA O	950 873	1,247 1,051	1,437 962	1,470 992	1,497 1,135	1,531 1,077	1,556 1,112
Subtotal, major public physical investment	BA O	80,438 74,097	91,285 79,553	87,891 83,347	86,517 85,196	88,575 88,528	90,051 90,922	91,568 92,418
Conduct of research and development:								
General science, space and technology	BA O	10,513 10,103	11,666 10,746	11,676 11,549	12,653 12,072	13,396 13,052	13,885 13,593	14,333 14,081
Energy	BA O	1,066 1,265	1,429 1,401	1,174 1,195	1,180 1,264	1,359 1,307	1,405 1,383	1,467 1,419
Transportation	BA O	1,586 1,440	1,650 1,467	1,665 1,657	1,569 1,785	1,607 1,653	1,608 1,682	1,645 1,697
Health	BA O	17,694 15,220	20,376 17,738	22,799 20,470	26,736 23,310	27,239 25,983	27,850 27,051	28,470 27,713
Natural resources and environment	BA O	1,944 1,687	2,055 1,835	1,995 1,782	2,041 1,804	2,084 1,822	2,130 1,846	2,179 1,885
All other research and development	BA O	3,444 3,182	3,967 3,592	3,626 3,743	3,712 3,784	3,691 3,711	3,772 3,719	3,859 3,798
Subtotal, conduct of research and development	BA O	36,247 32,897	41,143 36,779	42,935 40,396	47,891 44,019	49,376 47,528	50,650 49,274	51,953 50,593
Conduct of education and training:								
Education, training, employment and social services:								
Elementary, secondary, and vocational education ¹	BA O	17,066 20,524	24,593 23,276	44,326 25,601	30,429 29,603	31,107 30,384	31,798 30,954	32,510 31,608
Higher education	BA O	11,859 10,137	10,954 9,622	16,715 15,626	16,832 16,325	17,422 16,605	18,054 17,278	18,701 17,982
Research and general education aids	BA O	2,280 2,212	2,720 2,635	2,240 2,587	2,287 2,430	2,338 2,429	2,388 2,448	2,439 2,503
Training and employment ¹	BA O	2,848 4,758	5,506 5,815	7,442 6,798	5,463 6,170	5,382 5,545	5,501 5,474	5,624 5,534
Social services ¹	BA O	6,703 7,616	9,478 8,237	11,218 9,422	10,258 9,831	10,511 10,105	10,772 10,357	11,041 10,611
Subtotal, education, training, and social services	BA O	40,756 45,247	53,251 49,585	81,941 60,034	65,269 64,359	66,760 65,068	68,513 66,511	70,315 68,238
Veterans education, training, and rehabilitation	BA O	1,663 1,694	2,314 2,293	2,397 2,400	2,467 2,476	2,549 2,559	2,653 2,680	2,788 2,807
Health	BA O	1,099 962	1,407 1,173	1,216 1,248	1,370 1,267	1,395 1,360	1,424 1,402	1,455 1,430
Other education and training	BA O	1,805 1,541	1,889 1,748	1,981 1,909	2,117 1,999	1,957 2,043	2,006 2,046	2,046 2,044
Subtotal, conduct of education and training	BA O	45,323 49,444	58,861 54,799	87,535 65,591	71,223 70,101	72,661 71,030	74,596 72,639	76,604 74,519
Subtotal, nondefense investment	BA O	162,008 156,438	191,289 171,131	218,361 189,334	205,631 199,316	210,612 207,086	215,297 212,835	220,125 217,530
Total, Federal investment ¹	BA O	264,468 253,552	303,301 270,846	332,630 298,532	323,418 309,159	331,648 320,818	339,695 331,408	347,968 338,507

¹ Budget authority for several programs in this category and in the total does not reflect program level, since budget authority is distorted by the use of advance appropriations in 2000, 2001 and 2002. Budget authority for 2002 is significantly overstated because of a one-time adjustment proposed by the Administration to reverse the misleading budget practice of using advance appropriations simply to avoid spending limitations. For additional information on this issue, see Chapter 13, "Preview Report," in this volume.

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS

(in millions of dollars)

Description	2000 Actual	Estimate						
		2001	2002	2003	2004	2005	2006	
GRANTS TO STATE AND LOCAL GOVERNMENTS								
Major public physical investments:								
Construction and rehabilitation:								
Highways	BA	29,451	35,786	34,666	30,859	31,718	32,581	33,516
	O	24,909	27,090	29,218	30,382	31,371	32,353	33,225
Mass transportation	BA	7,108	5,979	6,453	7,163	7,358	7,557	7,770
	O	5,100	5,222	5,415	5,539	6,148	6,888	7,179
Rail transportation	O	7	7					
Air transportation	BA	2,799	2,623	2,969	3,400	3,488	3,579	3,672
	O	1,578	2,173	2,764	3,103	3,311	3,448	3,577
Pollution control and abatement	BA	2,907	2,851	2,466	2,501	2,538	2,235	1,730
	O	2,700	2,719	2,766	2,817	2,780	2,783	2,694
Other natural resources and environment	BA	49	52	28	29	29	30	31
	O	67	68	79	52	47	41	42
Community development block grants	BA	4,809	5,113	4,722	4,827	4,935	5,045	5,158
	O	4,955	4,940	5,036	4,927	4,836	4,861	4,957
Other community and regional development	BA	1,222	1,651	1,278	1,305	1,336	1,366	1,396
	O	1,077	1,347	1,367	1,378	1,349	1,336	1,315
Housing assistance	BA	6,864	7,290	6,590	6,736	6,886	7,040	7,198
	O	7,160	7,875	7,955	7,772	7,554	7,556	7,598
Other construction	BA	195	1,416	294	300	306	312	319
	O	200	319	671	497	390	332	339
Subtotal, construction and rehabilitation	BA	55,404	62,761	59,466	57,120	58,594	59,745	60,790
	O	47,753	51,760	55,271	56,467	57,786	59,598	60,926
Other physical assets	BA	997	1,333	1,493	1,528	1,555	1,591	1,617
	O	902	1,143	1,023	1,039	1,186	1,130	1,166
Subtotal, major public physical capital	BA	56,401	64,094	60,959	58,648	60,149	61,336	62,407
	O	48,655	52,903	56,294	57,506	58,972	60,728	62,092
Conduct of research and development:								
Agriculture	BA	263	289	264	309	284	289	295
	O	231	276	257	286	276	258	263
Other	BA	244	347	319	306	317	324	332
	O	174	210	324	343	355	368	384
Subtotal, conduct of research and development	BA	507	636	583	615	601	613	627
	O	405	486	581	629	631	626	647
Conduct of education and training:								
Elementary, secondary, and vocational education ¹	BA	15,287	22,165	43,407	29,623	30,283	30,957	31,649
	O	19,352	21,498	23,587	28,184	29,325	29,949	30,587
Higher education	BA	321	431	362	369	428	444	454
	O	176	396	409	405	414	458	483
Research and general education aids	BA	483	502	426	440	451	460	470
	O	546	583	533	476	480	478	489
Training and employment ¹	BA	2,090	4,015	5,453	3,981	3,918	4,005	4,094
	O	3,484	4,491	5,184	4,608	4,090	4,014	4,057
Social services ¹	BA	6,375	9,103	10,845	9,900	10,144	10,396	10,656
	O	7,359	7,678	9,074	9,467	9,731	9,972	10,218
Agriculture	BA	434	438	420	464	446	455	465
	O	442	425	466	441	457	462	470
Other	BA	126	136	121	122	125	128	130
	O	88	110	112	112	114	115	117
Subtotal, conduct of education and training	BA	25,116	36,790	61,034	44,899	45,795	46,845	47,918
	O	31,447	35,181	39,365	43,693	44,611	45,448	46,421
Subtotal, grants for investment	BA	82,024	101,520	122,576	104,162	106,545	108,794	110,952
	O	80,507	88,570	96,240	101,828	104,214	106,802	109,160
DIRECT FEDERAL PROGRAMS								
Major public physical investment:								
Construction and rehabilitation:								
National defense:								
Military construction and family housing	BA	5,079	4,673	5,292	5,459	5,610	5,767	5,928

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	2000 Actual	Estimate						
		2001	2002	2003	2004	2005	2006	
Atomic energy defense activities and other	O	4,202	4,521	4,589	4,616	4,783	4,990	5,091
	BA	517	370	551	563	576	589	601
	O	511	404	524	565	577	590	603
Subtotal, national defense	BA	5,596	5,043	5,843	6,022	6,186	6,356	6,529
	O	4,713	4,925	5,113	5,181	5,360	5,580	5,694
International affairs	BA	370	727	1,308	1,337	1,367	1,397	1,429
	O	240	356	860	1,023	1,189	1,302	1,359
General science, space, and technology	BA	2,968	2,990	2,562	2,522	2,489	2,495	2,536
	O	2,978	2,961	2,764	2,652	2,611	2,601	2,630
Water resources projects	BA	3,237	3,665	3,025	3,096	3,162	3,244	3,309
	O	3,568	3,630	3,376	3,321	3,347	3,401	3,291
Other natural resources and environment	BA	1,582	1,627	1,588	1,622	1,658	1,698	1,734
	O	1,829	1,841	1,618	1,615	1,617	1,629	1,644
Energy	BA	1,152	1,179	1,315	1,230	1,316	1,316	1,318
	O	1,151	1,177	1,318	1,232	1,318	1,318	1,319
Postal Service	BA	1,231	825	858	1,331	983	1,114	1,048
	O	1,500	935	975	1,025	1,083	1,068	1,083
Transportation	BA	260	243	240	244	252	256	261
	O	209	340	263	207	222	238	249
Housing assistance	BA	28	34	34	35	36	36	37
	O	9	29	34	32	33	34	36
Veterans hospitals and other health facilities	BA	1,179	1,344	1,634	1,734	1,769	1,808	1,847
	O	1,444	1,322	1,559	1,658	1,743	1,811	1,857
Federal Prison System	BA	441	711	700	716	732	748	765
	O	477	743	542	918	898	788	806
GSA real property activities	BA	766	1,173	1,489	1,459	1,532	1,598	1,634
	O	956	1,027	1,175	1,432	1,944	2,153	2,139
Other construction	BA	1,134	1,949	1,664	1,607	1,632	1,660	1,692
	O	1,257	2,081	1,863	1,778	1,633	1,624	1,618
Subtotal, construction and rehabilitation	BA	19,944	21,510	22,260	22,955	23,114	23,726	24,139
	O	20,331	21,367	21,460	22,074	22,998	23,547	23,725
Acquisition of major equipment:								
National defense:								
Department of Defense	BA	54,454	62,418	60,030	61,906	63,625	65,403	67,225
	O	51,272	53,125	57,132	57,428	59,477	62,049	63,303
Atomic energy defense activities	BA	119	78	117	120	122	125	128
	O	116	80	107	112	115	118	120
Subtotal, national defense	BA	54,573	62,496	60,147	62,026	63,747	65,528	67,353
	O	51,388	53,205	57,239	57,540	59,592	62,167	63,423
General science and basic research	BA	391	449	422	432	441	452	462
	O	318	427	409	395	402	415	423
Space flight, research, and supporting activities	BA	869	977	815	769	731	720	726
	O	871	967	763	777	743	725	724
Energy	BA	121	118	115	115	115	115	115
	O	121	118	115	115	115	115	115
Postal Service	BA	676	778	493	900	1,000	675	675
	O	592	735	749	821	1,204	1,021	848
Air transportation	BA	1,979	2,546	2,836	2,901	2,966	3,032	3,100
	O	2,060	2,005	2,302	2,523	2,704	2,940	3,006
Water transportation (Coast Guard)	BA	830	248	464	474	485	496	507
	O	340	445	441	376	430	463	488
Other transportation (railroads)	BA	571	520	521	533	544	557	569
	O	594	554	834	533	545	557	570
Social security	O	66	69	57	60	64	69	73
Hospital and medical care for veterans	BA	687	775	605	622	636	650	664
	O	1,014	695	781	802	820	838	856
Department of Justice	BA	567	612	519	535	546	559	572
	O	659	599	573	563	575	588	600
Department of the Treasury	BA	709	1,113	1,415	1,336	1,368	1,400	1,434
	O	856	1,188	1,390	1,357	1,400	1,437	1,458
GSA general supply fund	BA	626	664	656	656	656	656	656

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description		2000 Actual	Estimate					
			2001	2002	2003	2004	2005	2006
Other	O	584	664	656	656	656	656	656
	BA	1,000	1,239	1,408	1,400	1,434	1,466	1,497
	O	968	995	1,259	1,368	1,422	1,465	1,493
Subtotal, acquisition of major equipment	BA	63,599	72,535	70,416	72,699	74,669	76,306	78,330
	O	60,431	62,666	67,568	67,886	70,672	73,456	74,733
Purchase or sale of land and structures:								
National defense	BA	-45	-20	-19	-41	-41	-42	-42
	O	-45	-20	-19	-40	-41	-42	-42
International affairs	BA	15	28	1				
	O	55	90	2	2	2	2	2
Privatization of Elk Hills	BA				-323			
	O				-323			
Other	BA	648	657	245	586	576	567	574
	O	726	657	375	772	836	936	983
Subtotal, purchase or sale of land and structures	BA	618	665	227	222	535	525	532
	O	736	727	358	411	797	896	943
Subtotal, major public physical investment	BA	84,161	94,710	92,903	95,876	98,318	100,557	103,001
	O	81,498	84,760	89,386	90,371	94,467	97,899	99,401
Conduct of research and development:								
National defense								
Defense military	BA	39,567	41,391	45,144	46,554	47,847	49,185	50,555
	O	38,279	38,504	43,706	43,907	45,496	47,471	48,430
Atomic energy and other	BA	2,759	3,093	3,145	3,215	3,286	3,359	3,436
	O	2,771	3,092	3,144	3,238	3,307	3,379	3,453
Subtotal, national defense	BA	42,326	44,484	48,289	49,769	51,133	52,544	53,991
	O	41,050	41,596	46,850	47,145	48,803	50,850	51,883
International affairs	BA	200	216	206	211	215	221	225
	O	179	183	183	185	185	186	196
General science, space and technology								
NASA	BA	5,513	6,232	6,320	7,178	7,820	8,183	8,505
	O	5,411	5,724	6,298	6,673	7,449	7,917	8,288
National Science Foundation	BA	2,747	3,057	3,033	3,100	3,149	3,220	3,291
	O	2,446	2,644	2,928	3,044	3,202	3,222	3,284
Department of Energy	BA	2,253	2,377	2,323	2,375	2,427	2,482	2,537
	O	2,246	2,378	2,323	2,355	2,401	2,454	2,509
Subtotal, general science, space and technology	BA	10,713	11,882	11,882	12,864	13,611	14,106	14,558
	O	10,282	10,929	11,732	12,257	13,237	13,779	14,277
Energy	BA	1,066	1,429	1,174	1,180	1,359	1,405	1,467
	O	1,265	1,401	1,195	1,264	1,307	1,383	1,419
Transportation:								
Department of Transportation	BA	404	517	571	550	562	574	589
	O	348	423	535	566	555	570	578
NASA	BA	999	926	890	831	852	836	852
	O	958	901	879	963	839	845	845
Subtotal, transportation	BA	2,469	2,872	2,635	2,561	2,773	2,815	2,908
	O	2,571	2,725	2,609	2,793	2,701	2,798	2,842
Health:								
National Institutes of Health	BA	16,916	19,483	21,993	25,909	26,391	26,979	27,580
	O	14,568	16,941	19,619	22,488	25,155	26,203	26,846
All other health	BA	765	818	726	742	757	776	793
	O	639	768	809	769	765	776	788
Subtotal, health	BA	17,681	20,301	22,719	26,651	27,148	27,755	28,373
	O	15,207	17,709	20,428	23,257	25,920	26,979	27,634
Agriculture	BA	1,160	1,265	1,171	1,263	1,219	1,243	1,272
	O	1,063	1,189	1,210	1,287	1,283	1,287	1,309

Table 6-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	2000 Actual	Estimate						
		2001	2002	2003	2004	2005	2006	
Natural resources and environment	BA	1,944	2,055	1,995	2,041	2,084	2,130	2,179
	O	1,687	1,835	1,782	1,804	1,822	1,846	1,885
National Institute of Standards and Technology	BA	332	355	318	325	332	340	348
	O	396	395	423	388	345	349	353
Hospital and medical care for veterans	BA	642	700	719	736	753	770	788
	O	658	683	717	752	767	769	786
All other research and development	BA	799	1,077	913	835	855	878	900
	O	628	828	914	852	822	841	860
Subtotal, conduct of research and development	BA	78,066	84,991	90,641	97,045	99,908	102,581	105,317
	O	73,542	77,889	86,665	90,535	95,700	99,498	101,829
Conduct of education and training:								
Elementary, secondary, and vocational education	BA	1,779	2,428	919	806	824	841	861
	O	1,172	1,778	2,014	1,419	1,059	1,005	1,021
Higher education	BA	11,538	10,523	16,353	16,463	16,994	17,610	18,247
	O	9,961	9,226	15,217	15,920	16,191	16,820	17,499
Research and general education aids	BA	1,797	2,218	1,814	1,847	1,887	1,928	1,969
	O	1,666	2,052	2,054	1,954	1,949	1,970	2,014
Training and employment	BA	758	1,491	1,989	1,482	1,464	1,496	1,530
	O	1,274	1,324	1,614	1,562	1,455	1,460	1,477
Health	BA	1,085	1,393	1,202	1,356	1,380	1,409	1,440
	O	948	1,159	1,234	1,253	1,388	1,388	1,415
Veterans education, training, and rehabilitation	BA	1,663	2,314	2,397	2,467	2,549	2,653	2,788
	O	1,694	2,293	2,400	2,476	2,559	2,680	2,807
General science and basic research	BA	640	797	938	956	854	873	892
	O	513	666	787	867	897	874	861
National defense	BA	8	7	7	7	7	8	8
	O	6	7	13	13	14	14	15
International affairs	BA	305	232	243	248	254	260	265
	O	306	306	275	279	250	256	261
Other	BA	644	677	648	703	664	685	698
	O	465	816	633	682	717	742	747
Subtotal, conduct of education and training	BA	20,217	22,080	26,510	26,335	26,877	27,763	28,698
	O	18,005	19,627	26,241	26,425	26,437	27,209	28,117
Subtotal, direct Federal investment	BA	182,444	201,781	210,054	219,256	225,103	230,901	237,016
	O	173,045	182,276	202,292	207,331	216,604	224,606	229,347
Total, Federal investment ¹	BA	264,468	303,301	332,630	323,418	331,648	339,695	347,968
	O	253,552	270,846	298,532	309,159	320,818	331,408	338,507

¹ Budget authority for several programs in this category and the total does not reflect program level, since budget authority is distorted by the use of advance appropriations in 2000, 2001 and 2002. Budget authority for 2002 is significantly overstated because of a one-time adjustment proposed by the Administration to reverse the misleading budget practice of using advance appropriations simply to avoid spending limitations. For additional information on this issue, see Chapter 13, "Preview Report," in this volume.

Part II: PLANNING, BUDGETING, AND ACQUISITION OF CAPITAL ASSETS

The previous section discussed Federal investment broadly defined. The focus of this section is much narrower—the review of planning and budgeting during the past year and the resultant budget proposals for capital assets owned by the Federal Government and used to deliver Federal services. Capital assets consist of Federal buildings, information technology, and other facilities and major equipment, including weapons systems, federally owned infrastructure, and space satellites.¹ With proposed major agency restructuring, organizational streamlining, and other reforms, good planning may suggest reduced spending for some assets, such as office buildings, and increased spending for others, such as information technology, to increase the productivity of a smaller workforce.

In recent years the Executive Branch and the Congress have reviewed the Federal Government's performance in planning, budgeting, risk management, and the acquisition of capital assets. The reviews indicate that the performance is uneven across the Government; the problems have many causes, and as a result, there is no single solution. However, in meeting the objective of improving the Government's performance, it is essential that the caliber of Government planning and budgeting for capital assets be improved.

Improving Planning, Budgeting, and Acquisition of Capital Assets

Risk Management

Recent Executive Branch reviews have found a recurring theme in many capital asset acquisitions—that risk management should become more central to the planning, budgeting, and acquisition process. Failure to analyze and manage the inherent risk in all capital asset acquisitions may have contributed to cost overruns, schedule shortfalls, and acquisitions that fail to perform as expected. Failure to adopt capital asset requirements that are within the capabilities of the market and budget limitations may also have contributed to these problems. For each major project a risk analysis that includes how risks will be isolated, minimized, monitored, and controlled may help prevent these problems. The proposals in this budget, together with recent legislation enacted by Congress, are designed to help the Government manage better its portfolio of capital assets.

Long-Term Planning and Analysis

Planning and managing capital assets, especially better management of risk, has historically been a low priority for some agencies. Attention focuses on coming-year appropriations, and justifications are often limited to lists of desired projects. The increased use of long-

range planning linked to performance goals required by the Government Performance and Results Act would provide a better basis for justifications. It would increase foresight and improve the odds for cost-effective investments.

A need for better risk management, integrated life-cycle planning, and operation of capital assets at many agencies was evident in the Executive Branch reviews. Research equipment was acquired with inadequate funding for its operation. New medical facilities sometimes were built without funds for maintenance and operation. New information technology sometimes was acquired without planning for associated changes in agency operations.

Congressional concern. The Congress has expressed its concern about planning for capital assets with legislation and other actions that complemented Executive Branch efforts to ensure better performance:

- The Government Performance and Results Act of 1993 (GPRA) is designed to help ensure that program objectives are more clearly defined and resources are focused on meeting these objectives.
- The Federal Acquisition Streamlining Act of 1994 (FASA), Title V, requires agencies to improve the management of large acquisitions. Title V requires agencies to institute a performance-based planning, budgeting, and management approach to the acquisition of capital assets. As a result of improved planning efforts, agencies are required to establish cost, schedule, and performance goals that have a high probability of successful achievement. For projects that are not achieving 90 percent of original goals, agencies are required to discuss corrective actions taken or planned to bring the project within goals. If they cannot be brought within goals, agencies should identify how and why the goals should be revised, whether the project is still cost beneficial and justified for continued funding, or whether the project should be canceled.
- The Clinger-Cohen Act of 1996 is designed to ensure that information technology acquisitions support agency missions developed pursuant to GPRA. The Clinger-Cohen Act also requires a performance-based planning, budgeting, and management approach to the acquisition of capital assets.
- The General Accounting Office published a study, *Budget Issues: Budgeting for Federal Capital* (November 1996), written in response to a congressional request, which recommended that the Office of Management and Budget (OMB) continue its focus on capital assets.

Executive Branch concern. For many years, the Executive Branch has devoted particular attention to improving the process of planning, budgeting, and acquiring capital assets. The current guidance has been issued for several years, most recently as OMB Circular A-11: Part 3: "Planning, Budgeting, and Acquisition

¹This is almost the same as the definition in Part I of this chapter for spending for direct Federal construction and rehabilitation, major equipment, and purchase of land, except that capital assets excludes grants to private groups for these purposes (e.g., grants to universities for research equipment and grants to AMTRAK). A more complete definition can be found in the glossary to the "Principles of Budgeting for Capital Asset Acquisitions," which is at the end of this Part.

of Capital Assets” (July 2000) (hereafter referred to as Part 3). Part 3 identified other OMB guidance on this issue.²

Part 3 requests agencies to approach planning for capital assets in the context of strategic plans to carry out their missions, and to consider alternative methods of meeting their goals. Systematic analysis of the full life-cycle expected costs and benefits is required, along with risk analysis and assessment of alternative means of acquiring assets. This guidance encourages the Executive Branch agencies to be responsible for using good capital programming principles for managing the capital assets they use, and asks the agencies to work throughout the coming year to improve agency practices in risk management, planning, budgeting, acquisition, and operation of these assets.

In support of this, in July 1997 OMB issued a *Capital Programming Guide*, a Supplement to Part 3. This Guide was developed by an interagency task force with representation from 14 executive agencies and the General Accounting Office. The Guide’s purpose is to provide professionals in the Federal Government a basic reference on capital assets management principles to assist them in planning, budgeting, acquiring, and managing the asset once in use. The Guide emphasizes risk management and the importance of analyzing capital assets as a portfolio. In addition, this budget reissues the “Principles of Budgeting for Capital Asset Acquisitions,” which appear at the end of this Part. These principles offer guidelines to agencies to help carry out better planning, analysis, risk management, and budgeting for capital asset acquisitions.

The *Report of the President’s Commission to Study Capital Budgeting* (February 1999) proposed a series of recommendations to improve each part of the budget process; setting priorities, making current budget decisions, reporting on these decisions, and subsequently evaluating them. The Commission’s broadest and most fundamental conclusion was that insufficient attention is paid to the long-run consequences of all budget decisions. The report included two recommendations to facilitate the setting of priorities among all programs, not just those involving capital expenditures. The first recommended integration of the planning under the Government Performance and Results Act (GPRA) with budgeting in the form of annually revised five-year plans, and greater emphasis by decision-makers in the

Executive Branch and Congress on the longer-run implications of current year decisions. The second recommended an ongoing effort within the Federal government to analyze the benefits and costs of all major government programs as a guide to future policies. The report also recommended evaluating the benefits and costs of major investment projects undertaken in the past.

From Planning to Budgeting

Full funding of capital assets.—Good budgeting requires that appropriations for the full costs of asset acquisition be provided up front to help ensure that all costs and benefits are fully taken into account when decisions are made about providing resources. Full funding was endorsed by the General Accounting Office in its report, *Budgeting for Federal Capital* (November 1996) and also in its more recent letter to the Chairman of the Senate Budget Committee, entitled “Budget Issues: Incremental Funding of Capital Asset Acquisitions (February 26, 2001).” Full funding was also endorsed in the *Report of the President’s Commission to Study Capital Budgeting* (February 1999).

The full funding principle is followed for most Department of Defense procurement and construction programs and for General Services Administration buildings. In other areas, however, too often it is not. When it is not followed and capital assets are funded in increments, without certainty if or when future funding will be available, it can and occasionally does result in poor risk management, weak planning, acquisition of assets not fully justified, higher acquisition costs, cancellation of major projects, the loss of sunk costs, and inadequate funding to maintain and operate the assets. Full funding is also an important element in managing large acquisitions effectively and holding management responsible for achieving goals.

Other budgeting issues.—Other budgeting decisions can also aid in acquiring capital assets. Availability of funds for one year often may not be enough time to complete the acquisition process. Most agencies request that funds be available for more than one year to complete acquisitions efficiently, and Part 3 encourages this. As noted, many agencies aggregate asset acquisition in budget accounts to avoid lumpiness. In some cases, these are revolving funds that “rent” the assets to the agency’s programs.

To promote better program performance, agencies are also being encouraged by OMB to examine their budget account structures to align them better with program outputs and outcomes and to charge the appropriate account with significant costs used to achieve these results. The asset acquisition rental accounts, mentioned above, would contribute to this. Budgeting this way would provide information and incentives for better resource allocation among programs and a continual search for better ways to deliver services. It would also provide incentives for efficient capital asset acquisition and management.

²Other guidance published by OMB with participation by other agencies includes: (1) OMB Circular No. A-109, “Major System Acquisitions,” which establishes policies for planning major systems that are generally applicable to capital asset acquisitions. (2) OMB Circular No. A-94, “Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs,” which provides guidance on benefit-cost, cost-effectiveness, and lease-purchase analysis to be used by agencies in evaluating Federal activities including capital asset acquisition. It includes guidelines on the discount rate to use in evaluating future benefits and costs, the measurement of benefits and costs, the treatment of uncertainty, and other issues. This guidance must be followed in all analyses in support of legislative and budget programs. (3) Executive Order No. 12893, “Principles for Federal Infrastructure Investments,” which provides principles for the systematic economic analysis of infrastructure investments and their management. (4) OMB Bulletin No. 94-16, Guidance on Executive Order No. 12893, “Principles for Federal Infrastructure Investments,” which provides guidance for implementing this order and appends the order itself. (5) the revision of OMB Circular A-130, “Management of Federal Information Resources” (November 20, 2000), which provides principles for internal management and planning practices for information systems and technology; and (6) OMB Circular No. A-127, “Financial Management Systems,” which prescribes policies and standards for executive departments and agencies to follow in developing, evaluating, and reporting on financial management systems.

Acquisition of Capital Assets

Improved planning, budgeting, and acquisition strategies are necessary to increase the ability of agencies to acquire capital assets within, or close to, the original estimates of cost, schedule, and performance used to justify project budgets and to maintain budget discipline. The Executive Branch efforts, along with enactment of FASA (Title V) and the Clinger-Cohen Act, require agencies to institute a performance-based planning, budgeting, and management approach to the acquisition of capital assets.

Part 3 incorporates OMB memorandum 97-02, "Funding Information Systems Investments" (October 25, 1996), which was issued to establish clear and concise decision criteria regarding investments in major information technology investments. These policy documents establish the general presumption that OMB will recommend new or continued funding only for those major investments in assets that comply with good capital programming principles.

At the Appendix to this Part are the "Principles of Budgeting for Capital Asset Acquisitions," which incorporate the above criteria and expand coverage to all capital investments.

As a result of these initiatives, capital asset acquisitions are to have baseline cost, schedule, and performance goals for future tracking purposes or they are to be either reevaluated and changed or canceled if no longer cost beneficial.

Outlook

The Administration will work with the Congress to promote full upfront funding for capital projects or usable segments thereof, and to improve capital planning and integrate capital planning with GPRA strategic plans.

Major Acquisition Proposals

For the definition of major capital assets described above, this budget requests \$90.7 billion of budget authority for 2002. This includes \$65.3 billion for the Department of Defense, subject to the Defense Strategy Review mentioned in the introduction to this chapter, and \$25.4 billion for other agencies. The major requests are shown in Table 6-4: "Capital Asset Acquisitions," which distributes the funds according to the categories for construction and rehabilitation, major equipment, and purchases of land and structures.

Construction and Rehabilitation

This budget includes \$20.8 billion of budget authority for 2002 for construction and rehabilitation.

Department of Defense.—The budget projects \$5.3 billion for 2002 for general construction on military bases and family housing. This funding will be used to:

- support the fielding of new systems;
- enhance operational readiness, including deployment and support of military forces;
- provide housing for military personnel and their families; and

Table 6-4. CAPITAL ASSET ACQUISITIONS

(Budget authority in billions of dollars)

	2000 Actual	2001 Estimate	2002 Proposed
MAJOR ACQUISITIONS			
Construction and rehabilitation:			
Defense military construction and family housing	5.1	4.7	5.3
Corps of Engineers	2.8	3.2	2.7
National Aeronautics and Space Administration	2.8	2.6	2.2
General Services Administration	0.8	1.2	1.5
Department of State	0.4	0.7	1.3
Department of Energy	0.9	0.9	1.1
Other agencies	5.9	6.6	6.8
Subtotal, construction and rehabilitation	18.6	19.8	20.8
Major equipment:			
Department of Defense	54.5	62.4	60.0
Department of Transportation	2.8	2.8	3.3
Department of the Treasury	0.7	1.1	1.4
National Aeronautics and Space Administration	0.9	1.0	0.8
Department of Commerce	0.6	0.8	0.8
Department of Veterans Affairs	0.7	0.8	0.6
Other agencies	2.7	2.9	2.8
Subtotal, major equipment	62.8	71.8	69.7
Purchases of land and structures	0.6	0.7	0.2
Total, major acquisitions ¹	82.1	92.3	90.7

¹This total is derived from the direct Federal major public physical investment budget authority on Table 6-3 (\$92.9 billion for 2002). Table 6-4 excludes an estimate of spending for assets not owned by the Federal Government (\$2.2 billion for 2002).

- correct safety deficiencies and environmental problems.

Corps of Engineers.—This budget requests \$2.7 billion for 2002 for construction and rehabilitation for the Corps of Engineers. These funds finance construction, rehabilitation, and related activity for water resources development projects that provide navigation, flood control, environmental restoration, and other benefits.

National Aeronautics and Space Administration.—The budget includes \$2.2 billion for continued investments in construction of the Space Station, and for research facilities for science, aeronautics, and technology.

General Services Administration (GSA).—The 2002 budget includes \$1.5 billion in budget authority for GSA for the construction or major renovation of buildings. These funds will allow for new construction and the acquisition of courthouses, border stations, and general purpose office space in locations where long-term needs show that ownership is preferable to leasing.

Department of State.—The Administration requests \$1.3 billion in budget authority to support embassy security, construction, and major renovations. These funds are needed to help modernize Department of State facilities around the world.

Department of Energy.—This budget requests \$1.1 billion for 2002 for construction and rehabilitation for the Department of Energy. This includes funds for nuclear waste disposal, scientific research, power marketing, and other activities.

Other agencies.—This budget includes \$6.8 billion in budget authority for construction and rehabilitation for

other agencies in 2002. This includes amounts for the Tennessee Valley Authority (\$1.1 billion); Department of the Interior (\$1.1 billion), largely for the Bureau of Indian Affairs, water resources, and parks; the Department of Health and Human Services (\$0.9 billion), largely for the National Institutes of Health and the Indian Health Service; and the Postal Service (\$0.9 billion).

Major Equipment

This category covers capital purchases for major equipment, including weapons systems; information technology, such as computer hardware, major software, and renovations required for this equipment; and other types of equipment. This budget requests \$69.7 billion in budget authority for 2002 for the purchase of major equipment. For information on information technology investments, see Chapter 22 in this volume, "Program Performance Benefits from Major Information Technology Investments."

Department of Defense.—The budget includes \$60.0 billion for equipment purchases primarily related to procurement for 2002 of weapons systems, related support equipment, and purchase of other capital goods. This includes tactical fighter aircraft, airlift aircraft, naval vessels, tanks, helicopters, missiles, and vehicles.

Department of Transportation.—The budget requests \$3.3 billion in budget authority for the Department of Transportation for major equipment, which includes \$2.8 billion to modernize the air traffic control system and \$0.5 billion for the Coast Guard to acquire vessels and other equipment.

Department of the Treasury.—The budget requests \$1.4 billion in budget authority for major equipment. The largest amounts are \$0.6 billion to modernize infor-

mation technology systems for the Internal Revenue Service.

National Aeronautics and Space Administration (NASA).—The budget requests \$0.8 billion in budget authority to procure major equipment for programs in human space flight, science, aeronautics, and technology. Most of the equipment is to be acquired for Space Shuttle upgrades, such as orbiter improvements, Space Shuttle main engines, solid rocket booster improvements, and launch site equipment.

Department of Commerce.—The budget requests \$0.8 billion for the Department of Commerce, largely for the continued acquisition of more sophisticated and advanced weather satellites and related technology.

Department of Veterans Affairs.—This budget requests \$0.6 billion for medical equipment for health care facilities. These funds will be used to continue to provide quality health care services for veterans.

Other agencies.—This budget requests \$2.8 billion for major equipment for other agencies for 2002. This includes amounts for the General Services Administration (\$0.7 billion), largely for vehicles; the Department Justice (\$0.6 billion), including funds for the Federal Bureau of Investigation; and the Postal Service (\$0.5 billion).

Purchase and Sale of Land and Structures

This budget includes \$0.2 billion for 2002 for the purchase and sale of land and structures. This includes \$0.4 billion for Federal land acquisition by the Departments of the Interior and Agriculture for parks, forests, refuges, and other recreational purposes. These and other purchases are partially offset by sales of land and structures in other agencies.

Appendix to Part II: PRINCIPLES OF BUDGETING FOR CAPITAL ASSET ACQUISITIONS

Introduction and Summary

The Executive Branch plans to use the following principles in budgeting for capital asset acquisitions. These principles address planning, costs and benefits, financing, and risk management requirements that should be satisfied before a proposal for the acquisition of capital assets can be included in the Administration's budget. A Glossary describes key terms. A *Capital Programming Guide* has been published that provides detailed information on planning and acquisition of capital assets.

The principles are organized in the following four sections:

A. *Planning.* This section focuses on the need to ensure that capital assets support core/priority missions of the agency; the assets have demonstrated a projected return on investment that is clearly equal to or better than alternative uses of available public resources; the risk associated with the assets is understood and managed at all stages; and the acquisition is implemented in phased, successive segments, unless it can be demonstrated there are significant economies of scale at

acceptable risk from funding more than one segment or there are multiple units that need to be acquired at the same time.

B. *Costs and Benefits.* This section emphasizes that the asset should be justified primarily by benefit-cost analysis, including life-cycle costs; that all costs are understood in advance; and that cost, schedule, and performance goals are identified that can be measured using an earned value management system or similar system.

C. *Principles of Financing.* This section stresses that useful segments are to be fully funded with regular or advance appropriations; that as a general rule, planning segments should be financed separately from procurement of the asset; and that agencies are encouraged to aggregate assets in capital acquisition accounts and take other steps to accommodate lumpiness or "spikes" in funding for justified acquisitions.

D. *Risk Management.* This section is to help ensure that risk is analyzed and managed carefully in the acquisition of the asset. Strategies can include separate accounts for capital asset acquisitions, the use of appor-

tionment to encourage sound management, and the selection of efficient types of contracts and pricing mechanisms in order to allocate risk appropriately between the contractor and the Government. In addition cost, schedule, and performance goals are to be controlled and monitored by using an earned value management system or a similar system; and if progress toward these goals is not met there is a formal review process to evaluate whether the acquisition should continue or be terminated.

A Glossary defines key terms, including capital assets. As defined here, capital assets are land, structures, equipment, and intellectual property (including software) that are used by the Federal Government, including weapon systems. Not included are grants to States or others for their acquisition of capital assets.

A. Planning

Investments in major capital assets proposed for funding in the Administration's budget should:

1. support core/priority mission functions that need to be performed by the Federal Government;
2. be undertaken by the requesting agency because no alternative private sector or governmental source can support the function more efficiently;
3. support work processes that have been simplified or otherwise redesigned to reduce costs, improve effectiveness, and make maximum use of commercial, off-the-shelf technology;
4. demonstrate a projected return on the investment that is clearly equal to or better than alternative uses of available public resources. Return may include: improved mission performance in accordance with measures developed pursuant to the Government Performance and Results Act; reduced cost; increased quality, speed, or flexibility; and increased customer and employee satisfaction. Return should be adjusted for such risk factors as the project's technical complexity, the agency's management capacity, the likelihood of cost overruns, and the consequences of under- or non-performance;
5. for information technology investments, be consistent with Federal, agency, and bureau information architectures which: integrate agency work processes and information flows with technology to achieve the agency's strategic goals; reflect the agency's technology vision and compliance plan for this budget year; and specify standards that enable information exchange and resource sharing, while retaining flexibility in the choice of suppliers and in the design of local work processes;
6. reduce risk by: avoiding or isolating custom-designed components to minimize the potential adverse consequences on the overall project; using fully tested pilots, simulations, or prototype implementations when necessary before going to production; establishing clear measures and accountability for project progress; and, securing substantial involvement and buy-in throughout the project

from the program officials who will use the system;

7. be implemented in phased, successive segments as narrow in scope and brief in duration as practicable, each of which solves a specific part of an overall mission problem and delivers a measurable net benefit independent of future segments, unless it can be demonstrated that there are significant economies of scale at acceptable risk from funding more than one segment or there are multiple units that need to be acquired at the same time; and
8. employ an acquisition strategy that appropriately allocates risk between the Government and the contractor, effectively uses competition, ties contract payments to accomplishments, and takes maximum advantage of commercial technology.

Prototypes require the same justification as other capital assets.

As a general presumption, new or continued funding will be recommended only for those capital asset investments that satisfy good capital programming policies. Funding for those projects will be recommended on a phased basis by segment, unless it can be demonstrated that there are significant economies of scale at acceptable risk from funding more than one segment or there are multiple units that need to be acquired at the same time. (For more information, see the Glossary entry, "capital project and useful segments of a capital project.")

Because good information on capital planning is essential to long-term success, the Executive Branch will use this information both in preparing its budget and, in conjunction with cost, schedule, and performance data, as apportionments are made. Agencies are encouraged to work with their OMB representative to arrive at a mutually satisfactory process, format, and timetable for providing the requested information.

B. Costs and Benefits

The justification of the project should evaluate and discuss the extent to which the project meets the above criteria and should also include:

1. an analysis of the project's total life-cycle costs and benefits, including the total budget authority required for the asset, consistent with policies described in OMB Circular A-94: "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs" (October 1992);
2. an analysis of the risk of the project including how risks will be isolated, minimized, monitored, and controlled, and, for major programs, an evaluation and estimate by the Chief Financial Officer of the probability of achieving the proposed goals;
3. if, after the planning phase, the procurement is proposed for funding in segments, an analysis showing that the proposed segment is economically and programmatically justified—that is, it is programmatically useful if no further investments are funded, and in this application its benefits exceed its costs; and

4. show cost, schedule, and performance goals for the project (or the useful segment being proposed) that can be measured throughout the acquisition process using an earned value management system or similar system. Earned value is described in OMB Circular A-11, Part 3, "Planning, Budgeting and Acquisition of Capital Assets," (July 2000).

C. Principles of Financing

Principle 1: Full Funding

Budget authority sufficient to complete a useful segment of a capital project (or the entire capital project, if it is not divisible into useful segments) must be appropriated before any obligations for the useful segment (or project) may be incurred.

Explanation: Good budgeting requires that appropriations for the full costs of asset acquisition be enacted in advance to help ensure that all costs and benefits are fully taken into account at the time decisions are made to provide resources. Full funding with regular appropriations in the budget year also leads to tradeoffs within the budget year with spending for other capital assets and with spending for purposes other than capital assets. Full funding increases the opportunity to use performance-based fixed price contracts, allows for more efficient work planning and management of the capital project, and increases the accountability for the achievement of the baseline goals.

When full funding is not followed and capital projects or useful segments are funded in increments, without certainty if or when future funding will be available, the result is sometimes poor planning, acquisition of assets not fully justified, higher acquisition costs, cancellation of major projects, the loss of sunk costs, or inadequate funding to maintain and operate the assets.

Principle 2: Regular and Advance Appropriations

Regular appropriations for the full funding of a capital project or a useful segment of a capital project in the budget year are preferred. If this results in spikes that, in the judgment of OMB, cannot be accommodated by the agency or the Congress, a combination of regular and advance appropriations that together provide full funding for a capital project or a useful segment should be proposed in the budget.

Explanation: Principle 1 (Full Funding) is met as long as a combination of regular and advance appropriations provide budget authority sufficient to complete the capital project or useful segment. Full funding in the budget year with regular appropriations alone is preferred because it leads to tradeoffs within the budget year with spending for other capital assets and with spending for purposes other than capital assets. In contrast, full funding for a capital project over several years with regular appropriations for the first year and advance appropriations for subsequent years may bias tradeoffs in the budget year in favor of the proposed asset because with advance appropriations the full cost of the asset is not included in the budget year. Advance appropriations, because they are scored in the year they be-

come available for obligation, may constrain the budget authority and outlays available for regular appropriations of that year.

If, however, the lumpiness caused by regular appropriations cannot be accommodated within an agency or Appropriations Subcommittee, advance appropriations can ameliorate that problem while still providing that all of the budget authority is enacted in advance for the capital project or useful segment. The latter helps ensure that agencies develop appropriate plans and budgets and that all costs and benefits are identified prior to providing resources. In addition, amounts of advance appropriations can be matched to funding requirements for completing natural components of the useful segment. Advance appropriations have the same benefits as regular appropriations for improved planning, management, and accountability of the project.

Principle 3: Separate Funding of Planning Segments

As a general rule, planning segments of a capital project should be financed separately from the procurement of a useful asset.

Explanation: The agency must have information that allows it to plan the capital project, develop the design, and assess the benefits, costs, and risks before proceeding to procurement of the useful asset. This is especially important for high risk acquisitions. This information comes from activities, or planning segments, that include but are not limited to market research of available solutions, architectural drawings, geological studies, engineering and design studies, and prototypes. The construction of a prototype that is a capital asset, because of its cost and risk, should be justified and planned as carefully as the project itself. The process of gathering information for a capital project may consist of one or more planning segments, depending on the nature of the asset. Funding these segments separately will help ensure that the necessary information is available to establish cost, schedule, and performance goals before proceeding to procurement.

If budget authority for planning segments and procurement of the useful asset are enacted together, the Administration may wish to apportion budget authority for one or several planning segments separately from procurement of the useful asset.

Principle 4: Accommodation of Lumpiness or "Spikes" and Separate Capital Acquisition Accounts

To accommodate lumpiness or "spikes" in funding justified capital acquisitions, agencies, working with OMB, are encouraged to aggregate financing for capital asset acquisitions in one or several separate capital acquisition budget accounts within the agency, to the extent possible within the agency's total budget request.

Explanation: Large, temporary, year-to-year increases in budget authority, sometimes called lumps or spikes, may create a bias against the acquisition of justified capital assets. Agencies, working with OMB, should seek ways to avoid this bias and accommodate such

spikes for justified acquisitions. Aggregation of capital acquisitions in separate accounts may:

- reduce spikes within an agency or bureau by providing roughly the same level of spending for acquisitions each year;
- help to identify the source of spikes and to explain them. Capital acquisitions are more lumpy than operating expenses; and with a capital acquisition account, it can be seen that an increase in operating expenses is not being hidden and is attributed to one-time asset purchases;
- reduce the pressure for capital spikes to crowd out operating expenses; and
- improve justification and make proposals easier to evaluate, since capital acquisitions are generally analyzed in a different manner than operating expenses (e.g., capital acquisitions have a longer time horizon of benefits and life-cycle costs).

D. Risk Management

Risk management should be central to the planning, budgeting, and acquisition process. Failure to analyze and manage the inherent risk in all capital asset acquisitions may contribute to cost overruns, schedule shortfalls, and acquisitions that fail to perform as expected. For each major capital project a risk analysis that includes how risks will be isolated, minimized, monitored, and controlled may help prevent these problems.

The project cost, schedule and performance goals established through the planning phase of the project are the basis for approval to procure the asset and the basis for assessing risk. During the procurement phase performance-based management systems (earned value or similar system) must be used to provide contractor and Government management visibility on the achievement of, or deviation from, goals until the asset is accepted and operational. If goals are not being met, performance-based management systems allow for early identification of problems, potential corrective actions, and changes to the original goals needed to complete the project and necessary for agency portfolio analysis decisions. These systems also allow for Administration decisions to recommend meaningful modifications for increased funding to the Congress, or termination of the project, based on its revised expected return on investment in comparison to alternative uses of the funds. Agencies must ensure that the necessary acquisition strategies are implemented to reduce the risk of cost escalation and the risk of failure to achieve schedule and performance goals. These strategies may include:

1. having budget authority appropriated in separate capital asset acquisition accounts;
2. apportioning budget authority for a useful segment;
3. establishing thresholds for cost, schedule, and performance goals of the acquisition, including return on investment, which if not met may result in cancellation of the acquisition;

4. selecting types of contracts and pricing mechanisms that are efficient and that provide incentives to contractors in order to allocate risk appropriately between the contractor and the Government;
5. monitoring cost, schedule, and performance goals for the project (or the useful segment being proposed) using an earned value management system or similar system. Earned value is described in OMB Circular A-11, Part 3, "Planning, Budgeting and Acquisition of Capital Assets" (July 2000).
6. if progress is not within 90 percent of goals, or if new information is available that would indicate a greater return on investment from alternative uses of funds, institute senior management review of the project through portfolio analysis to determine the continued viability of the project with modifications, or the termination of the project, and the start of exploration for alternative solutions if it is necessary to fill a gap in agency strategic goals and objectives.

E. Glossary

Appropriations

An appropriation provides budget authority that permits Government officials to incur obligations that result in immediate or future outlays of Government funds.

Regular annual appropriations: These appropriations are:

- enacted normally in the current year;
- scored entirely in the budget year; and
- available for obligation in the budget year and subsequent years if specified in the language. (See "Availability," below.)

Advance appropriations: Advance appropriations may be accompanied by regular annual appropriations to provide funds available for obligation in the budget year as well as subsequent years. Advance appropriations are:

- enacted normally in the current year;
- scored after the budget year (e.g., in each of one, two, or more later years, depending on the language); and
- available for obligation in the year scored and subsequent years if specified in the language. (See "Availability," below.)

Availability: Appropriations made in appropriations acts are available for obligation only in the budget year unless the language specifies that an appropriation is available for a longer period. If the language specifies that the funds are to remain available until the end of a certain year beyond the budget year, the availability is said to be "multi-year." If the language specifies that the funds are to remain available until expended, the availability is said to be "no-year." Appropriations for major procurements and construction projects are typically made available for multiple years or until expended.

Capital Assets

Capital assets are land, structures, equipment, and intellectual property (including software) that are used by the Federal Government and have an estimated useful life of two years or more. Capital assets exclude items acquired for resale in the ordinary course of operations or held for the purpose of physical consumption such as operating materials and supplies. The cost of a capital asset includes both its purchase price and all other costs incurred to bring it to a form and location suitable for its intended use.

Capital assets may be acquired in different ways: through purchase, construction, or manufacture; through a lease-purchase or other capital lease, regardless of whether title has passed to the Federal Government; through an operating lease for an asset with an estimated useful life of two years or more; or through exchange. Capital assets include leasehold improvements and land rights; assets owned by the Federal Government but located in a foreign country or held by others (such as Federal contractors, State and local governments, or colleges and universities); and assets whose ownership is shared by the Federal Government with other entities. Capital assets include not only the assets as initially acquired but also additions; improvements; replacements; rearrangements and re-installations; and major repairs but not ordinary repairs and maintenance.

Examples of capital assets include the following, but are not limited to them: office buildings, hospitals, laboratories, schools, and prisons; dams, power plants, and water resources projects; furniture, elevators, and printing presses; motor vehicles, airplanes, and ships; satellites and space exploration equipment; information technology hardware and software; and Department of Defense weapons systems. Capital assets may or may not be capitalized (i.e., recorded in an entity's balance sheet) under Federal accounting standards. Examples of capital assets not capitalized are Department of Defense weapons systems, heritage assets, stewardship land, and some software. Capital assets do not include grants for acquiring capital assets made to State and local governments or other entities (such as National Science Foundation grants to universities or Department of Transportation grants to AMTRAK). Capital assets also do not include intangible assets such as the knowledge resulting from research and development or the human capital resulting from education and training, although capital assets do include land, structures, equipment, and intellectual property (including software) that the Federal Government uses in research and development and education and training.

Capital Project and Useful Segments of a Capital Project

The total capital project, or acquisition of a capital asset, includes useful segments that are either planning segments or useful assets.

Planning segments: A planning segment of a capital project provides information that allows the agency to develop the design; assess the benefits, costs, and risks; and establish realistic baseline cost, schedule, and per-

formance goals before proceeding to full acquisition of the useful asset (or canceling the acquisition). This information comes from activities, or planning segments, that include but are not limited to market research of available solutions, architectural drawings, geological studies, engineering and design studies, and prototypes. The process of gathering information for a capital project may consist of one or more planning segments, depending on the nature of the asset. If the project includes a prototype that is a capital asset, the prototype may itself be one segment or may be divisible into more than one segment. Because of uncertainty regarding the identification of separate planning segments for research and development activities, the application of full funding concepts to research and development planning will need more study.

Useful asset: A useful asset is an economically and programmatically separate segment of the asset procurement stage of the capital project that provides an asset for which the benefits exceed the costs, even if no further funding is appropriated. The total capital asset procurement may include one or more useful assets, although it may not be possible to divide all procurements in this way. Illustrations follow:

Illustration 1: If the construction of a building meets the justification criteria and has benefits greater than its costs without further investment, then the construction of that building is a "useful segment." Excavation is not a useful segment because no useful asset results from the excavation alone if no further funding becomes available. For a campus of several buildings, a useful segment is one complete building if that building has programmatic benefits that exceed its costs regardless of whether the other buildings are constructed, even though that building may not be at its maximum use.

Illustration 2: If the full acquisition is for several items (e.g., aircraft), the useful segment would be the number of complete aircraft required to achieve benefits that exceed costs even if no further funding becomes available. In contrast, some portion of several aircraft (e.g., engines for five aircraft) would not be a useful segment if no further funding is available, nor would one aircraft be a useful segment if two or more are required for benefits to exceed costs.

Illustration 3: For information technology, a module (the information technology equivalent of "useful segment") is separable if it is useful in itself without subsequent modules. The module should be designed so that it can be enhanced or integrated with subsequent modules if future funding becomes available.

Earned Value

Earned value refers to a performance-based management system for establishing baseline cost, schedule, and performance goals for a capital project and measuring progress against the goals. Earned value is described in OMB Circular A-11, Part 3, "Planning, Budgeting and Acquisition of Capital Assets" (July 2000).

Funding

Full funding: Full funding means that appropriations—regular appropriations or advance appropria-

tions—are enacted that are sufficient in total to complete a useful segment of a capital project before any obligations may be incurred for that segment. Full funding for an entire capital project is required if the project cannot be divided into more than one useful segment. If the asset can be divided into more than one useful segment, full funding for a project may be desirable, but is not required to constitute full funding.

Incremental (partial) funding: Incremental (partial) funding means that appropriations—regular appropriations or advance appropriations—are enacted for just part of a useful segment of a capital project, if the project has useful segments, or for part of the capital project as a whole, if it is not divisible into useful segments. Under incremental funding for a capital asset, which is not permitted under these principles, the funds could be obligated to start the segment (or project) despite the fact that they are insufficient to complete a useful segment or project.

Risk Management

Risk management is an organized method of identifying and measuring risk and developing, selecting, and managing options for handling these risks. Before beginning any procurement, managers should review and revise as needed the acquisition plan to ensure that risk management techniques considered in the planning phase are still appropriate.

There are three key principles for managing risk when procuring capital assets: (1) avoiding or limiting the amount of development work; (2) making effective use of competition and financial incentives; and (3) establishing a performance-based acquisition management system that provides for accountability for program successes and failures, such as an earned value system or similar system.

There are several types of risk an agency should consider as part of risk management. The types of risk include:

- schedule risk;
- cost risk;
- technical feasibility;
- risk of technical obsolescence;
- dependencies between a new project and other projects or systems (e.g., closed architectures); and
- risk of creating a monopoly for future procurement.

Part III: FEDERALLY FINANCED CAPITAL STOCKS

Federal investment spending creates a “stock” of capital that is available in the future for productive use. Each year, Federal investment outlays add to the stock of capital. At the same time, however, wear and tear and obsolescence reduce it. This section presents very rough measures over time of three different kinds of capital stocks financed by the Federal Government: public physical capital, research and development (R&D), and education.

Federal spending for physical assets adds to the Nation’s capital stock of tangible assets, such as roads, buildings, and aircraft carriers. These assets deliver a flow of services over their lifetime. The capital depreciates as the asset ages, wears out, is accidentally damaged, or becomes obsolete.

Federal spending for the conduct of research, development, and education adds to an “intangible” asset, the Nation’s stock of knowledge. Although financed by the Federal Government, the research and development or education can be performed by Federal or State government laboratories, universities and other nonprofit organizations, or private industry. Research and development covers a wide range of activities, from the investigation of subatomic particles to the exploration of outer space; it can be “basic” research without particular applications in mind, or it can have a highly specific practical use. Similarly, education includes a wide variety of programs, assisting people of all ages beginning with pre-school education and extending through graduate studies and adult education. Like

physical assets, the capital stocks of R&D and education provide services over a number of years and depreciate as they become outdated.

For this analysis, physical and R&D capital stocks are estimated using the perpetual inventory method. In this method, the estimates are based on the sum of net investment in prior years. Each year’s Federal outlays are treated as gross investment, adding to the capital stock; depreciation reduces the capital stock. Gross investment less depreciation is net investment. A limitation of the perpetual inventory method is that investment spending may not accurately measure the value of the asset created. However, alternative methods for measuring asset value, such as direct surveys of current market worth or indirect estimation based on an expected rate of return, are especially difficult to apply to assets that do not have a private market, such as highways or weapons systems.

In contrast to physical and R&D stocks, the estimate of the education stock is based on the replacement cost method. Data on the total years of education of the U.S. population are combined with data on the cost of education and the Federal share of education spending to yield the cost of replacing the Federal share of the Nation’s stock of education.

Additional detail about the methods used to estimate capital stocks appears in a methodological note at the end of this section. It should be stressed that these estimates are rough approximations, and provide a basis only for making broad generalizations. Errors may

arise from uncertainty about the useful lives and depreciation rates of different types of assets, incomplete data for historical outlays, and imprecision in the deflators used to express costs in constant dollars.

The Stock of Physical Capital

This section presents data on stocks of physical capital assets and estimates of the depreciation on these assets.

Trends.—Table 6–5 shows the value of the net federally financed physical capital stock since 1960, in constant fiscal year 1996 dollars. The total stock grew at a 2.2 percent average annual rate from 1960 to 2000, with periods of faster growth during the late 1960s and the 1980s. The stock amounted to \$1,921 billion in 2000 and is estimated to increase slightly to \$1,994 billion by 2002. In 2000, the national defense capital stock accounted for \$635 billion, or 33 percent of the total, and nondefense stocks for \$1,286 billion, or 67 percent of the total.³

Real stocks of defense and nondefense capital show very different trends. Nondefense stocks have grown consistently since 1970, increasing from \$455 billion in 1970 to \$1,286 billion in 2000. With the investments proposed in the budget, nondefense stocks are estimated to grow to \$1,370 billion in 2002. During the 1970s, the nondefense capital stock, grew at an average annual rate of 4.9 percent. In the 1980s, however, the growth rate slowed to 2.9 percent annually, with growth continuing at about that rate since then.

³The historical stock estimates are reduced from those published last year because of an assumed faster depreciation rate for highways and the full incorporation of revised price indexes from the Bureau of Economic Analysis, as explained in the note on estimating methods at the end of this part. The revisions leave the year-to-year trends virtually unchanged.

Real national defense stocks began in 1970 at a relatively high level, and declined steadily throughout the decade, as depreciation from the Vietnam era exceeded new investment in military construction and weapons procurement. Starting in the early 1980s, a large defense buildup began to increase the stock of defense capital. By 1986, the defense stock had exceeded its earlier Vietnam-era peak. In the last few years, depreciation on the increased stocks, together with a slower pace of defense physical capital investment allowed by the collapse of the Soviet Union and the closure or realignment of unneeded military bases, reduced the stock from its previous levels. The increased defense investment in this budget would slow the rate of decline markedly, with the stock estimated to decrease from \$635 billion in 2000 to \$624 billion in 2002.

Another trend in the Federal physical capital stocks is the shift from direct Federal assets to grant-financed assets. In 1960, 42 percent of federally financed non-defense capital was owned by the Federal Government, and 58 percent was owned by State and local governments but financed by Federal grants. Expansion in Federal grants for highways and other State and local capital, coupled with relatively slow growth in direct Federal investments by agencies such as the Bureau of Reclamation and Corps of Engineers, shifted the composition of the stock substantially. In 2000, 27 percent of the nondefense stock was owned by the Federal Government and 73 percent by State and local governments.

The growth in the stock of physical capital financed by grants has come in several areas. The growth in the stock for transportation is largely grants for highways, including the Interstate Highway System. The growth in community and regional development stocks occurred largely with the enactment of the community

Table 6–5. NET STOCK OF FEDERALLY FINANCED PHYSICAL CAPITAL

(In billions of 1996 dollars)

Fiscal Year	Total	National Defense	Nondefense								
			Total Non-defense	Direct Federal Capital			Capital Financed by Federal Grants				
				Total	Water and Power	Other	Total	Transportation	Community and Regional	Natural Resources	Other
Five year intervals:											
1960	806	572	234	98	61	36	136	82	25	20	9
1965	892	554	338	128	78	51	209	146	30	21	12
1970	1,044	589	455	155	94	61	301	213	44	25	19
1975	1,091	521	570	176	109	67	394	261	71	39	23
1980	1,216	484	732	206	130	76	526	317	112	73	25
1985	1,422	569	853	234	143	90	619	368	135	92	24
1990	1,696	721	975	269	154	114	706	429	147	105	26
Annual data:											
1995	1,832	712	1,119	311	164	146	809	496	156	115	43
1996	1,845	691	1,153	319	165	154	834	511	159	116	48
1997	1,858	672	1,186	327	165	162	859	526	162	118	53
1998	1,869	657	1,212	330	165	165	882	540	165	119	59
1999	1,890	644	1,246	338	166	173	908	556	167	120	65
2000	1,921	635	1,286	350	167	183	936	574	170	121	70
2001 est.	1,956	628	1,328	362	169	194	966	594	173	123	76
2002 est.	1,994	624	1,370	373	170	203	997	614	176	124	82

development block grant in the early 1970s. The value of this capital stock has grown only slowly in the past few years. The growth in the natural resources area occurred primarily because of construction grants for sewage treatment facilities. The value of this federally financed stock has increased about 30 percent since the mid-1980s.

Table 6-6 shows nondefense physical capital outlays both gross and net of depreciation since 1960. Total nondefense net investment has been consistently positive over the period covered by the table, indicating that new investment has exceeded depreciation on the existing stock. For some categories in the table, such as water and power programs, however, net investment has been negative in some years, indicating that new investment has not been sufficient to offset estimated depreciation. The net investment in this table is the change in the net nondefense physical capital stock displayed in Table 6-5.

The Stock of Research and Development Capital

This section presents data on the stock of research and development, taking into account adjustments for its depreciation.

Trends.—As shown in Table 6-7, the R&D capital stock financed by Federal outlays is estimated to be \$914 billion in 2000 in constant 1996 dollars. About two-fifths is the stock of basic research knowledge; about three-fifths is the stock of applied research and development.

The total federally financed R&D stock in 2000 was about evenly divided between defense and nondefense. Although investment in defense R&D has exceeded that of nondefense R&D in every year since 1981, the nondefense R&D stock is actually the larger of the two,

because of the different emphasis on basic research and applied research and development. Defense R&D spending is heavily concentrated in applied research and development, which depreciates much more quickly than basic research. The stock of applied research and development is assumed to depreciate at a ten percent geometric rate, while basic research is assumed not to depreciate at all.

The defense R&D stock rose slowly during the 1970s, as gross outlays for R&D trended down in constant dollars and the stock created in the 1960s depreciated. A renewed emphasis on defense R&D spending from 1980 through 1990 led to a more rapid growth of the R&D stock. Since then, real defense R&D outlays have tapered off, depreciation has grown, and, as a result, the net defense R&D stock has stabilized.

The growth of the nondefense R&D stock slowed from the 1970s to the 1980s, from an annual rate of 3.8 percent in the 1970s to a rate of 2.1 percent in the 1980s. Gross investment in real terms fell during much of the 1980s, and about three-fourths of new outlays went to replacing depreciated R&D. Since 1988, however, nondefense R&D outlays have been on an upward trend while depreciation has edged down. As a result, the net nondefense R&D capital stock has grown more rapidly.

The Stock of Education Capital

This section presents estimates of the stock of education capital financed by the Federal government.

As shown in Table 6-8, the federally financed education stock is estimated at \$1,030 billion in 2000 in constant 1996 dollars, rising to \$1,157 billion in 2002. The vast majority of the Nation's education stock is

Table 6-6. COMPOSITION OF GROSS AND NET FEDERAL AND FEDERALLY FINANCED NONDEFENSE PUBLIC PHYSICAL INVESTMENT

(In billions of 1996 dollars)

Fiscal Year	Total nondefense investment			Direct Federal investment					Investment financed by Federal grants							
	Gross	Depreciation	Net	Gross	Depreciation	Net	Composition of net investment		Gross	Depreciation	Net	Composition of net investment				
							Water and power	Other				Transportation (mainly highways)	Community and regional development	Natural resources and environment	Other	
Five year intervals:																
1960	22.7	4.7	18.1	7.0	2.2	4.7	2.5	2.3	15.7	2.4	13.3	12.6	0.1	0.1	0.5	
1965	32.5	6.9	25.6	10.1	3.0	7.1	3.3	3.8	22.3	3.8	18.5	15.5	2.1	0.4	0.5	
1970	32.1	9.4	22.6	6.9	3.8	3.1	2.3	0.8	25.1	5.6	19.5	11.9	5.1	0.9	1.6	
1975	32.9	11.6	21.3	9.0	4.3	4.8	3.6	1.2	23.8	7.4	16.5	7.0	4.3	4.5	0.7	
1980	46.9	14.6	32.4	11.0	4.9	6.0	3.9	2.2	36.0	9.6	26.4	12.3	7.5	6.8	-0.2	
1985	45.4	17.8	27.7	13.7	6.4	7.4	2.6	4.8	31.7	11.4	20.3	13.0	4.1	3.2	-0.1	
1990	46.3	22.3	24.0	16.2	9.2	7.0	2.4	4.5	30.1	13.1	17.1	11.9	1.7	2.1	1.4	
Annual data:																
1995	59.9	26.3	33.5	19.5	11.4	8.2	1.8	6.3	40.3	15.0	25.4	15.2	2.8	2.0	5.4	
1996	61.1	27.3	33.8	20.7	11.8	8.9	0.9	8.0	40.3	15.4	24.9	14.9	3.0	1.6	5.5	
1997	60.9	28.2	32.7	20.0	12.3	7.7	-0.1	7.8	40.9	15.9	25.0	15.2	2.9	1.5	5.3	
1998	55.5	29.0	26.5	15.5	12.6	2.9	*	2.9	40.0	16.4	23.7	14.1	2.7	1.1	5.8	
1999	63.4	29.7	33.7	21.3	12.9	8.4	0.7	7.7	42.2	16.8	25.3	16.1	2.7	1.2	5.3	
2000	71.0	30.9	40.1	25.5	13.5	12.0	1.5	10.5	45.5	17.4	28.1	18.1	2.7	1.6	5.7	
2001 est.	74.0	32.1	41.9	26.2	14.2	11.9	1.5	10.4	47.9	17.9	30.0	19.5	2.8	1.6	6.1	
2002 est.	75.5	33.4	42.1	26.0	14.9	11.1	1.3	9.8	49.5	18.5	31.0	20.7	2.7	1.5	6.2	

* \$50 million or less.

Table 6-7. NET STOCK OF FEDERALLY FINANCED RESEARCH AND DEVELOPMENT ¹

(In billions of 1996 dollars)

Fiscal Year	National Defense			Nondefense			Total Federal		
	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development
Five year intervals:									
1970	247	15	233	204	63	140	451	78	373
1975	262	19	242	249	92	157	511	112	399
1980	265	24	242	295	125	170	560	148	412
1985	304	29	276	321	165	156	626	194	432
1990	381	34	347	362	217	146	744	251	493
Annual data:									
1995	399	40	359	436	278	158	835	318	517
1996	401	41	360	448	290	158	850	332	518
1997	403	42	360	463	303	160	866	346	520
1998	403	44	360	478	316	163	882	359	523
1999	402	45	358	495	329	166	897	374	523
2000	401	46	356	512	344	169	914	389	524
2001 est.	400	47	353	533	359	174	933	406	527
2002 est.	403	48	355	556	377	179	959	425	534

¹ Excludes outlays for physical capital for research and development, which are included in Table 6-5.

financed by State and local governments, and by students and their families themselves. This federally financed portion of the stock represents about 3 percent of the Nation's total education stock.⁴ Nearly three-quarters is for elementary and secondary education, while the remaining one quarter is for higher education.

Despite a slowdown in growth during the early 1980s, the stock grew at an average annual rate of 5.4 percent from 1970 to 2000, and the expansion of the education stock is projected to continue under this budget.

⁴For estimates of the total education stock, see Table 2-4 in Chapter 2, "Stewardship: Toward a Federal Balance Sheet."**Note on Estimating Methods**

This note provides further technical detail about the estimation of the capital stock series presented in Tables 6-5 through 6-8.

As stated previously, the capital stock estimates are very rough approximations. Sources of possible error include:

Methodological issues.—The stocks of physical capital and research and development are estimated with the perpetual inventory method. A fundamental assumption of this method is that each dollar of investment spending adds a dollar to the value of the capital stock in the period in which the spending takes place. In reality, the value of the asset created could be more or less than the investment spending. As an extreme example,

Table 6-8. NET STOCK OF FEDERALLY FINANCED EDUCATION CAPITAL

(In billions of 1996 dollars)

Fiscal Year	Total Education Stock	Elementary and Secondary Education	Higher Education
Five year intervals:			
1960	67	48	19
1965	93	67	26
1970	213	167	46
1975	307	247	60
1980	434	338	96
1985	535	399	137
1990	703	519	184
Annual data:			
1995	792	574	218
1996	822	596	226
1997	856	621	235
1998	909	661	248
1999	969	708	261
2000	1,030	762	268
2001 est.	1,088	813	275
2002 est.	1,157	869	289

in cases where a project is canceled before completion, the spending on the project does not result in the creation of any asset. Even where asset value is equal to investment spending, there might be timing differences in spending and the creation of a capital asset. For example, payments for constructing an aircraft carrier might be made over a period of years, with the capital asset only created at the end of the period.

The historical outlay series.—The historical outlay series for physical capital was based on budget records since 1940 and was extended back to 1915 using data from selected sources. There are no consistent outlay data on physical capital for this earlier period, and the estimates are approximations. In addition, the historical outlay series in the budget for physical capital extending back to 1940 may be incomplete. The historical outlay series for the conduct of research and development began in the early 1950s and required selected sources to be extended back to 1940. In addition, separate outlay data for basic research and applied R&D were not available for any years and had to be estimated from obligations and budget authority. For education, data for Federal outlays from the budget were combined with data for non-Federal spending from the institution or jurisdiction receiving Federal funds, which may introduce error because of differing fiscal years and confusion about whether the Federal Government was the original source of funding.

Price adjustments.—The prices for the components of the Federal stock of physical, R&D, and education capital have increased through time, but the rates of increase are not accurately known. Estimates of costs in fiscal year 1996 prices were made through the application of price measures from the National Income and Product Accounts (NIPAs), but these should be considered only approximations of the costs of these assets in 1996 prices.

Depreciation.—The useful lives of physical, R&D, and education capital, as well as the pattern by which they depreciate, are very uncertain. This is compounded by using depreciation rates for broad classes of assets, which do not apply uniformly to all the components of each group. As a result, the depreciation estimates should also be considered approximations. This limitation is especially important in capital financed by grants, where the specific asset financed with the grant is often subject to the discretion of the recipient jurisdiction.

Research continues on the best methods to estimate these capital stocks. The estimates presented in the text could change as better information becomes available on the underlying investment data and as improved methods are developed for estimating the stocks based on those data.

Physical Capital Stocks

For many years, current and constant-cost data on the stock of most forms of public and private physical capital—e.g., roads, factories, and housing—have been estimated annually by the Bureau of Economic Analysis (BEA) in the Department of Commerce. With two recent

comprehensive revisions of the NIPAs in January 1996 and October 1999, government investment has taken increased prominence. Government investment in physical capital is now reported separately from government consumption expenditures, and government consumption expenditures include depreciation as a measure of the services provided by the existing capital stock. Government purchases of software are now included as investment.⁵ In addition, as part of the most recent revisions, a new NIPA table explicitly links investment and capital stocks by reporting the net stock of Government physical capital and decomposing the annual change in the stock into investment, depreciation, extraordinary changes such as disasters, and revaluation.⁶

The BEA data are not directly linked to the Federal budget, do not extend to the years covered by the budget, and do not separately identify the capital financed but not owned by the Federal Government. For these reasons, OMB prepares separate estimates for budgetary purposes, using techniques that roughly follow the BEA methods.

Method of estimation.—The estimates were developed from the OMB historical data base for physical capital outlays and grants to State and local governments for physical capital. These are the same major public physical capital outlays presented in Part I. This data base extends back to 1940 and was supplemented by rough estimates for 1915–1939.

The deflators used to convert historical outlays to constant 1996 dollars were based on chained NIPA price indexes for Federal, State, and local consumption of durables and gross investment. The price indexes were updated this year consistent with revised data back to 1930 from BEA's October 1999 comprehensive NIPA revisions. For 1915 through 1929, deflators were estimated from Census Bureau historical statistics on constant price public capital formation.

The resulting capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those of BEA, which estimates depreciation using much more detailed categories.⁷ The geometric rates were 1.9 percent for water and power projects; 2.4 percent for other direct nondefense construction and rehabilitation; 20.3 percent for nondefense equipment; 14.0 percent for defense equipment; 2.1 percent for defense structures; 2.0 percent for transportation grants; 1.7 percent for community and regional development grants; 1.5 percent for natural resources and environment grants; and 1.8 percent for other nondefense grants. The depreciation rate for transportation grants was increased from the 1.6 percent rate used last year, consistent with a revised as-

⁵ This change aligns BEA's treatment of software with OMB's definitions, which include purchase and in-house development of major software as investment.

⁶ BEA presented estimates of capital stocks consistent with its October 1999 comprehensive revisions in "Fixed Assets and Consumer Durable Goods," *Survey of Current Business*, April 2000, pp. 17–30.

⁷ BEA presented its depreciation methods and rates in "Improved Estimates of Fixed Reproducible Tangible Wealth, 1929–95," *Survey of Current Business*, May 1997, pp. 69–76.

sumption for the service life of highways adopted by BEA in its October 1999 revisions.

Research and Development Capital Stocks

Method of estimation.—The estimates were developed from a data base for the conduct of research and development largely consistent with the data in the Historical Tables. Although there is no consistent time series on basic and applied R&D for defense and nondefense outlays back to 1940, it was possible to estimate the data using obligations and budget authority. The data are for the conduct of R&D only and exclude outlays for physical capital for research and development, because those are included in the estimates of physical capital. Nominal outlays were deflated by the chained price index for gross domestic product (GDP) in fiscal year 1996 dollars to obtain estimates of constant dollar R&D spending.

The appropriate depreciation rate of intangible R&D capital is even more uncertain than that of physical capital. Empirical evidence is inconclusive. It was assumed that basic research capital does not depreciate and that applied research and development capital has a ten percent geometric depreciation rate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stock financed by private industry.⁸ More recent experimental work at BEA, extending estimates of tangible capital stocks to R&D, used slightly different assump-

tions. This work assumed straight-line depreciation for all R&D over a useful life of 18 years, which is roughly equivalent to a geometric depreciation rate of 11 percent. The slightly higher depreciation rate and its extension to basic research would result in smaller stocks than the method used here.⁹

Education Capital Stocks

Method of estimation.—The estimates of the federally financed education capital stock in Table 6–8 were calculated by first estimating the Nation's total stock of education capital, based on the current replacement cost of the total years of education of the population, including opportunity costs. To derive the Federal share of this total stock, the Federal share of total educational expenditures was applied to the total amount. The percent in any year was estimated by averaging the prior years' share of Federal education outlays in total education costs. For more information, refer to the technical note in Chapter 2, "Stewardship: Toward a Federal Balance Sheet."

The stock of capital estimated in Table 6–8 is based only on spending for education. Stocks created by other human capital investment outlays included in Table 6–1, such as job training and vocational rehabilitation, were not calculated because of the lack of historical data prior to 1962 and the absence of estimates of depreciation rates.

Part IV: ALTERNATIVE CAPITAL BUDGET AND CAPITAL EXPENDITURE PRESENTATIONS

A capital budget would separate Federal expenditures into two categories: spending for investment and all other spending. In this sense, Part I of the present chapter provides a capital budget for the Federal Government, distinguishing outlays that yield long-term benefits from all others. But alternative capital budget presentations have also been suggested, and a capital budget process may take many different forms. The President's Commission to Study Capital Budgeting recently considered capital budgets and the broader question of the planning and budgeting process for capital assets. It made a series of recommendations to improve budgeting for capital, but it did not recommend any kind of capital budget or target for investment in the sense discussed in this section.¹⁰ This section is intended to show the implications of budgeting for capital separately or changing the basis for measuring capital investment in the budget.

The Federal budget mainly finances investment for two quite different types of reasons. It invests in cap-

ital—such as office buildings, computers, and weapons systems—that primarily contributes to its ability to provide governmental services to the public; some of these services, in turn, are designed to increase economic growth. And it invests in capital—such as highways, education, and research—that contributes more directly to the economic growth of the Nation. Most of the capital in the second category, unlike the first, is not owned or controlled by the Federal Government. In the discussion that follows, the first is called "Federal capital" and the second is called "national capital." Table 6–9 compares total Federal investment as defined in Part I of this chapter with investment in Federal capital, which was defined as "capital assets" in Part II of this chapter, and with investment in national capital. Some Federal investment is not classified as either Federal or national capital, and a relatively small part is included in both categories.

⁸See U.S. Department of Labor, Bureau of Labor Statistics, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989.

⁹See "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994, pp. 37–71.

¹⁰*Report of the President's Commission to Study Capital Budgeting* (February 1999). To be specific, the Commission did not recommend changing the budget to alter the basis for measuring capital investment, to make the size of the deficit or surplus depend on the amount of expenditures defined as capital, to finance capital spending by borrowing, or to make a single decision about how much to spend for "capital" under some definition.

Table 6-9. ALTERNATIVE DEFINITIONS OF INVESTMENT OUTLAYS, 2002
(In millions of dollars)

	Investment Outlays		
	All types of capital ¹	Federal capital	National capital
Construction and rehabilitation:			
Grants:			
Transportation	37,397	.....	37,397
Natural resources and environment	2,845	.....	2,845
Community and regional development	6,403	.....	1,120
Housing assistance	7,955	.....	.....
Other grants	671	.....	571
Direct Federal:			
National defense	5,113	5,113	.....
General science, space, and technology	2,764	2,733	2,764
Natural resources and environment	4,994	3,915	4,591
Energy	1,318	1,318	1,318
Transportation	263	233	263
Veterans and other health facilities	1,559	1,559	1,559
Postal Service	975	975	975
GSA real property activities	1,175	1,175	.....
Other construction	3,299	2,893	1,277
Total construction and rehabilitation	76,731	19,914	54,680
Acquisition of major equipment (direct):			
National defense	57,239	57,239	.....
Postal Service	749	749	749
Air transportation	2,302	2,302	2,302
Other	7,278	6,247	4,165
Total major equipment	67,568	66,537	7,216
Purchase or sale of land and structures	358	358	.....
Other physical assets (grants)	1,023	.....	61
Total physical investment	145,680	86,809	61,957
Research and development:			
Defense	46,850	.....	1,206
Nondefense	40,396	.....	40,029
Total research and development	87,246	.....	41,235
Education and training	65,606	.....	65,203
Total investment outlays	298,532	86,809	168,395

¹ Total outlays for "all types of capital" are equal to the total for "major Federal investment outlays" in Table 6-1. Some capital is not classified as either Federal or national capital, and a relatively small part is included in both categories.

Capital budgets and other changes in Federal budgeting have been suggested from time to time for the Government's investment in both Federal and national capital. The proposals differ widely in coverage, depending on the rationale for the suggestion. Some would include all the investment shown in Table 6-1, or more, whereas others would be narrower in various ways. These proposals also differ in other respects, such as whether investment would be financed by borrowing and whether the non-investment budget would necessarily be balanced. Some of these proposals are discussed below and illustrated by alternative capital budget and other capital expenditure presentations, although the discussion does not address matters of implementation such as the effect on the Budget Enforcement Act. The planning and budgeting process for cap-

ital assets, which is a different subject, is discussed in Part II of this chapter.

Investment in Federal Capital

The goal of investment in Federal capital is to deliver the right amount of Government services as efficiently and effectively as possible. The Congress allocates resources to Federal agencies to accomplish a wide variety of programmatic goals. Because these goals are diverse and most are not measured in dollars, they are difficult to compare with each other. Policy judgments must be made as to their relative importance.

Once amounts have been allocated for one of these goals, however, analysis may be able to assist in choosing the most efficient and effective means of delivering service. This is the context in which decisions are made on the amount of investment in Federal capital. For

example, budget proposals for the Department of Justice must consider whether to increase the number of FBI agents, the amount of justice assistance grants to State and local governments, or the number of Federal prisons in order to accomplish the department's objectives. The optimal amount of investment in Federal capital derives from these decisions. There is no efficient target for total investment in Federal capital as such either for a single agency or for the Government as a whole.

The universe of Federal capital encompasses all federally owned capital assets. It excludes Federal grants to States for infrastructure, such as highways, and it excludes intangible investment, such as education and research. Investment in Federal capital in 2002 is estimated to be \$86.8 billion, or 29 percent of the total Federal investment outlays shown in Table 6-1. Of the investment in Federal capital, 72 percent is for defense and 28 percent for nondefense purposes. (The estimates for defense investment throughout this section are subject to change as a result of the Defense Strategy Review mentioned in the introduction to this chapter.)

A Capital Budget for Capital Assets

Discussion of a capital budget has often centered on Federal capital, called "capital assets" in Part II of this chapter—buildings, other construction, equipment, and software that support the delivery of Federal services. This includes capital commonly available from the commercial sector, such as office buildings, computers, military family housing, veterans hospitals, research and development facilities, and associated equipment; it also includes special purpose capital such as weapons systems, military bases, the space station, and dams. This definition excludes capital that the Federal Government has financed but does not own.

Some capital budget proposals would partition the unified budget into a capital budget, an operating budget, and a total budget. Table 6-10 illustrates such a capital budget for capital assets as defined above. It is accompanied by an operating budget and a total budget. The operating budget consists of all expenditures except those included in the capital budget, plus depreciation on the stock of assets of the type purchased through the capital budget. The capital budget consists of expenditures for capital assets and, on the income side of the account, depreciation. The total budget is the present unified budget, largely based on cash for its measure of transactions, which records all outlays and receipts of the Federal Government. It consolidates the operating and capital budgets by adding them together and netting out depreciation as an intragovernmental transaction. The operating budget has a larger surplus than the unified budget by a small amount, \$7 billion, because capital expenditures are larger than depreciation by \$7 billion. This reflects both the relatively small Federal investment in new capital assets (\$87 billion) and the offsetting effect of depreciation on the existing stock (\$80 billion). The figures in Table 6-10 and the subsequent tables of this section

are rough estimates, intended only to be illustrative and to provide a basis for broad generalizations.

Table 6-10. CAPITAL, OPERATING, AND UNIFIED BUDGETS: FEDERAL CAPITAL, 2002¹

(In billions of dollars)

Operating Budget	
Receipts	2,192
Expenses:	
Depreciation	80
Other	1,874
Subtotal, expenses	1,954
Surplus or deficit (-)	238
Capital Budget	
Income: depreciation	80
Capital expenditures	87
Surplus or deficit (-)	-7
Unified Budget	
Receipts	2,192
Outlays	1,961
Surplus or deficit (-)	231

¹ Historical data to estimate the capital stocks and calculate depreciation are not readily available for Federal capital. Depreciation estimates were based on the assumption that outlays for Federal capital were a constant percentage of the larger categories in which such outlays were classified. They are also subject to the limitations explained in Part III of this chapter. Depreciation is measured in terms of current cost, not historical cost.

Some proposals for a capital budget would exclude defense capital (other than military family housing). These exclusions—weapons systems, military bases, and so forth—would comprise three-fourths of the expenditures shown in the capital budget of Table 6-10. For 2002, this exclusion would make little difference to the operating budget surplus. If defense capital was excluded, the operating budget would have a surplus that was \$10 billion more than the unified budget surplus instead of \$7 billion more as shown above for the complete coverage of Federal capital. Capital expenditures for defense in 2002 are estimated to be \$3 billion less than depreciation, whereas capital expenditures for nondefense purposes (plus military family housing) are estimated to be \$10 billion more.

Budget Discipline and a Capital Budget

Many proposals for a capital budget, though not all, would effectively dispense with the unified budget and make expenditure decisions on capital asset acquisitions in terms of the operating budget instead. When an agency proposed to purchase a capital asset, the operating budget would include only the estimated depreciation. For example, suppose that an agency proposed to buy a \$50 million building at the beginning of the year with an estimated life of 25 years and with depreciation calculated by the straightline method. Operating expense in the budget year would increase by \$2 million, or only 4 percent of the asset cost. The same amount of depreciation would be recorded as an

increase in operating expense for each year of the asset's life.¹¹

Recording the annual depreciation in the operating budget each year would provide little control over the decision about whether to invest in the first place. Most Federal investments are sunk costs and as a practical matter cannot be recovered by selling or renting the asset. At the same time, there is a significant risk that the need for a capital asset may change over a period of years, because either the need is not permanent, it is initially misjudged, or other needs become more important. Since the cost is sunk, however, control cannot be exercised later on by comparing the annual benefit of the asset services with depreciation and interest and then selling the asset if its annual services are not worth this expense. Control can only be exercised up front when the Government commits itself to the full sunk cost. By spreading the real cost of the project over time, however, use of the operating budget for expenditure decisions would make the budgetary cost of the capital asset appear very cheap when decisions were being made that compared it to alternative expenditures. As a result, there would be an incentive to purchase capital assets with little regard for need, and also with little regard for the least-cost method of acquisition.

A budget is a financial plan for allocating resources—deciding how much the Federal Government should spend in total, program by program, and for the parts of each program. The budgetary system provides a process for proposing policies, making decisions, implementing them, and reporting the results. The budget needs to measure costs accurately so that decision makers can compare the cost of a program with its benefit, the cost of one program with another, and the cost of alternative methods of reaching a specified goal. These costs need to be fully included in the budget up front, when the spending decision is made, so that executive and congressional decision makers have the information and the incentive to take the total costs into account in setting priorities.

The present budget does this for investment. By recording investment on a cash basis, it causes the total cost to be compared up front in a rough and ready way with the total expected future net benefits. Since the budget measures only cost, the benefits with which these costs are compared, based on policy makers' judgment, must be presented in supplementary materials. Such a comparison of total cost with benefits is consistent with the formal method of cost-benefit analysis of capital projects in government, in which the full cost of a capital asset as the cash is paid out is compared with the full stream of future benefits (all in terms of present values).¹² This comparison is also consistent

¹¹The amount of depreciation that typically would be recorded as an expense in the budget year is overstated by this illustration. First, most assets are purchased after the beginning of the year, in which case less than a full year's depreciation would be recorded. Second, assets may be constructed or built to order, in which case no depreciation would be recorded until the work was completed and the asset put into service. This could be several years after the initial expenditure, in which case the budget would record no expense at all in the budget year.

¹²For example, see Edward M. Gramlich, *A Guide to Benefit-Cost Analysis* (2nd ed.; Englewood Cliffs: Prentice Hall, 1990), chap. 6; or Joseph E. Stiglitz, *Economics of the*

with common business practice, in which capital budgeting decisions for the most part are made by comparing cash flows. The cash outflow for the full purchase price is compared with expected future cash inflows, either through a relatively sophisticated technique of discounted cash flows—such as net present value or internal rate of return—or through cruder methods such as payback periods.¹³ Regardless of the specific technique adopted, it usually requires comparing future returns with the entire cost of the asset up front—not spread over time through annual depreciation.¹⁴

Practice Outside the Federal Government

The proponents of making investment decisions on the basis of an operating budget with depreciation have sometimes claimed that this is the common practice outside the Federal Government. However, while the practice of others may differ from the Federal budget and the terms "capital budget" and "capital budgeting" are often used, these terms do not normally mean that capital asset acquisitions are decided on the basis of annual depreciation cost. The use of these terms in business and State government also does not mean that businesses and States finance all their investment by borrowing. Nor does it mean that under a capital budget the extent of borrowing by the Federal Government to finance investment would be limited by the same forces that constrain business and State borrowing for investment.

Private business firms call their investment decision making process "capital budgeting," and they record the resulting planned expenditures in a "capital budget." However, decisions are normally based on up-front comparisons of the cash outflows needed to make the investment with the resulting cash inflows expected in the future, as explained above, and the capital budget records the period-by-period cash outflows proposed for capital projects.¹⁵ This supports the business's goal of deciding upon and controlling the use of its resources.

The cash-based focus of business budgeting for capital is in contrast to business financial statements—the income statement and balance sheet—which use accrual

Public Sector (2nd ed.; New York: Norton, 1988), chap. 10. This theory is applied in formal OMB instructions to Federal agencies in OMB Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (October 29, 1992). General Accounting Office, *Discount Rate Policy*, GAO/OCE-17.1.1 (May 1991), discusses the appropriate discount rate for such analysis but not the foundation of the analysis itself, which is implicitly assumed.

¹³For a full textbook analysis of capital budgeting techniques in business, see Harold Bierman, Jr., and Seymour Smidt, *The Capital Budgeting Decision* (8th ed.; Saddle River, N.J.: Prentice-Hall, 1993). Shorter analyses from the standpoints of corporate finance and cost accounting may be found, for example, in Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance* (5th ed.; New York: McGraw-Hill, 1996), chap. 2, 5, and 6; Charles T. Horngren et al., *Cost Accounting* (9th ed.; Upper Saddle River, N.J.: Prentice-Hall, 1997), chap. 22 and 23; Jerold L. Zimmerman, *Accounting for Decision Making and Control* (Chicago: Irwin, 1995), chap. 3; and Surendra S. Singhvi, "Capital-Investment Budgeting Process" and "Capital-Expenditure Evaluation Methods," chap. 19 and 20 in Robert Rachlin, ed., *Handbook of Budgeting* (4th ed.; New York: Wiley, 1999).

¹⁴Two surveys of business practice conducted a few years ago found that such techniques are predominant. See Thomas Klammer et al., "Capital Budgeting Practices—A Survey of Corporate Use," *Journal of Management and Accounting Research*, vol. 3 (Fall 1991), pp. 113–30; and Glenn H. Petry and James Sprow, "The Theory and Practice of Finance in the 1990s," *The Quarterly Review of Economics and Finance*, vol. 33 (Winter 1993), pp. 359–82. Petry and Sprow also found that discounted cash flow techniques are recommended by the most widely used textbooks in managerial finance.

¹⁵A business capital budget is depicted in Glenn A. Welsch et al., *Budgeting: Profit Planning and Control* (5th ed.; Englewood Cliffs: Prentice Hall, 1988), pp. 396–99.

accounting for a different purpose, namely, to record how well the business is meeting its objective of earning profit and accumulating wealth for its owners. For this purpose, the income statement shows the profit in a year from earning revenue net of the expenses incurred. These expenses include depreciation, which is an allocation of the cost of capital assets over their estimated useful lives. With similar objectives in mind, the Federal Accounting Standards Advisory Board has adopted the use of depreciation on general property, plant, and equipment owned by the Federal Government as a measure of expense in financial statements and cost accounting for Federal agencies.¹⁶

Businesses finance investment from net income, cash on hand, and other sources as well as borrowing. When they borrow to finance investment, they are constrained in ways that Federal borrowing is not. The amount that a business borrows is limited by its own profit motive and the market's assessment of its capacity to repay. The greater a business's indebtedness, other things equal, the more risky is any additional borrowing and the higher is the cost of funds it must pay. Since the profit motive ensures that a business will not want to borrow unless the expected return is at least as high as the cost of funds, the amount of investment that a business will want to finance is limited; it has an incentive to borrow only for projects where the expected return is as high or higher than the cost of funds. Furthermore, if the risk is great enough, a business may not be able to find a lender.

No such constraint limits the Federal Government—either in the total amount of its borrowing for investment, or in its choice of which assets to buy—because of its sovereign power to tax and the wide economic base that it taxes. It can tax to pay for investment; and, if it borrows, its power to tax ensures that the credit market will judge U.S. Treasury securities free from any risk of default even if it borrows “excessively” or for projects that do not seem worthwhile.

Most *States* also have a “capital budget,” but the operating budget is not like the operating budget envisaged by proponents of making Federal investment decisions on the basis of depreciation. State capital budgets differ widely in many respects but generally relate some of the State's purchases of capital assets to borrowing and other earmarked means of financing. For the debt-financed portion of investment, the interest and repayment of principal are usually recorded as expenditures in the operating budget. For the portion of investment purchased in the capital budget but financed by Federal grants or State taxes, which may be substantial, State

operating budgets do not record any amount. No State operating budget is charged for depreciation.¹⁷

States do not currently record depreciation expense in the financial accounting statements for governmental funds. They record depreciation expense only in their proprietary (commercial-type) funds and in those trust funds where net income, expense, or capital maintenance is measured.¹⁸ Under new financial accounting standards, however, depreciation on most capital assets will be recognized as an expense in government-wide financial statements. This requirement will be phased in over the next three years and is effective for larger governments for fiscal years beginning after June 2001.¹⁹

State borrowing to finance investment, like business borrowing, is subject to limitations that do not apply to Federal borrowing. Like business borrowing, it is constrained by the credit market's assessment of the State's capacity to repay, which is reflected in the credit ratings of its bonds. Rating agencies place significant weight on the amount of debt outstanding compared to the economic output generated by the State. Furthermore, borrowing is usually designated for specified investments, and it is almost always subject to constitutional limits or referendum requirements.

Other *developed* nations tend to show a more systematic breakdown between investment and operating expenditures within their budgets than does the United States, even while they record capital expenditures on a cash basis within the same budget totals. The French budget, for example, has traditionally been divided into separate titles of which some are for current expenditures and others for capital expenditures. A recent study of European countries found only four, however, that had a real difference between a current budget and a capital budget (Greece, Ireland, Luxembourg, and Portugal).²⁰

In addition, four developed countries have recently begun to adopt accrual budgets that include the use of depreciation in place of capital expenditures. These four countries, however, require appropriations for the full cost or current cash disbursements as an additional control under some or all circumstances. New Zealand, the first country to shift to an accrual budget, requires the equivalent of appropriations for the full cost up front before a department can make net additions to its capital assets or before the government can acquire

¹⁶Statement of Federal Financial Accounting Standards No. 6, *Accounting for Property, Plant, and Equipment*, pp. 5–14 and 34–35. (The Federal Accounting Standards Advisory Board was established by the Office of Management and Budget, Department of Treasury, and General Accounting Office to develop accounting standards and concepts for the Federal government. The American Institute of Certified Public Accountants has designated it as the body to establish generally accepted accounting principles (GAAP) for Federal government entities.) Depreciation is not used as a measure of expense for heritage assets, or for weapons systems and other national defense property, plant, and equipment. Depreciation also is not used as a measure of expense for physical property financed by the Federal Government but owned by State and local governments, or for investment that the Federal Government finances in human capital and research and development.

¹⁷The characteristics of State capital budgets were examined in a survey of State budget officers for all 50 States in 1986. See Lawrence W. Hush and Kathleen Peroff, “The Variety of State Capital Budgets: A Survey,” *Public Budgeting and Finance* (Summer 1988), pp. 67–79. More detailed results are available in an unpublished OMB document, “State Capital Budgets” (July 7, 1987). Two GAO reports examined State capital budgets and reached similar conclusions on the issues in question. See *Budget Issues: Capital Budgeting Practices in the States*, GAO/AFMD–86–63FS (July 1986), and *Budget Issues: State Practices for Financing Capital Projects*, GAO/AFMD–89–64 (July 1989). For further information about state capital budgeting, see National Association of State Budget Officers, *Capital Budgeting in the States* (November 1999).

¹⁸Governmental Accounting Standards Board (GASB), *Codification of Governmental Accounting and Financial Reporting Standards as of June 30, 2000*, sections 1100.107 and 1400.114–1400.118.

¹⁹Governmental Accounting Standards Board, Statement No. 34, *Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments* (June 1999), paragraphs 18–29 and 44–45. For discussion of the basis for conclusions of these new standards, see paragraphs 330–43.

²⁰M. Peter van der Hoek, “Fund Accounting and Capital Budgeting: European Experience,” *Public Budgeting and Financial Management*, vol. 8 (Spring 1996), pp. 39–40.

certain capital assets such as state highways. Australia, which adopted an accrual budget as of its 1999–2000 budget, requires an appropriation for departments that do not have adequate reserves to purchase assets. The United Kingdom plans to budget on an accrual basis starting with its budget for 2001–02. In addition to the depreciation in the budget there would be an appropriation for cash payments for capital assets made in the fiscal year. Parliamentary approval would be needed for both the “resource budget,” which would include depreciation, and the cash requirement, which would include the cash payments made for capital assets. Canada plans to publish its 2001–02 budget on a full accrual basis, for the first time including depreciation of capital assets, but it distinguishes between its budget and its “estimates.” The budget sets forth the overall fiscal framework, while the “estimates” comprise the detailed departmental appropriations. The estimates are on a modified cash basis that does not make use of depreciation.

A country with an accrual budget may calculate its measure of fiscal position on other bases as well. The Australian budget has several measures of fiscal position. The primary fiscal measure, the fiscal balance, is close to a cash basis and includes the purchase of property, plant, and equipment rather than depreciation.²¹

On the other hand, some countries—including Sweden, Denmark, Finland, and the Netherlands—formerly had separate capital budgets but abandoned them a number of years ago.²²

Many *developing countries* operate a dual budget system comprising a regular or recurrent budget and a capital or development budget. The World Bank staff has concluded that:

“The dual budget may well be the single most important culprit in the failure to link planning, policy and budgeting, and poor budgetary outcomes. The dual budget is misconceived because it is based on a false premise that capital expenditure by government is more productive than current expenditure. Separating development and recurrent budgets usually leads to the development budget having a lower hurdle for entry. The result is that everyone seeks to redefine their expenditure as capital so it can be included in the development budget. Budget realities are left to the recurrent budget to deal with, and there is no

pretension that expenditure proposals relate to policy priorities.”²³

Conclusions

It is for reasons such as these that the General Accounting Office issued a report in 1993 that criticized budgeting for capital in terms of depreciation. Although the criticisms were in the context of what is termed “national capital” in this chapter, they apply equally to “Federal capital.”

“Depreciation is not a practical alternative for the Congress and the administration to use in making decisions on the appropriate level of spending intended to enhance the nation’s long-term economic growth for several reasons. Currently, the law requires agencies to have budget authority before they can obligate or spend funds. Unless the full amount of budget authority is appropriated up front, the ability to control decisions when total resources are committed to a particular use is reduced. Appropriating only annual depreciation, which is only a fraction of the total cost of an investment, raises this control issue.”²⁴

After further study of the role of depreciation in budgeting for national capital, GAO reiterated that conclusion in another study in 1995.²⁵ “The greatest disadvantage... was that depreciation would result in a loss of budgetary control under an obligation-based budgeting system.”²⁶ Although that study also focused primarily on what is termed “national capital” in this chapter, its analysis applies equally to “Federal capital.” In 1996 GAO expressly extended its conclusions to Federal capital as well. “If depreciation were recorded in the federal budget in place of cash requirements for capital spending, this would undermine Congress’ ability to control expenditures because only a small fraction of an asset’s cost would be included in the year when a decision was made to acquire it.”²⁷

Investment in National Capital

A Target for National Investment

The Federal Government’s investment in national capital has a much broader and more varied form than its investment in Federal capital. The Government’s goal is to support and accelerate sustainable economic growth for the Nation as a whole and in some instances for specific regions or groups of people. The Government’s investment concerns for the Nation are two-fold:

- *The effect of its own investment in national capital on the output and income that the economy can produce.*
- *The effect of Federal taxation, borrowing, and other policies on private investment.*

²¹GAO, *Accrual Budgeting: Experiences of Other Nations and Implications for the United States*, GAO/AIMD-00-57 (February 2000).

²²Denmark had accrual budgets generally, not just for capital assets, but abandoned that practice a number of years ago. The budgets in Sweden, Great Britain, Germany, and France as of the middle 1980s are described in GAO, *Budget Issues: Budgeting Practices in West Germany, France, Sweden, and Great Britain*, GAO/AFMD-87-8FS (November 1986). Sweden had separate capital and operating budgets from 1937 to 1981, together with a total consolidated budget from 1956 onwards. The reasons for abandoning the capital budget are discussed briefly in the GAO report and more extensively by a government commission established to recommend changes in the Swedish budget system. One reason was that borrowing was no longer based on the distinction between current and capital budgets. See Sweden, Ministry of Finance, *Proposal for a Reform of the Swedish Budget System: A Summary of the Report of the Budget Commission Published by the Ministry of Finance* (Stockholm, 1974), chapter 10.

²³The World Bank, *Public Expenditure Management Handbook* (Washington, D.C.: The World Bank, 1998), Box 3.11, page 53.

²⁴GAO, *Budget Issues: Incorporating an Investment Component in the Federal Budget*, GAO/AIMD-94-40 (November 1993), p. 11. GAO had made the same recommendation in earlier reports but with less extensive analysis.

²⁵GAO, *Budget Issues: The Role of Depreciation in Budgeting for Certain Federal Investments*, GAO/AIMD-95-34 (February 1995), pp. 1 and 19–20.

²⁶*Ibid.*, p. 17. Also see pp. 1–2 and 16–19.

²⁷GAO, *Budget Issues: Budgeting for Federal Capital*, GAO/AIMD-97-5 (November 1996), p. 28. Also see p. 4.

In its 1993 report, *Incorporating an Investment Component in the Federal Budget*, the General Accounting Office (GAO) recommended establishing an investment component within the unified budget—but not a separate capital budget or the use of depreciation—for this type of investment.²⁸ GAO defined this investment as “federal spending, either direct or through grants, that is directly intended to enhance the private sector’s long-term productivity.”²⁹ To increase investment—both public and private—GAO recommended establishing targets for the level of Federal investment and for a declining path of unified budget deficits over time.³⁰ Such a target for investment in national capital would focus attention on policies for growth, encourage a conscious decision about the overall level of growth-enhancing investment, and make it easier to set spending priorities in terms of policy goals for aggregate formation of national capital. GAO reiterated its recommendation in another report in 1995.³¹

Table 6–11. UNIFIED BUDGET WITH NATIONAL INVESTMENT COMPONENT, 2002
(In billions of dollars)

Receipts	2,192
Outlays:	
National investment	168
Other	1,792
Subtotal, outlays	1,961
Surplus or deficit (–)	231

Table 6–11 illustrates the unified budget reorganized as GAO recommends to have a separate component for investment in national capital. This component is roughly estimated to be \$168 billion in 2002. It includes infrastructure outlays financed by Federal grants to State and local governments, such as highways and sewer projects, as well as direct Federal purchases of infrastructure, such as electric power generation equipment. It also includes intangible investment for non-defense research and development, for basic research financed through defense, and for education and training. Much of this expenditure consists of grants and credit assistance to State and local governments, non-profit organizations, or individuals. Only 12 percent of national investment consists of assets to be owned by the Federal Government. Military investment and some other “capital assets” as defined previously are excluded, because that investment does not primarily enhance economic growth.

A Capital Budget for National Investment

Table 6–12 roughly illustrates what a capital budget and operating budget would look like under this definition of investment—although it must be emphasized that this is *not* GAO’s recommendation. Some pro-

ponents of a capital budget would make spending decisions within the framework of such a capital budget and operating budget. But the limitations that apply to the use of depreciation in deciding on investment decisions for Federal capital apply even more strongly in deciding on investment decisions for national capital. Most national capital is neither owned nor controlled by the Federal Government. Such investments are sunk costs completely and can be controlled only by decisions made up front when the Government commits itself to the expenditure.³²

Table 6–12. CAPITAL, OPERATING, AND UNIFIED BUDGETS: NATIONAL CAPITAL, 2002¹
(In billions of dollars)

Operating Budget	
Receipts	2,156
Expenses:	
Depreciation ²	77
Other	1,792
Subtotal, expenses	1,869
Surplus or deficit (–)	287
Capital Budget	
Income:	
Depreciation ²	77
Earmarked tax receipts ³	36
Subtotal, income	113
Capital expenditures	168
Surplus or deficit (–)	–56
Unified Budget	
Receipts	2,192
Outlays	1,961
Surplus or deficit (–)	231

¹For the purpose of this illustrative table only, education and training outlays are arbitrarily depreciated over 30 years by the straight-line method. This differs from the treatment of education and training elsewhere in this chapter and in Chapter 2. All depreciation estimates are subject to the limitations explained in Part III of this chapter. Depreciation is measured in terms of current cost, not historical cost.

²Excludes depreciation on capital financed by earmarked tax receipts allocated to the capital budget.

³Consists of tax receipts of the highway and airport and airways trust funds, less trust fund outlays for operating expenditures. These are user charges earmarked for financing capital expenditures.

In addition to these basic limitations, the definition of investment is more malleable for national capital than Federal capital. Many programs promise long-term intangible benefits to the Nation, and depreciation rates are much more difficult to determine for intangible investment such as research and education than they are for physical investment such as highways and office buildings. These and other definitional questions are hard to resolve. The answers could significantly affect budget decisions, because they would determine whether the budget would record all or only a small part of the cost of a decision when policy makers were comparing the budgetary cost of a project with their judgment of its benefits. The process of reaching an answer with a capital budget would open the door to manipulation, because there would be an incentive to make the

²⁸*Incorporating an Investment Component in the Federal Budget*, pp. 1–2, 9–10, and 15.

²⁹*Ibid.*, pp. 1 and 5.

³⁰*Ibid.*, pp. 2 and 13–16.

³¹*The Role of Depreciation in Budgeting for Certain Investments*, pp. 2 and 19–20.

³²GAO’s conclusions about the loss of budgetary control that were quoted at the end of the section on Federal capital came from studies that predominantly considered “national capital.”

operating expenses and deficit look smaller by classifying outlays as investment and using low depreciation rates. This would “justify” more spending by the program or the Government overall.³³

A Capital Budget and the Analysis of Saving and Investment

Data from the Federal budget may be classified in many different ways, including analyses of the Government’s direct effects on saving and investment. As Parts I and III of this chapter have shown, the unified budget provides data that can be used to calculate Federal investment outlays and federally financed capital stocks. However, the budget totals themselves do not make this distinction. In particular, the budget surplus or deficit does not measure the Government’s contribution to the nation’s net saving (i.e., saving net of depreciation). A capital budget, it is sometimes contended, is needed for this purpose.

This purpose, however, is now fulfilled by the Federal sector of the national income and product accounts (NIPA) according to one definition of investment. The NIPA Federal sector measures the impact of Federal current receipts, current expenditures, and the current surplus or deficit on the national economy. It is part of an integrated set of measures of aggregate U.S. economic activity that is prepared by the Bureau of Economic Analysis in the Department of Commerce in order to measure gross domestic product (GDP), the income generated in its production, and many other variables used in macroeconomic analysis. The NIPA Federal sector for recent periods is published monthly in the *Survey of Current Business* with separate releases for historical data. Estimates for the President’s proposed budget through the budget year are normally published in the budget documents. The NIPA translation of the budget, rather than the budget itself, is ordinarily used by economists to analyze the effect of Government fiscal policy on the aggregate economy.³⁴

Until a few years ago the NIPA Federal sector did not divide government purchases of goods and services between consumption and investment. With the comprehensive revision of the national income and product accounts in early 1996, it now makes that distinction.³⁵ The revised NIPA Federal Government account is a current account or an operating account for the Federal Government and accordingly shows current receipts and current expenditures. It excludes expenditures for structures, equipment, and software owned by the Federal Government; it includes depreciation on the feder-

ally owned stock of structures, equipment, and software as a proxy for the services of capital assets consumed in production and thus as part of the Federal Government’s current expenditures. It applies this treatment to a comprehensive definition of federally owned structures, equipment, and software, both defense and non-defense, similar to the definition of “capital assets” in this chapter.³⁶

The NIPA “current surplus or deficit” of the Federal Government thus measures the Government’s direct contribution to the Nation’s net saving (given the definition of investment that is employed). The 2000 Federal Government current account surplus was increased \$6 billion by including depreciation rather than gross investment, because depreciation of federally owned structures, equipment, and software was less than gross investment. The 2002 Federal current account surplus is estimated to be increased \$14 billion.³⁷ A capital budget is not needed to capture this effect.

Borrowing to Finance a Capital Budget

A further issue traditionally raised by a capital budget is the financing of capital expenditures. Some have argued that the Government ought to balance the operating budget and borrow to finance the capital budget—capital expenditures less depreciation. The rationale is that if the Government borrows for net investment and the rate of return exceeds the interest rate, the additional debt does not add a burden onto future generations. Instead, the burden of paying interest on the debt and repaying its principal is spread over the generations that will benefit from the investment. The additional debt is “justified” by the additional assets.

As this argument has traditionally been framed, it might appear as though it did not apply under present circumstances. The Government now has a large surplus, which is mostly used to repay Federal debt held by the public, and a large surplus is estimated to continue throughout the projection period of this budget. It does not “borrow” in the sense of increasing its debt from year to year, and it is not estimated to borrow during the projection period. However, the argument is fundamentally about the proper target for Federal debt and whether that target should be higher if the Government has net investment. If the Government has deficits financed by selling debt, should it *borrow more than otherwise* because of its net investment? Or if the Government has surpluses used to repay debt, should it *repay less than otherwise* because of its net

³³These problems are also pointed out in GAO, *Incorporating an Investment Component in the Federal Budget*, pp. 11–12. They are discussed more extensively with respect to highway grants, research and development, and human capital in GAO, *The Role of Depreciation in Budgeting for Certain Federal Investments*, pp. 11–14. GAO found no government that budgets for the depreciation of human capital or research and development (except that New Zealand budgets for the depreciation of research and development if it results in a product that is intended to be used or marketed).

³⁴See chapter 16 of this volume, “National Income and Product Accounts,” for the NIPA current account of the Federal Government based on the budget estimates for 2001 and 2002, and for a discussion of the NIPA Federal sector and its relationship to the budget.

³⁵This distinction is also made in the national accounts of most other countries and in the System of National Accounts (SNA), which is guidance prepared by the United Nations and other international organizations. Definitions of investment vary. For example, the SNA does not include the purchase of military equipment as investment.

³⁶The treatment of investment (except for the recent recognition of software) in the NIPA Federal sector is explained in *Survey of Current Business*, “Preview of the Comprehensive Revision of the National Income and Product Accounts: Recognition of Government Investment and Incorporation of a New Methodology for Calculating Depreciation” (September 1995), pp. 33–39. As is the case of private sector investment, government investment does not include expenditures on research and development or on education and training. Government purchases of structures, equipment, and software remain a part of gross domestic product (GDP) as a separate component. The NIPA State and local government account is defined in the same way and includes depreciation on structures, equipment, and software owned by State and local governments that were financed by Federal grants as well as by their own resources. Depreciation is not displayed as a separate line item in the government account; depreciation on general government capital assets is included in government “consumption expenditures”; and depreciation on the capital assets of government enterprises is subtracted in calculating the “current surplus of government enterprises.”

³⁷See actuals and estimates for 2000–02 in Table 16–2 of chapter 16 of this volume, “National Income and Product Accounts.”

investment? This section follows the traditional way of discussing the issue by referring to “borrowing to finance net investment.” However, for the present analysis, “borrowing more” is equivalent to “repaying less debt.”

This argument about financing capital expenditures is at best a justification to borrow to finance *net* investment, after depreciation is subtracted from *gross* outlays, not to borrow to finance *gross* investment. To the extent that capital is used up during the year, there are no additional assets to justify additional debt. If the Government borrows to finance *gross* investment, the additional debt exceeds the additional capital assets. The Government is thus adding onto the amount of future debt service without providing the additional capital that would produce the additional income needed to service that debt.

This justification, furthermore, requires that depreciation be measured in terms of the current replacement cost, not the historical cost. Current cost depreciation is needed in order to measure all activities in the budget on a consistent basis, since other outlays and receipts are automatically measured in the prices of the current year. Current cost depreciation is also needed to obtain a valid measure of net investment. This requires that the addition to the capital stock from new purchases and the subtraction from depreciation on existing assets both be measured in the prices of the same year. When prices change, historical cost depreciation does not measure the extent to which the capital stock is used up each year.

As a broad generalization, Tables 6–10 and 6–12 suggest that this rationale would currently justify some change in borrowing (or debt repayment) under the two capital budgets roughly illustrated in this chapter, but for Federal capital the change would not be much. For *Federal capital*, Table 6–10 indicates that current cost depreciation is less than gross investment for Federal capital—the capital budget deficit is \$7 billion. The rationale of borrowing to finance net investment would justify the Federal Government borrowing this amount (\$7 billion) and no more to finance its investment in Federal capital. For *national capital*, Table 6–12 indicates that current cost depreciation (plus the excise taxes earmarked to finance capital expenditures for highways and airports and airways³⁸) is less than gross

investment—the capital budget deficit is \$56 billion. The rationale of borrowing to finance net investment would justify the Federal Government borrowing this amount (\$56 billion) and no more to finance its investment in national capital.³⁹

Even with depreciation calculated in current cost, the rationale for borrowing to finance net investment—or, under present circumstances, the rationale for reducing debt repayment because of net investment—is not persuasive. The Federal Government, unlike a business or household, is responsible not only for its own affairs but also for the general welfare of the Nation. To maintain and accelerate national economic growth and development, the Government needs to sustain private investment as well as its own national investment. A high level of net national saving is needed to meet the demographic and other challenges expected in the decades ahead.

To the extent that the Government finances its own investment in a way that results in lower private investment, the net increase of total investment in the economy is less than the increase from the additional Federal capital outlays alone. The net increase in total investment is significantly less if the Federal investment is financed by borrowing than if it is financed by taxation, because borrowing primarily draws upon the saving available for private (and State and local government) investment whereas much of taxation instead comes out of private consumption. Therefore, the net effect of Federal investment on economic growth would be reduced if it were financed by borrowing. This would be the result even if the rate of return on Federal investment was higher than the rate of return on private investment. For example, if a Federal investment that yielded a 15 percent rate of return crowded out private investment that yielded 10 percent, the net social return would still be positive but it would only be 5 percent.⁴⁰

The present budget proposes to continue to run substantial surpluses, reducing the debt to make room for financing private investment. A capital budget is not a justification to relax the budget constraints that are contributing to this accomplishment. Any easing would undo the gains from achieving a surplus that have already been realized and the further gains from the proposals in this budget.

PART V: SUPPLEMENTAL PHYSICAL CAPITAL INFORMATION

The Federal Capital Investment Program Information Act of 1984 (Title II of Public Law 98–501; hereafter referred to as the Act) requires that the budget include projections of Federal physical capital spending and information regarding recent assessments of public civil-

ian physical capital needs. This section is submitted to fulfill that requirement.

This part is organized in two major sections. The first section projects Federal outlays for public physical capital and the second section presents information regarding public civilian physical capital needs.

³⁸The capital budget deficit would be about \$22 billion larger if current cost depreciation were used instead of earmarked excise taxes for investment in highways and airports and airways.

³⁹This discussion abstracts from non-budgetary transactions that affect Federal borrowing requirements, such as changes in the Treasury operating cash balance and the net financing

disbursements of the direct loan and guaranteed loan financing accounts. See chapter 12 of this volume, “Federal Borrowing and Debt,” and the explanation of Table 12–3.

⁴⁰GAO considered deficit financing of investment but did not recommend it. See *Incorporating an Investment Component in the Federal Budget*, pp. 12–13.

Projections of Federal Outlays For Public Physical Capital

Federal public physical capital spending is defined here to be the same as the “major public physical capital investment” category in Part I of this chapter. It covers spending for construction and rehabilitation, acquisition of major equipment, and other physical assets. This section excludes outlays for human capital, such as the conduct of education and training, and outlays for the conduct of research and development.

The projections are done generally on a current services basis, which means they are based on 2001 enacted appropriations and adjusted for inflation in later years. The current services concept is discussed in Chapter 14, “Current Services Estimates.”

Federal public physical capital spending was \$130.2 billion in 2000 and is projected to increase to \$182.2 billion by 2010 on a current services basis. The largest components are for national defense and for roadways

and bridges, which together accounted for more than three-fifths of Federal public physical capital spending in 2000.

Table 6–13 shows projected current services outlays for Federal physical capital by the major categories specified in the Act. Total Federal outlays for transportation-related physical capital were \$34.4 billion in 2000, and current services outlays are estimated to increase to \$50.6 billion by 2010. Outlays for nondefense housing and buildings were \$13.1 billion in 2000 and are estimated to be \$19.0 billion in 2010. Physical capital outlays for other nondefense categories were \$26.7 billion in 2000 and are projected to be \$34.8 billion by 2010. For national defense, this spending was \$56.1 billion in 2000 and is estimated on a current services basis to be \$77.8 billion in 2010.

Table 6–14 shows current services projections on a constant dollar basis, using fiscal year 1996 as the base year.

Table 6–13. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING

(In billions of dollars)

	2000 Actual	Estimate									
		2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Nondefense:											
Transportation-related categories:											
Roadways and bridges	25.0	27.1	30.0	31.7	32.9	33.9	34.8	35.7	36.5	37.3	38.1
Airports and airway facilities	3.7	4.2	5.0	5.5	5.8	6.2	6.3	6.4	6.6	6.7	6.9
Mass transportation systems	5.1	5.2	4.9	4.7	4.5	4.5	4.6	4.7	4.8	4.9	5.0
Railroads	0.6	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7
Subtotal, transportation	34.4	37.2	40.5	42.5	43.8	45.2	46.4	47.5	48.5	49.6	50.6
Housing and buildings categories:											
Federally assisted housing	7.6	8.4	8.5	8.5	8.6	8.8	9.0	9.3	9.1	9.3	9.5
Hospitals	2.2	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.1	2.2
Public buildings ¹	3.3	4.5	4.6	5.6	6.4	6.7	6.8	6.9	7.0	7.2	7.3
Subtotal, housing and buildings	13.1	14.6	14.8	15.9	16.9	17.4	17.7	18.2	18.2	18.6	19.0
Other nondefense categories:											
Wastewater treatment and related facilities	2.9	3.2	3.2	3.4	3.5	3.6	3.7	3.8	3.9	3.9	4.0
Water resources projects	3.7	3.7	3.9	4.1	4.2	4.3	4.2	4.3	4.4	4.5	4.7
Space and communications facilities	6.3	5.7	6.1	6.4	6.9	6.9	6.8	7.8	7.6	7.6	7.8
Energy programs	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.5
Community development programs	5.6	5.8	6.0	6.1	6.3	6.5	6.6	6.8	6.9	7.0	7.2
Other nondefense	7.0	8.0	7.8	7.7	8.4	8.5	8.7	8.9	9.2	9.4	9.6
Subtotal, other nondefense	26.7	27.8	28.4	29.1	30.7	31.1	31.4	33.0	33.5	34.1	34.8
Subtotal, nondefense	74.1	79.6	83.7	87.4	91.4	93.8	95.6	98.6	100.3	102.2	104.4
National defense	56.1	58.1	61.7	63.4	66.5	69.6	71.7	73.1	74.1	75.9	77.8
Total	130.2	137.7	145.5	150.9	157.9	163.3	167.2	171.7	174.4	178.2	182.2

¹ Excludes outlays for public buildings that are included in other categories in this table.

Table 6-14. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING

(In billions of constant 1996 dollars)

	2000 Actual	Estimate				
		2001	2002	2003	2004	2005
Nondefense:						
Transportation-related categories:						
Roadways and bridges	23.3	24.6	26.4	27.1	27.3	27.4
Airports and airway facilities	3.6	3.9	4.6	4.9	5.1	5.2
Mass transportation systems	4.8	4.7	4.3	4.0	3.8	3.6
Railroads	0.6	0.6	0.6	0.6	0.6	0.6
Subtotal, transportation	32.3	33.9	35.9	36.6	36.7	36.8
Housing and buildings categories:						
Federally assisted housing	7.1	7.7	7.5	7.3	7.2	7.2
Hospitals	2.2	1.6	1.7	1.7	1.7	1.7
Public buildings ¹	3.3	4.4	4.4	5.2	5.8	5.9
Subtotal, housing and buildings	12.6	13.7	13.6	14.2	14.7	14.8
Other nondefense categories:						
Wastewater treatment and related facilities	2.7	2.9	2.8	2.9	2.9	2.9
Water resources projects	3.7	3.6	3.8	3.9	3.9	3.9
Space and communications facilities	6.3	5.6	5.8	6.0	6.4	6.2
Energy programs	1.3	1.3	1.3	1.3	1.3	1.3
Community development programs	5.3	5.3	5.3	5.3	5.3	5.2
Other nondefense	6.9	7.8	7.4	7.1	7.6	7.5
Subtotal, other nondefense	26.1	26.5	26.4	26.4	27.3	27.0
Subtotal, nondefense	71.0	74.0	75.9	77.3	78.7	78.7
National defense	57.0	57.9	60.2	60.6	62.3	63.8
Total	128.0	131.9	136.1	137.8	141.0	142.4

¹ Excludes outlays for public buildings that are included in other categories in this table.

Public Civilian Capital Needs Assessments

The Act requires information regarding the state of major Federal infrastructure programs, including highways and bridges, airports and airway facilities, mass transit, railroads, federally assisted housing, hospitals, water resources projects, and space and communications investments. Funding levels, long-term projections, policy issues, needs assessments, and critiques, are required for each category.

Capital needs assessments change little from year to year, in part due to the long-term nature of the facilities themselves, and in part due to the consistency of the analytical techniques used to develop the assessments and the comparatively steady but slow changes in underlying demographics. As a result, the practice has arisen in reports in previous years to refer to earlier discussions, where the relevant information had been carefully presented and changes had been minimal.

The needs assessment material in reports of earlier years is incorporated this year largely by reference to earlier editions and by reference to other needs assessments. The needs analyses, their major components, and their critical evaluations have been fully covered in past Supplements, such as the 1990 Supplement to Special Analysis D.

It should be noted that the needs assessment data referenced here have not been determined on the basis of cost-benefit analysis. Rather, the data reflect the level of investment necessary to meet a predefined standard (such as maintenance of existing highway conditions). The estimates do not address whether the benefits of each investment would actually be greater than its cost or whether there are more cost-effective alternatives to capital investment, such as initiatives to reduce demand or use existing assets more efficiently. Before investing in physical capital, it is necessary to compare the cost of each project with its estimated benefits, within the overall constraints on Federal spending.

Significant Factors Affecting Infrastructure Needs Assessments

Highways

1. Projected annual average growth in travel to the year 2017	2.16 percent
2. Annual cost to maintain 1997 physical conditions on highways	\$50.8 billion (1997 dollars)
3. Annual cost to maintain 1997 physical conditions on bridges	\$5.8 billion (1997 dollars)

Airports and Airway Facilities

1. Airports in the National Plan of Integrated Airport Systems with scheduled passenger traffic	528
2. Air traffic control towers	451
3. Airport development eligible under airport improvement program for period 1993–1997	\$29.7 billion (\$9.4 billion for capacity) (1992 dollars)

Mass Transportation Systems

1. Yearly cost to maintain condition and performance of rail facilities over a period of 20 years	\$7.7 billion (1997 dollars)
2. Yearly cost to replace and maintain the urban, rural, and special services bus fleet and facilities	\$3.1 billion (1997 dollars)

Wastewater Treatment

1. Total remaining needs of sewage treatment facilities	\$128 billion (1996 dollars)
2. Total Federal expenditures under the Clean Water Act of 1972 through 2000	\$76 billion
3. The population served by centralized treatment facilities: percentage that benefits from at least secondary sewage treatment systems	99 percent
4. States and territories served by State Revolving Funds	51

Housing

1. Total unsubsidized very low income renter households with worst case needs (4.9 million*)	
A. In severely substandard units	0.5 million
B. With a rent burden greater than 50 percent	4.6 million

*The total is less than the sum because some renter families have both problems.

Indian Health Service (IHS) Health Care Facilities

1. IHS hospital occupancy rates (2000)	39.9 percent
2. Average length of stay, IHS hospitals (days) (2000)	4.0
3. Hospital admissions (2000)	64,837
4. Outpatient visits (2000)	8,318,609
5. Eligible population (2000)	1,511,135

Department of Veterans Affairs (VA) Hospitals (2001)

1. Medical Centers	172
2. Outpatient clinics	781
3. Domiciliaries	43
4. Vet centers	206
5. Nursing homes	135

Water Resources

Water resources projects include navigation (deepwater ports and inland waterways); flood and storm damage protection; irrigation; hydro-power; municipal and industrial water supply; recreation; fish and wildlife mitigation, enhancement, and restoration; and soil conservation.

Potential water resources investment needs typically consist of the set of projects that pass both a benefit-cost test for economic feasibility and a test for environmental acceptability. In the case of fish and wildlife mitigation or restoration projects, the set of eligible projects includes those that pass a cost-effectiveness test.

Investment Needs Assessment References

General

U.S. Advisory Commission on Intergovernmental Relations (ACIR). *High Performance Public Works: A New Federal Infrastructure Investment Strategy for America*, Washington, D.C., 1993.

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Federal Aviation Administration. *The National Plan of Integrated Airport Systems Report*, April 1995.

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FY 2000 Indian Health Service and Tribal Hospital Inpatient Statistics.

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Service Proposed Replacement Hospital at Shiprock, New Mexico (CIN A-09-88-00008). June, 1989.

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7. RESEARCH AND DEVELOPMENT FUNDING

Technological innovation and scientific discovery have generated much of the Nation's productivity growth over the last 50 years, created millions of high-skill, high-wage jobs, and improved the quality of life in America. This innovation and discovery has been possible only through the strong national investment in

research and development (R&D), from both the public and private sectors. Data from the National Science Foundation indicate that the total national investment in R&D recently surpassed 2.7 percent of the Gross Domestic Product.

Table 7-1 shows R&D highlights of the 2002 Budget.

Table 7-1. R&D HIGHLIGHTS IN 2002 SPENDING

(Budget authority, dollar amounts in millions)

By Agency	2000	2001	2002	Percent Change: 2001 to 2002
National Institutes of Health				
Biomedical research	17,827	20,361	23,112	14%
Defense				
R&D initiative			2,600	NA
NASA				
Space Launch Initiative	30	290	475	64%
Mars Exploration Program	249	426	431	1%
Astronomical Search for Origins	118	123	194	57%
Earth Observing System Follow-on Program	15	55	130	136%
Energy				
Basic Energy Sciences	772	994	1,005	1%
Fossil Energy	404	445	544	22%
National Science Foundation				
Math and Science Partnership Initiative			200	NA
Mathematical Sciences	106	121	141	17%
Nanoscale Science, Engineering, and Technology	97	150	174	16%
Agriculture				
Biotechnology	188	197	204	4%
Bioproducts and Bioenergy	81	240	249	4%
Commerce				
Ocean Exploration		4	14	250%
National Polar-orbiting Operational Environmental Satellite	60	73	157	115%
NIST internal research	282	313	347	11%
Transportation				
Highway Surface Transportation	66	73	114	56%
Intelligent Transportation Systems Initiative	40	41	62	51%
Veterans Affairs				
Medical and Prosthetic Research	321	350	360	3%
Education				
National Institute on Disability and Rehabilitation Research	86	100	110	10%
Research and Dissemination	104	121	123	2%

Federal Research and Development Funding

R&D is the collection of efforts directed towards gaining greater knowledge or understanding and applying knowledge toward the production of useful materials, devices, and methods. Since 1949, the Budget has collected and reported information on R&D. The budget is characterized by the following categories: basic research, applied research, development, R&D equipment, and R&D facilities.

Basic research is defined as systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind.

Applied research is systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.

Development is systematic application of knowledge toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.

Research and development equipment includes acquisition or design and production of movable equipment, such as spectrometers, microscopes, detectors, and other instruments.

Research and development facilities include the acquisition, design, and construction of, or major repairs

or alterations to, all physical facilities for use in R&D activities. Facilities include land, buildings, and fixed capital equipment, regardless of whether the facilities are to be used by the Government or by a private organization, and regardless of where title to the property may rest. This category includes reactors, wind tunnels, and particle accelerators, and the International Space Station.

Table 7-2 shows agency-by-agency spending on basic and applied research, development, and R&D equipment and facilities.

Table 7-2. FEDERAL RESEARCH AND DEVELOPMENT SPENDING

(Budget authority, dollar amounts in millions)

	2000 Actual	2001 Estimate	2002 Proposed	Dollar Change: 2000 to 2002	Percent Change: 2000 to 2002	Dollar Change: 2001 to 2002	Percent Change: 2001 to 2002
By Agency							
Defense*	39,664	41,571	45,159*	5,495*	14%*	3,588*	9%*
Health and Human Services	18,051	20,805	23,313	5,262	29%	2,508	12%
National Aeronautics and Space Administration	9,242	9,632	9,311	69	1%	-321	-3%
Energy	6,892	7,692	7,435	543	8%	-257	-3%
National Science Foundation	2,947	3,297	3,242	295	10%	-55	-2%
Agriculture	1,773	1,961	1,803	30	2%	-158	-8%
Commerce	1,110	1,096	1,029	-81	-7%	-67	-6%
Interior	618	632	593	-25	-4%	-39	-6%
Transportation	603	743	795	192	32%	52	7%
Veterans Affairs	645	703	721	76	12%	18	3%
Environmental Protection Agency	559	610	575	16	3%	-35	-6%
Education	238	265	259	21	9%	-6	-2%
Other	796	1,007	1,022	226	28%	151%	1%
TOTAL	83,138	90,010	95,253	12,115	15%	5,243	6%
Basic Research							
Defense*	1,136	1,317	1,345*	209*	18%*	28*	2%*
Health and Human Services	10,062	11,544	12,980	2,918	29%	1,436	12%
National Aeronautics and Space Administration	2,137	2,548	2,465	328	15%	-83	-3%
Energy	2,262	2,378	2,344	82	4%	-34	-1%
National Science Foundation	2,540	2,796	2,799	259	10%	3	0%
Agriculture	684	742	717	33	5%	-25	-3%
Commerce	42	40	46	4	10%	6	15%
Interior	52	57	54	2	4%	-3	-5%
Transportation	10	17	21	11	110%	4	24%
Veterans Affairs	266	290	304	38	14%	14	5%
Environmental Protection Agency	58	106	98	40	69%	-8	-8%
Education	2	2	2	0	0%	0	0%
Other	170	181	177	7	4%	-4	-2%
SUBTOTAL	19,421	22,018	23,352	3,931	20%	1,334	6%
Applied Research							
Defense*	3,405	3,664	3,741*	336*	10%*	77*	2%*
Health and Human Services	7,692	8,915	9,824	2,132	28%	909	10%
National Aeronautics and Space Administration	1,534	1,683	1,811	-277	-18%	128	8%
Energy	1,874	2,185	2,020	146	8%	-165	-8%
National Science Foundation	184	220	218	34	18%	-2	-1%
Agriculture	831	922	829	-2	0%	-93	-10%
Commerce	780	829	820	40	5%	-9	-1%
Interior	520	537	503	-17	-3%	-34	-6%
Transportation	396	456	507	111	28%	51	11%
Veterans Affairs	367	399	403	36	10%	4	1%
Environmental Protection Agency	388	369	349	-39	-10%	-20	-5%
Education	151	165	167	16	11%	2	1%
Other	344	390	361	17	5%	-29	-7%
SUBTOTAL	18,466	20,734	21,553	3,057	17%	819	4%

Table 7-2. FEDERAL RESEARCH AND DEVELOPMENT SPENDING—Continued

(Budget authority, dollar amounts in millions)

	2000 Actual	2001 Estimate	2002 Proposed	Dollar Change: 2000 to 2002	Percent Change: 2000 to 2002	Dollar Change: 2001 to 2002	Percent Change: 2001 to 2002
Development							
Defense*	35,026	36,410	39,889*	4,863*	14%*	3,479*	10%*
Health and Human Services	44	101	87	43	98%	-14	-14%
National Aeronautics and Space Administration	2,702	2,687	2,754	52	2%	67	2%
Energy	1,855	2,253	2,174	319	17%	-79	-4%
National Science Foundation	0	0	0	0	NA	0	NA
Agriculture	111	120	124	13	12%	4	3%
Commerce	130	138	83	-47	-36%	-55	-40%
Interior	29	32	30	1	3%	-2	-6%
Transportation	185	254	250	65	35%	-4	-2%
Veterans Affairs	12	14	15	3	25%	1	7%
Environmental Protection Agency	92	101	94	2	2%	-7	-7%
Education	85	98	90	5	6%	-8	-8%
Other	253	386	364	111	44%	-22	-6%
SUBTOTAL	40,524	42,594	45,954	5,430	13%	3,360	8%
Facilities and Equipment							
Defense	97	180	184*	87*	90%*	4*	2%*
Health and Human Services	253	245	422	169	67%	177	72%
National Aeronautics and Space Administration	2,869	2,714	2,281	-588	-20%	-433	-16%
Energy	901	876	897	-4	0%	21	2%
National Science Foundation	223	281	225	2	1%	-56	-20%
Agriculture	147	177	133	-14	-10%	-44	-25%
Commerce	158	89	80	-78	-49%	-9	-10%
Interior	17	6	6	-11	-65%	0	0%
Transportation	12	16	17	5	42%	1	6%
Veterans Affairs	0	0	-1	-1	NA	-1	NA
Environmental Protection Agency	21	34	34	13	62%	0	0%
Education	0	0	0	0	NA	0	NA
Other	29	46	116	87	300%	70	152%
SUBTOTAL	4,727	4,664	4,394	-333	-7%	-270	-6%

Table does not include net mandatory funding for USDA research grant programs, as follows: \$140 million in FY 2000, \$130 million in FY 2001, and \$135 million in FY 2002.

* FY 2002 entries for DOD research and facilities represent a projection from the enacted FY 2001 levels plus inflation. The entry for development includes \$2.6 billion for the R&D initiative. FY 2002 levels are subject to change as a result of the Defense Strategy Review now underway.

The Federal Science and Technology Budget

In a 1995 report from the National Academy of Sciences, the scientific community proposed a "Federal Science and Technology" budget. Such a compilation would highlight more consistently and accurately activities central to the creation of new knowledge and technologies, compared with the traditional R&D data collection reported in Table 7-2. Because the Federal

Science and Technology (FS&T) budget emphasizes research, funding for defense development, testing, and evaluation is not included. The resulting FS&T budget is about half of the total Federal spending on R&D.

Table 7-3 contains an approximation of the FS&T budget, which accounts for nearly all of Federal basic research, over 80 percent of Federal applied research, and about half of Federal non-defense development.

Table 7-3. FEDERAL SCIENCE AND TECHNOLOGY BUDGET
(Budget authority, dollar amounts in millions)

	2000 Actual	2001 Estimate	2002 Proposed	Dollar Change: 2000 to 2002	Percent Change: 2000 to 2002	Dollar Change: 2001 to 2002	Percent Change: 2001 to 2002
By Agency							
National Institutes of Health	17,827	20,361	23,112	5,285	30%	2,751	14%
NASA ¹	6,389	6,957	7,038	649	10%	81	1%
Space Science	2,524	2,658	2,786	262	10%	129	5%
Earth Science	1,675	1,702	1,496	-179	-11%	-206	-12%
Biological and Physical Research	356	393	380	24	7%	-13	-3%
Aero-space Technology	1,834	2,205	2,376	541	30%	171	8%
Defense ²	4,541	4,981	5,086 ²	545 ²	12% ²	105 ²	2% ²
Basic Research ²	1,136	1,317	1,345 ²	209 ²	18% ²	28 ²	2% ²
Applied Research ²	3,405	3,664	3,741 ²	336 ²	10% ²	77 ²	2% ²
Energy	4,353	4,910	4,682	329	8%	-228	-5%
Science Programs ³	2,788	3,179	3,160	372	13%	-19	-1%
Energy Supply	584	661	494	-90	-15%	-167	-25%
Energy Conservation ⁴	577	625	484	-93	-16%	-141	-23%
Fossil Energy ⁵	404	445	544	140	35%	99	22%
National Science Foundation	3,897	4,416	4,472	575	15%	56	1%
Agriculture	1,739	1,831	1,759	20	1%	-72	-4%
CSREES Research and Education	487	513	416	-71	-15%	-97	-19%
Mandatory research grants (net total)	140	130	135	-5	-4%	5	4%
Economic Research Service	64	66	67	3	5%	1	2%
Agricultural Research Service ⁶	830	897	916	86	10%	19	2%
Forest Service ⁷	218	225	225	7	3%	0	0%
Interior (USGS)	813	883	813	0	0%	-70	-8%
Commerce	819	809	711	-108	-13%	-98	-12%
NOAA (Oceanic and Atmospheric Research)	285	315	330	45	16%	15	5%
NIST ⁸	534	494	381	-153	-29%	-113	-23%
Environmental Protection Agency ⁹	683	732	679	-4	-1%	-53	-7%
Transportation	646	621	631	-94	-15%	12	2%
Highway research ¹⁰	490	437	443	-47	-10%	6	1%
Aviation research ¹¹	156	184	188	32	21%	4	2%
Education	317	363	368	51	16%	5	1%
Special Education Research and Innovation	64	77	70	6	9%	-7	-9%
NIDRR ¹²	86	100	110	24	28%	10	10%
Research, Development, and Dissemination	167	186	188	21	13%	2	1%
Veterans Affairs ¹³	321	350	360	39	12%	10	3%
TOTAL	42,345	47,214	49,711	7,366	17%	2,497	5%

Notes:

¹ Includes mission support.² FY 2002 entries for DOD research represent a projection from the enacted FY 2001 levels plus inflation. FY 2002 levels are subject to change as a result of the Defense Strategy Review now underway.³ Part of change in 2002 due to transfer from science programs.⁴ Excludes state grant programs.⁵ 2002 level includes \$95 million unavailable until the last day of FY 2001.⁶ Excludes buildings and facilities.⁷ Forest and Rangeland Research.⁸ Excludes Manufacturing Extension Program.⁹ Science and Technology account, including transfer from Superfund.¹⁰ Includes research and development funding for the Federal Highway Administration, the Federal Motor Carrier Safety Administration, and the National Highway Traffic Safety Administration.¹¹ Federal Aviation Administration Research, Engineering, and Development.¹² National Institute on Disability and Rehabilitation Research.¹³ Medical and Prosthetic Research.

Allocation of Federal Funding for Research

Federal funds appropriated to Executive Branch agencies may be used in different ways, ranging from grants awarded to university researchers to supporting research at Federal laboratories. In order to better understand and characterize the methods agencies use to allocate their research funding, agencies reported

how research funds are allocated in 2001 by the following five categories:

- *Research performed at congressional direction* consists of intramural and extramural research where funded activities are awarded to a single performer or collection of performers. There is limited or no competitive selection, or there is competitive selection but the research is outside of the agen-

cy's primary mission, and undertaking the research is based on direction from the Congress in law, in report language, or by other direction.

- *Inherently unique research* is intramural and extramural research where funded activities are awarded to a single performer or team of performers without competitive selection. The award may be based on the provision of unique capabilities, concern for timeliness, or prior record of performance (e.g., facility operations support for a unique facility, such as an electron-positron linear collider; research grants for rapid response studies such as Pfisteria, an environmental hazard that arose suddenly; or the National Science Foundation's merit-based renewals).
- *Merit-reviewed research with limited competitive selection* is intramural and extramural research where funded activities are competitively awarded from a pool of qualified applicants that are limited to organizations that were created to largely serve Federal missions and continue to receive most of their annual research revenue from Federal sources. The limited competition may be for reasons of stewardship, agency mission constraints, or retention of unique technical capabilities (e.g., funding set aside for researchers at laboratories or centers of the Department of Defense, the National Aeronautics and Space Administration, the Environmental Protection Agency, the National

Oceanic and Atmospheric Administration, and the National Institutes of Health; Federally-Funded Research and Development Centers; formula funds from the U.S. Department of Agriculture).

- *Merit-reviewed research with competitive selection and internal (program) evaluation* is intramural and extramural research where funded activities are competitively awarded following review for scientific or technical merit. The review is conducted by the program manager or other qualified individuals from within the agency program, without additional independent evaluation (e.g., merit-reviewed research at the Department of Defense).
- *Merit-reviewed research with competitive selection and external (peer) evaluation* is intramural and extramural research where funded activities are competitively awarded following review by a set of external scientific or technical reviewers (often called peers) for merit. The review is conducted by appropriately qualified scientists, engineers, or other technically-qualified individuals who are apart from the people or groups making the award decisions, and serves to inform the program manager or other qualified individual who makes the award (e.g., NSF's single-investigator research; NASA's research and analysis funds).

Table 7-4 lists how Federal R&D agencies report their allocation of research funding among these categories.

Table 7-4. ALLOCATION OF FEDERAL RESEARCH FUNDING, FY 2001

(Budget authority, dollar amounts in millions)

	Research Performed at Congressional Direction	Inherently Unique Research	Merit-Reviewed Research with Limited Competitive Selection	Merit-Reviewed Research with Competitive Selection and Internal Evaluation	Merit-Reviewed Research with Competitive Selection and External Evaluation	Total
By Agency						
Health and Human Services	159	107	2,819	19	17,355	20,459
Defense	614	200	1,131	2,901	135	4,981
Energy	139	1,016	2,338	321	749	4,563
National Aeronautics and Space Administration	219	171	636	1,411	1,794	4,231
National Science Foundation			168	234	2,655	3,057
Agriculture*	458	768	359		79	1,664
Commerce	97	325	54	188	205	869
Veterans Affairs	1		3		685	689
Interior	51	138	375	26	4	594
Environmental Protection Agency	38	39	195	69	134	475
Transportation	31	98		344		473
Education	4		163			167
Other	359	111	5	85	11	571
TOTAL	2,170	2,973	8,246	5,598	23,806	43,793

* Does not include net mandatory funding for USDA research grant programs of \$130 million in FY 2001.

Networking and Information Technology and Global Change Research and Development

Global Change Research program, as required by statute.

Table 7-5 shows agency-by-agency spending for Networking and Information Technology R&D and the U.S.

Table 7-5. AGENCY DETAIL OF SELECTED INTERAGENCY R&D EFFORTS

(Budget authority, dollar amounts in millions)

	2000 Actual	2001 Estimate	2002 Proposed	Dollar Change: 2000 to 2002	Percent Change: 2000 to 2002	Dollar Change: 2001 to 2002	Percent Change: 2001 to 2002
Networking and Information Technology R&D							
National Science Foundation	496	641	643	147	+30%	2	+0%
Energy	331	475	480	149	45%	5	+1%
Defense*	285	349	356*	71*	25%*	7*	2%*
Health and Human Services**	214	244	266**	46	21%	22	9%
National Aeronautics and Space Administration	129	177	181	52	40%	4	2%
Commerce	36	39	41	5	+14%	2	+5%
Environmental Protection Agency	4	4	2	-2	-50%	-2	-50%
TOTAL	1,501	1,929	1,969	468	31%	40	2%
U.S. Global Change Research Program							
National Aeronautics and Space Administration	1,161	1,162	1,072	-89	-8%	-90	-8%
National Science Foundation	187	179	178	-9	-5%	-1	-1%
Energy	113	119	121	8	+7%	2	+2%
Commerce	67	80	93	26	+39%	13	+16%
National Institutes of Health	48	52	57	9	+19%	5	+10%
Agriculture	56	56	55	-1	-2%	-1	-2%
Interior	27	27	25	-2	-7%	-2	-7%
Environmental Protection Agency	21	23	22	1	+5%	-1	-4%
Smithsonian	7	7	7	0	+0%	0	+0%
TOTAL	1,687	1,705	1,630	-57	-3%	-75	-4%
TOTAL WITHOUT NASA DEVELOPMENT	758	797	811	53	7%	14	2%

*FY 2002 entry for DOD R&D represents a projection from enacted FY 2001 levels plus inflation. FY 2002 levels are subject to change as a result of the Defense Strategy Review now underway.

**Includes \$14 million in offsetting collection in FY 2002 for the Agency for Healthcare Research and Quality. These activities were funded at \$11 million in FY 2000 and \$14 million in FY 2001.

Tax Incentives

Along with direct spending on R&D, the Federal Government has stimulated private investment in these activities with tax preferences. Current law provides a 20-percent tax credit for private research and experimentation expenditures above a certain base amount. The credit, which expired in 1999, was retroactively reinstated for five years, to 2004, in the Tax Relief Extension Act of 1999. The Budget proposes to make the Research and Experimentation (R&E) tax credit permanent. The proposed extension will cost an additional \$49.6 billion over the period from 2002 to 2011.

A permanent tax provision also lets companies deduct, up front, the costs of certain kinds of research and experimentation, rather than capitalize these costs. This tax expenditure will cost \$1.9 billion in 2001. Finally, equipment used for research benefits from relatively rapid cost recovery. The cost of this tax preference is calculated in the tax expenditure estimate for accelerated depreciation of machinery and equipment.

Table 7-6 shows a forecast of the costs of the research and experimentation tax credit.

Table 7-6. PERMANENT EXTENSION OF THE RESEARCH AND EXPERIMENTATION TAX CREDIT

(Budget authority, dollar amounts in millions)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2002 to 2011
Current Policy	6,760	5,390	4,710	2,720	1,160	.....	.....	.....	.....	.....	20,740
Proposed Extension .....	.....	.....	1,055	3,431	5,415	6,542	7,388	8,020	8,567	9,158	49,576
Total	6,760	5,390	5,765	6,151	6,575	6,542	7,388	8,020	8,567	9,158	70,316

8. CREDIT AND INSURANCE

Federal credit programs offer direct loans and loan guarantees for a wide range of activities, primarily housing, education, business and rural development, and exports. At the end of 2000, there were \$241 billion in Federal direct loans outstanding and \$1,043 billion in loan guarantees. Through its insurance programs, the Federal Government insures bank, thrift, and credit union deposits up to \$100,000, guarantees private defined-benefit pensions, and insures against other risks such as natural disasters.

The Federal Government also enhances credit availability for targeted sectors indirectly through Government-sponsored enterprises (GSEs)—privately owned companies and cooperatives that operate under Federal charters. GSEs provide direct loans and increase liquidity by guaranteeing and securitizing loans. Some GSEs have become major players in the financial market. In 2000, the face value of GSE lending totaled \$2.6 trillion. The size of two housing GSEs, the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac), is particularly notable; they had \$2.1 trillion in combined lending. In return for fulfilling social roles, GSEs enjoy some privileges, which include eligibility of their securities to collateralize public deposits and be held in unlimited amounts by most banks and thrifts, exemption of their securities from SEC registration, exemption of their earnings from State and local income taxation, and ability to borrow from Treasury, at Treasury's discretion, in amounts ranging up to \$4 billion. These privileges leave many people with the impression that their securities are risk-free. GSEs, however, are

not part of the Federal Government, and their securities are not federally guaranteed. By law, the GSEs' securities carry a disclaimer of any U.S. obligation.

The role and risk of these diverse programs critically depend on the state of financial markets. In recent years, financial markets have been changing faster because of rapid technological advances and active deregulation. The Federal Government, therefore, needs to reassess the extent and nature of credit and insurance programs more carefully in order to adapt those programs to rapidly changing financial markets.

The rest of this chapter is organized as follows.

- The first section concerns the role of Federal credit and insurance programs. Federal programs play useful roles when market imperfections prevent the private market from efficiently providing credit and insurance. Financial evolution has partly corrected many imperfections and generally weakened the justification for Federal intervention.
- The second section identifies four key criteria for evaluating Federal programs: objectives, economic justification, availability of alternative means, and efficiency. It also discusses how Federal agencies may improve program efficiency.
- The third section reviews Federal credit programs and GSEs in four sectors: housing, education, business and community development, and exports. This section focuses on program objectives, recent developments, and future plans.
- The final section describes Federal deposit insurance, pension guarantees, and disaster insurance in a context similar to that for credit programs.

I. FEDERAL PROGRAMS IN CHANGING FINANCIAL MARKETS

The Federal Role

The roles of Federal credit and insurance programs can be broadly classified into two: helping disadvantaged groups and correcting market failures. Subsidized Federal credit programs redistribute resources from the general taxpayer to disadvantaged regions or segments of the population. Since disadvantaged groups can be assisted through other means, such as direct subsidies, the value of a credit or insurance program critically depends on the extent to which it corrects market failures.

In most lines of credit and insurance, the private market efficiently allocates resources to meet societal demands, and Federal intervention is unnecessary. However, Federal intervention may improve the market outcome in some situations. The market imperfections that justify some Federal involvement can be broadly classified as follows.

- **Information opacity** interferes with the optimal allocation of capital. For example, information about some borrowers can be opaque. In most cases, financial intermediaries efficiently gather and process information needed to evaluate the creditworthiness of borrowers. However, there may be little objective information about some groups of borrowers such as start-up businesses, start-up farmers, and students, who have very limited current income and credit history. Because it is difficult for those borrowers to prove their creditworthiness to a large number of lenders, they need to rely on the subjective judgements of a few lenders, which can be wrong. In this situation, many creditworthy borrowers may fail to obtain credit. Even for borrowers who are approved for credit, insufficient competition among a small number of lenders can result in higher

interest rates. Lacking adequate information, private lenders may also require risk premiums, in the form of higher borrowing costs, to compensate for uncertainty about borrowers' creditworthiness. With government intervention, such as loan guarantees, creditworthy borrowers may be more likely to obtain credit at a lower cost.

- **Externalities** cause either underinvestment or overinvestment in some sectors. Individuals and private entities do not make socially optimal decisions when they do not capture the full benefit (positive externalities) or bear the full cost (negative externalities) of their activities. Examples of positive and negative externalities are education and pollution. Other people benefit from high productivity and good citizenship of a well-educated person and suffer from pollution. Without Government intervention, people would invest less than the socially optimal amount in activities that generate positive externalities and more in activities that generate negative externalities. The Federal Government can encourage activities involving positive externalities by offering subsidized credit or other rewards and discourage activities involving negative externalities by imposing taxes or other penalties. Alternatively, the Government may offer credit or direct subsidies to encourage activities reducing negative externalities (e.g., pollution control).
- **Resource constraints** sometimes limit the private sector's ability to offer certain products. Deposit insurance is one example. Since the performance of banks is often affected by common factors such as macroeconomic conditions, bank failures tend to be clustered in bad times. Furthermore, if depositors become doubtful about the soundness of the banking system as a whole upon observing a large number of failures, they may rush to withdraw deposits, forcing even sound banks into liquidation. To prevent these undesirable withdrawals, which would harm the whole economy, deposit insurance needs to be backed by a sufficient fund to resolve a very large number of failures. It may be difficult for private insurers to secure such a large fund. Another example is catastrophic insurance, which also faces a small risk of a very large loss. Knowing that the insurer can run out of funds, people may be reluctant to purchase insurance because their claims might not be honored. Moreover, the insurer may not want to offer a reasonable policy because early occurrence of a disaster could bankrupt the company. In this situation, Government insurance is more effective than private insurance because the broad taxing authority of the Federal Government makes the insurance policy more credible. Another form of resource constraint is liquidity constraint. It is usually difficult for a private entity to raise a large fund in a short time. The funding difficulty can limit the private market's ability to extend

credit and disrupt economic activity. The Federal Government can prevent economic disruption by providing liquidity in illiquid sectors or during illiquid periods.

- **Imperfect competition** justifies some Government intervention. Competition is imperfect in some markets because of barriers to entry, economies of scale, and foreign government intervention. If an entry barrier raised the cost of credit in some markets, the Federal Government might intervene. Foreign countries often subsidize their exporters and import-substituting industries. In these cases, the Federal Government may intervene to level the playing field for domestic exporters. Legal barriers to entry and geographic isolation can cause imperfect competition in some rural areas. If the lack of competition forces some rural residents to pay excessively high interest on loans, Government intervention can increase the availability of credit and lower the borrowing cost.

Changing Financial Markets

Financial markets have undergone many changes. The most fundamental developments are financial services deregulation and technological advances, which have promoted economic efficiency and competition. Technological advances have also enhanced liquidity, produced sophisticated risk management tools, and spurred globalization. Deregulation has promoted consolidation.

Financial services deregulation has promoted competition by removing geographic and industry barriers. Historically, geographic restrictions were a major legal barrier that limited competition in the banking sector. Until the late 1970s, all states prohibited out-of-state bank holding companies from acquiring in-state banks, and many states restricted intrastate branching. Deregulation of interstate banking and intrastate branching actively took place at the state level in the 1980s and early 1990s. In 1994, the Congress enacted the Riegle-Neal Interstate Banking and Branching Act, which permits banks to establish interstate branches through mergers with other banks. Geographic restrictions were essentially removed in 1997, when the Act took full effect. The Financial Services Modernization Act of 1999 has repealed the provisions of the Glass-Steagall Act and the Bank Holding Company Act that restricted the affiliation between banks, securities firms, and insurance companies. The Act allows financial holding companies to engage in various financial activities, including traditional banking, securities underwriting, insurance underwriting, asset securitization, and financial advising. As a result, competition has become nationwide and across all financial products.

Advances in communication and information processing technology have made the evaluation of borrowers' creditworthiness more accurate and lowered the cost of financial transactions. Lenders now have

easy access to large databases, powerful computing devices, and sophisticated analytical models. Thus, many lenders use credit scoring models that evaluate creditworthiness based on various borrower characteristics derived from extensive credit bureau data. As a result, lending decisions have become more accurate and objective. Powerful computing and communication devices have also lowered the cost of financial transactions by producing new transaction methods such as electronic fund transfers, Internet banking, and Internet brokerage.

The development of reliable screening methods and efficient transaction methods have resulted in intense competition for creditworthy borrowers and narrowed lending margins. Financial institutions are more willing to compete for customers with diverse characteristics, customers in distant areas, and small profit opportunities. A notable example of increased competition is the credit card business, where offering lower rates to the best customers became much more common in recent years.

Wider availability of information and lower transaction costs have led to many developments that increase competition, enhance liquidity, and improve efficiency in financial markets.

Direct capital market access by borrowers has become more common. Advances in communication and information processing technology enabled many companies (less-established medium-sized companies, as well as large reputable ones) to validate their financial information at low costs and to borrow directly in capital markets, instead of relying on banks. The growth of the commercial paper (short-term financing instruments issued by corporations) market has been particularly notable. Between 1990 and 2000, the outstanding amount of commercial paper issued by nonfinancial firms increased by 132 percent (to \$343 billion), while the commercial and industrial loans at commercial banks increased by 70 percent (to \$885 billion). This development has reduced the importance and the pricing power of financial intermediaries.

Nonbank financial institutions such as finance companies and venture capital firms increased their market share, partly thanks to advanced communications and information processing technology that helped to level the playing field. Between 1990 and 2000, consumer loans and business loans at finance companies increased by 136 percent (to \$439 billion) and 92 percent (to \$518 billion) respectively. During the same period, those at commercial banks grew by 42 percent (to \$538 billion) and 70 percent (to \$885 billion). The growth of venture capital firms was rather phenomenal. Between 1990 and 1999, their new investments, which were mostly in small firms' equity, jumped from \$3.2 billion to \$40.6 billion (1,169 percent).

Internet-based financial intermediaries provide financial services more cheaply and widely. The Internet lowers the cost of financial transactions and reduces

the importance of physical location. Internet brokers slashed the commission on stock trading. Internet-only banks, which started appearing recently, bid up deposit interest rates. Furthermore, their services are nationwide.

Over the last two decades, technological advances have produced many new financial instruments that help to enhance liquidity and manage risk. In particular, asset-backed securities and derivative securities have gained much popularity.

Securitization (pooling a certain type of asset and selling shares of the asset pool to investors) has enhanced liquidity in financial markets by enabling lenders to raise funds without borrowing or issuing equity. For example, mortgage bankers with little capital can originate a large amount of real estate loans and keep selling those loans. It also helps financial institutions to reduce risk exposure to a particular line of business. A bank with a large proportion of real estate loans can reduce its exposure to collapse of the real estate market by selling some of those loans to third parties. Commonly securitized assets include credit card loans, automobile loans, and residential mortgages, whose quality can be more objectively analyzed. In recent years, financial institutions began securitizing many other assets such as commercial mortgages and small-business loans, the riskiness of which is more difficult to evaluate.

Financial derivatives, such as options and swaps, have improved investors' ability to manage risk (either increase or decrease risk exposure). Financial institutions are increasingly using financial derivatives, which are effective tools to manage various types of risk such as interest rate risk, credit risk, price risk, and even weather-related risk. In an interest rate swap, for example, a firm with a floating-rate (interest rate tied to a benchmark rate such as the one-year Treasury rate) asset periodically pays its counter-party the floating-rate return in exchange for a fixed interest rate. This firm's exposure to interest rate movements will decrease if it mostly has fixed-rate debts and increase if it mostly has floating-rate debt. Weather derivatives offer a hedge on weather by tying the securities returns to weather conditions.

Globalization has been accelerating as a result of the reduced importance of geographic proximity and knowledge of local markets. Both commercial and investment banking institutions headquartered in Europe and Japan are actively competing in the U.S. market, and many U.S. financial institutions have branches worldwide. In 2000, foreign banks controlled about 11 percent of U.S. banking assets. On the other hand, deposits at foreign branches of U.S. banks accounted for about 16 percent of their total deposits.

Consolidation among financial institutions, especially banks, has been very active due to deregulation and increased competition. Many financial mega-merg-

ers have taken place in recent years. The acquisition of Paine Webber by Union Bank of Switzerland exemplifies the merger between large investment firms. The merger between BankAmerica and NationsBank created the largest bank in the Nation with assets of \$585 billion only to be surpassed soon by the merger between Chase Manhattan and J.P. Morgan forming a bank with assets of \$660 billion. Because of active consolidation, the number of banks has sharply decreased, and the size of banks has increased. Between 1990 and 2000, the number of banks decreased by almost 4,000 or over 30 percent. The increased concentration of assets among the largest few banks is notable. The percentage of banking assets controlled by the largest 100 banks increased from 51 to 71 percent. The 20-percent-age-point gain belongs largely to the largest 10 banks (16 percentage points). Consolidation across traditional industry boundaries has also been fairly active. The merger between Citicorp and Travelers Group in 1998 formed Citigroup encompassing the commercial banking (Citibank), insurance (Travelers), and securities (Salomon Smith Barney) businesses. Many inter-industry mergers were announced in 2000. Chase Manhattan (commercial bank) is acquiring Beacon Group (merger advisory firm), and Charles Schwab (brokerage giant) is taking over U.S. Trust (commercial bank). MetLife (insurance firm) plans to acquire Grand Bank (commercial bank).

Implications for Federal Programs

In general, financial evolution has increased the private market's capacity to serve the populations targeted by Federal programs and hence weakened the role of Federal credit and insurance programs. Thus, it may be desirable to focus on narrower target populations that still have difficulty in obtaining credit from private lenders and more specific objectives that have been less affected by financial evolution.

Information about borrowers is more widely available and easier to process, thanks to technological advances. Credit scoring models, for example, enable lenders to make more accurate lending decisions. As a result, creditworthy borrowers are less likely to be turned down, while borrowers that are not creditworthy are less likely to be approved for credit. The Federal role of improving credit allocation, therefore, is generally not as strong as before. The benefit from financial evolution, however, may have been uneven across groups. Large financial institutions with global operation, which are products of consolidation and globalization,

may want to focus more on large customers and business lines that utilize economies of scale and scope more fully. Thus, some small and distinct borrowers, who used to rely heavily on the private information of small institutions, can be underserved. The Federal Government may need to better target those groups, while reducing general involvement.

Externalities have not been significantly affected by financial evolution. The private market fundamentally relies on decisions at the individual level. Thus, it is inherently difficult for the private market to correct problems related to externalities.

Resource constraints have been alleviated. Securitization and financial derivatives facilitate fund raising and risk sharing. By securitizing loans and writing derivatives contracts, a lender can make a large amount of risky loans, while limiting its risk exposure. An insurer can distribute the risk of a natural disaster among a large number of investors through disaster-related derivatives.

Imperfect competition is much less likely in general. Developments that contributed to increasing competition are financial deregulation, direct capital market access by borrowers, stronger presence of nonbank financial institutions, emergence of Internet-based financial institutions, and globalization. Consolidation has a potential negative effect on competition, especially in markets that were traditionally served by small institutions. Given that the Nation still has many banks and other financial institutions, the negative effect, if any, should be insignificant overall. It is possible, however, that some communities in remote rural areas and inner city areas have been adversely affected by consolidation.

Uncertainties about the Federal Government's liability have increased in some areas. Consolidation has increased bank size, and deregulation has allowed banks to engage in many risky activities. Thus, the loss to the deposit insurance funds can turn out to be unusually large in some bad years. The potential loss needs to be limited by large insurance reserves and effective regulation. The large size of some GSEs is also a potential problem. Financial trouble of a large GSE could cause strong repercussions in financial markets, affecting Federally insured entities and economic activity.

II. A CROSS-CUTTING ASSESSMENT

To systematically assess Federal programs, policymakers and program managers need to consider the following questions. (1) Are the programs' objectives still worthwhile? (2) Is the program economically justified? (3) Is the credit or insurance program the best way to achieve the goals? (4) Is the program operating

efficiently and effectively? If the answer is "No" to any of the first three questions, the program should be eliminated or phased out. For programs that pass the three tests, the focus should be on improving efficiency and effectiveness.

Objectives

The first step in reassessing Federal credit and insurance programs is to identify clearly the objective of each program, such as an increase in homeownership, an increase in college graduates, an increase in jobs, or an increase in exports. The objective must be worthwhile to justify a program. For some programs, the objective might be unclear or of low importance. In some other cases, an initially worthwhile objective might have become obsolete. For example, the main objective of the Rural Telephone Bank is to increase telephone service in rural areas. This was a worthwhile objective when many rural residents had limited or costly access to telephone service. In the current environment with ample supply of telephone lines and intense competition among telephone companies, however, the objective is obsolete.

Economic Justifications

For a credit or insurance program to be economically justified, the program's benefits must exceed its costs. The benefits are the net effects of the program on intended outcomes compared with what would have occurred in the absence of the program. They exclude, for example, gains that would have been obtained with private credit in the absence of the program. Financial evolution may have significantly affected the net benefit from some programs. Suppose, for example, that financial evolution made information about borrowers transparent in some sectors where information opaqueness had been a major problem. Then the net benefit would be substantially smaller for the Federal programs that mainly intended to solve the information problem in those sectors.

Many Federal credit and insurance programs involve subsidy costs, and all of them incur administrative costs. A subsidy cost occurs when the beneficiaries of a program do not pay enough to cover the cost to the Federal Government (e.g., they pay below-cost interest rates and below-cost fees). The administrative costs include the costs of loan origination, direct loan servicing, guaranteed loan monitoring, and collecting on delinquent loans. The net benefit of a program can be smaller than the combined cost of subsidy and administration either because it is inherently costly to pursue the program's goal or because the program is inefficiently managed (failure to maximize the benefit and minimize the cost). The program should be discontinued in the first case and restructured in the second case.

Alternatives

Even a program that is economically justified should be discontinued if there is a better way to achieve the same goals. The Federal Government has other means to achieve social and economic goals, such as providing direct subsidies, offering tax benefits, and encouraging private institutions to provide the intended services.

In general, direct subsidies are more efficient than credit programs for the purpose of fulfilling social objectives such as helping low-income people, as opposed

to economic objectives such as improving credit allocation. Direct subsidies are less likely to interfere with the efficient allocation of resources. Suppose that the Government makes a subsidized loan to be used for a specific project. Then the borrower will undertake the project if its return is greater than the subsidized rate. Thus, the subsidized loan can induce the borrower to undertake a normally unprofitable project and hence result in a social loss. On the other hand, a direct subsidy is a simple income transfer, which is less likely to cause a social loss.

To a certain extent, the Federal Government can also correct market failures by improving the efficiency of the private market, instead of directly offering credit or insurance. For example, policies encouraging the standardization of information (e.g., standardization of loan origination documents) may improve the private lenders' ability to serve those sectors where information is opaque. Standardization helps to reduce opaqueness by facilitating information processing. With reduced opaqueness, loan sales should be easier, and the secondary market should develop more quickly. Then the lending market would be more liquid and competitive. A more specific example is the development of floodplain maps by the National Flood Insurance Program. Before the development of the maps, private insurance companies had little information on flood risks by geographic area. The lack of information was a main reason why private companies were unwilling to insure against flood risk. The availability of floodplain maps may have increased private companies' willingness to provide flood insurance.

Improving Efficiency

Some programs may be well-justified based on the three criteria above. However, few programs may be perfectly designed. It is almost impossible to take all relevant factors into consideration at the beginning. In addition, financial evolution can lower the efficiency of initially well-designed programs. Thus, improving efficiency is an everlasting concern. Although the ways to improve efficiency vary across programs, some general principles may apply to many programs.

A critical part of credit programs is to set appropriate lending terms. The Government makes many loans at a subsidized rate, which could attract borrowers who would be able to obtain credit elsewhere at reasonable rates. For example, the Farm Service Agency offers agricultural loans at Treasury rates to borrowers who have been denied credit by private lenders. The disaster loan program of the Small Business Administration applies a lower rate to applicants without credit available elsewhere. Some creditworthy borrowers can be denied credit by chance. It is also possible that some borrowers might even be willfully denied credit by an unusually tough lender or due to inaccurately reported credit information. One solution to this problem is to make loans at the rate that private lenders offer to an average borrower and supplement the loans with direct subsidies to the disadvantaged. Proper lending terms re-

quiring less subsidy should improve the efficiency of Federal programs by reducing the possibility of encouraging uneconomic projects and increasing the Federal agencies' ability to serve a larger population within their budget limits.

The Federal Government can manage credit and insurance programs more efficiently by utilizing the private market's expertise. In the areas where the private market has expertise that the Government does not, it is important to utilize the private market's expertise to effectively implement Federal programs. For example, if private lenders more accurately evaluate the creditworthiness of a certain group of borrowers using private information and special knowledge, the Government needs to have private lenders involved in credit programs and, with appropriate risk-sharing incentives, delegate credit evaluation for the group to them.

If the expertise of the private market is not critical, however, the Government should streamline delivery systems. A good example is the guaranteed student loan program. Neither lending institutions nor guaranteeing agencies are involved in credit evaluation. Schools make lending decisions based on eligibility. In this case, involvement of multiple layers of institutions can unnecessarily increase administrative costs. In addition, if the Government fails to set the loan criteria and lending margin optimally, private institutions may make excessive profits at the expense of taxpayers.

Outreach is very important to improve the efficiency of Federal programs. The net benefit will increase if program managers more successfully identify borrowers who would not get private credit. They need to reach out to underserved populations (e.g., low-income, minority) and neighborhoods (e.g., rural, inner city). They need to encourage start-up of new activities (e.g., beginning farmers, new businesses, new exporters). They need to reach their legislatively targeted populations (e.g., students, veterans). Federal credit programs can also play a more useful role when there is temporary inefficiency in the private market. The financial market

can occasionally face a liquidity crisis or become overly pessimistic (e.g., at the time of the Asian financial crisis and the near collapse of Long-Term Capital, a hedge fund). On those occasions, Federal agencies can promote the extension of credit to creditworthy borrowers.

Federal programs will become more cost effective if program managers more successfully identify the most creditworthy borrowers among those who would be denied credit by private lenders. More accurate screening would lower the default rate and hence the subsidy cost. Achieving this goal may require well-developed analytical tools.

To efficiently run Federal programs in a rapidly changing financial market, Federal agencies need to catch up with new technology. Federal agencies and private financial institutions compete for some borrowers and make financial transactions such as loan sales. Private institutions are using increasingly sophisticated tools to screen borrowers and price financial assets. If Federal agencies do not use advanced tools, they can be left with riskier loan pools or inadvertently sell loans at below-market prices. To catch up with new technology, it is critical to have a staff with advanced analytical training. Sometimes, it may be more cost effective to contract out analytical work than to maintain a large analytical staff. Even when contracting out is more cost effective, Federal agencies need some analysts with enough training to competently evaluate the performance of contractors. Inability to effectively evaluate the performance of contractors may result in serious waste.

Federal agencies also need to monitor other developments that may affect program efficiency. For example, many loans guaranteed by the Government are securitized. Securitization may reduce the lenders' incentives to screen and monitor borrowers if they believe that guaranteeing agencies do not properly track the performance of securitized loans. To prevent this adverse effect, the Government needs well-organized databases and modern monitoring systems.

III. CREDIT IN FOUR SECTORS

Housing Credit Programs and GSEs

The Federal Government makes direct loans, provides loan guarantees, and enhances liquidity in the housing market to promote homeownership among low- and moderate-income people and to help finance rental housing for low-income people. While direct loans are largely limited to low-income borrowers, loan guarantees are offered to a much larger segment of the population, including moderate-income borrowers. Increased liquidity achieved through GSEs benefits virtually all borrowers in the housing market, although it helps low- and moderate-income borrowers more.

The main government agencies and GSEs involved in housing finance are the Department of Housing and Urban Development (HUD), the Department of Veterans Affairs (VA), the Department of Agriculture

(USDA), Fannie Mae, Freddie Mac, and the Federal Home Loan Bank System. In 2000, HUD, VA, and USDA supported \$123 billion of direct loans and loan guarantees, helping 1.3 million households and contributing to a record high homeownership rate of 67.7 percent. Roughly one out of six single-family mortgages originated in the United States receives assistance from one of these programs.

Federal Housing Administration

HUD's Federal Housing Administration (FHA) operates the Mutual Mortgage Insurance Fund. FHA mortgage insurance is directed to expanding access to homeownership for people who lack the savings, income, or credit history to qualify for a conventional home mortgage. In 2000, FHA insured \$86 billion in mortgages for almost 900 thousand households. The volume was

lower than in 1999, when low interest rates spurred mortgage originations and refinancing. FHA also faces increased competition from private lenders who are now more willing to offer loans to borrowers with weaker credit standing at competitive terms. Over 80 percent of FHA's home purchase mortgages went to first-time home buyers, and 42 percent went to minority households. These percentages have doubled over the past decade.

FHA recently reduced its upfront insurance premiums by one-third, and brought its annual premium structure in line with the private mortgage insurance industry by authorizing annual premium cancellation at 78 percent loan-to-value ratio. In addition, the Budget proposes to allow FHA to insure a new financial product that has gained popularity in the conventional market—hybrid adjustable-rate mortgages.

FHA has created a loss mitigation program that scores lender performance on loss mitigation annually and provides financial incentives to lenders to hold down mortgage defaults and minimize FHA claim and property disposition costs relative to other lenders in each FHA insuring district. FHA also has authority to assess financial penalties on lenders who fail to engage in loss mitigation. FHA increased loss mitigation activity by over 50 percent in 2000, processing over 30,000 new loss mitigation claims (partial claims, special lender forbearance, and loan recasting). These options allowed families to stay in their homes, rather than have the properties go to pre-foreclosure sale or foreclosure, and provided significant savings to FHA because management and marketing of real property are very costly.

In 1999, Congress passed legislation giving new authority to FHA to pay claims prior to foreclosure. This accelerated claims process, when fully implemented in 2002–2003, will allow FHA to pass along defaulted notes to the private sector for servicing and/or disposition, thereby reducing foreclosures and eliminating most of the real property that FHA must acquire and dispose. Currently, FHA contracts with private companies for the management and marketing of most of its single-family properties.

There is some evidence that the mortgage industry has seen an increase in the number of predatory loans. Predatory loans, which carry excessive fees or other unfair pricing structure, harm unsuspecting buyers. Predatory loans are more prevalent in the subprime market where conventional loans are made to higher-risk borrowers. The Government can improve mortgage-market efficiency by squeezing out predatory practices through increased regulation and disclosure. In addition to predatory lending, the mortgage industry also has seen increased incidences of fraud. For example, FHA recently had to implement emergency foreclosure moratoria in several cities to protect consumers from a scam known as “property flipping,” in which a lender and an appraiser conspire to sell a home at a falsely inflated price. Government credit programs are more susceptible to property flipping because of the opportunity created

by the Government guarantee. Improved program controls and better information systems would reduce the Government's risk in this area.

VA Housing Program

The VA assists veterans, members of the Selected Reserve, and active duty personnel to purchase homes as a recognition of their service to the Nation. The program substitutes the Federal guarantee for the borrower's down payment. In 2000, VA provided \$20 billion in guarantees to assist 176,000 borrowers. Both the volume of guarantees and the number of borrowers were lower than those in 1999 as higher interest rates decreased loan originations and refinancing in the housing market.

Since the main purpose of this program is to help veterans, lending terms are more favorable than market rates. In particular, VA guarantees zero down payment loans. As a result, the default rate is relatively high. The subsidy rate, however, declined slightly in 2000, thanks to efforts to reduce foreclosure rates and the strong housing market.

In order to help veterans retain their homes and avoid the expense and damage to their credit resulting from foreclosure, VA plans aggressive intervention to reduce the likelihood of foreclosures when loans are referred to VA after missing three payments. VA was successful in 30 percent of their 2000 interventions, and their goal is to increase that to 34 percent in 2002. Future military base closures, however, may negatively affect the default rate in the VA guaranteed housing program. Guaranteed loans issued to active duty military and military reservists are vulnerable to the impact of base closures on the neighboring community.

VA is continuing its efforts to reduce administrative costs through restructuring, consolidations, and a study of its property management function. The study, which will be completed in 2001, will determine whether it would be cost effective to contract property management activities. The Administration will also propose eliminating the “vendee” home loan program, which allows the general public to receive direct loan financing from VA when purchasing a defaulted VA home and which is not mission related.

Rural Housing Service

USDA's Rural Housing Service (RHS) offers direct and guaranteed loans and grants to help very low- to moderate-income rural residents buy and maintain adequate, affordable housing. The single family guaranteed loan program guarantees up to 90 percent of a private loan for moderate-income rural residents. The program's emphasis is on reducing the number of moderate-income rural residents living in substandard housing. In 2000, \$2.02 billion of guarantees went to 27,408 households, of which 29.4 percent went to low-income borrowers (income is 80 percent or less than median area income). For 2001, Congress statutorily increased the premium charged on the RHS single-family guarantees from 1 to 2 percent, which should allow RHS to provide more loans at less cost to the taxpayers.

In the single family housing guaranteed loan program, lender monitoring and external audits have helped to identify program weaknesses, train servicers, and identify troubled lenders. RHS's guaranteed loan program is also moving toward automated underwriting. In 2000, RHS continued to enhance an Internet based system that will, with future planned improvements, provide the capacity to accept electronic loan originations from their participating lenders. Utilizing electronic loan origination technology will add significant benefits to loan processing efficiency and timeliness for both RHS and the lenders.

RHS continues to operate under the "best practice" for asset disposition for its guaranteed loan program. For single family guarantees, the lender is paid the loss claim, including costs incurred for up to three months after the default. After the loss claim is paid, RHS has no involvement in the loan, and it becomes the sole responsibility of the lender.

RHS programs differ from other Federal housing loan guarantee programs, which generally either are out of reach for the income levels of RHS loan recipients or do not reach rural areas due to their outreach structure. For instance, HUD's FHA guarantee program is not means-tested, but there is an individual loan limit. RHS is means-tested, and there is a loan limit. FHA loans are available in any area, but often RHS borrowers are unable to afford an FHA loan. In addition, the RHS direct loan program offers deeper assistance to very-low-income homeowners by subsidizing the interest rate down to 1 percent for such borrowers. RHS offers the Federal Government's only direct single family housing loan program. The program helps the "on the cusp" borrower obtain a mortgage, and encourages graduation to private credit as the borrower's income increases over time.

RHS single family direct loans have a fluctuating interest rate depending on the borrower's income. It can be anywhere from 1 percent up to the note rate. Each loan is reviewed annually to determine the interest rate that should be charged on the loan in that year. The determination is based on the borrower's actual annual income that year. The program cost is balanced between interest subsidy and defaults. For 2002, RHS expects to provide \$1.1 billion in loans with a subsidy cost of 13.16 percent. Its most recent and ongoing servicing improvement effort has been the implementation of the Dedicated Loan Origination Service System (DLOS), which centralized the servicing of the direct loan program. DLOS, in conjunction with 2 major regulations implemented between 1996 and 1997, reduced RHS's direct loan subsidy rate by 40 percent.

RHS also offers multifamily housing loans. Direct loans are offered to private developers to construct and rehabilitate multi-family rental housing for very-low to low-income residents, elderly households, or handicapped individuals. These loans to developers are very heavily subsidized; the interest rate is between 1 and 2 percent. The Farm Labor Housing direct loans, which are similarly priced, help developers to provide rental

units for minority farm workers and their families. RHS rental assistance grants supplement both of these loan programs in the form of project based rents for very low-income rural households. RHS also started offering guaranteed multifamily housing loans beginning in 1996. The cost of this guarantee program is relatively low because default rates are expected to be low. In total, the Budget provides \$257 million in direct and guaranteed loans for rural multi-family rental housing, helping to construct over 8,600 new units for very-low to moderate-income tenants in rural America.

Housing Finance Challenges and Opportunities

Private banks, thrifts, and mortgage bankers, which originate the mortgages that FHA insures and VA and RHS guarantee, may deal with all three programs, as well as with the Government National Mortgage Association (Ginnie Mae, an agency of the Department of Housing and Urban Development), which guarantees timely payment on securities based on pools of these mortgages. In addition, the same private firms originate conventional mortgages, many of which are securitized by Government-sponsored enterprises—Fannie Mae and Freddie Mac.

Many of these firms already use or are moving toward electronic loan origination and automated underwriting. Behind such underwriting are data warehouses that show default experience by type of loan, borrower characteristics, home location, originator, and servicer. Automated valuation models relate these factors to default cost, and provide comparative analysis of home sales data to estimate property collateral values without relying on a human appraiser. After loan origination, software programs grade delinquent loans in terms of their credit and collateral risk and allow servicers to devote resources to the highest-risk loans.

These technological developments offer challenges and opportunities to the Federal mortgage guarantors and Ginnie Mae. Federal credit program managers are challenged to make programs electronically accessible to their clients and loan originators. They are challenged to assess and monitor their risks more closely as private firms are reaching out to the better risks among their potential clients. They also have an opportunity to provide better service at a lower cost, to target their efforts to help borrowers retain their homes, and to reach further to bring affordable housing and homeownership opportunities to those who are not currently served.

Data Sharing. Federal credit program managers are benefitting and would benefit more from additional data-sharing capability across the Government, which provides access to integrated information on program designs, borrower characteristics, and lender and loan performance.

Loan Origination. Electronic underwriting provides convenient, faster service at a lower cost to both lenders and borrowers. Currently, both FHA and VA permit mortgage lenders to use approved automated under-

writing systems, including Freddie Mac's "Loan Prospector" and Fannie Mae's "Desktop Underwriter," to originate these loans. FHA, however, will soon deploy its "Total Scorecard." By transitioning FHA's third party lenders to its own automated scorecard, FHA will improve its program controls and credit management.

Performance Measurement. As in underwriting, private firms are heavily involved in servicing Government-backed mortgages. Measurement of the private sector's servicing capacity is thus critical. The Government needs to improve its systems to measure this performance. For example, monthly data would not only give housing programs a better understanding of how their guarantee portfolios behave, but also serve as an early warning system and feedback mechanism. The Government could adjust underwriting standards in quick response to changing market conditions.

Managing Risk. Risk-based pricing is emerging in the conventional mortgage market as an important means by which lenders can take on more risk. Technology is giving lenders much more precise ability to assess the initial default risk associated with making a particular loan. This increasingly precise underwriting technology, in turn, allows lenders and insurers to adjust fees or loan rates and/or raise insurance premiums to reflect risk and loan cost accurately. Federal loan guarantee programs will need to assess the impact of private sector customization on their loan portfolios, and may need to adopt a similar pricing structure to avoid adverse selection and larger losses. Currently, premiums vary only slightly with one dimension of risk, the initial loan-to-value ratio.

Asset Disposition. Common wisdom in the mortgage industry is to avoid foreclosure because that process involves significant losses, including costs for maintenance and marketing. Managers of Federal guarantee programs have found that the best practice is to allow the more experienced private sector to manage delinquent loans and dispose of properties.

Fannie Mae and Freddie Mac

Fannie Mae and Freddie Mac, the largest Government-sponsored enterprises (GSEs), are required by their charters to increase the liquidity of mortgage funds and to promote access to mortgage credit for households that historically have been underserved by private markets. They carry out this function by guaranteeing or purchasing residential mortgages. The guaranteed loans are packaged as mortgage-backed securities (MBS), which lenders hold or sell to investors, including Fannie Mae and Freddie Mac. The two GSEs finance their acquisitions of loan and MBS assets by issuing debt. As of September 2000, Fannie Mae and Freddie Mac had \$2.2 trillion outstanding in mortgages that they had purchased or guaranteed. Of this, \$936 billion was held in the GSEs' asset portfolios, and \$1.3 trillion served as collateral for outstanding MBSs not held in portfolio.

As the dominant firms in the secondary mortgage market, the GSEs tend to set the standards for the entire mortgage industry. Their business activities also have a significant impact on the primary mortgage market; together, the two firms' purchases and securitizations of single-family mortgages equaled 43 percent of originations of such loans in calendar year 1999.

The Federal Housing Enterprises Safety and Soundness Act of 1992 reformed Federal regulation of Fannie Mae and Freddie Mac. The Act created the Office of Federal Housing Enterprise Oversight (OFHEO) to conduct safety and soundness examinations and enforce minimum (leverage) and risk-based capital requirements on Fannie Mae and Freddie Mac. Examinations of the GSEs and enforcement of leverage capital ratios have proceeded since OFHEO's inception, while risk-based capital requirements have undergone an extensive rulemaking process. OFHEO expects to publish a final risk-based capital rule this year. The rule would become enforceable one year later. In October 2000, Fannie Mae and Freddie Mac announced that they would voluntarily issue subordinated debt on a regular basis and expand their public disclosures relating to risk exposures.

Fannie Mae and Freddie Mac have achieved strong growth in profits in recent years, in large part by rapidly growing their debt-financed holdings of mortgage assets. From September 1997 to September 2000, their mortgage asset portfolios more than doubled in dollar volume. Increased retained portfolios may imply increased interest rate exposure. In recent years, both Fannie Mae and Freddie Mac have tried to limit the interest rate risk on their portfolios by issuing long-term callable debt and by entering into interest rate swaps and other hedging transactions. Hedges, however, do not eliminate all the risk associated with funding long-term, mostly fixed-rate assets that have uncertain payment streams. Implementation of an appropriate risk-based capital regulation should help limit the potential losses associated with interest rate risk.

To fund their rapidly growing asset portfolios, Fannie Mae and Freddie Mac have increased sharply their outstanding debt. The GSEs' combined debt outstanding rose from \$196 billion at the end of calendar year 1992 to \$1.07 trillion at the end of calendar year 2000, an average growth rate of nearly 24 percent a year.

The GSEs' management of counterparty default risk is of increasing importance because their risk management techniques transform exposure to credit or interest rate risk into counterparty default risk. Such risk management techniques include the use of credit enhancements and derivatives; supplementing primary mortgage insurance with supplementary insurance at the pool level; and the use of interest rate and currency swaps.

The average credit quality of mortgages owned or guaranteed by Fannie Mae and Freddie Mac has remained steady in recent years. The performance of existing loans has benefitted from strong housing markets

that have improved collateral values, and the credit risk to the GSEs from new or outstanding loans is limited by their extensive use of mortgage insurance and other credit enhancements. Although both GSEs are increasingly active purchasers of subprime loans (A-minus and Alt-A), outstanding volumes remain very small relative to the firms' overall size. In 2000, Fannie Mae and Freddie Mac began purchasing mortgages with loan-to-value (LTV) ratios greater than 97 percent. As the subprime and high-LTV shares of mortgages financed by the GSEs expand, increasing attention must be paid to their practices for pricing and managing the associated risks.

The above risk assessments must be considered in the context of the GSEs' public purpose to promote access to mortgage credit for low- and moderate-income families in underserved areas, as specified in the 1992 act and their Federal charters. The Secretary of Housing and Urban Development (HUD) establishes affordable housing goals for the GSEs. A final rule published October 31, 2000 established goals for the GSEs for calendar years 2001–2003. The rule requires each GSE to devote:

- 50 percent of its mortgage purchases to finance dwelling units that are affordable by low- and moderate-income families (Low- and Moderate-Income Housing Goal);
- 31 percent of its purchases to finance units in central cities, rural areas, and other metropolitan areas with low and moderate income and high concentrations of minority residents (Geographically Targeted Goal); and
- 20 percent of its purchases to finance units that are special affordable housing for very-low-income families and low-income families living in low-income areas (Special Affordable Goal).

The 1997–2000 goals were 42 percent, 24 percent, and 14 percent of each GSE's purchases, respectively. As of 1999, Fannie Mae and Freddie Mac have met or exceeded the affordable housing goals in each year.

Fannie Mae and Freddie Mac face challenges to sustaining their high rates of profit growth. A small number of large originators account for a large proportion of the single-family mortgages that the GSEs buy and securitize. Larger firms may have somewhat greater market power in negotiating with the GSEs over guarantee fees. Further, total mortgage debt financed by Fannie Mae and Freddie Mac has been increasing more quickly than residential mortgage debt outstanding, which suggests that their charters could eventually limit the GSEs' ability to expand their mortgage asset portfolios. There also may be limits to the amount of mortgage securities the GSEs can finance with debt at attractive margins and the amount of counterparty risk exposure to Fannie Mae and Freddie Mac that other market participants are willing to absorb. The benefit of government sponsorship, however, is one factor that may help Fannie Mae and Freddie Mac to maintain relatively high profitability.

Federal Home Loan Bank System

The Federal Home Loan Bank System (FHLBS) was established in 1932 to provide liquidity to home mortgage lenders. The FHLBS carries out this mission by issuing debt and using the proceeds to make advances (secured loans) to its members. Member institutions primarily secure advances with residential mortgages and other housing-related assets.

The Financial Services Modernization Act of 1999 repealed the requirement that federally chartered thrifts be members of the FHLBS. Membership is open to federally chartered and state-chartered thrifts, commercial banks, credit unions, and insurance companies on a voluntary basis. As of September 30, 2000, 7,720 financial institutions were FHLBS members, an increase of 494 over September 1999. About 73 percent of members are commercial banks, 20 percent are thrifts, and the remaining 7 percent are credit unions and insurance companies. However, 57.8 percent of outstanding FHLBS advances were held by thrifts as of September 30, 2000.

The FHLBS reported net income after adjustment for payment of interest to the Resolution Funding Corporation (REFCorp) of \$2.1 billion for the year ending September 30, 2000, up from \$1.7 billion in the previous 12 months. System capital rose from \$26.9 billion to \$30.6 billion, while the ratio of capital to assets fell from 5.1 percent to 4.9 percent. Average return on equity was about 7.5 percent (after REFCorp). Outstanding advances to members reached \$430 billion at September 30, 2000, an 18 percent increase over the \$365 billion outstanding a year earlier.

The Financial Services Modernization Act requires the System to adopt a risk-based capital structure, and the Federal Housing Finance Board (Finance Board) approved a final capital rule on December 20, 2000, to implement this requirement. The Financial Services Modernization Act changed the FHLBanks' annual payment towards the interest payments on bonds issued by the REFCorp from \$300 million annually to 20 percent of net earnings. The FHLBanks are required to pay the greater of 10 percent of net income or \$100 million to the Affordable Housing Program (AHP) and to provide discounted advances for targeted housing and community investment lending through a Community Investment Program. The need to generate income to meet the REFCorp and AHP obligations and still provide a competitive return on members' investment was a driving force behind the substantial increase in the System's investment activity in recent years.

The FHLBS' exposure to credit risk on advances has traditionally been virtually nonexistent. All advances to member institutions are collateralized, and the FHLBanks can call for additional or substitute collateral during the life of an advance. No FHLBank has ever experienced a loss on an advance to a member.

The System's investment activities, including mortgage purchase programs, create more risks. To control the System's risk exposure on advances and other assets, the Finance Board has established regulations and

policies that the FHLBanks must follow to evaluate and manage their credit and interest-rate risk. FHLBanks must file periodic compliance reports, and the Finance Board conducts an annual on-site examination of each FHLBank. Each FHLBank's board of directors must establish risk-management policies that comport with Finance Board guidelines.

The FHLBanks held \$14.7 billion in mortgage loans at September 30, 2000, approximately 2.3 percent of total assets. The mortgage purchase programs offer members alternative ways of granting credit. In one of these programs, the FHLBanks finance mortgage loans and assume the interest-rate and prepayment risks, while the members originate and service the loans and assume most of the credit risk. All assets held by an FHLBank under these mortgage purchase programs are required, pursuant to the terms of the program, to be credit enhanced to at least the level of an investment-grade security. In addition, an FHLBank must hold risk-based capital against mortgage assets that have credit risk equivalent to an instrument rated lower than double A.

The FHLBanks' investment activities also pose important public policy issues about the degree to which their asset composition adequately reflects the mission of the System. Advances and mortgage loans were equivalent to about 77 percent of the System's out-

standing debt, unchanged from one year earlier. As of September 30, 2000, about 52 percent of advances had a remaining maturity of greater than one year—down from 56 percent one year earlier. Although System investments other than advances rose to \$178 billion as of September 30, 2000, compared with \$156 billion one year earlier, as a percentage of total assets, they fell to 28 percent on September 30, 2000, from 29 percent one year earlier. Like other GSEs, the System issues debt securities at close to U.S. Treasury rates and invests the proceeds in higher-yielding securities. In 2000, the FHLBS issued \$3.9 trillion in debt securities. However, the majority of the debt issued by the System is overnight or short-term, and total debt outstanding was about \$577 billion at the end of 2000.

An enormous, liquid, and efficient capital market exists for conventional home mortgages today. As a result of Government Sponsored Enterprises (GSEs), Ginnie Mae, and the increasing presence of private securitizers, lenders have access to substantial liquidity sources, in addition to FHLBS advances, for financing home mortgages. The Financial Services Modernization Act further increases access to the FHLBS for community financial institutions with \$517 million or less in assets by permitting advance borrowings that provide funds for small businesses, small farms, and small agribusinesses.

Education Credit Programs and GSEs

The Federal Government guarantees loans through intermediary agencies and makes direct loans to students to encourage post-secondary education. The Student Loan Marketing Association (Sallie Mae), a GSE, securitizes guaranteed student loans.

Student Loans

The Department of Education helps to finance student loans through two major programs: the Federal Family Education Loan (FFEL) program and the William D. Ford Federal Direct Student Loan (Direct Loan) program. Eligible institutions of higher education may participate in either or both programs. Loans are available to students and their parents regardless of income. Borrowers with low family incomes are eligible for higher interest subsidies. For need-based Stafford Loans, the Federal Government subsidizes interest costs while borrowers are in school, during a six-month grace period, and during certain deferment periods.

In 2002, more than 6 million borrowers will receive nearly 10 million loans totaling almost \$48 billion. Of this amount, \$37 billion is for new loans, and the remainder is to consolidate existing loans. Loan levels have risen dramatically over the past 10 years as a result of rising educational costs, higher loan limits, and more eligible borrowers.

The Federal Family Education Loan program provides loans through an administrative structure involving over 4,100 lenders, 36 State and private guaranty agencies, 50 participants in the secondary market, and

over 4,000 participating schools. Under FFEL, banks and other eligible lenders loan private capital to students and parents, guaranty agencies insure the loans, and the Federal Government reinsures the loans against borrower default. In 2002, FFEL lenders will disburse more than 6 million loans exceeding \$31 billion in principal. Lenders bear two percent of the default risk, and the Federal Government is responsible for the remainder. The Department also makes administrative payments to guaranty agencies and pays interest subsidies to lenders.

The William D. Ford Direct Student Loan program, originally included in the 1992 Budget as a demonstration project, was authorized by the Student Loan Reform Act of 1993. Under Direct Loans, the Federal Government provides loan capital directly to over 1,200 schools, which then disburse loan funds to students. In 2002, the Direct Loan program will generate more than 3 million loans with a total value in excess of \$17 billion. The program offers a variety of flexible repayment plans including income-contingent repayment, under which annual repayment amounts vary based on the income of the borrower and payments can be made over 25 years.

While projected loan volumes continue to increase under both the FFEL and FDSL programs, lifetime subsidy costs are projected to decrease in both programs. For 2002, the weighted average subsidy rate for FFEL program is estimated at 12.18 percent and the rate for FDSL is estimated at -8.73 percent. These subsidy

rates are lower than previous projections as a result of changes in interest rates, as well as decreased lifetime default rates and improved collections on defaults. The difference in subsidy rates is primarily a result of net interest income on FDSL; the interest income exceeds the Government's cost of funds under current economic assumptions. FFEL does not provide the Government with interest income because it is a guaranteed loan program.

Consolidation Loans, which allow borrowers to combine one or more FFEL, Direct Loan, or other Federal student loan into a single loan with a fixed interest rate, have grown dramatically in recent years. In 1995, Consolidation Loans totaled \$3.6 billion, accounting for roughly 13 percent of overall student loan volume. In 2000, the program had grown to over \$11 billion, making up a quarter of all student loan volume. This trend, which reflects an over 200 percent increase from 1995 to 2000, is expected to peak in 2001, when projected Consolidation Loans will total more than \$14 billion, or nearly 30 percent of overall loan volume. With temporary Direct Loan interest rate discounts ending on September 30, 2001, consolidation volume is projected to drop back to \$11 billion in 2002, after which it is expected to grow at approximately 4 percent annually.

As one of Education's performance management objectives, modernizing student aid benefit delivery is a key priority. Accordingly, in 1998 Congress created Student Financial Assistance (SFA) as the Government's first Federal performance-based organization. SFA is working to improve the management of all student aid programs, using its expanded procurement and contracting flexibility, with a focus on re-engineering information systems and expanding electronic data exchange to improve customer service, enhance data quality, and lower costs. SFA is working with students, lenders, guaranty agencies, and others to implement a strategic performance plan to address customer needs, enabling more students to gain information on Federal aid on the Internet, apply for it electronically, and have their eligibility determined quickly.

For Fiscal Year 2002, the Administration is proposing to address the shortage of qualified, skilled math and

science teachers in elementary and secondary schools by increasing the amount of forgivable guaranteed and direct student loans from \$5,000 to \$17,500 for teachers who majored or minored in science, math, technology, or engineering and who commit to teach for five years in high-need schools. This proposal builds upon the teacher loan forgiveness program authorized in the 1998 Higher Education Amendments. High-need schools would include those with a high concentration of low-income students and those in which there is a large proportion of out-of-field math and science teachers.

Sallie Mae

The Student Loan Marketing Association (Sallie Mae) was chartered by Congress in 1972 as a for-profit, shareholder-owned, Government-sponsored enterprise (GSE). Sallie Mae was privatized in 1997 pursuant to the authority granted by the Student Loan Marketing Association Reorganization Act of 1996. The GSE is a wholly owned subsidiary of USA Education, Inc. and must wind down and be liquidated by September 30, 2008. The Omnibus Consolidated and Emergency Supplemental Appropriations for 1999 allows the USA Education, Inc. to affiliate with a financial institution upon the approval of the Secretary of the Treasury. Any affiliation will require the holding company to dissolve the GSE within two years of the affiliation date (unless such period is extended by the Department of the Treasury).

Sallie Mae makes funds available for student loans by providing liquidity to lenders participating in the FFEL program. Sallie Mae purchases guaranteed student loans from eligible lenders and makes warehousing advances (secured loans to lenders). Generally, under the privatization legislation, the GSE cannot engage in any new business activities or acquire any additional program assets other than purchasing student loans. The GSE can continue to make warehousing advances under contractual commitments existing on August 7, 1997. Sallie Mae currently holds nearly 40 percent of all outstanding guaranteed student loans.

Business and Rural Development Credit Programs and GSEs

The Federal Government guarantees small business loans to promote entrepreneurship. The Government also offers direct loans and loan guarantees to farmers who may have difficulty obtaining credit elsewhere and to rural communities that need to develop and maintain infrastructure. Two GSEs, the Farm Credit System (FCS) and the Federal Agricultural Mortgage Corporation (Farmer Mac), increase liquidity in the agricultural lending market.

Small Business Administration

The Small Business Administration (SBA), created in 1953, provides financial assistance to the small business sector. Traditionally, small firms have faced dif-

iculty obtaining long-term loans in the private marketplace because they tend to have limited credit history and cash flows. SBA's role as a "gap" lender is to correct these market imperfections and provide credit access during economic downturns.

The Administration's 2002 Budget anticipates that the SBA will make available in excess of \$17.5 billion through its lending programs. The 7(a) General Business Loan program, SBA's primary lending vehicle, will support approximately \$10.7 billion in loans. SBA will supplement the capital of Small Business Investment Companies (SBICs), which provide equity capital and long-term loans to small businesses, with \$3.1 billion in participating securities and guaranteed debentures.

Just as SBA's Section 504 Certified Development Company program has operated with a zero subsidy rate for several years, the 2002 Budget proposes to make the 7(a) and SBIC programs self-financing through fee increases, saving \$141 million in government subsidies. The budget proposes a program level of \$3.75 billion for the 504 program. The Administration's fee proposal acknowledges that some small businesses may have trouble accessing capital but do not require the government to subsidize their cost of borrowing.

While the Administration continues to support government guaranteed lending for small businesses, the advent of interstate banking combined with passage of the Gramm-Leach-Bliley Financial Modernization Act of 1999, have also significantly expanded small businesses' access to capital. In addition, the venture capital market has matured over the last twenty years and may no longer need the same level of government intervention. The venture capital market has grown from approximately \$800 million in capitalized funds in the late 1960s, to \$35 billion in the late 1980s, and to over \$124 billion in 1998.

More Emphasis on Small Loans. The budget also supports \$20.5 million in Microloans (\$35,000 and under) with \$20 million in associated technical assistance to increase borrowers' probability of success. In recent years, the amount of 7(a) support for small loans (under \$150,000) has decreased from \$2.1 billion in 1995 to less than \$1 billion in 1999. To further help people whose business needs for small loans are not met by private lenders, the SBA has implemented changes enacted in 2001 intended to expand the number of small 7(a) loans, by making these loans more cost effective for borrowers and lenders.

Reliance on Private Sector Partners. SBA has relied increasingly on private sector partners for loan servicing and liquidation. The 7(a) program, which accounted for more than 70 percent of SBA's business lending in 2000, has experienced the greatest shift to private sector partnership. Under the Preferred Lender Program (PLP), SBA's most experienced lenders have authority to approve, service, and liquidate SBA-guaranteed loans without a credit review by SBA. Loans approved through PLP lenders comprised 7 percent of all 7(a) loan approval dollars in 2000. SBA also requires all PLP and non-PLP lenders to service and liquidate their SBA-guaranteed loans.

Management Reform Initiative. Because the loan servicing function is performed more efficiently and effectively in the private sector, Federal agencies are using a variety of debt collection tools to transform their functions from loan servicing to portfolio management and oversight. In SBA's case, the asset sales program is allowing the agency to redirect loan servicing resources to more effectively monitor the performance of its loan portfolio and mitigate the government's risk. SBA is now at a point where further efficiencies can be achieved by consolidating or contracting out the loan

servicing function and closing redundant operations. To accomplish this, the budget requests \$2 million to provide training and relocation assistance to SBA employees to assist with this agency-wide transformation.

Improving Lender Oversight. Over the past several years, SBA has substantially increased the size of its loan portfolio, delegated eligibility and credit approval authority for a majority of SBA loans through the Preferred Lender Program (PLP), and assigned responsibility for servicing and liquidating SBA loans to its private sector partners. At the same time, SBA has reduced the level of staff devoted to performing these functions within the Agency. These trends require SBA to (1) improve its oversight of lenders involved in the various SBA loan programs to ensure that SBA lenders exercise adequate fiduciary responsibility in their management of the loans guaranteed by the SBA; and (2) adopt risk management techniques to better identify and understand the performance characteristics of the SBA portfolio in order to make informed policy decisions about SBA loan programs. Lender Oversight will evaluate individual SBA lenders through analysis of a variety of factors including overall financial performance and related trends and ratio analysis, industry concentrations analysis, peer lending performance comparisons, SBA portfolio performance analysis, and selected credit reviews. The oversight program also encompasses on-site safety and soundness examinations and off-site monitoring of the Small Business Lending Companies (SBLCs), and compliance reviews of SBA lenders. Lender Oversight will also evaluate the various SBA loan programs to identify performance trends, identify predictors of risk, compare lender performance, and promote best practices.

Systems Modernization Initiative. To improve its data collection and program and portfolio management responsibilities, SBA will continue its Systems Modernization initiative, requesting \$8 million in 2002 to invest in the Agency's information systems. This funding will allow SBA to continue improving internal accounting systems, develop the necessary in-house systems to support lender monitoring, and enhance SBA's centralized corporate database to allow better program management and improve loan processing efficiency for lenders and SBA staff.

Loan Asset Sales. One of the most significant events in completing the transition from loan servicing to lender oversight is SBA's sale of its current portfolio of defaulted guaranteed loans and direct loans. In its first asset sale in 1999, SBA sold more than 4,000 loans for \$195 million—a substantial premium over what the Agency's outside expert estimated it would have collected if it held these loans to maturity. The portfolio included performing and non-performing 7(a) and Certified Development Companies (CDC) loans. SBA conducted two sales of approximately \$1 billion each in 2000, which included 7(a), CDC, and disaster assistance business and home loans. Drawing on the experience

of other Federal agencies, the SBA's analysis of its portfolio value stemming from its Liquidation Improvement Project, and the results of the initial asset sales, the Administration estimates that SBA's business loan assets can be sold at a gain to the Government.

USDA Rural Infrastructure and Business Development Programs

USDA provides grants, loans, and loan guarantees to communities for constructing facilities such as health-care clinics, day-care centers, and water and wastewater systems. Direct loans are available at lower interest rates for lower-income communities. The community facility programs are targeted to rural communities with fewer than 20,000 residents (fewer than 10,000 residents for the water and wastewater programs). These community programs have very low default rates. The cost associated with them is due primarily to subsidized interest rates that are below the prevailing Treasury rates.

USDA also provides grants, direct loans, and loan guarantees to assist rural businesses, including cooperatives, to increase employment and diversify the rural economy. In 2002, USDA proposes to provide \$1 billion in loan guarantees to rural businesses. The 2002 Budget includes an increase in the premium charged on the Business and Industry (B&I) guaranteed loans. The fee will be raised to 3.25 percent (2.25 percent for targeted areas), which is reflected in the 2.74 percent subsidy rate. This allows more loans to be made at less cost to the taxpayers.

The Budget does not include funding for the Direct B&I program. The B&I direct program has had authority to provide \$50 million in loans since 1997 (the first year of the program), but has yet to utilize the full amount. Further, the subsidy rate has gone from being negative in 1997 through 2000 to 6 percent in 2001, and to 28 percent for 2002, indicating a much higher default rate than originally anticipated (the rate rose dramatically, even though lower discount rates between 2001 and 2002 make direct loans less expensive). Direct B&I borrowers must have been rejected from a private bank in order to qualify. The high default rate indicates that the program is not providing long-term, stable jobs to rural America. The borrowers are defaulting, and the businesses are failing.

These community programs are all part of the Rural Community Advancement Program (RCAP). Under RCAP, States have increased flexibility within the three funding streams for Water and Wastewater, Community Facilities, and Business and Industry. USDA State Directors have the authority to transfer up to 25 percent of the funding between any of the programs contained within a stream in order to tailor RCAP assistance to the specific rural economic development needs of individual States. USDA also provides loans through the Intermediary Relending Program (IRP), which provides loan funds at a 1 percent interest rate to an intermediary such as a State or local government agency that, in turn, provides funds for economic and com-

munity development projects in rural areas. In 2002, USDA expects to retain or create 58,000 new jobs through the B&I guarantee and the IRP loan programs.

Electric and Telecommunications Loans

USDA's rural electric and telecommunications program makes new loans to maintain existing infrastructure and to modernize electric and telephone service in rural America. Historically, the Federal risk associated with the \$40 billion loan portfolio in electric and telephone loans has been small, although several large defaults occurred in the electric program. In 1997, \$667 million, largely nuclear power construction loans, was written off, but this case was an exception.

The subsidy rates for the electric and telecommunication programs are lower than previous years mainly due to the lower Treasury rate in the economic assumptions. The default rates for both programs are very low. With the increase of deregulation, however, there is the possibility of increased defaults in the electric program since deregulation may erode loan security and the ability of some borrowers to repay. As information on the impact of deregulation increases, this risk will be factored into the default rates.

Maintaining the goal of "affordable, universal service" is of concern to USDA. Many rural cooperatives are by nature high cost providers of electricity because there are fewer subscribers per line-mile than in urban areas. USDA's Rural Utilities Service (RUS) proposes to make \$2.6 billion in direct and guaranteed loans in 2002 to rural electric cooperatives, public bodies, nonprofit associations, and other utilities in rural areas for generating, transmitting, and distributing electricity. Included in this funding request is \$100 million for private sector guarantees. The demand for loans to rural electric cooperatives is expected to continue to rise as borrowers replace many of the 40-year-old electric plants. With the \$2.6 billion in loans, RUS borrowers are expected to upgrade 187 rural electric systems, which will benefit over 2.8 million customers and create or preserve approximately 60,200 jobs.

USDA's RUS proposes to make \$495 million in direct loans in 2002 to companies providing telecommunication services in rural areas. The uses of the telecommunication loans are changing from bringing service to new customers to upgrading existing service with new technology. With the \$495 million in loans, RUS borrowers are expected to provide over 50 telecommunication systems with funding for advanced telecommunications services benefiting over 300 thousand rural customers and providing broadband and high-speed Internet access.

The Rural Telephone Bank (RTB) provides financing for rural telecommunications systems. The 2002 Budget proposes the elimination of funding to support new loans. This is expected to generate increased member and borrower support for statutorily authorized privatization. The RTB is financially able to privatize by the end of 2002, and this provides enough time to perform a privatization study and prepare for privatization. The

RTB is provided full salaries and expenses to service existing loans, to perform a privatization study, and prepare for privatization by the end of 2002.

The Distance Learning and Telemedicine program provides grants and loans to encourage and improve telemedicine and distance learning services in rural areas through the use of telecommunications, computer networks, and related advanced technologies by students, teachers, medical professionals, and rural residents. With the \$25 million in grants and \$300 million in loans, RUS borrowers are expected to provide distance learning facilities to 300 schools, libraries, and rural education centers and telemedicine equipment to 150 rural health care providers, benefitting millions of residents in rural America.

RUS is proposing the creation of a new program to fund \$2 million in grants and \$100 million in Treasury rate loans in 2002 to be used in a grant/loan combination to finance installation of broadband transmission capacity (i.e. the fiber optic cable capacity needed to provide enhanced services such as the Internet or high speed modems) to and through rural communities. The other purpose for which RUS would provide a loan and grant combination would be local dial-up Internet service to underserved areas. These funds could be targeted to communities that currently lack Internet access via a local call. Recipients of these loans and grants would be current RUS telecommunication cooperatives and businesses serving rural areas and rural communities.

Loans to Farm Operators

Farm Service Agency (FSA) direct and guaranteed operating loans provide credit to farmers and ranchers for annual production expenses and purchases of livestock, machinery, and equipment. Direct and guaranteed farm ownership loans assist producers in acquiring their farming or ranching operations. As a condition of eligibility for direct loans, borrowers must have been denied private credit at reasonable rates and terms, or they must be beginning or socially disadvantaged farmers. Loans are provided at Treasury rates or 5 percent. As FSA is the "lender of last resort," high defaults and delinquencies are inherent in the direct loan program; over \$15 billion in direct farm loans have been written off since 1990.

FSA guaranteed farm loans are made to more credit-worthy borrowers who have access to private credit markets. Because the private loan originators must retain 10 percent of the risk, they exercise care in examining borrower repayment ability. As a result, guaranteed farm loans have not experienced losses as high as those on direct loans.

The 1999 Appropriations Bill changed portions of the servicing requirements for delinquent borrowers. A borrower who has received an FSA loan write-down or write-off may now be eligible for an additional farm operating loan when the borrower is current under a debt reorganization plan or in certain emergency circumstances. Property acquired through foreclosure on direct loans must now be sold at auction within 105

days of acquisition, and leasing of inventory property is no longer permitted except to beginning farmers. Prior to the 1996 Farm Bill, acquired property remained in inventory on average for five years before the FSA could dispose of it.

The Farm Credit System and Farmer Mac

The Farm Credit System (FCS or System) and the Federal Agricultural Mortgage Corporation (Farmer Mac) are GSEs that enhance credit availability for the agricultural sector. The FCS raises its loan funds by selling securities in national and international markets, while Farmer Mac provides a secondary market for agricultural real estate and rural housing mortgages. Both GSEs face a business risk exceeding that of other GSEs because their borrowers are generally dependent on a single economic sector, agriculture. The Farm Credit Banks are also geographically limited, although new regulations permitting national charters for System could loosen those restrictions in 2001. The downturn in the agricultural economy in the 1980s led the FCS to the brink of insolvency. Legislation in 1987 provided temporary Federal assistance to bail out the FCS and created Farmer Mac.

The Nation's agricultural sector and its lenders continue to exhibit stability in their income and balance sheets, thanks in part to record Government emergency assistance payments in 1999 and 2000. Commodity prices remained low in 2000, and long term forecasts are for very gradual recovery. Farm income levels, including Government payments, have enabled most borrowers to maintain low debt-to-asset ratios, and lenders to keep loan delinquencies well below problem thresholds. Farmland values gained modestly in 2000, as inflationary expectations remain low. However, such aggregate facts may mask the problems of certain sectors within the farm economy.

Another sign of the generally stable condition of agricultural finance is the greater share of credit provided by commercial banks. From 1986 to 1999, commercial banks' share of all farm debt increased from 26 percent to 41 percent, while the share for FCS declined from 29 percent to 26 percent. The United States Department of Agriculture (USDA) direct farm loan programs went from a market share of 15 percent to 5 percent though, if adjusted for its guaranteed loans issued through private banks, that percentage would more than double. USDA expects that both commercial banks and the FCS have maintained their market share in 2000.

The Farm Credit System

The financial condition of the Farm Credit System banks and associations during 2000 continued a 12-year trend of improving financial health and performance. Non-performing loans decreased to 1.5 percent of the portfolio in September 2000, down from 1.6 percent in 1999. Loan volume has gradually increased since 1995, although the \$73.0 billion in September 2000 was still below the high of over \$80 billion in the early 1980s. Competitive pressures have narrowed

the FCS's net interest margin from 3.03 percent in 1995 to 2.74 percent in 2000.

Improved asset quality and income enabled FCS to post record capital levels: by September 30, 2000, capital stood at \$14 billion—an increase of 7 percent for the year. Not included in this capital are investments set aside to repay about \$600 million of the \$1.3 billion of Federal assistance provided through the Financial Assistance Corporation (FAC). The System has adopted an annual repayment mechanism required of FCS institutions to cover the remainder. The FCS has further reduced its risk exposure by using marginal cost loan pricing and asset/liability management practices designed to reduce its interest rate risk. Substantial consolidation continues in the structure of the FCS. In January 1995 there were 9 banks plus 232 associations; by October 2000, there were 7 banks and 158 associations.

The 1987 legislation established the FCS Insurance Corporation to insure timely payment of interest and principal on FCS obligations. Insurance Fund balances, largely comprised of premiums paid by FCS institutions, supplement the System's capital and the joint and several liability of all System banks for FCS obligations. On September 30, 2000, the Insurance Fund's net assets were \$1.4 billion and are estimated to maintain the legally required level of at least two percent of outstanding debt in 2001.

Improvement in the FCS's financial condition is also reflected in the evaluations of FCS member institutions by the Farm Credit Administration (FCA), its Federal regulator. The FCA Financial Institution Rating System (FIRS) rates each of the System's institutions for capital, asset quality, management, earnings, liquidity, and sensitivity (CAMELS). At the beginning of 1995, 197 institutions carried the best CAMELS ratings of "1" or "2," 36 were rated "3," 1 institution was rated "4" and no institutions received the lowest rating of "5." By September 2000, in contrast, 165 institutions were given the top ratings, only 1 was rated "3," and none was rated "4" or "5." As of September 30, 2000, there were no FCS institutions under an enforcement action.

FCS loans outstanding as of September 2000 were \$73 billion, up 4 percent over 1999, and representing a 28 percent increase since 1995. Loans to farmers and other eligible producers comprise 72 percent of the System's portfolio. The volume of lending secured by farmland has increased about 25 percent while farm-operating loans have increased over 37 percent since 1995. Loans to finance processing, marketing, credit cooperatives, and rural utilities cooperatives accounted for 22

percent of FCS's portfolio at fiscal year-end 1999. The remaining 6 percent of the portfolio is made up of non-farm rural home loans (2.5 percent) and international loans (3.5 percent).

The USDA expects 2000 net farm income to be \$45 billion, up slightly from 1999. These strong reported earnings and farm income generally have relied heavily on Government assistance payments in recent years. Federal payments of \$22 billion in 2000 (and totaling nearly \$70 billion since 1996) to farmers and ranchers compensated for depressed commodity prices and declining exports. The Farm Credit System, while continuing to record strong earnings and capital growth, remains exposed to numerous risks, including concentration risk, changes in Government assistance payments, and the volatility of exports and crop prices.

Farmer Mac

Farmer Mac was established in 1987 to create and oversee a secondary market for farm real estate and rural housing loans. Since the 1987 Act, Farmer Mac's authorities have been legislatively expanded to permit it to issue its own debt securities, and to purchase and securitize the guaranteed portions of farm program, rural business, and community development loans guaranteed by the USDA (known as the "Farmer Mac II" program). The Farm Credit System Reform Act of 1996 transformed Farmer Mac from just a guarantor of securities formed from loan pools into a direct purchaser of mortgages in order to form pools to securitize.

The 1996 Act was passed in response to a steady erosion of Farmer Mac's capital base. Revenues had not met expectations and showed no prospect of improvement. The powers increase commercial banks' incentives to participate in Farmer Mac authorities, which has increased Farmer Mac's ability to achieve its statutory mission. However, these authorities also subject Farmer Mac to additional risk. As a direct purchaser of loans, it must rely wholly on its own underwriting standards. Because Farmer Mac is now exposed to greater risk, it must set appropriate fees and ensure adequate capital reserves.

Both loan purchases and guarantees have increased since the passage of the 1996 Act. Both trends indicate positive progress in developing an agricultural secondary market. The 1996 Act also gave Farmer Mac three additional years to reach its capital requirements. At year-end 2000, Farmer Mac's core capital reached \$101 million—and was fully compliant with the revised regulatory capital requirements.

International Credit Programs

International Credit Programs

Seven Federal agencies, the Department of Agriculture (USDA), the Department of Defense, the Department of State, the Department of the Treasury, the Agency for International Development (AID), the Export-Import Bank, and the Overseas Private Invest-

ment Corporation (OPIC), provide direct loans, loan guarantees, and insurance to a variety of foreign private and sovereign borrowers. These programs are intended to level the playing field for U.S. exporters, deliver robust support for U.S. manufactured goods, sta-

bilize international financial markets, and promote sustainable development.

Leveling the playing field. Federal lending counters subsidies that foreign governments, largely in Europe and Japan, provide their exporters usually through export credit agencies (ECAs). The U.S. government has worked since the 1970's to constrain official credit support through a multilateral agreement in the Organization for Economic Cooperation and Development (OECD). This agreement has significantly constrained direct interest rate subsidies and tied-aid grants. Further negotiations resulted in a multilateral agreement which standardized the fees for sovereign lending across all ECA's beginning in April 1999. Fees for non-sovereign lending, however, continue to vary widely across ECAs and markets, thereby providing implicit subsidies.

The Export-Import Bank attempts to strategically "level the playing field" and to fill gaps in the availability of private export credit. The Export-Import Bank provides export credits, in the form of direct loans or loan guarantees, to U.S. exporters who meet basic eligibility criteria and who request the Bank's assistance. USDA's "GSM" programs similarly help to level the playing field. Like programs of other agricultural exporting nations, they guarantee payment from countries and entities that want to import U.S. agricultural products but cannot easily obtain credit. The U.S. has been negotiating in the OECD the terms of agricultural export financing, the outcome of which could affect the GSM programs.

Stabilizing international financial markets. In today's global economy, the health and prosperity of the American economy depend importantly on the stability of the global financial system and the economic health of our major trading partners. The United States can contribute to orderly exchange arrangements and a stable system of exchange rates by providing resources on a multilateral basis through the IMF (discussed in other sections of the Budget), and through financial support provided by the Exchange Stabilization Fund (ESF).

The ESF may provide "bridge loans" to other countries in times of short-term liquidity problems and financial crises. In the past, "bridge loans" from ESF provided dollars to a country over a short period before the disbursement to that country under an IMF loan. Also, a package of up to \$20 billion of medium-term ESF financial support was made available to Mexico during its crisis in 1995. Such support was essential in helping to stabilize Mexican and global financial markets. Mexico paid back its borrowings under this package ahead of schedule in 1997, and the United States earned almost \$600 million in interest. There was zero subsidy cost for the United States as defined under credit reform, as the medium-term credit carried interest rates reflecting an appropriate country risk premium.

The United States also expressed a willingness to provide ESF support in response to the financial crises affecting some countries such as South Korea in 1997 and Brazil in 1998. It did not prove necessary to provide an ESF credit facility for Korea, but the United States agreed to guarantee through the ESF up to \$5 billion of a \$13.2 billion Bank for International Settlements credit facility for Brazil. Such support helped to provide the international confidence needed by these countries to begin the stabilization process.

Using credit to promote sustainable development. Credit has become an increasingly important tool in U.S. bilateral assistance to promote sustainable development. Development Credit Authority (DCA) is a legislative authority allowing the use of credit by USAID to support its development activities abroad. DCA provides non-sovereign loans and loan guarantees in targeted cases where credit serves more effectively than traditional grant mechanisms to achieve sustainable development. DCA is intended to mobilize host-country private capital to finance sustainable development in line with USAID's strategic objectives. Through the use of partial loan guarantees and risk sharing with the private sector, DCA stimulates private-sector lending for financially viable development projects, thereby leveraging host-country capital and strengthening sub-national capital markets in the developing world.

A consolidation of all of USAID's credit programs is requested in the 2002 Budget to create the unified Development Credit Authority. This unit will encompass DCA activities as well as USAID's traditional micro-enterprise and urban environmental credit programs.

OPIC also supports a mix of development, employment, and export goals by promoting U.S. direct investment in developing countries. OPIC pursues these goals through political risk insurance, direct loans, and guarantee products, which provide finance, as well as associated skills and technology transfers. These programs are intended to create more efficient financial markets, eventually encouraging the private sector to supplant OPIC finance in developing countries. OPIC has also created a number of investment funds that provide equity to local companies with strong development potential.

Ongoing Coordination. International credit programs are coordinated through two groups to ensure consistency in policy design, and credit implementation. The Trade Promotion Coordinating Committee (TPCC) works within the Administration to develop a National Export Strategy to make the delivery of trade promotion support more effective and convenient for U.S. exporters.

The Interagency Country Risk Assessment System (ICRAS) standardizes the way in which agencies budget for the risk of international lending. The cost of lending by the agencies is governed by ratings and premia established by the ICRAS. These premia use assumptions about default risk in international lending based on

international bond market data. The premia for 2002 have been updated to reflect more recent data. The risk premia decreased in most risk categories. All else being equal, this change will expand the level of lending an agency may be able to implement. The reduction in premia, for example, will reduce the lending costs of the Export-Import Bank in 2002. However, the impact of the change will depend on a host of other factors such as risk mix, maturity, and fees.

For the purpose of significantly improving the U.S. Government's reporting, analysis, and management of foreign credits, including loans, guarantees, and insurance, the Treasury Department is coordinating the development, with interagency support, of the Foreign Credit Reporting System (FCRS). When complete, the system will provide government officials with desktop Internet access to cross-cutting foreign credit information for policymaking and analytical purposes.

Increased Role of the Private Sector. Globalization has facilitated international capital flows and reduced the risk of international transactions. As a result, international capital flows through private entities dwarf officially supported direct and guaranteed credit. For example, net foreign direct investment in emerging markets grew from \$35 billion in 1992 to \$149 billion in 1999 or 2.1 percent of emerging market GDP in 1999. In comparison, net official capital flows to emerging markets accounted for less than 0.1 percent of their GDP in 1999.

IV. INSURANCE PROGRAMS

Deposit Insurance

Federal deposit insurance was established in the depression of the 1930s, which prompted the need to protect small depositors and prevent bank failures from causing widespread disruption in financial markets. Before the establishment of Federal deposit insurance, failures of some depository institutions often caused depositors to lose confidence in the banking system as a whole and rush to withdraw deposits from other institutions. Such sudden withdrawals would seriously disrupt the economy.

The Federal Deposit Insurance Corporation (FDIC) insures the deposits in banks and savings associations (thrifts) through separate insurance funds, the Bank Insurance Fund (BIF) and the Savings Association Insurance Fund (SAIF). Deposits of credit unions are insured through the National Credit Union Administration (NCUA). Deposits are currently insured up to \$100,000 per account. The FDIC insures nearly \$3.0 trillion of deposits at over 8,600 commercial banks and almost 1,400 savings institutions. The NCUA insures 10,527 credit unions with \$348 billion in insured shares.

Current Industry and Insurance Fund Conditions

Because the private sector is rapidly expanding its size and role in emerging markets, the Administration is redirecting resources from some international credit programs to other needs. The President's Budget includes savings in credit subsidy funding for the Export-Import Bank and the Overseas Private Investment Corporation (OPIC). The Budget proposes savings of approximately 25 percent in Export-Import Bank's credit subsidy requirements through policy changes that focus the Bank on U.S. exporters who truly cannot access private financing, as well as through lower estimates of international risk for 2002. Compared to the other major ECAs, the U.S. provides the most unrestricted financing in more markets. Export-Import Bank could adapt to reduced resources, while remaining competitive, by increasing fees in countries where the U.S. fees are lower, or in countries where foreign export support is not present.

These changes could include a combination of increased risk sharing with the private sector, higher user fees, and more stringent value-added tests. The Budget also eliminates OPIC credit subsidy for 2002. OPIC has been unable to spend all of its existing subsidy budget authority in either of the past two fiscal years and will carry enough subsidy into 2002 to fully fund its current level of credit programs.

This redirection effort anticipates that the role of the Export-Import Bank and OPIC will become more focused on correcting market imperfections as the private sector's ability to bear emerging market risks becomes larger, more sophisticated, and more efficient.

The 1980s and early 1990s were a turbulent period for the banking industry, with over 1,400 bank failures and 1,100 thrift failures. The Federal Government responded with the Financial Institutions Reform, Recovery and Enforcement Act of 1989 and the Federal Deposit Insurance Corporation Improvement Act of 1991, which were largely designed to improve the safety and soundness of the banking system. These reforms, combined with more favorable economic conditions, helped to restore the health of depository institutions and the deposit insurance system.

Only one thrift failed in 2000, becoming only the second SAIF-member to fail since 1996. Four BIF members failed during 2000; since 1996, BIF failed assets have averaged approximately \$600 million per year. During 2000, 33 Federally insured credit unions with \$126 million in assets failed (including assisted mergers). The FDIC currently classifies only 90 institutions with \$19 billion in assets as "problem institutions," compared to nearly 194 institutions with \$31 billion in assets five years ago.

Banks have achieved record levels of earnings in recent years, with industry net income totaling \$19.3 billion in the third quarter of 2000, the third highest quarter ever. As of September 30, 2000, BIF had estimated reserves of \$31 billion, 1.36 percent of insured

deposits. The earnings of the thrift industry also have improved significantly in recent years. As of September 30, 2000, SAIF's reserves reached an estimated \$10.7 billion or 1.45 percent of insured deposits.

The FDIC continues to maintain deposit insurance premiums in a range from zero for the healthiest institutions to 27 cents per \$100 of deposits for the riskiest institutions. Due to the strong financial condition of the industry and the insurance funds, 93 percent of commercial banks and 89 percent of thrifts did not pay insurance premiums in 2000. The National Credit Union Share Insurance Fund (NCUSIF) also remains strong with assets of \$4.5 billion. Each insured credit union is required to deposit and maintain in the fund an amount equal to 1 percent of its member share accounts. Premiums were waived in advance for 2000 because the income generated from the 1 percent deposit eliminated the need for an assessment. After the end of the fiscal year, the NCUA Board approved a dividend to reduce the Fund's equity ratio to the statutory ceiling of 1.30 percent. This was the fifth consecutive year that the Fund paid a dividend to federally insured credit unions. It is anticipated that the fund will pay a dividend for 2001.

Due to strong growth in the U.S. economy in recent years, depository institutions and their Federal insurance funds are in good financial condition. However, this trend may not continue indefinitely. An economic downturn, international events, or other changes in the industry could put pressure on industry profits and, ultimately, on the deposit insurance funds. In addition to the uncertainty surrounding future economic conditions, industry consolidation, banks' increased reliance on sophisticated financial instruments, and legislative changes also make it increasingly difficult to predict future deposit insurance losses. As a result of consolidation, for example, a few large banks control a substantial share of banking assets. The failure of even one of these large institutions could seriously strain an insurance fund.

In addition to consolidation, industry trends indicate that banks are increasingly using sophisticated finan-

cial instruments such as asset-backed securities and financial derivatives, which may either mitigate or exacerbate risk level. Whether or not these sophisticated financial instruments add to risk, they complicate the work of regulators who must gauge an institution's financial health—and the potential for deposit insurance losses that a troubled institution may represent. The landmark Financial Services Modernization Act of 1999 (P.L. 106–102) allows new business combinations in the financial sector, enabling banks to expand into other financial businesses such as insurance and securities. Over time, such expansions could either make depository institutions safer by improving asset diversification or make them less safe by increasing their exposure to riskier lines of business. A recent development related to inter-industry mergers is that securities firms are indirectly offering insured accounts to their customers through their banking affiliates (sweeping accounts). Regulators need to pay attention to this development because sweeping accounts increase insured deposits. Finally, regulators must always guard against fraud, which can also significantly impact insurance fund balances. The failure of First National Bank in Keystone, West Virginia, for instance, is expected to cost the FDIC up to \$850 million to resolve.

On-going Issues

The deposit insurance system is in good condition and continues to play a critical role in ensuring confidence in our financial system. During a period of economic health, it may be appropriate to question whether the system works in the most consistent and efficient manner. Are depositors adequately protected? Are industries over or underpaying for deposit insurance coverage? Does the system encourage economically efficient outcomes? To this end, in 2000 the FDIC initiated a public discussion of deposit insurance issues. Options such as merging the BIF and SAIF, refining premium structures, and indexing premiums are being considered. The Administration and Congress will continue to contemplate these issues in the context of a rapidly evolving financial sector.

Pension Guarantees

The Pension Benefit Guaranty Corporation (PBGC) insures most defined-benefit pension plans sponsored by private employers. PBGC pays the benefits guaranteed by law when a company with an underfunded pension plan becomes insolvent. PBGC's exposure to claims relates to the underfunding of pension plans, that is, to any amount by which vested future benefits exceed plan assets. In the near term, its loss exposure results from financially distressed firms with underfunded plans. In the longer term, additional loss exposure results from firms that are currently healthy but become distressed, and from changes in the funding of plans and their investment results.

The number of plans insured by PBGC has been declining as small companies with defined-benefit plans

terminate them and shift to defined-contribution pension arrangements such as 401(k) accounts. The number of plans with 1,000 or more participants has increased slightly since 1980. However, the number of active workers in defined-benefit plans declined from 29 million in 1985 to fewer than 24 million in 1995. If the trend continues, by 2003 fewer than half of the participants in defined-benefit plans will be active workers; the rest will be retirees.

In 2000, PBGC posted a positive financial position for the fifth straight year after 21 years of being in a deficit position. This was due to good economic conditions and favorable investment returns. Risk remains, however, because good economic conditions and favorable investment returns may not continue indefinitely.

The risk has been reduced somewhat by steps taken by the Congress and PBGC. Congress enacted legislation to make insurance premiums more reflective of risk. Under its Early Warning Program, PBGC has negotiated 90 major settlements with companies, which have provided nearly \$17.5 billion in extra contributions and other protections that improved pension security for over 2 million people and reduced PBGC's future exposure.

PBGC's single-employer program fared well in 2000, with no major terminations. (However, PBGC took over three large pension plans in the last few months: Grand Union, Outboard Marine, and TWA, the last under an agreement negotiated beforehand. Most of these plans' liability had been accounted for previously and so these takeovers make no substantial change in PBGC's financial position.) In 2000, overall investment returns were positive, in both PBGC's revolving funds, which are invested in U.S. Government securities, and in its trust funds, which hold mostly equities. Returns on PBGC's equity portfolio, however, were lower than those in

1999. Premium revenues dropped for the fourth year in a row, partly reflecting a previously enacted increase in the statutory interest rate for calculating underfunding.

PBGC's multi-employer program, which guarantees pension benefits of certain unionized plans offered by several employers in an industry, remained financially strong. Legislation enacted in December, 2000 raised the maximum guarantee level on pension benefits paid to retirees in multi-employer plans for the first time since 1980. The maximum was increased from \$5,580 to \$12,870 per year for retirees with 30 years of service.

PBGC is working to speed its setting of the dollar levels of benefits in the pension plans it takes over. The time taken for final calculation is expected to drop to three years in 2002, down from an average of 4.9 years in 2000. PBGC also is working to send first benefit checks more speedily. In 1999, only 83 percent of pensioners got their first benefit checks within three months of completing their applications.

Disaster Insurance

Flood Insurance

The Federal Government provides flood insurance through the National Flood Insurance Program (NFIP), which is administered by the Federal Emergency Management Agency (FEMA). Flood insurance is available to homeowners and businesses in communities that have adopted and enforced appropriate floodplain management measures. Coverage is limited to buildings and their contents. By 2002, the program is projected to have approximately 4.5 million policies from more than 19,000 communities with \$610 billion of insurance in force.

Prior to the creation of the program in 1968, many factors made it cost prohibitive for private insurance companies alone to make affordable flood insurance available. In response, the NFIP was established to make insurance coverage widely available. The NFIP also requires building standards and other mitigation efforts to reduce losses, and operates a flood hazard mapping program to quantify the geographic risk of flooding. The NFIP has substantially met these goals.

The number of policies in the program has grown significantly over time. The number of enrolled policies grew from 2.4 to 4.3 million between 1990 and 2000, and by nearly 82,000 policies in 2000. FEMA is using three strategies to increase the number of flood insurance policies in force: lender compliance, program simplification, and expanded marketing. The NFIP also has a multi-pronged strategy for reducing future flood damage. FEMA is educating financial regulators about the mandatory flood insurance requirement for properties with mortgages from federally regulated lenders. Further, the NFIP offers mitigation insurance to allow flood victims to rebuild to code, thereby reducing future flood damage costs. Last, FEMA adjusts premium rates

to encourage community and State mitigation activities beyond those required by the NFIP.

Despite these efforts, the program faces major financial challenges. In some years, the program's financing account, which is a cash fund, has expenses greater than its revenue, preventing it from building sufficient long-term reserves. This is because a large portion of the policy-holders pay subsidized premiums. FEMA charges subsidized premiums for properties built before a community adopts the NFIP building standards. Properties built subsequently are charged true actuarial rates. The creators of the NFIP assumed that eventually the NFIP would become self-sustaining as older properties left the program. The share of subsidized properties in the program has fallen from 70 percent in 1978, but it is still substantial—30 percent today.

Until the mid-1980s, Congress appropriated funds periodically to support subsidized premiums. However, the program has not received appropriations since 1986. During the 1990s, FEMA increasingly relied on Treasury borrowing to finance its expenses (the NFIP may borrow up to \$1.5 billion). At the end of year 2000, FEMA had outstanding borrowing from Treasury of \$345 million.

The 2002 Budget proposes two cost-saving reforms that should improve the financial condition of the NFIP. First, flood insurance coverage would no longer be available for several thousand "repetitive loss" properties. These properties are located in the flood plain and are flooded regularly, but are not required to pay risk-based premiums. As a result, they have been rebuilt multiple times with the subsidized support of other flood insurance policy holders and U.S. taxpayers. The Budget seeks to begin removing the worst offending repetitive loss properties from the program in 2002. Policyholders whom FEMA has identified as repetitive

loss claimants will be allowed to make one more claim before having their policies terminated. Second, subsidized premium rates for vacation homes, rental properties, and other non-primary residences and businesses would be phased out over five years. FEMA charges many of these policyholders less than actuarial rates, which undermines the financial stability of the insurance program. Structures that are removed or that drop out of the program because of these two reforms would be ineligible for future Federal disaster assistance, including FEMA Individual and Family Grants and Small Business Administration disaster loans. Savings from these proposals are estimated at \$12 million in 2002 and are expected to grow significantly in the future.

Crop Insurance

Subsidized Federal crop insurance administered by USDA assists farmers in managing yield shortfalls due to bad weather or other natural disasters. Private companies are reluctant to offer multi-peril crop insurance without Government reinsurance because of the difficulty of limiting risk exposure; insurance companies are exposed to large losses because losses tend to occur across a wide geographic area. For example, a drought usually affects many farms at the same time. Damage from hail, on the other hand, tends to be more localized, and a private market for hail insurance has existed for over 100 years.

The USDA crop insurance program is a cooperative effort between the Federal Government and the private insurance industry. Private insurance companies sell and service crop insurance policies. The Federal Government reimburses private companies for the administrative expenses associated with providing crop insurance and reinsures the private companies for excess insurance losses on all policies. The Federal Government also subsidizes premiums for farmers.

A major program reform was enacted in 1994 to address a growing problem caused by the repeated provision of Federal ad hoc agricultural disaster payments. Participation in the crop insurance program had been kept low by the availability of post-event disaster aid to farmers from the Federal Government. Because disaster payments were no-cost grants, farmers had little

incentive to purchase Federal crop insurance. The 1994 reform repealed agricultural disaster payment authorities and substituted a "catastrophic" insurance policy that indemnifies farmers at a rate roughly equal to the previous disaster payments. The catastrophic policy is free to farmers except for an administrative fee. Private companies sell and adjust the catastrophic portion of the crop insurance program, and also provide higher levels of coverage, which are also federally subsidized. In 1995, 82 percent of eligible acres participated in the program—a 140 percent increase over 1994. However, the 1996 Farm Bill eliminated the requirement that farmers participating in USDA's commodity programs carry crop insurance, and participation dropped in 1997 to an estimated 61 percent of eligible acres. That proportion increased to 72 percent in 2000 and is expected to reach 80 percent in 2001, boosted by the reforms of the 2000 Agriculture Risk Protection Act (ARPA).

ARPA strengthened the program by increasing premium subsidies for higher coverage policies, equalizing the subsidy rates for all plans of insurance, expanding the list of insurable commodities to include livestock, and increasing flexibility of crop insurance companies' marketing methods. ARPA also includes significant changes to improve program integrity through increased compliance oversight. Further, ARPA shifts USDA's role toward that of a regulator, while stimulating new product development within the private sector and ensuring a research and development emphasis on specialty and underserved crops.

USDA continues to expand revenue coverage. Revenue insurance programs are now available in 36 states and further expansion is being studied. Moreover, the concept of covering all crop and livestock operations of a farm under a single policy, the so-called "whole farm coverage" approach, is being evaluated through a pilot program. The Adjusted Gross Revenue (AGR) policy insures the five-year average revenue of a farming or ranching operation on the basis of the producer's Schedule "F" Farm Income on Federal tax returns, instead of its yield history.

Chart 8-1. Face Value of Federal Credit Outstanding

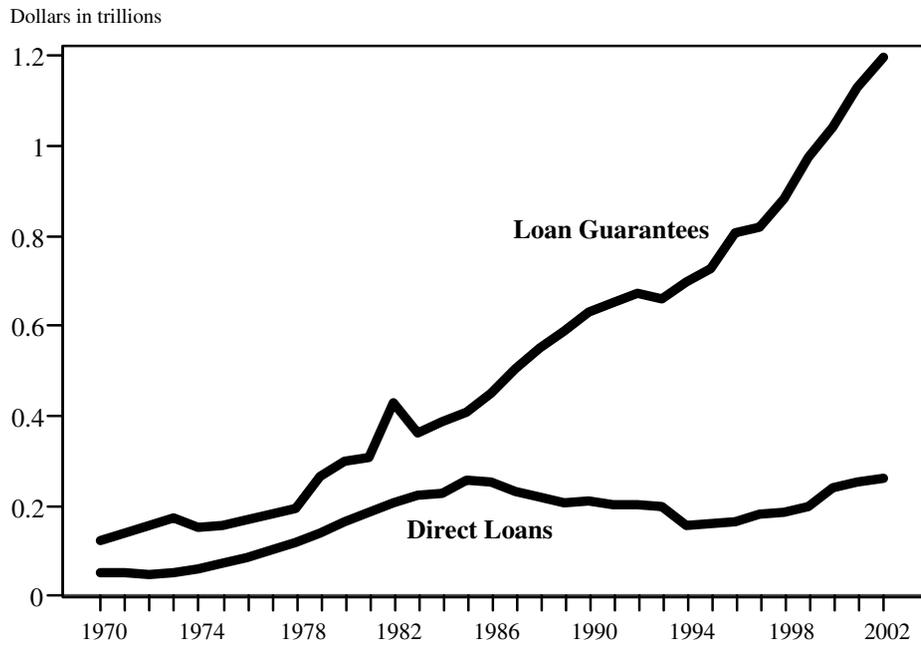


Table 8-1. ESTIMATED FUTURE COST OF OUTSTANDING FEDERAL CREDIT PROGRAMS
(in billions of dollars)

Program	Outstanding 1999	Estimated Future Costs of 1999 Outstanding ¹	Outstanding 2000	Estimated Future Costs of 2000 Outstanding ¹
Direct Loans:²				
Federal student loan programs	65	2	80	-3
Farm Service Agency (excl. CCC), Rural development, Rural housing	45	12	42	11
Rural Utilities Service and Rural telephone bank	29	3	33	2
Housing and Urban Development	14	3	13	2
Agency for International Development	11	6	11	5
P. L. 480	11	8	11	8
Export-Import Bank	12	6	11	5
Commodity Credit Corporation	7	3	8	5
Federal Communications Commission	8	5	8	-1
Disaster assistance	7	2	6	1
Other direct loan programs	22	2	18	3
Total Direct Loans	234	50	241	37
Guaranteed Loans:²				
FHA-mutual mortgage insurance	411	-3	450	-1
Veterans housing	221	6	224	5
Federal family education loan	127	12	144	12
FHA-general and special risk	93	7	99	8
Small business	39	2	34	2
Export-Import Bank	25	6	30	5
International assistance	19	2	19	1
Farm Service Agency and Rural housing	17	.....	20	.....
Commodity Credit Corporation	7	1	6	1
Other guaranteed loan programs	16	.....	16	3
Total Guaranteed Loans	976	34	1,043	37
Total Federal Credit	1,210	84	1,284	75

¹ Direct loan future costs are the financing account allowance for subsidy cost and the liquidating account allowance for estimated uncollectible principal and interest. Loan guarantee future costs are estimated liabilities for loan guarantees.

² Excludes loans and guarantees by deposit insurance agencies and programs not included under credit reform, such as CCC commodity price supports. Defaulted guaranteed loans which become loans receivable are accounted for as direct loans.

Table 8-2. FACE VALUE OF GOVERNMENT-SPONSORED ENTERPRISE LENDING¹

(in billions of dollars)

	Outstanding	
	1999	2000
Government Sponsored Enterprises:		
Fannie Mae	1,141	1,231
Freddie Mac	838	913
Federal Home Loan Banks ²	357	435
Sallie Mae ³ .....	.....	.....
Farm Credit System	66	67
Total	2,402	2,646

¹ Net of purchases of federally guaranteed loans.

² The lending by the Federal Home Loans Banks measures their advances to member thrift and other financial institutions. In addition, their investment in private financial instruments at the end of 2000 was \$178 billion, including federally guaranteed securities, GSE securities, and money market instruments.

³ The face value and Federal costs of Federal Family Education Loans in the Student Loan Marketing Association's portfolio are included in the totals for that program under guaranteed loans in table 8-1.

Table 8-3. REESTIMATES OF CREDIT SUBSIDIES ON LOANS DISBURSED BETWEEN 1992-2000¹

(In millions of dollars)

Program	1994	1995	1996	1997	1998	1999	2000	2001
Direct Loans:								
Agriculture:								
Agriculture credit insurance fund	-72	28	2	-31	23		331	-22
Agricultural conservation	-1							
Rural electrification and telecommunications loans	*	61	-37	84		-39		-117
Rural telephone bank	1			10		-9		-2
Rural housing insurance fund	2	152	46	-73		71		78
Rural economic development loans				1		-1	*	-2
Rural development loan program		1				-6		-1
Rural community advancement program ²				8		5		105
P.L. 480			-37	-1				
Commerce:								
Fisheries finance								-19
Education:								
Federal direct student loans:								
Technical reestimate			3	-83	172	-383	-2,158	559
Volume reestimate						22		-5
College housing and academic facilities loans								-1
Interior:								
Bureau of Reclamation loans							3	1
Bureau of Indian Affairs direct loans						1	5	*
Transportation:								
High priority corridor loans					-3			
Alameda corridor loan							-58	
Transportation infrastructure finance and innovation								18
Treasury:								
Community development financial institutions fund							1	
Veterans Affairs:								
Veterans housing benefit program fund	-39	30	76	-72	465	-111	-52	-108
Environmental Protection Agency:								
Abatement, control and compliance								3
Federal Emergency Management Agency:								
Disaster assistance							47	35
International Assistance Programs:								
Foreign military financing				13	4	1	152	-165
Debt reduction							36	*
Small Business Administration:								
Business loans								1
Disaster loans					-193	246	-398	-282
Other Independent Agencies:								
Export-Import Bank direct loans	-28	-16	37				-177	158
Federal Communications Commission spectrum auction					4,592	980	-1,501	-9,618
Loan Guarantees:								
Agriculture:								
Agriculture credit insurance fund	5	14	12	-51	96		-31	205
Commodity Credit Corporation export guarantees	3	103	-426	343				
Rural development insurance fund	49			-3				
Rural housing insurance fund	2	10	7	-10		109		152
Rural community advancement program ²				-10		41		61
P.L. 480 title I food for progress credits		84	-38					
Commerce:								
Fisheries finance					-2			-3
Education:								
Federal family education loan: ³								
Technical reestimate	97	421	60			-140	667	-3,482
Volume reestimate			535	99		-13	-60	-44
Health and Human Services:								
Health center loan guarantees							3	
Health education assistance loans								-72
Housing and Urban Development:								
Indian housing loan guarantee								-5
FHA-mutual mortgage insurance				-340		3,789		2,413
FHA-general and special risk ⁴	-175		-110	-25	743	79		-228

Table 8-3. REESTIMATES OF CREDIT SUBSIDIES ON LOANS DISBURSED BETWEEN 1992-2000¹—Continued

(In millions of dollars)

Program	1994	1995	1996	1997	1998	1999	2000	2001
Interior:								
Bureau of Indian Affairs guaranteed loans				31				-14
Transportation:								
Maritime guaranteed loans (title XI)						-71	30	-1
Veterans Affairs:								
Veterans housing benefit fund program	-447	167	334	-706	38	492	229	-770
International Assistance Programs:								
U.S. Agency for International Development:								
Housing guaranty	-2	-1	-7		-14			
Micro and small enterprise development								1
Urban and environmental credit								-12
Assistance to the new independent states of the former Soviet Union								-26
Small Business Administration:								
Business loans			257	-16	-279	-545	-235	-527
Other Independent Agencies:								
Export-Import Bank guarantees	-11	-59	13				-191	-1,520
Total	-616	995	727	-832	5,642	4,518	-3,641	-13,256

* \$500 thousand or less.

¹ Excludes interest on reestimates. Additional information on credit reform subsidy rates is contained in the Federal Credit Supplement to the Budget for 2002.² Includes rural water and waste disposal, rural community facilities, and rural business and industry programs.³ Volume reestimates in mandatory loan guarantee programs represent a change in volume of loans disbursed in the prior years. These estimates are the result of guarantee programs where data from loan issuers on actual disbursements of loans are not received until after the close of the fiscal year.⁴ 1999 figure includes interest on reestimate.

Table 8-4. DIRECT LOAN SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS, 2000-2002
(in millions of dollars)

Agency and Program	2000 Actual			2001 Enacted			2002 Proposed		
	Subsidy rate ¹	Subsidy budget authority	Loan level	Subsidy rate ¹	Subsidy budget authority	Loan level	Subsidy rate ¹	Subsidy budget authority	Loan level
Agriculture:									
Agricultural credit insurance fund	5.92	68	1,149	8.47	66	779	6.78	58	855
Farm storage facility loans	2.85	2	80	2.14	4	175	2.42	3	125
Apple loans	N/A			5.01	5	100	N/A		
Emergency boll weevil program	N/A			60.00	6	10	N/A		
Rural community advancement program	8.42	80	950	12.76	172	1,348	6.62	70	1,058
Rural electrification and telecommunications loans	-0.19	-5	2,559	-0.47	-14	3,010	-0.43	-13	3,010
Rural telephone bank	1.88	3	175	1.48	3	175			
Distance learning and telemedicine loans	0.35	1	200	-0.61	-3	400	-0.07		400
Farm labor housing	N/A			52.59	17	33	47.31	13	28
Rural housing insurance fund	13.44	189	1,399	19.35	239	1,235	16.23	200	1,233
Rural development loan program	43.43	17	38	50.91	22	44	43.21	16	38
Rural economic development loans	23.02	3	15	26.07	6	23	24.16	4	15
P.L. 480	82.46	120	145	71.51	113	159	81.73	114	139
Commerce:									
Fisheries finance	1.00		28	0.80	1	74	-12.45	-3	24
Defense—Military:									
Defense vessel transfer program				18.12	4	21	17.49	4	21
Family housing improvement fund	51.27	32	62	58.59	79	136	22.33	52	233
Education:									
Federal direct student loans	-9.09	-1,442	15,854	-8.82	-1,796	20,363	-8.73	-1,564	17,948
Housing and Urban Development:									
FHA-mutual mortgage insurance			3			250			250
FHA-general and special risk			50			50			50
Interior:									
Bureau of Reclamation loans	27.91	11	43	44.44	9	27	26.92	7	26
Assistance to American Samoa				15.58	3	19	N/A		
State:									
Repatriation loans	80.00	1	1	80.00	1	1	80.00	1	1
Transportation:									
Minority business resource center	10.00	2	14	N/A			N/A		
Transportation infrastructure finance and innovation	5.74	52	765	5.69	84	1,475	4.97	109	2,200
Railroad rehabilitation and improvement						150			100
Treasury:									
Community development financial institutions fund	39.99	6	15	43.41	9	20	38.60	6	15
Veterans Affairs:									
Veterans housing benefit program	1.81	40	1,435	2.16	37	1,697	24.69	30	119
Miscellaneous veterans housing loans	7.72		2	7.72		3	7.72		3
Miscellaneous veterans programs	2.23		2	1.88		3	2.18		3
Federal Emergency Management Agency:									
Disaster assistance loans	3.27	1	25	6.71	2	25			25
General Services Administration:									
Columbia Hospital for Women	42.85	6	14	N/A			N/A		
International Assistance Programs:									
Overseas Private Investment Corporation	11.00	5	45	11.00	5	45	11.00		45
Small Business Administration:									
Disaster assistance	22.20	174	783	17.46	76	827	10.95		150
Business loans	8.54	2	27	8.95	2	34	6.78	2	21
Other Independent Agencies:									
Export-Import Bank direct loans	1.39	49	1,084	21.77	30	135	25.66	39	152
Federal Communications Commission spectrum auction	8.25		1	N/A			N/A		
Total	N/A	-583	26,963	N/A	-818	32,846	N/A	-852	28,287

N/A = Not applicable.

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.

Table 8-5. LOAN GUARANTEE SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS, 2000-2002
(in millions of dollars)

Agency and Program	2000 Actual			2001 Enacted			2002 Proposed		
	Subsidy rate ¹	Subsidy budget authority	Loan level	Subsidy rate ¹	Subsidy budget authority	Loan level	Subsidy rate ¹	Subsidy budget authority	Loan level
Agriculture:									
Agricultural credit insurance fund	3.37	90	2,674	2.12	49	2,313	4.20	126	3,000
Commodity Credit Corporation export guarantees	6.80	209	3,081	8.04	305	3,792	6.80	266	3,904
Rural community advancement program	2.21	27	1,219	0.77	21	2,985	1.95	25	1,285
Rural electrification and telecommunications loans	0.01	.....	53	0.01	.....	100	0.08	.....	100
Rural housing insurance fund	0.61	20	3,300	0.31	9	3,236	1.36	44	3,238
Commerce:									
Emergency steel guarantee	14.00	.....	.....	12.54	.....	516	N/A	.....	.....
Emergency oil and gas guarantee	24.50	.....	.....	34.79	.....	5	N/A	.....	.....
Defense:									
Arms initiative	2.36	.....	18	0.05	.....	12	N/A	.....	.....
Family housing improvement fund	6.72	13	202	5.72	28	492	5.96	32	537
Education:									
Federal family education loan	14.20	3,763	26,503	11.62	3,853	33,160	12.18	4,226	34,675
Health and Human Services:									
Health center loan guarantees	5.20	.....	5	2.11	1	32	4.88	1	21
Housing and Urban Development:									
Indian housing loan guarantee	8.13	1	15	8.13	6	72	2.47	6	234
Title VI Indian Federal guarantees	11.07	.....	2	11.07	6	55	11.07	6	53
Community development loan guarantees	2.30	29	1,261	2.30	29	1,258	2.30	14	609
FHA-mutual mortgage insurance	-1.99	-1,864	140,000	-2.15	-2,246	160,000	-2.07	-2,501	160,000
FHA-general and special risk	1.31	-62	18,100	-0.12	38	21,000	-1.45	-230	21,000
Interior:									
Indian guaranteed loans	7.54	4	60	6.73	4	60	6.00	4	75
Transportation:									
Minority business resource center	N/A	.....	.....	2.69	2	14	2.70	.....	18
Transportation infrastructure finance and innovation .....	.....	.....	.....	3.78	8	200	3.76	8	200
Maritime guaranteed loans (title XI)	6.36	56	886	4.94	20	413	4.97	.....	.....
Veterans Affairs:									
Veterans housing benefit program	0.70	216	21,616	0.47	144	30,643	0.54	157	29,317
Miscellaneous veterans housing loans	48.25	45	93	48.25	.....	13	48.25	.....	20
International Assistance Programs:									
USAID-micro and small enterprise development	4.76	2	50	4.94	.....	55	.....	.....	.....
USAID-urban and environmental credit	13.80	2	11	12.10	.....	16	.....	.....	.....
USAID-development credit authority	6.40	4	.....	7.04	8	133	7.04	25	355
Overseas Private Investment Corporation	1.65	19	1,152	1.50	19	1,267	1.65	.....	1,152
Small Business Administration:									
Business loans	1.20	142	13,152	1.08	163	16,187	.....	.....	17,575
Other Independent Agencies:									
Export-Import Bank guarantees	7.90	925	11,705	7.45	983	13,181	6.32	716	11,335
Presidio Trust	0.52	.....	200	0.46	.....	200	0.12	.....	200
Total	N/A	3,641	245,358	N/A	3,450	291,410	N/A	2,925	288,903
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS									
GNMA:									
Guarantees of mortgage-backed securities	-0.29	-312	200,000	-0.36	-356	200,000	-0.33	-354	200,000

N/A = Not applicable.

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.

Table 8-6. SUMMARY OF FEDERAL DIRECT LOANS AND LOAN GUARANTEES
(In billions of dollars)

	Actual						Estimate	
	1995	1996	1997	1998	1999	2000	2001	2002
Direct Loans:								
Obligations	30.9	23.4	33.6	28.8	38.4	37.1	42.4	39.3
Disbursements	22.0	23.6	32.2	28.7	37.7	35.5	39.6	37.3
New subsidy budget authority .....	.....	.....	.....	-0.8	1.6	-0.4	-0.8	-0.8
Reestimated subsidy budget authority .....	.....	.....	.....	7.3	1.0	-4.4	-12.4	.....
Total subsidy budget authority ¹	2.6	1.8	2.4	6.5	2.6	-4.8	-13.2	-0.8
Loan Guarantees:²								
Commitments	138.5	175.4	172.3	218.4	252.4	192.6	255.5	259.2
Lender disbursements	117.9	143.9	144.7	199.5	224.7	180.8	216.4	230.3
New subsidy budget authority .....	.....	.....	.....	3.3	.....	3.3	3.2	2.6
Reestimated subsidy budget authority .....	.....	.....	.....	-0.7	4.3	0.3	-5.3	.....
Total subsidy budget authority ¹	4.6	4.0	3.6	2.6	4.3	3.6	-2.1	2.6

¹ Prior to 1998 new and reestimated subsidy budget authority were not separated.

² GNMA secondary guarantees of loans that are guaranteed by FHA, VA and RHS are excluded from the totals to avoid double-counting.

Table 8-7. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS

Agency and Program	In millions of dollars			As a percentage of outstanding loans ¹		
	2000 actual	2001 estimate	2002 estimate	2000 actual	2001 estimate	2002 estimate
DIRECT LOAN WRITEOFFS						
Agriculture:						
Agricultural credit insurance fund	249	247	230	2.73	2.85	2.86
Rural community advancement program	2			0.04		
Rural electrification and telecommunications loans	159	33		0.50	0.10	
Rural development insurance fund	4	4	3	0.11	0.12	0.10
Rural housing insurance fund	76	80	79	0.26	0.28	0.28
Commerce:						
Economic development revolving fund		1	1		2.85	3.22
Housing and Urban Development:						
Revolving fund (liquidating programs)	5	3	2	3.16	2.40	2.10
FHA—Mutual mortgage insurance		2	3		2.24	1.31
Guarantees of mortgage-backed securities	212	45	16	90.59	51.72	28.07
Interior:						
Indian direct loan	1	2	1	1.47	3.22	1.78
State:						
Repatriation loans	1	1	1	25.00	25.00	25.00
Veterans Affairs:						
Veterans housing benefit program	6	6	8	0.33	0.30	0.35
International Assistance Programs:						
Overseas Private Investment Corporation	2	1	1	3.22	1.85	1.85
Small Business Administration:						
Disaster loans	90	99	41	1.42	1.93	1.10
Business loans	50	48	18	7.22	10.41	5.27
Other Independent Agencies:						
Tennessee Valley Authority	1	1	1	1.96	1.78	1.58
Total, direct loan writeoffs	858	573	405	0.42	0.26	0.17
GUARANTEED LOAN TERMINATIONS FOR DEFAULT						
Agriculture:						
Agricultural credit insurance fund	124	118	121	1.48	1.19	1.05
Commodity Credit Corporation export loans	208	380	334	3.48	5.99	5.43
Rural community advancement program	84	73	50	2.66	1.66	0.80
Rural electrification and telecommunications loans	27			5.54		
Rural development insurance fund	-1			-0.83		
Rural housing insurance fund	68	90	106	0.64	0.72	0.73
Commerce:						
Emergency oil and gas guaranteed loan program			2			50.00
Emergency steel guaranteed loan program			103			22.19
Fisheries Finance	2	2	1	1.90	2.19	1.23
Defense—Military:						
Family housing improvement fund		2	2		4.76	1.75
Education:						
Federal family education loan	2,677	3,570	4,131	1.94	2.40	2.64
Health and Human Services:						
Health education assistance loans	23	40	44	0.80	1.45	1.68
Health center loan guarantees	4			100.00		
Housing and Urban Development:						
Indian housing loan guarantee			1			1.21
FHA—Mutual mortgage insurance	5,667	6,176	5,734	1.31	1.28	1.07
FHA—General and special risk	1,341	1,510	1,585	1.40	1.51	1.55
Interior:						
Indian guaranteed loan		1	2		0.47	0.80
Transportation:						
Maritime guaranteed loan (Title XI)	59	68		1.57	1.59	
Veterans Affairs:						
Veterans housing benefit program	2,256	2,542	2,927	1.01	1.10	1.22

Table 8-7. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS—Continued

Agency and Program	In millions of dollars			As a percentage of outstanding loans ¹		
	2000 actual	2001 estimate	2002 estimate	2000 actual	2001 estimate	2002 estimate
International Assistance Programs:						
Foreign military financing	1	3	5	0.02	0.06	0.12
Micro and small enterprise development	1	1	1	1.88	1.40	1.16
Urban and environmental credit program	32	42	48	1.41	1.98	2.48
Development credit authority .....	.....	1	1	.....	1.85	0.63
Overseas Private Investment Corporation	92	58	50	3.00	1.78	1.43
Small Business Administration:						
Business loans	707	684	692	1.93	2.17	2.26
Pollution control equipment	7	8	6	16.66	22.85	21.42
Other Independent Agencies:						
Export-Import Bank	454	364	464	1.64	1.14	1.38
Total, guaranteed loan terminations for default	13,833	15,733	16,410	0.86	0.92	0.91
Total, direct loan writeoffs and guaranteed loan terminations	14,691	16,306	16,815	0.81	0.85	0.83
ADDENDUM: WRITEOFFS OF DEFAULTED GUARANTEED LOANS THAT RESULT IN LOANS RECEIVABLE						
Education:						
Federal family education loan	604	579	592	2.64	2.66	2.75
Health and Human Services:						
Health education assistance loans	16	16	16	2.94	2.85	2.75
Housing and Urban Development:						
FHA—Mutual mortgage insurance	42	19	43	10.79	20.43	119.44
FHA—General and special risk	149	323	687	6.09	15.10	54.30
Interior:						
Indian guaranteed loan	1	1	2	1.49	1.58	3.27
Transportation:						
Federal ship financing fund .....	.....	17	.....	.....	212.50	.....
Veterans Affairs:						
Veterans housing benefit program	182	52	72	34.14	14.81	15.89
Small Business Administration:						
Business loans	245	124	61	11.48	5.64	2.54
Total, writeoffs of loans receivable	1,239	1,131	1,473	3.62	3.47	4.59

¹ Average of loans outstanding for the year.

Table 8-8. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS ¹

(In millions of dollars)

Agency and Program	2000 Actual	Estimate	
		2001	2002
DIRECT LOAN OBLIGATIONS			
Agriculture:			
Apple loans		100	
Agricultural credit insurance fund	1,770	780	855
Emergency boll weevil		10	
Distance learning and telemedicine	200	400	300
Rural electrification and telecommunications	2,559	3,010	3,010
Rural telephone bank	175	175	
Rural water and waste disposal direct loans	739	879	809
Rural housing insurance fund	1,399	1,265	1,261
Rural community facility direct loans	161	419	249
Rural economic development	15	15	15
Rural development loan fund	38	38	38
Rural business and industry direct loans	50	50	
P.L. 480 direct credit	145	159	139
Commerce:			
Fisheries finance	28	74	24
Education:			
Historically black college and university capital financing	346	311	281
Housing and Urban Development:			
FHA-general and special risk	50	50	50
FHA-mutual mortgage insurance	100	250	250
Interior:			
Bureau of Reclamation	43	27	26
Assistance to American Samoa		19	
State:			
Repatriation loans	1	1	1
Transportation:			
Minority business resource center	14		
Transportation infrastructure finance and innovation program	1,600	1,800	2,000
Transportation infrastructure finance and innovation program line of credit	200	200	200
Treasury:			
Community development financial institutions fund	53	53	15
Veterans Affairs:			
Miscellaneous veterans programs loan fund	2	3	3
Federal Emergency Management Agency:			
Disaster assistance	25	25	25
General Services Administration:			
Columbia Hospital for Women	14		
International Assistance Programs:			
Military debt reduction	10		
Total, limitations on direct loan obligations	9,737	10,113	9,551
LOAN GUARANTEE COMMITMENTS			
Agriculture:			
Agricultural credit insurance fund	3,778	2,318	3,000
Rural electrification and telecommunications guaranteed loans	53	100	100
Rural water and waste water disposal guaranteed loans	75	75	75
Rural housing insurance fund	3,300	3,236	3,238
Rural community facility guaranteed loans	210	210	210
Rural business and industry guaranteed loans	892	2,700	1,000
Commerce:			
Emergency oil and gas	500	500	495
Emergency steel	1,000	1,000	484
Defense—Military:			
Defense export loan guarantee	14,980	14,980	14,980
Arms initiative	18	12	
Health and Human Services:			
Health center	5	32	21

Table 8-8. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS¹—Continued
(In millions of dollars)

Agency and Program	2000 Actual	Estimate	
		2001	2002
Housing and Urban Development:			
Indian housing loan guarantee fund	135	72	234
Title VI Indian Federal guarantees	55	55	53
Community development loan guarantees	1,261	1,258	609
America's private investment companies	541	.....	.....
FHA-general and special risk	18,100	21,000	21,000
FHA-loan guarantee recovery fund	7	4	.....
FHA-mutual mortgage insurance	140,000	160,000	160,000
Interior:			
Indian guaranteed loan program	60	60	75
Transportation:			
Minority business resource center .....	.....	14	18
Transportation infrastructure finance and innovation program loan guarantee .....	.....	200	200
Maritime guaranteed loan (title XI)	1,000	.....	.....
Small Business Administration:			
Business	14,874	16,187	17,575
Other Independent Agencies:			
Presidio Trust	200	200	200
Total, limitations on loan guarantee commitments	201,044	224,213	223,567
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS			
Housing and Urban Development:			
Guarantees of mortgage-backed securities	200,000	200,000	200,000
Total, limitations on secondary guaranteed loan commitments	200,000	200,000	200,000

¹ Data represents loan level limitations enacted or proposed to be enacted in appropriation acts. For information on actual and estimated loan levels supportable by new subsidy budget authority requested, see Tables 8-4 and 8-5.

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-750	-710	-638
Outstandings	5,067	4,357	3,719
Farm storage facility direct loan financing account:			
Obligations	80	175	125
Loan disbursements	32	174	126
<i>Change in outstandings</i>	32	163	90
Outstandings	32	195	285
Apple loans direct loan financing account:			
Obligations		100	
Loan disbursements		100	
<i>Change in outstandings</i>		100	-33
Outstandings		100	67
Agricultural credit insurance fund direct loan financing account:			
Obligations	1,770	780	855
Loan disbursements	1,149	780	855
<i>Change in outstandings</i>	466	49	39
Outstandings	3,909	3,958	3,997
Emergency boll weevil direct loan financing account:			
Obligations		10	
Loan disbursements		10	
<i>Change in outstandings</i>		10	-1
Outstandings		10	9
Commodity Credit Corporation fund:			
Obligations	9,691	8,689	9,171
Loan disbursements	9,691	8,689	9,171
<i>Change in outstandings</i>	618	-1,226	-443
Outstandings	3,464	2,238	1,795
Rural Utilities Service			
Rural communication development fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1	-1	-1
Outstandings	6	5	4
Distance learning and telemedicine direct loan financing account:			
Obligations	6	400	300
Loan disbursements	1	32	113
<i>Change in outstandings</i>	1	29	102
Outstandings	2	31	133
Rural development insurance fund liquidating account:			
Obligations			
Loan disbursements	1		
<i>Change in outstandings</i>	-201	-191	-179
Outstandings	3,269	3,078	2,899
Rural electrification and telecommunications direct loan financing account:			
Obligations	2,559	3,010	3,010
Loan disbursements	1,390	1,856	2,207
<i>Change in outstandings</i>	1,182	1,673	1,985
Outstandings	7,131	8,804	10,789
Rural telephone bank direct loan financing account:			
Obligations	175	175	
Loan disbursements	31	116	129
<i>Change in outstandings</i>	22	105	115
Outstandings	268	373	488

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Rural water and waste disposal direct loans financing account:			
Obligations	765	885	809
Loan disbursements	668	740	800
<i>Change in outstandings</i>	597	684	734
Outstandings	3,942	4,626	5,360
Rural electrification and telecommunications liquidating account:			
Obligations			
Loan disbursements	18	19	18
<i>Change in outstandings</i>	-2,134	-1,996	-1,786
Outstandings	23,733	21,737	19,951
Rural telephone bank liquidating account:			
Obligations			
Loan disbursements	12	8	7
<i>Change in outstandings</i>	-62	-114	-71
Outstandings	924	810	739
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1,007	-954	-897
Outstandings	17,366	16,412	15,515
Rural housing insurance fund direct loan financing account:			
Obligations	1,321	1,326	1,261
Loan disbursements	1,241	1,283	1,283
<i>Change in outstandings</i>	873	795	717
Outstandings	11,053	11,848	12,565
Rural community facility direct loans financing account:			
Obligations	199	422	249
Loan disbursements	154	209	264
<i>Change in outstandings</i>	117	184	232
Outstandings	864	1,048	1,280
Rural Business—Cooperative Service			
Rural economic development loans liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1	-1	
Outstandings	1		
Rural economic development direct loan financing account:			
Obligations	15	23	15
Loan disbursements	12	15	19
<i>Change in outstandings</i>	3	4	6
Outstandings	69	73	79
Rural development loan fund direct loan financing account:			
Obligations	38	44	38
Loan disbursements	42	42	43
<i>Change in outstandings</i>	35	34	34
Outstandings	282	316	350
Rural business and industry direct loans financing account:			
Obligations	30	50	
Loan disbursements	24	38	30
<i>Change in outstandings</i>	21	35	26
Outstandings	59	94	120
Rural development loan fund liquidating account:			
Obligations			
Loan disbursements		1	
<i>Change in outstandings</i>	-3	-2	-3
Outstandings	70	68	65

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Foreign Agricultural Service			
Expenses, Public Law 480, foreign assistance programs, Agriculture liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-268	-954	-235
Outstandings	8,542	7,588	7,353
P.L. 480 direct credit financing account:			
Obligations	145	159	139
Loan disbursements	133	443	180
Change in outstandings	128	431	169
Outstandings	2,055	2,486	2,655
P.L. 480 title I food for progress credits, financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-57	-57
Outstandings	504	447	390
Debt reduction—financing account:			
Obligations			
Loan disbursements		84	60
Change in outstandings	-6	79	52
Outstandings	57	136	188
Department of Commerce			
Economic Development Administration			
Economic development revolving fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-6	-4	-4
Outstandings	37	33	29
National Oceanic and Atmospheric Administration			
Fisheries finance direct loan financing account:			
Obligations	28	74	24
Loan disbursements	19	74	24
Change in outstandings	8	59	7
Outstandings	137	196	203
Department of Defense—Military			
Operation and Maintenance			
Defense vessel transfer program financing account:			
Obligations		21	21
Loan disbursements		21	21
Change in outstandings		19	15
Outstandings		19	34
Family Housing			
Family housing improvement direct loan financing account:			
Obligations	32	143	233
Loan disbursements		11	51
Change in outstandings		11	51
Outstandings		11	62
Department of Education			
Office of Postsecondary Education			
College housing and academic facilities loans liquidating account:			
Obligations			
Loan disbursements	4		
Change in outstandings	-39	-39	-34
Outstandings	484	445	411
College housing and academic facilities loans financing account:			
Obligations			
Loan disbursements	3		
Change in outstandings	3	-1	-1
Outstandings	26	25	24

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Historically black college and university capital financing direct loan financing account:			
Obligations	35	30	30
Loan disbursements	10	9	15
Change in outstandings	10	9	14
Outstandings	21	30	44
Office of Student Financial Assistance			
Student financial assistance:			
Obligations			
Loan disbursements	25	25	25
Change in outstandings	-6	-17	-13
Outstandings	394	377	364
Federal direct student loan program financing account:			
Obligations	15,854	20,363	17,948
Loan disbursements	16,383	19,027	16,539
Change in outstandings	12,738	16,364	12,776
Outstandings	57,713	74,077	86,853
Department of Energy			
Power Marketing Administration			
Bonneville Power Administration fund:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	2	2	2
Department of Health and Human Services			
Health Resources and Services Administration			
Medical facilities guarantee and loan fund:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-8	-3
Outstandings	11	3	
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Obligations			
Loan disbursements			
Change in outstandings	-71	-71	-71
Outstandings	1,350	1,279	1,208
Community Planning and Development			
Revolving fund (liquidating programs):			
Obligations			
Loan disbursements			
Change in outstandings	-33	-33	-27
Outstandings	142	109	82
Community development loan guarantees liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	13	13	13
Housing Programs			
Nonprofit sponsor assistance liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	1	1	1
Flexible subsidy fund:			
Obligations			
Loan disbursements	17	20	12
Change in outstandings	-58	-55	-63
Outstandings	703	648	585

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
FHA-mutual mortgage and cooperative housing insurance funds liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-3	
Outstandings	3		
FHA-general and special risk insurance funds liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-24	-24	-10
Outstandings	44	20	10
FHA-general and special risk direct loan financing account:			
Obligations		4	4
Loan disbursements		4	4
Change in outstandings		3	
Outstandings	1	4	4
Housing for the elderly or handicapped fund liquidating account:			
Obligations			
Loan disbursements	6	5	5
Change in outstandings	-120	-146	-182
Outstandings	7,923	7,777	7,595
FHA-mutual mortgage insurance direct loan financing account:			
Obligations	3	250	250
Loan disbursements	3	248	245
Change in outstandings	-3	177	105
Outstandings		177	282
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Obligations			
Loan disbursements	42	38	2
Change in outstandings	-251	-44	-16
Outstandings	109	65	49
Department of the Interior			
Bureau of Reclamation			
Bureau of Reclamation loan liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-3	-4	-4
Outstandings	63	59	55
Water and related resources:			
Obligations			
Loan disbursements			
Change in outstandings		-1	
Outstandings	3	2	2
Bureau of Reclamation direct loan financing account:			
Obligations	26	22	26
Loan disbursements	21	33	29
Change in outstandings	20	31	27
Outstandings	166	197	224
National Park Service			
Construction and major maintenance:			
Obligations			
Loan disbursements			
Change in outstandings	-1		
Outstandings	5	5	5
Bureau of Indian Affairs			
Revolving fund for loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-5	-3	-4
Outstandings	39	36	32

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Indian direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-3	-3
Outstandings	27	24	21
Insular Affairs			
Payments to the United States territories, fiscal assistance:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-2	-2
Outstandings	15	13	11
Assistance to American Samoa direct loan financing account:			
Obligations		19	
Loan disbursements		16	3
Change in outstandings		15	2
Outstandings		15	17
Department of State			
Administration of Foreign Affairs			
Repatriation loans financing account:			
Obligations	1	1	1
Loan disbursements	1	1	1
Change in outstandings			
Outstandings	4	4	4
Department of Transportation			
Office of the Secretary			
Minority business resource center direct loan financing account:			
Obligations	3		
Loan disbursements	3	4	
Change in outstandings			-4
Outstandings	7	7	3
Federal Highway Administration			
Transportation infrastructure finance and innovation program direct loan financing account:			
Obligations	1,496	1,800	2,000
Loan disbursements	300	239	599
Change in outstandings	300	239	599
Outstandings	300	539	1,138
Transportation infrastructure finance and innovation program line of credit financing account:			
Obligations	30	200	200
Loan disbursements			
Change in outstandings			
Outstandings			
Right-of-way revolving fund liquidating account:			
Obligations			
Loan disbursements	20	10	10
Change in outstandings	-26	-14	-14
Outstandings	129	115	101
Federal Railroad Administration			
Amtrak corridor improvement loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings		-1	-1
Outstandings	5	4	3
Alameda corridor direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	88	-488	
Outstandings	488		

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Railroad rehabilitation and improvement liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	–4	–4	–4
Outstandings	49	45	41
Railroad rehabilitation and improvement direct loan financing account:			
Obligations	4	150	100
Loan disbursements		150	100
<i>Change in outstandings</i>		150	92
Outstandings	4	154	246
Department of the Treasury			
Departmental Offices			
Community development financial institutions fund direct loan financing account:			
Obligations	15	20	15
Loan disbursements	4	7	3
<i>Change in outstandings</i>	4	6	1
Outstandings	15	21	22
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans housing benefit program fund liquidating account:			
Obligations			
Loan disbursements	12	9	8
<i>Change in outstandings</i>	–153	–16	–14
Outstandings	164	148	134
Veterans housing benefit program fund direct loan financing account:			
Obligations	1,435	1,697	1,710
Loan disbursements	1,435	1,697	1,710
<i>Change in outstandings</i>	–44	504	98
Outstandings	1,556	2,060	2,158
Miscellaneous veterans housing loans direct loan financing account:			
Obligations	2	3	3
Loan disbursements	2	3	3
<i>Change in outstandings</i>	1	2	1
Outstandings	17	19	20
Miscellaneous veterans programs loan fund direct loan financing account:			
Obligations	2	3	3
Loan disbursements	2	3	3
<i>Change in outstandings</i>			
Outstandings	1	1	1
Environmental Protection Agency			
Environmental Protection Agency			
Abatement, control, and compliance direct loan financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	–5	–5	–4
Outstandings	46	41	37
Federal Emergency Management Agency			
Federal Emergency Management Agency			
Disaster assistance direct loan liquidating account:			
Obligations			
Loan disbursements		–29	
<i>Change in outstandings</i>	–8	–29	
Outstandings	29		
Disaster assistance direct loan financing account:			
Obligations		25	25
Loan disbursements		54	25
<i>Change in outstandings</i>	–12	52	13
Outstandings	136	188	201

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
General Services Administration			
Real Property Activities			
Columbia Hospital for Women direct loan financing account:			
Obligations	14		
Loan disbursements	14		
<i>Change in outstandings</i>	14		
Outstandings	14	14	14
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Obligations			
Loan disbursements	8	10	12
<i>Change in outstandings</i>	-582	-456	-394
Outstandings	4,223	3,767	3,373
Foreign military financing direct loan financing account:			
Obligations			
Loan disbursements	418	579	326
<i>Change in outstandings</i>	105	206	-127
Outstandings	1,770	1,976	1,849
Military debt reduction financing account:			
Obligations	10		
Loan disbursements	10		
<i>Change in outstandings</i>	9		
Outstandings	19	19	19
Agency for International Development			
Economic assistance loans liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-700	-1,003	-786
Outstandings	9,960	8,957	8,171
Debt reduction financing account:			
Obligations			
Loan disbursements		155	133
<i>Change in outstandings</i>	-52	94	76
Outstandings	165	259	335
Private sector revolving fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>			
Outstandings	1	1	1
Microenterprise and small enterprise development credit direct loan financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>		-1	
Outstandings	2	1	1
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1	-1	
Outstandings	1		
Overseas Private Investment Corporation direct loan financing account:			
Obligations	104	127	180
Loan disbursements	4	23	38
<i>Change in outstandings</i>	-8	-5	4
Outstandings	57	52	56

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Small Business Administration			
Small Business Administration			
Business direct loan financing account:			
Obligations	30	60	25
Loan disbursements	-15	48	18
Change in outstandings	-33	33	3
Outstandings	60	93	96
Disaster direct loan financing account:			
Obligations	221	951	300
Loan disbursements	942	947	485
Change in outstandings	-446	-1,022	-1,100
Outstandings	5,212	4,190	3,090
Disaster loan fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-382	-554	-103
Outstandings	685	131	28
Business loan fund liquidating account:			
Obligations			
Loan disbursements	20	22	18
Change in outstandings	-263	-199	-78
Outstandings	485	286	208
Other Independent Agencies			
Export-Import Bank of the United States			
Export-Import Bank of the United States liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-709	-906	-373
Outstandings	4,460	3,554	3,181
Debt reduction financing account:			
Obligations			
Loan disbursements	7	26	24
Change in outstandings	-6	25	23
Outstandings	102	127	150
Export-Import Bank direct loan financing account:			
Obligations	933	135	152
Loan disbursements	1,123	1,458	1,513
Change in outstandings	413	720	697
Outstandings	6,666	7,386	8,083
Farm Credit System Financial Assistance Corporation			
Financial Assistance Corporation assistance fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-17	-15	-15
Outstandings	883	868	853
Federal Communications Commission			
Spectrum auction direct loan financing account:			
Obligations	1		
Loan disbursements	1		
Change in outstandings	-66	-38	-38
Outstandings	8,177	8,139	8,101
Bank Insurance FSLIC Resolution			
FSLIC resolution fund:			
Obligations			
Loan disbursements			
Change in outstandings	-7	-4	
Outstandings	4		

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
National Credit Union Administration			
Community development credit union revolving loan fund:			
Obligations	11	11	11
Loan disbursements	5	3	3
Change in outstandings	3		
Outstandings	11	11	11
Tennessee Valley Authority			
Tennessee Valley Authority fund:			
Obligations	15	21	21
Loan disbursements	15	21	21
Change in outstandings	4	7	6
Outstandings	53	60	66
Subtotal, direct loan transactions:			
Obligations	37,099	42,378	39,254
Loan disbursements	35,463	39,610	37,333
Change in outstandings	9,227	11,676	11,075
Outstandings	208,061	219,737	230,812
ADDENDUM: DEFAULTED GUARANTEED LOANS THAT RESULT IN A LOAN RECEIVABLE			
Department of Agriculture			
Farm Service Agency			
Commodity Credit Corporation export guarantee financing account:			
Claim payments	208	380	334
Change in outstandings	128	355	290
Outstandings	464	819	1,109
Commodity Credit Corporation guaranteed loans liquidating account:			
Claim payments			
Change in outstandings	-79	-152	-164
Outstandings	4,131	3,979	3,815
Rural Business—Cooperative Service			
Rural business and industry guaranteed loans financing account:			
Claim payments	57	40	
Change in outstandings	57	40	
Outstandings	57	97	97
Department of Commerce			
National Oceanic and Atmospheric Administration			
Federal ship financing fund fishing vessels liquidating account:			
Claim payments			
Change in outstandings		-2	-2
Outstandings	14	12	10
Department of Education			
Office of Student Financial Assistance			
Federal family education loan liquidating account:			
Claim payments	284	116	73
Change in outstandings	-1,351	-956	-798
Outstandings	16,558	15,602	14,804
Federal family education loan program financing account:			
Claim payments	2,082	3,027	3,589
Change in outstandings	-440	572	819
Outstandings	5,343	5,915	6,734
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Claim payments	15	27	31
Change in outstandings	15	23	26
Outstandings	53	76	102

Table 8–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Health education assistance loans liquidating account:			
Claim payments	24	25	24
Change in outstandings	4	-5	-6
Outstandings	500	495	489
Department of Housing and Urban Development			
Housing Programs			
FHA-mutual mortgage and cooperative housing insurance funds liquidating account:			
Claim payments	20	50	148
Change in outstandings	-224	-7	-6
Outstandings	46	39	33
FHA-general and special risk insurance funds liquidating account:			
Claim payments	457	208	211
Change in outstandings	70	-698	-950
Outstandings	1,960	1,262	312
FHA-general and special risk guaranteed loan financing account:			
Claim payments	226	462	526
Change in outstandings	61	-48	-51
Outstandings	552	504	453
FHA-mutual mortgage insurance guaranteed loan financing account:			
Claim payments	55	360	588
Change in outstandings	-258	-102	
Outstandings	102		
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Claim payments		1	1
Change in outstandings	-2	-1	-3
Outstandings	27	26	23
Indian guaranteed loan financing account:			
Claim payments		1	2
Change in outstandings	-4		1
Outstandings	37	37	38
Department of Transportation			
Maritime Administration			
Federal ship financing fund liquidating account:			
Claim payments			
Change in outstandings	-3	-17	
Outstandings	17		
Maritime guaranteed loan (title XI) financing account:			
Claim payments	32	30	
Change in outstandings	32	30	
Outstandings	32	62	62
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans housing benefit program fund liquidating account:			
Claim payments	27	36	35
Change in outstandings	-288		
Outstandings	286	286	286
Veterans housing benefit program fund guaranteed loan financing account:			
Claim payments	177	140	145
Change in outstandings	-188	113	90
Outstandings	9	122	212
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Claim payments	27	8	31
Change in outstandings	1	-14	28
Outstandings	14		28

Table 8-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Agency for International Development			
Housing and other credit guaranty programs liquidating account:			
Claim payments	32	38	44
Change in outstandings	8	-1	38
Outstandings	508	507	545
Microenterprise and small enterprise development guaranteed loan financing account:			
Claim payments	1	1	1
Change in outstandings	1	1	1
Outstandings	4	5	6
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Claim payments	13	8	5
Change in outstandings	12	3	.....
Outstandings	24	27	27
Overseas Private Investment Corporation guaranteed loan financing account:			
Claim payments	79	50	45
Change in outstandings	13	20	31
Outstandings	30	50	81
Small Business Administration			
Small Business Administration			
Pollution control equipment fund liquidating account:			
Claim payments	1	1	1
Change in outstandings	1	1	1
Outstandings	49	50	51
Business guaranteed loan financing account:			
Claim payments	681	656	670
Change in outstandings	64	194	258
Outstandings	817	1,011	1,269
Business loan fund liquidating account:			
Claim payments	26	28	22
Change in outstandings	-58	-78	22
Outstandings	1,320	1,242	1,264
Subtotal, defaulted guaranteed loans that result in a loan receivable:			
Claim payments	4,524	5,693	6,526
Change in outstandings	-2,428	-729	-375
Outstandings	32,954	32,225	31,850
Total:			
Obligations	37,099	42,378	39,254
Loan disbursements	39,987	45,303	43,859
Change in outstandings	6,799	10,947	10,700
Outstandings	241,015	251,962	262,662

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-123	-102	-67
Outstandings	471	369	302
Agricultural credit insurance fund guaranteed loan financing account:			
Commitments	3,778	2,318	3,000
New guaranteed loans	2,591	2,700	2,879
Change in outstandings	1,578	1,647	1,786
Outstandings	8,601	10,248	12,034
Commodity Credit Corporation export guarantee financing account:			
Commitments	3,081	3,792	3,904
New guaranteed loans	2,844	3,792	3,904
Change in outstandings	1,011	-297	-74
Outstandings	6,483	6,186	6,112
Natural Resources Conservation Service			
Agricultural resource conservation demonstration guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings			
Outstandings	24	24	24
Rural Utilities Service			
Rural communication development fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings			
Outstandings	4	4	4
Rural development insurance fund liquidating account:			
Commitments			
New guaranteed loans	1		
Change in outstandings	-22	-24	-18
Outstandings	109	85	67
Rural electrification and telecommunications guaranteed loans financing account:			
Commitments	53	100	100
New guaranteed loans	152	52	105
Change in outstandings	152	50	102
Outstandings	168	218	320
Rural water and waste water disposal guaranteed loans financing account:			
Commitments	11	75	75
New guaranteed loans	13	12	43
Change in outstandings	6	4	41
Outstandings	19	23	64
Rural electrification and telecommunications liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-27	-25	-24
Outstandings	382	357	333
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-3	-2	-2
Outstandings	20	18	16
Rural housing insurance fund guaranteed loan financing account:			
Commitments	2,250	3,267	3,238
New guaranteed loans	2,243	2,870	3,004
Change in outstandings	1,527	2,023	2,017
Outstandings	11,299	13,322	15,339

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Rural community facility guaranteed loans financing account:			
Commitments	87	210	210
New guaranteed loans	63	135	155
Change in outstandings	31	122	137
Outstandings	225	347	484
Rural Business—Cooperative Service			
Rural business and industry guaranteed loans financing account:			
Commitments	1,008	2,793	1,000
New guaranteed loans	967	2,091	1,777
Change in outstandings	516	1,811	1,453
Outstandings	3,180	4,991	6,444
Department of Commerce			
Departmental Management			
Emergency oil and gas guaranteed loan financing account:			
Commitments		5	
New guaranteed loans		5	
Change in outstandings		5	-2
Outstandings		5	3
Emergency steel guaranteed loan financing account:			
Commitments		516	
New guaranteed loans		516	
Change in outstandings		516	-103
Outstandings		516	413
Economic Development Administration			
Economic development revolving fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-2	-1	
Outstandings	1		
National Oceanic and Atmospheric Administration			
Fisheries finance guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-8	-7	-6
Outstandings	54	47	41
Federal ship financing fund fishing vessels liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-8	-4	-4
Outstandings	43	39	35
Department of Defense—Military			
Operation and Maintenance			
Defense export loan guarantee financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-4	-4	-4
Outstandings	12	8	4
Procurement			
Arms initiative guaranteed loan financing account:			
Commitments	18	12	
New guaranteed loans	18	10	2
Change in outstandings	18	10	1
Outstandings	28	38	39
Family Housing			
Family housing improvement guaranteed loan financing account:			
Commitments	202	492	537
New guaranteed loans	29	29	118
Change in outstandings	29	27	116
Outstandings	29	56	172

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Department of Education			
Office of Student Financial Assistance			
Federal family education loan liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-3,211	-3,049	-1,936
Outstandings	10,114	7,065	5,129
Federal family education loan program financing account:			
Commitments	29,427	33,160	34,675
New guaranteed loans	26,602	29,501	30,742
Change in outstandings	16,105	11,504	9,298
Outstandings	134,111	145,615	154,913
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-16	-28	-33
Outstandings	1,535	1,507	1,474
Health education assistance loans liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-71	-91	-97
Outstandings	1,267	1,176	1,079
Health center guaranteed loan financing account:			
Commitments	5	32	21
New guaranteed loans	5	32	21
Change in outstandings	1	32	21
Outstandings	5	37	58
Medical facilities guarantee and loan fund:			
Commitments			
New guaranteed loans			
Change in outstandings	-21	-21	-3
Outstandings	24	3	
Health Care Financing Administration			
Health maintenance organization loan and loan guarantee fund:			
Commitments			
New guaranteed loans			
Change in outstandings	-2	-1	
Outstandings	1		
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Commitments			
New guaranteed loans			
Change in outstandings	-284	-284	-284
Outstandings	2,742	2,458	2,174
Indian housing loan guarantee fund financing account:			
Commitments	15	23	234
New guaranteed loans	18	18	18
Change in outstandings	13	15	14
Outstandings	60	75	89
Title VI Indian Federal guarantees financing account:			
Commitments	2	55	53
New guaranteed loans	1	15	41
Change in outstandings	1	14	38
Outstandings	1	15	53

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Community Planning and Development			
Revolving fund (liquidating programs):			
Commitments			
New guaranteed loans			
Change in outstandings	-1		
Outstandings			
Community development loan guarantees financing account:			
Commitments	412	1,258	609
New guaranteed loans	322	500	400
Change in outstandings	183	250	200
Outstandings	1,692	1,942	2,142
Community development loan guarantees liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-27	-25	-23
Outstandings	107	82	59
Housing Programs			
FHA-mutual mortgage and cooperative housing insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-8,247	-6,707	-5,407
Outstandings	47,619	40,912	35,505
FHA-general and special risk insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-3,144	-1,978	-2,710
Outstandings	29,761	27,783	25,073
FHA-general and special risk guaranteed loan financing account:			
Commitments	9,308	17,381	15,522
New guaranteed loans	12,507	15,175	15,732
Change in outstandings	9,436	3,717	5,604
Outstandings	69,128	72,845	78,449
FHA-loan guarantee recovery fund financing account:			
Commitments	3	4	
New guaranteed loans	1	4	3
Change in outstandings	1	4	3
Outstandings	3	7	10
FHA-mutual mortgage insurance guaranteed loan financing account:			
Commitments	94,161	127,609	134,736
New guaranteed loans	86,274	106,016	119,712
Change in outstandings	46,352	66,970	47,674
Outstandings	401,960	468,930	516,604
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-10	-11	-12
Outstandings	146	135	123
Guarantees of mortgage-backed securities financing account:			
Commitments	105,518	96,262	103,199
New guaranteed loans	105,518	96,262	103,199
Change in outstandings	33,429	17,518	11,580
Outstandings	602,741	620,259	631,839
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-3	-5	-8
Outstandings	29	24	16

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Indian guaranteed loan financing account:			
Commitments	60	60	75
New guaranteed loans	52	60	75
Change in outstandings	42	44	48
Outstandings	162	206	254
Department of Transportation			
Office of the Secretary			
Minority business resource center guaranteed loan financing account:			
Commitments		14	18
New guaranteed loans		14	18
Change in outstandings		14	11
Outstandings		14	25
Federal Highway Administration			
Transportation infrastructure finance and innovation program loan guarantee financing account:			
Commitments		200	200
New guaranteed loans			200
Change in outstandings			200
Outstandings			200
Maritime Administration			
Federal ship financing fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-73	-65	-60
Outstandings	248	183	123
Maritime guaranteed loan (title XI) financing account:			
Commitments	886	620	200
New guaranteed loans	886	620	200
Change in outstandings	666	391	10
Outstandings	4,077	4,468	4,478
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans housing benefit program fund liquidating account:			
Commitments			
New guaranteed loans	1		
Change in outstandings	-4,898	-3,608	-2,632
Outstandings	12,740	9,132	6,500
Veterans housing benefit program fund guaranteed loan financing account:			
Commitments	21,616	30,643	30,447
New guaranteed loans	21,616	30,643	30,448
Change in outstandings	7,917	14,076	12,293
Outstandings	211,568	225,644	237,937
Miscellaneous veterans housing loans guaranteed loan financing account:			
Commitments		13	20
New guaranteed loans		13	20
Change in outstandings		13	18
Outstandings		13	31
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-374	-357	-350
Outstandings	4,551	4,194	3,844
Agency for International Development			
Loan guarantees to Israel financing account:			
Commitments			
New guaranteed loans			
Change in outstandings			
Outstandings	9,226	9,226	9,226

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
Development credit authority guaranteed loan financing account:			
Commitments	141	119	200
New guaranteed loans	6	110	125
Change in outstandings	6	96	111
Outstandings	6	102	213
Housing and other credit guaranty programs liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-76	-208	-116
Outstandings	1,684	1,476	1,360
Microenterprise and small enterprise development guaranteed loan financing account:			
Commitments	56	72	
New guaranteed loans	44	36	36
Change in outstandings	22	15	15
Outstandings	64	79	94
Urban and environmental credit guaranteed loan financing account:			
Commitments	11	16	
New guaranteed loans	37	16	
Change in outstandings	11	-15	-34
Outstandings	545	530	496
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-25	-39	-5
Outstandings	44	5	
Overseas Private Investment Corporation guaranteed loan financing account:			
Commitments	1,152	1,267	1,152
New guaranteed loans	426	500	525
Change in outstandings	194	250	280
Outstandings	3,098	3,348	3,628
Small Business Administration			
Small Business Administration			
Pollution control equipment fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-7	-8	-6
Outstandings	39	31	25
Business guaranteed loan financing account:			
Commitments	13,152	16,187	17,575
New guaranteed loans	12,149	10,488	9,111
Change in outstandings	-5,028	-4,167	3,068
Outstandings	31,739	27,572	30,640
Business loan fund liquidating account:			
Commitments			
New guaranteed loans	1	1	
Change in outstandings	-642	-432	-340
Outstandings	2,010	1,578	1,238
Other Independent Agencies			
Export-Import Bank of the United States			
Export-Import Bank of the United States liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-110	-291	-240
Outstandings	1,104	813	573
Export-Import Bank guaranteed loan financing account:			
Commitments	11,705	13,181	11,335
New guaranteed loans	10,930	10,448	10,858
Change in outstandings	4,527	4,251	-282
Outstandings	28,678	32,929	32,647

Table 8-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(in millions of dollars)

Agency and Account	2000 Actual	Estimate	
		2001	2002
National Credit Union Administration			
Credit union share insurance fund:			
Commitments	4	6	4
New guaranteed loans	4	3	4
Change in outstandings	3	2	-2
Outstandings	4	6	4
Presidio Trust			
Presidio Trust guaranteed loan financing account:			
Commitments			100
New guaranteed loans			50
Change in outstandings			49
Outstandings			49
Subtotal, Guaranteed loans (gross)			
Commitments	298,122	351,762	362,439
New guaranteed loans	286,321	312,687	333,525
Change in outstandings	97,310	103,535	81,304
Outstandings	1,645,785	1,749,320	1,830,624
Less, secondary guaranteed loans:¹			
GNMA guarantees of FmHA/VA/FHA pools:			
Commitments	-105,518	-96,262	-103,199
New guaranteed loans	-105,518	-96,262	-103,199
Change in outstandings	-33,419	-17,507	-11,568
Outstandings	-602,887	-620,394	-631,962
Total, primary guaranteed loans:²			
Commitments	192,604	255,500	259,240
New guaranteed loans	180,803	216,425	230,326
Change in outstandings	63,891	86,028	69,736
Outstandings	1,042,898	1,128,926	1,198,662

¹ Loans guaranteed by FHA, VA, or FmHA are included above. GNMA places a secondary guarantee on these loans, so they are deducted here to avoid double counting.

² When guaranteed loans result in loans receivable, they are shown in the direct loan table.

Table 8–11. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES (GSEs)¹
(in millions of dollars)

Enterprise	2000 Actual	Estimate	
		2001	2002
LENDING			
Student Loan Marketing Association:			
<i>Net change</i>	-584	-5,380	-2,759
Outstandings	37,213	31,833	29,074
Federal National Mortgage Association:			
Portfolio programs:			
<i>Net change</i>	68,971	105,638	99,358
Outstandings	587,600	693,238	792,596
Mortgage-backed securities:			
<i>Net change</i>	31,807	106,111	92,254
Outstandings	706,104	812,215	904,469
Federal Home Loan Mortgage Corporation:			
Portfolio programs:			
<i>Net change</i>	45,656	50,627	60,637
Outstandings	361,624	412,251	472,888
Mortgage-backed securities:			
<i>Net change</i>	30,029	51,773	76,056
Outstandings	559,242	611,015	687,071
Farm Credit System:			
Agricultural credit bank:			
<i>Net change</i>	1,178	482	674
Outstandings	19,270	19,752	20,426
Farm credit banks:			
<i>Net change</i>	870	1,548	1,919
Outstandings	46,693	48,241	50,160
Federal Agricultural Mortgage Corporation:			
<i>Net change</i>	1,261	1,576	1,106
Outstandings	3,318	4,894	6,000
Federal Home Loan Banks:			
<i>Net change</i>	77,663	2,222	2,222
Outstandings	444,505	446,727	448,949
Subtotal GSE lending (gross):			
<i>Net change</i>	256,851	314,597	331,467
Outstandings	2,765,569	3,080,166	3,411,633
Less guaranteed loans purchased by:			
Student Loan Marketing Association:			
<i>Net change</i>	-584	-5,380	-2,759
Outstandings	37,213	31,833	29,074
Federal National Mortgage Association:			
<i>Net change</i>	10,825	.....	.....
Outstandings	62,935	62,935	62,935
Other:			
<i>Net change</i>	1,037	.....	.....
Outstandings	21,831	21,831	21,831
Total GSE lending (net):			
<i>Net change</i>	245,573	319,977	334,226
Outstandings	2,643,590	2,963,567	3,297,793
BORROWING			
Student Loan Marketing Association:			
<i>Net Change</i>	-90	-5,418	-2,600
Outstandings	41,501	36,083	33,483
Federal National Mortgage Association:			
Portfolio programs:			
<i>Net Change</i>	82,159	103,992	101,399
Outstandings	607,039	711,031	812,430
Mortgage-backed securities:			
<i>Net Change</i>	31,807	106,111	92,250
Outstandings	706,104	812,215	904,465

Table 8-11. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES (GSEs) ¹—
Continued
(in millions of dollars)

Enterprise	2000 Actual	Estimate	
		2001	2002
Federal Home Loan Mortgage Corporation:			
Portfolio programs:			
<i>Net Change</i>	65,780	54,831	60,022
Outstandings	406,794	461,625	521,647
Mortgage-backed securities:			
<i>Net Change</i>	30,029	51,773	76,056
Outstandings	559,242	611,015	687,071
Farm Credit System:			
Agricultural credit bank:			
<i>Net Change</i>	1,503	524	734
Outstandings	20,971	21,495	22,229
Farm credit banks:			
<i>Net Change</i>	2,032	1,453	1,865
Outstandings	52,115	53,568	55,433
Federal Agricultural Mortgage Corporation:			
<i>Net Change</i>	288	9	204
Outstandings	2,861	2,870	3,074
Federal Home Loan Banks:			
<i>Net Change</i>	99,585		
Outstandings	577,057	577,057	577,057
Subtotal GSE borrowing (gross):			
<i>Net change</i>	313,093	313,275	329,930
Outstandings	2,973,684	3,286,959	3,616,889
Less borrowing from other GSEs:			
<i>Net Change</i>	23,957		
Outstandings	120,344	120,344	120,344
Less purchase of Federal debt securities:			
<i>Net Change</i>	-43	28	28
Outstandings	1,620	1,648	1,676
Less borrowing to purchase loans guaranteed by:			
Student Loan Marketing Association:			
<i>Net Change</i>	-584	-5,380	-2,759
Outstandings	37,213	31,833	29,074
Federal National Mortgage Association:			
<i>Net Change</i>	10,825		
Outstandings	62,935	62,935	62,935
Other:			
<i>Net Change</i>	1,037		
Outstandings	21,831	21,831	21,831
Total GSE borrowing (net):			
<i>Net change</i>	277,901	318,627	332,661
Outstandings	2,729,741	3,048,368	3,381,029

¹ The estimates of borrowing and lending were developed by the GSEs based on certain assumptions but are subject to periodic review and revision and do not represent official GSE forecasts of future activity, nor are they reviewed by the President. The data for all years include programs of mortgage-backed securities. In cases where a GSE owns securities issued by the same GSE, including mortgage-backed securities, the borrowing and lending data for that GSE are adjusted to remove double-counting.

Table 8–12. GOVERNMENT-SPONSORED ENTERPRISE PARTICIPATION IN THE CREDIT MARKET ¹
(dollar amounts in billions)

	Actual											
	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000
Total net lending in credit market	66.8	88.2	169.6	336.9	829.3	705.2	705.6	716.1	722.1	993.4	1,111.8	937.9
Government-sponsored enterprise loans	1.2	4.9	5.3	21.4	57.9	115.4	125.7	141.5	112.8	293.1	284.0	245.6
GSE lending participation rate (percent)	1.8	5.6	3.1	6.4	7.0	16.4	17.8	19.8	15.6	29.5	25.5	26.2
Total net borrowing in credit market	66.8	88.2	169.6	336.9	829.3	705.2	705.6	716.1	722.1	993.4	1,111.8	937.9
Government-sponsored enterprise borrowing ..	1.4	5.2	5.5	24.1	60.7	90.0	68.2	161.2	107.9	276.2	346.8	277.9
GSE borrowing participation rate (percent)	2.1	5.9	3.2	7.2	7.3	12.8	9.7	35.7	14.9	36.6	31.2	29.6

¹ Government-sponsored enterprises (GSEs) are financial intermediaries. GSE borrowing (lending) is nevertheless compared with total credit market borrowing (lending) by nonfinancial sectors, because GSE borrowing (lending) is a proxy for the borrowing (lending) by nonfinancial sectors that the GSEs assist through intermediation. The GSEs assist the ultimate nonfinancial borrower by purchasing its loans from the initial, direct lender or by other methods, which they finance by issuing securities themselves in the credit market. Borrowing and lending include mortgage-backed securities, because the GSEs assist nonfinancial borrowers through this type of intermediation as well as by types of intermediation that involve financial instruments recognized on the GSEs' balance sheets. The data for this table are adjusted, with some degree of approximation, to remove double counting in making a comparison with other Federal and federally guaranteed transactions. GSE borrowing and lending are calculated net of transactions between components of GSEs and transactions in guaranteed loans; GSE borrowing is also calculated net of borrowing from other GSEs and purchases of Federal debt securities.

² Total net borrowing (or lending) in credit market by domestic nonfinancial sectors, excluding equities. Credit market borrowing (lending) is the acquisition (loan) of funds other than equities through formal credit channels. Financial sectors are omitted from the series used in this table to avoid double counting, since financial intermediaries borrow in the credit market primarily in order to finance lending in the credit market. Equities, trade credit, security credit, and other sources of funds are also excluded from this series. Source: Federal Reserve Board flow of funds accounts. Estimates for 2001 and 2002 are not available.

Table 8-13. BORROWING BY FINANCING VEHICLES ¹

(in millions of dollars)

Financing Vehicle	2000 Actual	Estimate	
		2001	2002
Financing Corporation (FICO):			
<i>Net change</i>	1	2	1
Outstandings	8,147	8,149	8,150
Resolution Funding Corporation (REFCORP):			
<i>Net change</i>	-2	-2	-2
Outstandings	30,064	30,062	30,060
Subtotal, gross borrowing:			
<i>Net change</i>	-1	.....	-1
Outstandings	38,211	38,211	38,210
Less purchases of Federal debt securities:			
<i>Net change</i>	552	594	644
Outstandings	7,169	7,763	8,407
Total, net borrowing:			
<i>Net change</i>	-553	-594	-645
Outstandings	31,042	30,448	29,803

¹ Financing vehicles are Government corporations established pursuant to law in order to provide financing for a Federal program but excluded from the on-budget and off-budget totals. FICO and REFCORP borrowed from the public in the past but have not loaned to the public. During the period covered by this table, the change in debt outstanding is due solely to the amortization of discounts and premiums. No sale or redemption of debt securities occurred in 2000 or is estimated to occur in 2001 or 2002.

9. AID TO STATE AND LOCAL GOVERNMENTS ¹

State and local governments have a vital constitutional responsibility to provide government services. They have the major role in providing domestic public services, such as public education, law enforcement, roads, water supply, and sewage treatment. The Federal Government contributes to that role both by promoting a healthy economy and by providing grants, loans, and tax subsidies to State and local governments.

Federal grants help State and local governments finance programs covering most areas of domestic public spending, including income support, infrastructure, education, and social services. Federal grant outlays were \$284.7 billion in 2000 and are estimated to increase to \$316.3 billion in 2001 and \$350.1 billion in 2002.

Grant outlays for payments for individuals, such as Medicaid, are estimated to be 63.6 percent of total grants in 2002; for physical capital investment, 16.1 percent; and for all other purposes, largely education, training, and social services, 20.3 percent.

Federal aid to State and local governments is also provided through tax expenditures. Tax expenditures are the result of special exclusions, exemptions, deductions, credits, deferrals, or tax rates in the Federal tax laws.

The two major tax expenditures benefitting State and local governments are the deductibility of personal income and property taxes from gross income for Federal income tax purposes, and the exclusion of interest on State and local public purpose bonds from Federal taxation. These provisions, on an outlay equivalent basis, are estimated to be \$102.7 billion in 2001 and \$108.0 billion in 2002. A detailed discussion of the measurement and definition of tax expenditures and a complete list of the amount of specific tax expenditures are in Chapter 5, "Tax Expenditures." As discussed in that chapter, there are generally interactions among tax ex-

penditure provisions, so that the estimates above only approximate the aggregate effect of these provisions.

Tax expenditures that especially aid State and local governments are displayed separately at the end of Table 5-5 in that chapter.

Table 9-1. FEDERAL GRANT OUTLAYS BY AGENCY

(In billions of dollars)

Agency	2000 Actual	Estimate	
		2001	2002
Department of Agriculture	19.0	20.5	21.2
Department of Commerce	0.5	0.7	0.6
Department of Education	22.2	24.5	27.1
Department of Energy	0.1	0.2	0.3
Department of Health and Human Services	162.5	184.5	208.3
Department of Housing and Urban Development	25.1	26.7	27.8
Department of the Interior	2.2	2.7	2.6
Department of Justice	4.8	4.2	5.8
Department of Labor	7.3	8.3	9.1
Department of Transportation	32.2	35.3	38.3
Department of the Treasury	0.5	0.5	0.4
Department of Veterans Affairs	0.4	0.4	0.5
Environmental Protection Agency	3.5	3.6	3.8
Federal Emergency Management Agency	2.5	2.4	2.5
Other agencies	1.8	1.8	1.8
Total	284.7	316.3	350.1

Table 9-1 shows the distribution of grants by agency. Grant outlays for the Department of Health and Human Services are estimated to be \$208.3 billion in 2002, 59.5 percent of total grants, more than five times as much as any other agency.

HIGHLIGHTS OF THE FEDERAL AID PROGRAM

Major proposals in this budget affect Federal aid to State and local governments and the important relationships between the levels of government. Through the use of grants, the Federal government can share with State and local governments the cost and, ultimately, the benefits of a better educated, healthier, and safer citizenry. The Administration is committed to working with State and local governments to make our Federal system more efficient and effective and to improving the design, administration, and financial management of Federal grant programs. One way the Administration will do this is by expanding a government-

wide effort to use electronic processing in the administration of grant programs.

This budget reflects the Administration's commitment to giving State and local governments increased flexibility. Through the use of grants, Federal agencies can create partnerships with State and local governments that focus on common goals and the progress made toward meeting them. The Administration's efforts to improve the grant administration process will include efforts to consolidate grants that support programs with similar missions to create one flexible grant, and ex-

¹Federal aid to State and local governments is defined as the provision of resources by the Federal Government to support a State or local program of governmental service

to the public. The three primary forms of aid are grants, loan subsidies, and tax expenditures.

pand transfer authorities for public health grants to remove barriers to target resources.

In addition, this budget proposes several initiatives to help all children read by the third grade; improve the services provided to Indian children to address their unique educational and cultural needs; assist low income working parents obtain quality after school childcare with a strong educational component; establish positive incentives for private landowners and local communities to preserve land and protect imperiled species; aid counties along the Southwest Border with costs associated with federally-referred drug cases; and expand transportation and employment options for people with disabilities.

Highlights of grants to State and local governments follow. For additional information on grants, see the detailed Table 9–3 in this Chapter, *A Blueprint for New Beginnings* (February 28, 2001), or Section III of the Budget volume.

Education

The budget requests \$29.8 billion in 2002 program level for the Department of Education for grants to States and local governments for education, an increase of \$3.3 billion above the 2001 amount of \$26.5 billion. These program levels do not equate with 2001 and 2002 budget authority, which are distorted by advance appropriations. The budget proposes to reverse the misleading budget practice of using advance appropriations simply to avoid spending limitations. The education proposals in this budget will help States improve accountability for school and student performance, enhance teacher quality, increase flexibility, and support innovative programs.

The President's plan would grant States and school districts unprecedented freedom from rules and regulations—in exchange for accountability for results. States will establish accountability systems built on high standards, annual tests, measurable goals, rewards for success, and sanctions for failure. They will be required to test students every year in grades 3–8 in math and reading so that parents, teachers, and communities will know if their schools and students are meeting State academic standards. The budget provides \$320 million to support the costs of developing new assessments. Once accountability systems are in place, a new Federal fund will reward States and schools that improve student achievement.

The budget requests \$9.1 billion for Title I Grants to Local Educational Agencies (LEAs) to help improve achievement among students most at-risk of not reaching State academic standards. The Title I program enables high-poverty schools to provide extra educational assistance to their students so they can catch up with their peers. The President's plan would require States to set measurable performance targets to ensure that all groups of disadvantaged students improve, and would hold schools accountable for meeting those goals. Schools that fail to meet performance targets will receive help to turn themselves around. The Administra-

tion seeks \$400 million for 2002 within Title I Grants to LEAs for low-performing schools, a \$175 million or 78 percent increase over 2001. States and districts will use these funds to provide technical assistance and intensive interventions to improve achievement in schools that are failing to make sufficient academic gains. Students in schools that are consistently low-performing will have the option of transferring to a better public school, or of using their share of Federal Title I funds to seek supplemental educational services or private school alternatives. This combination of accountability for improved achievement among all groups of students, extra help for struggling schools, and the unacceptability of chronic failure, provides powerful incentives for all Title I schools to use their funds on effective, proven practices in order to achieve results.

The budget builds a foundation for success by investing \$900 million for 2002 in the Reading First initiative to help all children read by third grade. This new program will provide funds to States that establish comprehensive reading programs in kindergarten through second grade. States would be required to implement scientifically-proven reading programs, train K-2 teachers in proven teaching practices, implement effective reading interventions for students who are falling behind, and use a reading diagnostic test in K-2 to identify students early who have reading difficulties. Ensuring that children receive effective reading instruction means that more children will get the help they need before they fall too far behind, and will result in fewer referrals to special education in later years. The budget also includes \$75 million for the Early Reading First initiative that helps implement research-based reading practices in existing pre-school and Head Start programs that feed into participating elementary schools. This program will help ensure that children enter school ready to learn to read.

The budget proposes \$2.6 billion in 2002, an increase of \$0.4 billion above 2001, to prepare, train, and recruit a high-quality teaching force. States would have the flexibility to invest these funds to address their most pressing quality improvement needs, whether it be to alleviate shortages, enhance skills, or reform the certification process. The President's plan combines funding from the largest Federal teacher programs, including the Class Size Reduction program and Eisenhower Professional Development programs into a streamlined, performance-based grant to States and school districts.

The Administration supports a streamlined educational technology fund that consolidates eight overlapping programs into one flexible \$817 million fund for 2002. The President believes that technology must be used to improve learning and that Federal funding for educational technology must focus on results. This performance-based formula grant will provide States greater discretion to make educational technology an effective learning tool, and ensure that more technology funds reach the classroom.

In addition to these reforms, the Administration is seeking administrative improvements in the E-rate pro-

gram to ensure that this program provides greater flexibility to schools and libraries in how they use their E-rate discounts, while reducing the administrative burden they have faced in applying for educational technology funds. The E-rate program, or Education Rate, is administered by the Federal Communications Commission and provides discounts for schools and libraries to purchase high-speed Internet access, internal wiring, and telecommunications services. The Administration also proposes \$80 million in matching grants, through the Department of Housing and Urban Development's Community Development Block Grant, to support Community Technology Centers in high poverty areas.

A variety of other innovative programs to improve the educational development of the Nation's students is proposed, or expanded from previous funding levels.

- The budget provides \$200 million for an expanded Math and Science Partnership program, administered by the National Science Foundation in coordination with the Department of Education, in order for States to join with institutions of higher education to strengthen K-12 math and science instruction and curriculum.
- The Administration proposes to consolidate Bilingual Education, Foreign Language Assistance, and Immigrant Education funds into a \$460 million formula-driven grant to provide school districts with added flexibility in exchange for more effective transitioning of Limited-English proficient (LEP) students into English fluency and improving their overall achievement levels. Funds will be distributed to States based on their shares of LEP and immigrant students.
- The Administration requests \$116 million to support formula grants to local educational agencies and Bureau of Indian Education (BIA)-operated schools to implement programs that address the unique educational and cultural needs of Indian children. This level of funding will also fund the second cohort of Native American teachers through the American Indian Teacher Corps Initiative and continue funding for the American Indian Administrator Corps.
- The most direct form of accountability is a parent's ability to choose the school his or her child will attend. The Administration is committed to expanding the educational choices that parents and students have. Under the new Choice and Innovation fund, the Administration proposes to consolidate ten programs to create a \$471 million fund that provides States with the flexibility to pursue a range of effective education reform strategies and to address areas of State and local need.
- The President's plan for improving school safety and drug-use prevention emphasizes research-based practices, includes tougher enforcement of existing gun laws, grants teachers control over their classrooms, improves cooperation between school districts and law enforcement, and stresses

accountability for results. Under the \$644 million Safe and Drug Free Schools and Communities program, districts will be held accountable for the effectiveness of their crime prevention and drug outreach activities, and students trapped in persistently dangerous schools will have the option to transfer to a safer alternative.

- The Administration request includes \$846 million for a more flexible after-school program that allows States and school districts to award Federal funds to private and faith-based entities, thereby empowering local communities to provide a wider array of choices for students and parents. Expanding access to high-quality before- and after-school programs is a key strategy in providing students safe and supervised environments and extending learning time to improve student achievement. States would conduct grant competitions to support before and after-school programs that are proven to be effective and advance statewide academic achievement goals.

This program will be supplemented by a new \$400 million initiative in the Department of Health and Human Services for After School Certificates within the Child Care and Development Block Grant to help low income working parents obtain quality after school childcare with a strong educational component.

- The Administration requests \$8.1 billion for 2002, \$1.0 billion more than 2001, for three special education programs that serve more than six million children with disabilities from birth to age 21. This increased funding will further help States and local school districts meet their obligations under the Individuals with Disabilities Education Act.
- The budget proposes \$1.1 billion for the Impact Aid program, \$137 million more than the 2001 appropriation. The request provides a significant increase for the Impact Aid construction program to improve the quality of public school buildings and eliminate the backlog of repairs and construction for schools on or near military facilities and those serving children from Native American lands.

Training and Employment

The budget reflects the Administration's continued support to reform the Nation's workforce development system and provide job training opportunities to help workers succeed in the economy of the 21st Century.

The Workforce Investment Act (WIA) of 1998 took full effect on July 1, 2000, as the Job Training Partnership Act was repealed and all States began to fully implement the WIA requirements. The WIA calls for a customer-driven job training system that: (1) streamlines services through One-Stop Career Centers; (2) empowers individuals with the information and resources they need to choose the training that is right for them; (3) provides universal access to a core set of employ-

ment services such as job search assistance; (4) increases accountability; (5) ensures a strong role for the private sector and the local boards who develop and oversee programs; (6) facilitate State and local flexibility; and (7) improve the quality of youth job training services. The budget proposes \$5.1 billion for these activities, which does not equate with 2002 budget authority, which is distorted by advance appropriations. The budget proposes to reverse the misleading budget practice of using advance appropriations simply to avoid spending limitations.

In order to enhance the employment prospects of individuals with disabilities, the budget includes \$20 million for competitive grants to partnerships or consortia to provide new services and information for individuals with disabilities who want to return to work. These partnerships would work with the One-Stop system to augment its capabilities to provide timely and accurate information that people with disabilities need to get jobs and learn about the benefits available to them when they return to work. In addition, the partnerships would improve local service delivery by coordinating the State and local agencies and disability organizations that help individuals with disabilities prepare to enter or reenter the workforce.

Social Services

The Head Start program gives low-income children a comprehensive approach to child development, stressing language and cognitive development, health, nutrition, and social competency. Head Start is administered by the Administration for Children and Families (ACF). The Administration requests \$6.3 billion for Head Start, a \$125 million increase over the 2001 level. In 2002, Head Start will serve approximately 916,000 children. Within the overall total of children served, approximately 55,000 children under age three will participate in the Early Head Start component. The Administration proposes to reform Head Start and return it to its original purpose—education. Head Start programs will be required to adopt a proven core curriculum that makes school readiness—pre-reading and numeracy—its top priority. The budget includes an Early Reading First program within the Department of Education for research-based reading programs in existing pre-school programs, including Head Start programs. Planning is also underway to move Head Start to the Department of Education to reinforce the emphasis on school readiness.

This budget requests \$1.7 billion in budget authority for the Social Services Block Grant (SSBG). This program provides flexible funds to States for social services for low-income individuals and families.

Income Support

Food and nutrition assistance.—This budget requests \$9.9 billion in budget authority for grants for the National School Lunch and School Breakfast Programs, which provide free or low-cost nutritious meals to children in participating schools. In 2002, the pro-

grams will serve an estimated 28.0 million lunches and 8.4 million breakfasts daily. By 2005, the program aims to reduce the average percent of calories from saturated fat in school lunches to 10 percent, down from 12 percent in 1998–1999. The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides vouchers for nutritious supplemental food packages, nutrition education and counseling, and health and immunization referrals to low-income women, infants, and children. The program reached an average of nearly 7.2 million people each month in 2000. Participation in 2001 is projected to exceed 7.2 million women, infants, and children monthly, and the budget proposes \$4.1 billion, an increase of \$94 million, to serve 7.25 million people monthly in 2002.

Other income security.—The Child Care and Development Fund provides grants to States for the purposes of providing low-income families with financial assistance for child care, improving the quality and availability of child care, and establishing, expanding, or conducting early childhood development programs and before- and after-school programs. In 2000, Federal child care funding provided child care services for approximately 1.8 million children from low-income working families or whose parents are moving from welfare to work. The budget proposes a new \$400 million after school certificate program within the Child Care and Development Block Grant, raising the total request to \$2.2 billion in budget authority. The new program would provide grants to States to assist up to 500,000 parents in obtaining after-school child care with a high-quality education focus.

Health

This budget proposes \$164.0 billion in outlays for 2002 grants to State and local governments for health, \$22.2 billion more than for 2001.

Immediate Helping Hand (IHH).—The Immediate Helping Hand initiative provides critical assistance to our Nation's most vulnerable senior citizens for the cost of their prescription drugs. This budget provides \$46.0 billion for 2001–2005 to States to help low-income Medicare beneficiaries pay for their prescriptions. This proposal builds on coverage that is already in place in more than half the States and would provide benefits to 9.5 million vulnerable Medicare beneficiaries who currently do not have any other prescription drug coverage. The plan is unique because needy seniors will be able to get help with their prescription drug costs this year.

Medicaid.—Medicaid is the largest grant program, with outlays projected to be \$142.4 billion in 2002, including the changes proposed in this budget. This Federal-State health care program served about 33.4 million low-income Americans in 2000. The Federal Government spent \$117.9 billion, 57 percent of the total, on the program in 2000 while States spent \$88.9 billion, or 43 percent. Medicaid covers a fourth of the Nation's

children and is the largest single purchaser of maternity care as well as of nursing home services and other long-term care services. The program covers almost two-thirds of nursing home residents. The elderly and disabled made up a third of Medicaid enrollees in 2000, but accounted for approximately two-thirds of spending on benefits. Medicaid serves at least half of all adults living with AIDS (and up to 90 percent of children with AIDS), and is the largest single payer of direct medical services to adults living with AIDS. Medicaid pays for over one-third of the Nation's long-term care services. Medicaid spends more on institutional care today than it does for home and community-based care, but the mix of payments is expected to be almost equal in 10 years.

Current restrictions and requirements in the Medicaid program may be inhibiting the ability of States to operate the program efficiently. In addition to taking steps to further address the Medicaid "upper payment limit" loophole, the Administration plans to consult with the States on the development of ideas to increase State flexibility, control Medicaid costs, and ensure the fiscally prudent management of the Medicaid program.

State Children's Health Insurance Program.—The State Children's Health Insurance Program (S-CHIP) was established in 1997 in the Balanced Budget Act to provide \$24 billion over five years for States to expand health insurance coverage to low-income, uninsured children. S-CHIP provides States with broad flexibility in program design while protecting beneficiaries through basic Federal standards. In 2000, 3.3 million children were enrolled in S-CHIP, which is a 70 percent increase over 1999 enrollment.

Other health.—This budget requests Federal spending for certain public health programs that assist State and local governments in increasing access to health care by increasing the number of community health center sites and addressing heart disease, diabetes, and childhood obesity. The budget includes a Community and Migrant Health Center Initiative to increase access to health care by increasing the number of community health center sites by 1,200 over five years. In 2002, the number of health center sites will increase by almost 100. The Administration proposes \$1.3 billion in 2002 for this effort, an increase of \$124 million over 2001. The Administration also proposes the Healthy Communities Innovation Fund Initiative, which supports grants that will make available approximately \$400 million within existing grant activities to target innovative solutions in areas of health risks such as heart disease, adult and childhood Type II diabetes, and childhood obesity.

Natural Resources and Environment

The Administration requests \$900 million from the Land and Water Conservation Fund (LWCF) to acquire and conserve lands in national parks, forests, refuges, and public lands, and provide grants to States for broad conservation and outdoor recreation purposes. The Na-

tional Park Service (NPS) requests \$450 million in budget authority for 2002 for LWCF matching grants to States in support of State and local conservation and outdoor recreation efforts. In 2002, two new programs are proposed that would establish positive incentives for private landowners and local communities to protect imperiled species and restore habitat: \$50 million in matching grants to help States establish Landowner Incentive Programs to help private landowners protect imperiled species, and \$10 million to establish a Private Stewardship Grant Program to provide funding for private conservation initiatives.

The budget assists State and local governments to add 400 miles of recreational trails, 850 miles of recreational river corridors, and 169,000 acres of recreational parkland, through the LWCF State grants and NPS partnerships. In addition, the States and Tribes would receive \$1.1 billion in grants in 2002, the highest level ever, to administer delegated programs and other responsibilities pursuant to Environmental Protection Agency (EPA) statutes. Included in this total is \$25 million in new funding for State enforcement programs, reflecting a shift in enforcement responsibilities in delegated States from Federal enforcement to expanded State enforcement. The total also includes \$25 million in grant funding to help States better integrate their environmental information systems.

Funding is provided for EPA State Wastewater Grants to fund the Clean Water State Revolving Funds at \$850 million and the newly authorized Sewer Overflow Control Grant program at \$450 million. The EPA Drinking Water State Revolving Fund is funded at \$823 million.

Administration of Justice

The Administration requests \$4.3 billion in budget authority for 2002 to help State and local governments fight crime, including \$567 million to assist crime victims and \$154 million in Department of Justice initiatives to help State and local governments protect young people from gun-related violence. As part of the U.S. Attorney's Project Sentry, \$20 million in grants will be available to help establish partnerships for reducing youth gun violence. The budget also proposes \$50 million for grants to encourage States to get tough on gun criminals with increased arrests, prosecutions, and public awareness campaigns. In addition, \$75 million will be allocated to Project ChildSafe, a new Federal, State and local partnership to ensure that child safety locks are made available for every handgun in America. As part of the Administration's broader strategy for reducing the supply and demand for drugs, \$50 million is proposed for a new grant program within the Office of Justice Programs to aid counties along the Southwest Border with the costs of detaining and prosecuting drug cases referred to them by U.S. Attorneys. To combat the significant problem of violence against women, the budget proposes \$391 million, an increase of \$103 mil-

lion over 2001, to fund both existing and new programs authorized in the Violence Against Women Act of 2000.

This budget proposes to reduce a number of Department of Justice State and local assistance programs from their 2001 level, mainly those that have already served their primary purpose or are less essential to core Federal law enforcement objectives. These reductions include a net reduction of \$182 million in the Community Oriented Policing Services program, which has well exceeded its initial goal of funding 100,000 new officers; \$451 million from State Prison Grants, which have accomplished their goal of encouraging State "truth in sentencing" policies; \$299 million from the State Criminal Alien Assistance Program, which contributes little to reducing violent crime; \$122 million from Local Law Enforcement Block Grants, which fund areas covered by other Justice programs; and elimination of the \$69 million Byrne discretionary grant program, whose competitive procedures have been eroded by legislative mandates.

Transportation

The Administration requests \$45.0 billion in budgetary authority in 2002 for grants to State and local governments to assist with transportation infrastructure and related programs, including highways, transit, airports and other areas.

Highways and Transit.—The budget requests \$31.6 billion in budgetary resources in 2002 for the Federal-aid highways program to maintain and improve surface transportation infrastructure. Within this program, competitive matching grants are funded at \$100 million and pilot programs are funded at \$45 million, to promote access to alternative methods of transportation, a new initiative to expand transportation options for people with disabilities.

In addition, the budget requests \$212 million in budget authority for highway traffic safety grants to increase seat belt use, decrease alcohol related fatalities, and improve State safety data. The budget includes \$210 million for grants to States to enforce Federal and State standards for commercial motor vehicle safety inspections, traffic enforcement, and compliance reviews. This budget requests \$6.6 billion in budgetary resources for 2002 to assist State and local governments with mass transit.

Airports.—The budget requests \$3.3 billion in budgetary resources in 2002 for the Airport Improvement Program (AIP), which will enhance the Nation's airport system through increasing safety and security, reducing system delays and providing new capacity to meet anticipated demands.

Community and Regional Development

Community development.—Community Development Block Grants (CDBG) provide funds for various community development activities directed primarily at low-and moderate-income persons. This budget requests

\$4.7 billion in budget authority for 2002 in CDBG grants for improving housing, public works and services, promoting economic development, and acquiring or clearing land. The University Partnerships Program, a set-aside within CDBG, provides grants to academic institutions including Historically Black Colleges and Universities, Hispanic Serving Institutions, and Tribal Colleges. The Indian CDBG, also a set-aside within the CDBG program, focuses mainly on public infrastructure, community facilities, and economic development on reservations.

The Department of Commerce's Economic Development Administration (EDA) provides assistance to communities to help build capacity and address long-term economic challenges through its nationwide program delivery network. EDA's public works grants help build or expand public facilities to stimulate industrial and commercial growth, such as industrial parks, business incubators, access roads, water and sewer lines, and port and terminal developments. EDA also assists communities in addressing sudden and severe economic downturns and in adjusting to downsizing and closure of defense facilities. The President's budget requests \$335 million of budget authority for EDA grants and targets 40 percent of EDA grants to areas of highest distress nationwide in 2002. The budget also proposes \$165 million in grant funding and tax incentives for Empowerment Zones (EZs) to carry out 10-year, community-wide strategic plans to revitalize designated areas.

Area and regional development.—The budget provides flexible funding to meet the needs of rural areas through the Rural Community Advancement Program (RCAP). RCAP provides grants, loans, and loan guarantees to stimulate economic development, help build rural community facilities, such as health clinics, day care centers as well as water and wastewater systems. Under RCAP, States have increased flexibility within the three funding streams for Water and Wastewater, Community Facilities, and Business and Industry. USDA State Directors have the authority to transfer up to 25 percent of the funding among any of these programs to tailor RCAP assistance to the specific rural economic development needs of individual States. The budget proposes \$2.9 billion in loans and grants for RCAP.

To fulfill the Federal government's commitments to the District of Columbia under the Revitalization Act, the Administration's budget provides \$494 million for District courts and corrections, including \$201 million to house the District's sentenced felon population, \$147 million for the Court Services and Offender Supervision Agency, and \$146 million for the DC Courts. In addition, the budget provides \$17 million to continue the District's Tuition Assistance Grant Program.

Other Functions

Discussions of these and other Federal aid programs can be found in the main budget volume in Section III, and elsewhere. As noted earlier, a detailed listing

of budget authority and outlays for all grants to State and local governments is in Table 9–3 in this chapter.

HISTORICAL PERSPECTIVES

In recent decades, Federal aid to State and local governments has become a major factor in the financing of certain government functions. The rudiments of the present system date back to the Civil War. The Morrill Act, passed in 1862, established the land grant colleges and instituted certain federally-required standards for States that received the grants, as is characteristic of the present grant programs. Federal aid was later initiated for agriculture, highways, vocational education and rehabilitation, forestry, and public health. In the depression years, Federal aid was extended to meet income security and other social welfare needs. However, Federal grants did not become a significant factor in Federal Government expenditures until after World War II.

Table 9–2 displays trends in Federal grants to State and local governments since 1960. Section A shows Federal grants by function. Functions with a substantial amount of grants are shown separately. Grants for the national defense, energy, and the veterans benefits and services functions are combined in the “other functions” line in the table.

Federal grants for transportation increased to \$3.0 billion, or 43 percent of all Federal grants, in 1960 after initiation of aid to States to build the Interstate Highway System in the late 1950s.

By 1970 there had been significant increases in the relative amounts for education, training, employment, social services, and health (largely Medicaid).

In the early and mid-1970s, major new grants were created for natural resources and environment (construction of sewage treatment plants), community and regional development (community development block grants), and general government (general revenue sharing).

Since the late 1970s changes in the relative amounts among functions reflect steady growth of grants for health (Medicaid) and income security and restraint in most other areas. The functions with the largest amount of grants are health; income security; education, training, employment, and social services; and transportation, with combined estimated grant outlays of \$325.4 billion or 93 percent of total grant outlays in 2002.

The increase in total outlays for grants overall since 1990 has been driven by increases in grants for health, which more than tripled from \$43.9 billion in 1990 to an estimated \$164.0 billion in 2002. The income security; education, training, employment, and social services; and transportation functions also increased substantially, but at a slower rate than the increase for health.

Section B of the Table shows the distribution of grants divided into mandatory and discretionary spending.

Funding for grant programs classified as mandatory occurs in authorizing legislation. Funding levels for mandatory programs can only be changed by changing eligibility criteria or benefit formulas established in law and are usually not limited by the annual appropriations process. Outlays for mandatory grant programs are estimated to be \$212.0 billion in 2002. The three largest mandatory grant programs are Medicaid, with estimated outlays of \$142.4 billion in 2002, temporary assistance for needy families, \$17.3 billion in 2002, and food stamp grants for State administration and child nutrition programs, with combined outlays of \$13.9 billion in 2002.

The funding level for discretionary grant programs is subject to approval by Congress annually through appropriations acts. Outlays for discretionary grant programs are estimated to be \$138.1 billion in 2002. Table 9–3 at the end of this chapter identifies discretionary and mandatory grant programs separately. For more information on the Budget Enforcement Act and these categories, see Chapter 24 “Budget System and Concepts and Glossary” in this volume.

Section C of Table 9–2 shows the composition of grants divided into three major categories: payments for individuals, grants for physical capital, and other grants² Grant outlays for payments for individuals, which are mainly entitlement programs in which the Federal Government and the States share the costs, have grown significantly as a percent of total grants. They increased from 55.9 percent of the total in 1990 to 62.2 percent of the total in 2000. While payments for individuals will comprise 63.6 percent of grants in 2002, they are estimated to increase to an estimated 66.0 percent of the total by 2006.

These grants are distributed through State or local governments to provide cash or in-kind benefits that constitute income transfers to individuals or families. The major grant in this category is Medicaid, which had outlays of \$117.9 billion in 2000, increasing to an estimated \$142.4 billion in 2002. Temporary assistance for needy families, food stamps, child nutrition programs, and housing assistance are also large grants in this category.

Grants for physical capital assist States and localities with construction and other physical capital activities. The major capital grants are for highways, but there are also grants for airports, mass transit, sewage treatment plant construction, community development, and other facilities. Grants for physical capital were almost half of total grants in 1960, shortly after grants began for construction of the Interstate Highway System. The relative share of these outlays has declined, as pay-

²Certain housing grants are classified in the budget as both payments for individuals and physical capital spending. In the text and tables in this section, these grants are included in the category for physical capital spending.

Table 9-2. TRENDS IN FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS
(Outlays; dollar amounts in billions)

	Actual									Estimate					
	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006
A. Distribution of grants by function:															
Natural resources and environment	0.1	0.2	0.4	2.4	5.4	4.1	3.7	4.0	4.6	5.1	5.1	5.1	5.2	5.2	5.1
Agriculture	0.2	0.5	0.6	0.4	0.6	2.4	1.3	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8
Transportation	3.0	4.1	4.6	5.9	13.0	17.0	19.2	25.8	32.2	35.3	38.3	40.2	41.8	43.6	44.9
Community and regional development	0.1	0.6	1.8	2.8	6.5	5.2	5.0	7.2	8.7	8.7	9.0	9.0	8.7	8.6	8.3
Education, training, employment, and social services	0.5	1.1	6.4	12.1	21.9	17.8	23.4	34.1	42.1	46.8	51.8	56.7	58.1	59.6	61.2
Health	0.2	0.6	3.8	8.8	15.8	24.5	43.9	93.6	124.8	141.8	164.0	177.0	192.6	196.9	208.9
Income security	2.6	3.5	5.8	9.4	18.5	27.2	35.2	55.1	63.2	69.6	71.3	73.5	75.3	77.0	78.6
Justice	---	---	*	0.7	0.5	0.1	0.6	1.2	5.1	4.5	6.0	7.5	5.4	4.5	4.5
General government	0.2	0.2	0.5	7.1	8.6	6.8	2.3	2.3	2.3	2.7	2.6	2.6	3.8	2.6	2.7
Other	*	0.1	0.1	0.2	0.7	0.8	0.8	0.8	0.9	0.9	1.1	1.2	1.2	1.2	1.2
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	284.7	316.3	350.1	373.6	392.9	400.0	416.2
B. Distribution of Grants by BEA Category:															
Discretionary	NA	2.9	10.2	21.0	53.3	55.5	63.3	94.0	116.7	127.1	138.1	146.5	147.4	150.1	153.1
Mandatory	NA	8.0	13.9	28.8	38.1	50.4	72.0	131.0	168.0	189.2	212.0	227.1	245.5	249.8	263.1
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	284.7	316.3	350.1	373.6	392.9	400.0	416.2
C. Composition:															
Current dollars:															
Payments for individuals ¹	2.5	3.7	8.7	16.8	32.6	49.3	75.7	141.2	177.1	199.4	222.6	237.9	255.3	261.2	274.6
Physical capital ¹	3.3	5.0	7.1	10.9	22.6	24.9	27.2	39.6	48.7	52.9	56.3	57.5	59.0	60.7	62.1
Other grants	1.2	2.2	8.3	22.2	36.2	31.6	32.5	44.2	58.9	63.9	71.1	78.3	78.7	78.1	79.5
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	284.7	316.3	350.1	373.6	392.9	400.0	416.2
Percentage of total grants:															
Payments for individuals ¹	35.3%	34.1%	36.2%	33.6%	35.7%	46.6%	55.9%	62.8%	62.2%	63.1%	63.6%	63.7%	65.0%	65.3%	66.0%
Physical capital ¹	47.3%	45.7%	29.3%	21.9%	24.7%	23.5%	20.1%	17.6%	17.1%	16.7%	16.1%	15.4%	15.0%	15.2%	14.9%
Other grants	17.4%	20.2%	34.5%	44.5%	39.6%	29.9%	24.0%	19.7%	20.7%	20.2%	20.3%	20.9%	20.0%	19.5%	19.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Constant (FY 1996) dollars:															
Payments for individuals ¹	11.3	15.9	31.7	45.4	60.2	69.7	88.9	144.1	165.0	180.5	196.6	204.7	214.3	213.9	219.5
Physical capital ¹	15.8	22.4	25.2	23.9	36.1	31.8	30.3	40.4	45.5	47.9	49.5	49.2	49.0	49.1	48.8
Other grants	8.3	12.8	36.1	67.2	72.2	45.5	38.7	45.3	52.1	54.8	59.3	63.4	62.0	59.8	59.2
Total	35.3	51.2	92.9	136.5	168.5	147.0	157.9	229.8	262.5	283.2	305.4	317.3	325.4	322.8	327.4
D. Total grants as a percent of:															
Federal outlays:															
Total	7.6%	9.2%	12.3%	15.0%	15.5%	11.2%	10.8%	14.8%	15.9%	17.0%	17.9%	18.5%	18.9%	18.4%	18.7%
Domestic programs ²	18.0%	18.3%	23.2%	21.7%	22.2%	18.2%	17.1%	21.6%	22.0%	22.9%	23.6%	24.0%	24.1%	23.3%	23.3%
State and local expenditures	19.2%	20.1%	24.1%	27.1%	30.4%	24.2%	21.0%	25.1%	24.7%	N/A	N/A	N/A	N/A	N/A	N/A
Gross domestic product	1.4%	1.6%	2.4%	3.2%	3.3%	2.6%	2.4%	3.1%	2.9%	3.1%	3.2%	3.3%	3.3%	3.1%	3.1%
E. As a share of total State and local gross investment:															
Federal capital grants	24.6%	25.5%	25.4%	25.9%	35.4%	30.2%	21.9%	25.8%	21.4%	N/A	N/A	N/A	N/A	N/A	N/A
State and local own-source financing	75.4%	74.5%	74.6%	74.1%	64.6%	69.8%	78.1%	74.2%	78.6%	N/A	N/A	N/A	N/A	N/A	N/A
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Not available.

* 50 million or less.

¹ Grants that are both payments for individuals and capital investment are shown under capital investment.

² Excludes national defense, international affairs, net interest, and undistributed offsetting receipts.

ments for individuals have grown. In 2002, grants for physical capital are estimated to be 16.1 percent of total grants.

The other grants are primarily for education, training, employment, and social services. These grants increased to 44.5 percent of total grants by 1975, and are projected to be 20.3 percent of total grants in 2002.

Section C of Table 9-2 also shows these three categories in constant dollars. In constant 1996 dollars, total grants increase from \$157.9 billion in 1990 to an estimated \$305.4 billion in 2002, an average increase of 5.7 percent per year. During this same period, grants for payments to individuals are estimated to increase an average of 6.8 percent per year; grants

for physical capital an average of 4.2 percent per year, and other grants an average of 3.6 percent per year.

The real growth in grants during the 1990s is in contrast to the 1980s. During the period between 1980 and 1990, outlays for total grants in constant 1996 dollars decreased from \$168.5 billion in 1980 to \$157.9 billion in 1990.

Section D of this table shows grants as a percentage of Federal outlays, State and local expenditures, and gross domestic product. Grants have increased as a percentage of total Federal outlays from 10.8 percent in

1990 to an estimated 17.9 percent in 2002. Grants as a percentage of domestic spending are estimated to be 23.6 percent in 2002.

As a percentage of total State and local expenditures, grants have increased from 21.0 percent in 1990 to 24.7 percent in 2000.

Section E shows the relative contribution of physical capital grants in assisting States and localities with gross investment. After a slight increase to 25.8 percent in 1995, Federal capital grants have declined to be 21.4 percent of State and local gross investment in 2000.

OTHER INFORMATION ON FEDERAL AID TO STATE AND LOCAL GOVERNMENTS

Additional information regarding aid to State and local governments can be found elsewhere in this budget and in other documents.

Major public physical capital investment programs providing Federal grants to State and local governments are identified in Chapter 6, "Federal Investment Spending and Capital Budgeting."

Data for summary and detailed grants to State and local governments can be found in many sections of a separate document entitled *Historical Tables*. Section 12 of that document is devoted exclusively to grants to State and local governments. Additional information on grants can be found in Section 6 (Composition of Federal Government Outlays); Section 9 (Federal Government Outlays for Investment: Major Physical Capital, Research and Development, and Education and Training); Section 11 (Federal Government Payments for Individuals); and Section 15 (Total (Federal and State and Local) Government Finances).

In addition to these sources, a number of other sources of information are available that use slightly different concepts of grants, provide State-by-State information, provide information on how to apply for Federal aid, or display information about audits.

Government Finances, published annually by the Bureau of the Census in the Department of Commerce, provides data on public finances, including Federal aid to State and local governments.

The Survey of Current Business, published monthly by the Bureau of Economic Analysis in the Department of Commerce, provides data on the national income and product accounts (NIPA), a broad statistical concept encompassing the entire economy. These accounts include data on Federal grants to State and local governments. Data using the NIPA concepts appear in this volume in Chapter 16, "National Income and Product Accounts."

The *Budget Information for States (BIS)* report provides estimates of State-by-State funding allocations for

the largest formula grant programs for the past, present, and budget year. These programs comprise approximately 85 percent of total Federal aid to State and local governments. The document is prepared by the Office of Management and Budget soon after the Budget is released.

Federal Aid to States, a report prepared by the Bureau of the Census, shows Federal spending by State for grants for the most recently completed fiscal year.

The *Consolidated Federal Funds Report* is an annual document that shows the distribution of Federal spending by State and county areas and by local governmental jurisdictions. It is released by the Bureau of the Census in the Spring.

The *Federal Assistance Awards Data System (FAADS)* provides computerized information about current grant funding. Data on all direct assistance awards are provided quarterly by the Bureau of the Census to the States and to the Congress.

The *Catalog of Federal Domestic Assistance* is a primary reference source for communities wishing to apply for grants and other domestic assistance. The Catalog is prepared by the General Services Administration with data collected by the Office of Management and Budget and is available from the Government Printing Office. The basic edition of the Catalog is usually published in June and an update is generally prepared in December. It contains a detailed listing of grant and other assistance programs; discussions of eligibility criteria, application procedures, and estimated obligations; and related information.

The *Federal Audit Clearinghouse* maintains an online database (<http://harvester.census.gov/sac>) that provides access to summary information about audits conducted under OMB Circular A-133, "Audits to States, Local Governments, and Non-Profit Organizations." Information is available for each audited entity, including the amount of Federal money expended by program and whether there were audit findings.

DETAILED FEDERAL AID TABLE

Table 9-3, "Federal Grants to State and Local Governments-Budget Authority and Outlays," provides detailed budget authority and outlay data for grants. This

table displays discretionary and mandatory grant programs separately.

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2000 Actual	2001 Estimate	2002 Estimate	2000 Actual	2001 Estimate	2002 Estimate
NATIONAL DEFENSE						
Discretionary:						
Department of Defense—Military:						
Research, Development, Test, and Evaluation:						
Research, development, test, and evaluation, Army	2	2	2	2	2	2
Total, discretionary	2	2	2	2	2	2
Total, national defense	2	2	2	2	2	2
ENERGY						
Discretionary:						
Department of Energy:						
Energy Programs:						
Energy conservation	169	190	311	124	166	313
Total, discretionary	169	190	311	124	166	313
Mandatory:						
Tennessee Valley Authority:						
Tennessee Valley Authority fund	309	313	328	309	313	328
Total, mandatory	309	313	328	309	313	328
Total, energy	478	503	639	433	479	641
NATURAL RESOURCES AND ENVIRONMENT						
Discretionary:						
Department of Agriculture:						
Natural Resources Conservation Service:						
Resource conservation and development				1	1	
Watershed and flood prevention operations	44	52	28	66	62	79
Forest Service:						
State and private forestry	100	203	121	98	178	143
Management of national forest lands for subsistence uses		6	5	1	6	5
Department of Commerce:						
National Oceanic and Atmospheric Administration:						
Operations, research, and facilities	120	135	5	91	101	3
Pacific coastal salmon recovery	58	110	110	1	167	110
Department of the Interior:						
Office of Surface Mining Reclamation and Enforcement:						
Regulation and technology	61	51	51	54	51	57
Abandoned mine reclamation fund	181	196	154	152	153	120
Bureau of Reclamation:						
Bureau of Reclamation loan subsidy	12	12	7	10	17	7
United States Geological Survey:						
Surveys, investigations and research		3			3	
United States Fish and Wildlife Service:						
Commercial salmon fishery capacity reduction	5				5	
State wildlife grants		50			8	10
Land acquisition			60			24
Cooperative endangered species conservation fund	23	105	55	13	27	63
Wildlife conservation and appreciation fund	1	1		1	1	
Miscellaneous permanent appropriations	2	3	3	2	2	3
National Park Service:						
Urban park and recreation fund		29		1	3	6
National recreation and preservation	2			1	1	
Land acquisition and State assistance	43	90	450	7	51	22
Historic preservation fund	75	94	37	52	106	74
Environmental Protection Agency:						
State and tribal assistance grants	3,446	3,621	3,289	3,192	3,393	3,533
Hazardous substance superfund	287	171	171	240	141	170
Leaking underground storage tank trust fund	59	64	62	58	61	64
Total, discretionary	4,519	4,996	4,608	4,041	4,538	4,493

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2000 Actual	2001 Estimate	2002 Estimate	2000 Actual	2001 Estimate	2002 Estimate
Federal Highway Administration:						
State infrastructure banks				19	8	8
Appalachian development highway system				101	79	43
Highway-related safety grants				1	1	
Appalachian development highway system (Highway trust fund)		254			69	104
Federal-aid highways ¹	28,860	33,158	34,098	23,494	25,027	27,194
Miscellaneous appropriations		605		133	254	320
Miscellaneous highway trust funds		1,182		42	354	510
Federal Motor Carrier Safety Administration:						
National motor carrier safety program ¹	105	177	205	99	134	185
Motor carrier safety ¹			5			4
National Highway Traffic Safety Administration:						
Highway traffic safety grants ¹	197	202	212	181	210	217
Federal Railroad Administration:						
Emergency railroad rehabilitation and repair				3	4	
Local rail freight assistance				1		
Alaska railroad rehabilitation	15	30		11	52	18
Railroad research and development	2	3	3	1	2	2
Conrail commuter transition assistance				3	3	
Federal Transit Administration:						
Research, training, and human resources					2	
Job access and reverse commute grants ¹	75	100	125	17	45	65
Interstate transfer grants-transit				1	5	2
Washington Metropolitan Area Transit Authority				109	107	71
Formula grants ¹	4,641	3,287	3,592	2,792	3,216	3,191
Capital investment grants ¹	2,492	2,694	2,841	1,071	961	1,572
Transit planning and research ¹	138	90	90	72	98	114
Discretionary grants (Highway trust fund, mass transit account)				1,200	983	614
Research and Special Programs Administration:						
Pipeline safety	15	21	18	13	17	17
Total, discretionary¹	39,385	44,474	44,208	30,997	33,853	37,065
Mandatory:						
Department of Transportation:						
Federal Highway Administration:						
Federal-aid highways	739	758	739	1,217	1,399	1,248
Research and Special Programs Administration:						
Emergency preparedness grants	24	13	13	8	12	13
Total, mandatory¹	763	771	752	1,225	1,411	1,261
Total, transportation	40,148	45,245	44,960	32,222	35,264	38,326
COMMUNITY AND REGIONAL DEVELOPMENT						
Discretionary:						
Department of Agriculture:						
Rural Development:						
Rural community advancement program	584	843	596	479	647	602
Rural Utilities Service:						
Distance learning and telemedicine program	21	27	27	7	18	19
Rural Business—Cooperative Service:						
Rural cooperative development grants	6	31	6	4	4	25
Forest Service:						
Southeast Alaska economic disaster fund	22	5		10	7	7
Department of Commerce:						
Economic Development Administration:						
Economic development assistance programs	424	421	335	356	431	428
Department of Housing and Urban Development:						
Public and Indian Housing Programs:						
Moving to work	5				3	
Community Planning and Development:						
Community development block grants	4,809	5,113	4,722	4,955	4,940	5,036
Urban development action grants				10	10	10
Community development loan guarantees subsidy	30	30	15	7	20	20
National cities in schools community development program	5			5		

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2000 Actual	2001 Estimate	2002 Estimate	2000 Actual	2001 Estimate	2002 Estimate
Brownfields redevelopment	25	25	25	4	25	30
Urban empowerment zones	55	185	150	7	49	92
Office of Lead Hazard Control:						
Lead hazard reduction	80	100	110	95	95	95
Department of the Interior:						
Bureau of Indian Affairs:						
Operation of Indian programs	174	142	148	119	125	131
Indian guaranteed loan subsidy	5	5	5	5	9	5
Federal Emergency Management Agency:						
Emergency management planning and assistance	174	267	255	142	219	254
Disaster relief	2,295	1,115	956	2,234	1,901	2,070
Disaster assistance for unmet needs				50	90	54
National flood mitigation fund	20	20	20	13	23	20
Appalachian Regional Commission	59	70	59	125	108	100
Delta Regional Authority		18	18		2	5
Denali Commission	20	30	30	38	13	39
Total, discretionary	8,813	8,447	7,477	8,665	8,739	9,042
Total, community and regional development	8,813	8,447	7,477	8,665	8,739	9,042
EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES						
Discretionary:						
Department of Commerce:						
National Telecommunications and Information Administration:						
Public telecommunications facilities, planning and construction	13	31	31	12	24	26
Information infrastructure grants	6	22	5	8	15	20
Department of Education:						
Office of Elementary and Secondary Education:						
Reading excellence ²	56	277		27	180	234
Indian education	75	113	113	64	82	105
Impact aid	901	985	1,122	875	1,121	1,109
Chicago litigation settlement				2	2	
Education reform	964	611		965	1,234	674
Education for the disadvantaged ²	8,667	8,938	10,969	8,511	8,432	9,355
School improvement programs ²	1,357	4,417	6,281	2,394	2,936	3,744
Office of Bilingual Education and Minority Languages Affairs:						
Bilingual and immigrant education	329	353	460	319	370	351
Office of Special Education and Rehabilitative Services:						
Special education ²	2,036	5,816	8,147	4,696	5,535	6,652
Rehabilitation services and disability research	120	133	173	104	185	161
American Printing House for the Blind	10	12	12	9	15	12
Office of Vocational and Adult Education:						
Vocational and adult education ²	851	1,778	1,771	1,448	1,669	1,731
Office of Postsecondary Education:						
Higher education	281	376	307	152	347	354
Office of Student Financial Assistance:						
Student financial assistance	40	55	55	24	49	55
Office of Educational Research and Improvement:						
Education research, statistics, and assessment	100	56		166	174	61
Department of Health and Human Services:						
Administration for Children and Families:						
Promoting safe and stable families	3	3	3	3	3	3
Children and families services programs ²	5,004	7,607	7,832	5,843	6,325	7,480
Administration on Aging:						
Aging services programs	933	1,103	1,098	884	1,017	1,086
Department of the Interior:						
Bureau of Indian Affairs:						
Operation of Indian programs	51	78	101	50	71	100
Department of Labor:						
Employment and Training Administration:						
Training and employment services ²	2,227	4,065	3,681	2,957	3,641	4,494
Community service employment for older Americans	97	97	97	99	108	97
State unemployment insurance and employment service operations	163	193	177	225	165	175
Unemployment trust fund	962	982	982	961	957	982
Corporation for National and Community Service:						
Domestic volunteer service programs, operating expenses	71	73	77	70	72	75

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2000 Actual	2001 Estimate	2002 Estimate	2000 Actual	2001 Estimate	2002 Estimate
National and community service programs, operating expenses	229	242	218	204	263	230
Corporation for Public Broadcasting:						
Corporation for Public Broadcasting	190	224	230	190	206	217
District of Columbia:						
District of Columbia General and Special Payments:						
Federal payment for resident tuition support	17	17	17	17	17	17
National Endowment for the Arts:						
National Endowment for the Arts: grants and administration	34	34	34	31	39	36
Challenge America arts fund		3	3		1	3
Institute of Museum and Library Services:						
Office of Museum Services: grants and administration	6	8	5	6	6	11
Office of Library Services: grants and administration	151	175	152	152	155	203
Total, discretionary ²	25,944	38,877	44,153	31,468	35,416	39,853
Mandatory:						
Department of Education:						
Office of Elementary and Secondary Education:						
Reading excellence ²			195			
Education for the disadvantaged ²			6,758			
School improvement programs ²			1,765			
Office of Special Education and Rehabilitative Services:						
Special education ²			5,072			
Rehabilitation services and disability research	2,339	2,400	2,481	2,463	2,196	2,455
Office of Vocational and Adult Education:						
Vocational and adult education ²			791			
Department of Health and Human Services:						
Administration for Children and Families:						
Job opportunities and basic skills training program				15	9	3
Promoting safe and stable families	289	300	495	239	271	316
Social services block grant	1,775	1,725	1,700	1,827	1,906	1,809
Children and families services programs ²			1,400			
Payments to States for foster care and adoption assistance	5,697	6,401	6,682	5,453	6,055	6,549
Department of Labor:						
Employment and Training Administration:						
Training and employment services ²			1,772			
Welfare to work jobs	-137	-50		527	850	690
Federal unemployment benefits and allowances	132	132	132	133	141	136
Total, mandatory ²	10,095	10,908	29,243	10,657	11,428	11,958
Total, education, training, employment, and social services	36,039	49,785	73,396	42,125	46,844	51,811
HEALTH						
Discretionary:						
Department of Agriculture:						
Food Safety and Inspection Service:						
Salaries and expenses	43	47	48	43	47	48
Department of Health and Human Services:						
Food and Drug Administration:						
Salaries and expenses	1	1	1	1	1	1
Health Resources and Services Administration:						
Health resources and services	2,028	2,215	2,344	2,028	2,215	2,344
Centers for Disease Control and Prevention:						
Disease control, research, and training	1,881	2,502	2,497	1,611	2,006	2,386
Substance Abuse and Mental Health Services Administration:						
Substance abuse and mental health services	2,012	2,152	2,212	1,931	2,027	2,109
Department of Labor:						
Occupational Safety and Health Administration:						
Salaries and expenses	82	88	88	82	88	88
Mine Safety and Health Administration:						
Salaries and expenses	6	8	8	6	8	8
Total, discretionary	6,053	7,013	7,198	5,702	6,392	6,984

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2000 Actual	2001 Estimate	2002 Estimate	2000 Actual	2001 Estimate	2002 Estimate
Total, mandatory ²	33,986	36,659	40,349	33,691	36,998	37,848
Total, income security	59,340	67,484	73,833	63,200	69,627	71,258
SOCIAL SECURITY						
Discretionary:						
Social Security Administration:						
Federal disability insurance trust fund	6	14	14	6	14	14
Total, discretionary	6	14	14	6	14	14
Total, social security	6	14	14	6	14	14
VETERANS BENEFITS AND SERVICES						
Discretionary:						
Department of Veterans Affairs:						
Veterans Health Administration:						
Medical care	318	343	369	318	343	369
Construction:						
Grants for construction of State extended care facilities	90	100	50	104	85	91
Grants for the construction of State veterans cemeteries	25	25	25	12	17	21
Total, discretionary	433	468	444	434	445	481
Total, veterans benefits and services	433	468	444	434	445	481
ADMINISTRATION OF JUSTICE						
Discretionary:						
Department of Health and Human Services:						
Administration for Children and Families:						
Violent crime reduction programs ³	92			97	84	29
Department of Housing and Urban Development:						
Fair Housing and Equal Opportunity:						
Fair housing activities	44	46	46	33	37	37
Department of Justice:						
Office of Justice Programs:						
Justice assistance	151	263	304	65	147	455
State and local law enforcement assistance	1,520	2,767	1,933	475	1,760	3,270
Juvenile justice programs	242	263	268	177	158	383
Community oriented policing services	595	1,037	855	1,390	1,210	926
Violent crime reduction programs, State and local law enforcement assistance	1,184			2,049		
Court Services and Offender Supervision Agency for the District:						
Federal payment to Court Services and Offender Supervision Agency for the District of Columbia	93			66		
Equal Employment Opportunity Commission:						
Salaries and expenses	29	30	30	46	42	45
State Justice Institute:						
State Justice Institute: salaries and expenses	7	7	7	8	7	7
Total, discretionary	3,957	4,413	3,443	4,406	3,445	5,152
Mandatory:						
Department of Justice:						
Legal Activities and U.S. Marshals:						
Assets forfeiture fund	305	240	208	220	275	246
Office of Justice Programs:						
Crime victims fund	500	509	567	386	657	490
Department of the Treasury:						
Departmental Offices:						
Treasury forfeiture fund	98	88	88	108	88	88
Total, mandatory	903	837	863	714	1,020	824
Total, administration of justice	4,860	5,250	4,306	5,120	4,465	5,976

Table 9-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2000 Actual	2001 Estimate	2002 Estimate	2000 Actual	2001 Estimate	2002 Estimate
GENERAL GOVERNMENT						
Discretionary:						
Department of the Interior:						
Bureau of Land Management:						
Payments in lieu of taxes	134	200	150	133	200	150
Insular Affairs:						
Trust Territory of the Pacific Islands				2	2	2
District of Columbia:						
District of Columbia Courts:						
Federal payment to the District of Columbia courts	100	105	111	86	107	114
Defender services in District of Columbia courts	34	34	34	26	39	34
Crime victims compensation fund		18			18	
District of Columbia Corrections:						
Payment to the District of Columbia corrections trustee, operations	175	134	33	158	144	43
District of Columbia General and Special Payments:						
Federal support for economic development and management reforms in the District ...	34	43		83	43	
Federal Drug Control Programs:						
High-intensity drug trafficking areas program	158	172	206	143	161	223
Total, discretionary	635	706	534	631	714	566
Mandatory:						
Department of Agriculture:						
Forest Service:						
Forest Service permanent appropriations	213	227	393	213	227	393
Department of Energy:						
Energy Programs:						
Payments to States under Federal Power Act	3	3	3	3	3	3
Department of the Interior:						
Bureau of Land Management:						
Miscellaneous permanent payment accounts	104	8	120	105	8	114
Minerals Management Service:						
Mineral leasing and associated payments	691	1,094	983	691	1,094	983
United States Fish and Wildlife Service:						
National wildlife refuge fund	19	18	18	19	18	18
Insular Affairs:						
Assistance to territories	70	78	69	74	66	77
Payments to the United States territories, fiscal assistance	148	104	104	147	104	104
Department of the Treasury:						
Bureau of Alcohol, Tobacco and Firearms:						
Internal revenue collections for Puerto Rico	297	315	246	297	315	246
United States Customs Service:						
Refunds, transfers, and expenses of operation, Puerto Rico	90	96	101	90	96	101
Corps of Engineers:						
Permanent appropriations	9	8	8	17	8	8
Total, mandatory	1,644	1,951	2,045	1,656	1,939	2,047
Total, general government	2,279	2,657	2,579	2,287	2,653	2,613
Total, Grants	286,267	329,016	377,682	284,659	316,265	350,061
Discretionary ^{1 2}	115,953	141,148	146,551	116,654	127,051	138,092
Mandatory ^{1 2}	170,314	187,868	231,131	168,005	189,214	211,969

¹ Budget authority for certain transportation programs is classified as mandatory in other budget presentations.² The Administration proposes to reverse the misleading budget practice of using advance appropriations simply to avoid spending limitations. In order to avoid overstating discretionary budget authority in 2002, language is proposed to designate the advance appropriation budget authority, appropriated in 2001, as direct (mandatory) spending.³ Amounts for 2001 and 2002 are part of the children and families services programs in the Department of Health and Human Services.

10. FEDERAL EMPLOYMENT AND COMPENSATION

This section provides information on civilian and military employment, and personnel compensation and benefits in the Executive, Legislative, and Judicial branches. A comparison of Federal employment levels, State and local government employment, and the United States population appears in the Historical Tables. Additional tables on civilian employment reductions appear in the Budget volume.

Government Reform Initiative

The first priority of the President's Government reform initiatives is to make Government citizen-centered. This means ensuring that there is as little distance as possible between the citizens and decision-makers. To shrink the distance between citizens and Cabinet members, the Administration will flatten the Federal hierarchy, reduce the number of layers in the upper echelons of Government, and use workforce planning to help agencies and redistribute higher-level positions to front-line, service-delivery positions that interact with citizens. The Administration will also seek legislation to provide new and expanded workforce restructuring tools.

Federal Civilian Employment in the Executive Branch

Civilian employment in the Executive Branch is measured on the basis of full-time equivalents (FTEs). One FTE is equal to one work year or 2,080 non-overtime hours. Put simply, one full-time employee counts as one FTE, and two half-time employees also count as one FTE.

Table 10-1 provides agency-wide totals from the 1998 base through 2002.

Allocations of FTE resources by agency are made based upon Presidential priorities and other factors. While many of the agencies in Table 10-1 show FTE reductions between 1998 and 2002, several agencies, such as the Department of Justice, show an increase in FTEs. In addition, the sharp 2000 increase in the Department of Commerce was due to the additional staffing needs associated with conducting the 2000 Census.

Recent Trends in Civilian Employment Estimates in the Executive Branch

Each year the Budget reports actual FTEs in the prior year column, and estimates of FTEs in the current

and budget years. Current year FTE estimates for nearly all agencies in the Budget have been over-stated when compared to the actual published in the following year's Budget. The table below shows this trend:

Year	Estimate	Actual	Over-Statement
1998	1,837.4	1,790.2	+47,200 (+2.6%)
1999	1,801.6	1,778.4	+23,200 (+1.3%)
2000	1,856.9	1,814.3	+42,600 (+2.3%)

Total Federal Employment Levels

The tables that follow show total Federal employment in all branches of Government, as well as the U.S. Postal Service, Postal Rate Commission, and active duty uniformed military personnel. Table 10-2 displays total Federal employment as measured by actual positions filled, i.e., the total number of employees, whether full-time, part-time or intermittent, at the end of the fiscal year. Table 10-3 shows total Federal employment as measured on an FTE basis.

Personnel Compensation and Benefits

Table 10-4 displays personnel compensation and benefits for all branches of Government, as well as for military personnel.

Direct compensation of the Federal work force includes base pay and premium pay, such as overtime. In addition, it includes other cash components, such as geographic pay differentials (i.e., locality pay, and special pay adjustments for law enforcement officers), recruitment and relocation bonuses, retention allowances, performance awards, and cost-of-living and overseas allowances.

In the case of military personnel, compensation includes basic pay, special and incentive pays (including enlistment and reenlistment bonuses), and allowances for clothing, housing, and subsistence.

Related compensation in the form of personnel benefits for current employees consists of the cost to Government agencies (as an employer) primarily for health insurance, life insurance, Social Security (old age, survivors, disability, and health insurance) and contributions to the retirement funds to finance future retirement benefits. Compensation for former personnel includes outlays for retirement pay benefits, and the Government's share of the cost of health and life insurance.

Table 10-1. FEDERAL EMPLOYMENT IN THE EXECUTIVE BRANCH

(Civilian employment as measured by Full-Time Equivalents, in thousands)

Agency	Actual			Estimate		Change: 1998 to 2002	
	1998	1999	2000	2001	2002	FTE's	Percent
Cabinet agencies:							
Agriculture	96.4	95.5	95.1	97.9	97.8	1.4	1.4%
Commerce	35.7	47.3	113.3	39.7	37.0	1.3	3.6%
Defense-military functions	707.2	681.0	660.3	641.1	641.1	-66.2	-9.4%
Education	4.5	4.5	4.6	4.7	4.7	0.2	5.2%
Energy	16.3	15.9	15.6	16.4	16.3	0.1	0.3%
Health and Human Services	57.9	58.9	60.5	63.5	64.9	7.0	12.1%
Housing and Urban Development	9.8	10.0	10.1	10.3	10.3	0.5	4.9%
Interior	66.5	67.0	67.3	69.9	69.4	2.9	4.3%
Justice	117.3	121.3	122.8	129.1	134.9	17.6	15.0%
Labor	16.3	16.3	16.3	17.7	17.5	1.2	7.6%
State	26.4	26.9	27.3	27.7	27.8	1.4	5.2%
Transportation	63.4	63.7	63.0	65.0	65.9	2.6	4.1%
Treasury	142.1	143.7	143.7	148.4	150.9	8.8	6.2%
Veterans Affairs	207.1	205.5	202.6	205.9	204.7	-2.4	-1.2%
Other agencies—excluding Postal Service:							
Agency for International Development	2.7	2.5	2.4	2.4	2.5	-0.2	-7.7%
Broadcasting Board of Governors	2.4	2.4	2.4	2.5	2.5	0.1	4.2%
Corps of Engineers	24.8	24.7	24.8	24.8	24.8	.....	0.2%
Environmental Protection Agency	17.7	18.1	17.7	18.0	17.5	-0.2	-1.3%
EEOC	2.5	2.6	2.9	3.1	3.1	0.5	20.1%
FEMA	4.6	5.2	4.6	4.9	5.0	0.4	8.0%
FDIC/RTC	7.9	7.4	7.1	6.7	6.5	-1.4	-17.3%
General Services Administration	14.1	14.1	14.0	14.2	14.2	0.1	0.7%
NASA	19.1	18.5	18.4	19.0	19.0	-0.1	-0.5%
National Archives and Records Admin.	2.4	2.4	2.5	2.7	2.7	0.3	13.1%
National Labor Relations Board	1.9	1.8	1.9	2.0	2.0	0.1	6.5%
National Science Foundation	1.2	1.2	1.2	1.2	1.2	.....	1.9%
Nuclear Regulatory Commission	3.0	2.8	2.8	2.8	2.8	-0.2	-5.5%
Office of Personnel Management	2.8	2.8	2.8	3.0	3.0	0.2	7.6%
Panama Canal Commission	9.6	9.2	2.4	0.0	0.0	-9.6	-100.0%
Peace Corps	1.1	1.1	1.0	1.2	1.2	0.1	10.8%
Railroad Retirement Board	1.3	1.3	1.2	1.2	1.2	-0.1	-10.0%
Securities and Exchange Commission	2.8	2.8	2.8	3.0	3.0	0.2	8.0%
Small Business Administration	4.4	4.7	4.3	4.2	4.1	-0.2	-5.5%
Smithsonian Institution	5.0	5.1	5.0	5.2	5.2	0.1	2.8%
Social Security Administration	64.0	63.0	62.4	63.2	63.5	-0.5	-0.9%
Tennessee Valley Authority	14.4	13.5	13.2	13.2	13.1	-1.3	-9.1%
All other small agencies	13.6	13.9	14.0	15.8	15.9	2.3	16.8%
Total, Executive Branch civilian employment	1,790.2	1,778.4	1,814.3	1,751.4	1,757.1	-33.2	-1.9%
Subtotal, Defense	707.2	681.0	660.3	641.1	641.1	-66.2	-9.4%
Subtotal, Non-Defense	1,083.0	1,097.4	1,154.0	1,110.3	1,116.0	33.0	3.0%

Table 10-2. TOTAL FEDERAL EMPLOYMENT

(As measured by total positions filled)

Description	Actual as of September 30			Change: 1998 to 2000	
	1998	1999	2000	Positions	Percent
Executive branch civilian employment:					
All agencies except Postal Service and Postal Rate Commission:					
Full-time permanent	1,624,152	1,603,944	1,584,338	-39,814	-2.5%
Other than full-time permanent ¹	231,644	216,353	199,643	-32,001	-13.8%
Subtotal	1,855,796	1,820,297	1,783,981	-71,815	-3.9%
Postal Service: ²					
Full-time permanent	660,987	670,272	666,528	5,541	0.8%
Other than full-time permanent	210,533	196,121	194,249	-16,284	-7.7%
Subtotal	871,520	866,393	860,777	-10,743	-1.2%
Subtotal, Executive branch civilian employment	2,727,316	2,686,690	2,644,758	-82,558	-3.0%
Military personnel on active duty: ³					
Department of Defense	1,406,830	1,385,703	1,384,338	-22,492	-1.6%
Department of Transportation (Coast Guard)	35,459	35,740	36,157	698	2.0%
Subtotal, military personnel	1,442,289	1,421,443	1,420,495	-21,794	-1.5%
Subtotal, Executive Branch	4,169,605	4,108,133	4,065,253	-104,352	-2.5%
Legislative Branch:					
Full-time permanent	12,399	12,183	11,970	-429	-3.5%
Other than full-time permanent	18,075	18,170	19,187	1,112	6.2%
Subtotal, Legislative Branch	30,474	30,353	31,157	683	2.2%
Judicial Branch:					
Full-time permanent	28,487	28,875	28,938	451	1.6%
Other than full-time permanent	3,255	3,321	3,248	-7	-0.2%
Subtotal, Judicial Branch	31,742	32,196	32,186	444	1.4%
Grand Total	4,231,821	4,170,682	4,128,596	-103,225	-2.4%
ADDENDUM					
Executive branch civilian personnel (excluding Postal Service):					
DOD-Military functions ⁴	692,552	665,679	651,247	-41,305	-6.0%
All other executive branch	1,163,244	1,154,618	1,132,734	-30,510	-2.6%
Total ⁵	1,855,796	1,820,297	1,783,981	-71,815	-3.9%

¹ Includes Summer Aides, Stay-in-school, Junior Fellowship, Worker-Trainee Opportunity Program.² Includes Postal Rate Commission.³ Excludes reserve components.⁴ Excludes Defense Intelligence Agency.⁵ Includes disadvantaged youth programs.

Table 10-3. TOTAL FEDERAL EMPLOYMENT
(As measured by Full-Time Equivalents)

Description	2000 actual	Estimate		Change: 2000 to 2002	
		2001	2002	FTE's	Percent
Executive branch civilian personnel:					
All agencies except Postal Service and Defense	1,153,968	1,110,329	1,116,000	-37,968	-3.3%
Defense-Military functions (civilians)	660,285	641,055	641,055	-19,230	-2.9%
Subtotal, excluding Postal Service	1,814,253	1,751,384	1,757,055	-57,198	3.2%
Postal Service ¹	848,353	841,002	828,052	-20,301	-2.4%
Subtotal, Executive Branch civilian personnel	2,662,606	2,592,386	2,585,107	-77,499	-2.9%
Executive branch uniformed personnel:²					
Department of Defense	1,380,947	1,378,692	1,378,692	-2,255	-0.2%
Department of Transportation (Coast Guard)	35,716	35,934	35,132	-584	1.6%
Subtotal, uniformed military personnel	1,416,663	1,414,626	1,413,824	-2,839	-0.2%
Subtotal, Executive Branch	4,079,269	4,007,012	3,998,931	-80,338	-2.0%
Legislative Branch: ³ Total FTE ³	31,192	31,513	33,333	2,141	6.9%
Judicial branch: Total FTE	31,230	33,302	34,277	3,047	9.8%
Grand Total	4,141,691	4,071,827	4,066,541	-75,150	-1.8%

¹ Includes Postal Rate Commission.

² Military personnel on active duty. Excludes reserve components. Data shown for Department of Defense are average strengths, not FTEs.

³ Actual 2000 FTE data not available for legislative branch.

TABLE 10-4. PERSONNEL COMPENSATION AND BENEFITS
(In millions of dollars)

Description	2000 actual	Estimate		Change: 2000 to 2002	
		2001	2002	Dollars	Percent
Civilian personnel costs:					
Executive Branch (excluding Postal Service):					
Direct compensation:					
DOD—military functions	32,301	32,825	33,281	980	3.0%
All other executive branch	63,024	65,138	68,406	5,382	8.5%
Subtotal, direct compensation	95,325	97,963	101,687	6,362	6.7%
Personnel benefits:					
DOD—military functions	7,472	7,541	7,720	248	3.3%
All other executive branch ¹	24,801	26,103	27,004	2,203	8.9%
Subtotal, personnel benefits	32,273	33,644	34,724	2,451	7.6%
Subtotal, executive branch	127,598	131,607	136,411	8,813	6.9%
Postal Service:					
Direct compensation	36,981	38,274	39,032	2,051	5.5%
Personnel benefits	11,116	11,963	12,447	1,331	12.0%
Subtotal	48,097	50,237	51,479	3,382	7.0%
Legislative Branch: ²					
Direct compensation	1,375	1,454	1,554	179	13.0%
Personnel benefits	315	341	376	61	19.4%
Subtotal	1,690	1,795	1,930	240	14.2%
Judicial Branch:					
Direct compensation	1,907	2,191	2,368	461	24.2%
Personnel benefits	493	535	598	105	21.3%
Subtotal	2,400	2,726	2,966	566	23.6%
Total, civilian personnel costs	179,785	186,365	192,786	13,001	7.2%
Military personnel costs:					
DOD—Military Functions:					
Direct compensation	51,489	53,141	56,690	5,201	10.1%
Personnel benefits	18,886	19,093	20,127	1,241	6.6%
Subtotal	70,375	72,234	76,817	6,442	9.2%
All other executive branch, uniformed personnel:					
Direct compensation	1,321	1,394	1,505	184	13.9%
Personnel benefits	150	149	159	9	6.0%
Subtotal	1,471	1,543	1,664	193	13.1%
Total, military personnel costs ³	71,846	73,777	78,481	6,635	9.2%
Grand total, personnel costs	251,631	260,142	271,267	19,636	7.8%
ADDENDUM					
Former Civilian Personnel:					
Retired pay for former personnel	46,144	48,464	50,705	4,561	9.9%
Government payment for Annuitants:					
Employee health benefits	5,049	5,572	6,102	1,053	20.9%
Employee life insurance	27	32	33	6	22.2%
Total Former Civilian Personnel	51,220	54,068	56,840	5,620	11.0%
Former Military personnel:					
Retired pay for former personnel	33,556	35,025	36,128	2,572	7.7%

¹ Includes transfers from general revenues in addition to employing agency's contributions for the cost of employee benefits. The transfers amounted to \$9118 million in 2000 and are estimated to be \$9,162 million in 2001 and \$9,229 million in 2002.

² Excludes members and officers of the Senate.

³ Excludes reserve components.

11. STRENGTHENING FEDERAL STATISTICS

Our economy's complexity, growth, and rapid structural changes require that public and private leaders have unbiased, relevant information on which to base their decisions. Data on real Gross Domestic Product (GDP), the Consumer Price Index (CPI), and the trade deficit, for example, have a major impact on government spending, budget projections, and the allocation of Federal funds. They also are critical inputs to monetary, fiscal, trade, and regulatory policy. Economic data, such as measures of price change, have as well a significant influence on interest rates and cost-of-living adjustments that affect every American who runs a business, saves for retirement, or obtains a mortgage.

Similarly, timely, comparable data on the characteristics of the U.S. population are essential to monitor societal changes. Of great import in 2002 will be the continuing delivery of Census 2000 data products used to allocate locally each year nearly \$200 billion in Federal funds. In recognition of its significance and in response to concerns about early planning and the quality of long-form data, the Census Bureau proposes to streamline the very complex decennial census process and to actively seek opportunities to innovate. The plan for the next decade is to completely reengineer the 2010 Census as part of a strategy to develop a more systematic, integrated, building-block approach for decennial and demographic data collection. This approach has three major components:

- a simplified 2010 Census and more timely data based on eliminating the long form through implementation of the American Community Survey (ACS);
- a single, continuously updated address universe and associated geographical products for use in all decennial and demographic programs; and
- a well-tested and planned 2010 Census design produced through systematic development prior to mid-decade operational testing.

The American Community Survey is a revolutionary, structural initiative of the statistical system that will provide community profiles similar to those from the decennial census on a far more current basis. For geographic areas with populations greater than 65,000, these profiles will be produced every year. For smaller areas, the ACS will accumulate or average data over several years to obtain annual estimates similar in quality and reliability to those currently available only once each decade. Thus, every jurisdiction ultimately will have annual information that illuminates change over time. (The official counts of the population will continue to come from the decennial census and the intercensal estimates program.) Because the American Community Survey will provide essentially the same information as the current decennial census long form,

the Census Bureau plans to eliminate the long form in the 2010 Census, thereby focusing that effort on counting the population using only the short form. In 2002, Phase II of developing the ACS occurs, in which data from the 1999–2001 ACS will be compared with Census 2000 results.

Under the aegis of the congressionally-mandated Interagency Council on Statistical Policy (ICSP), the principal statistical agencies continue to extend their collaborative endeavors to improve the overall performance and efficiency of the Federal statistical system. For example, the ICSP is supporting FedStats (www.fedstats.gov), the “one-stop shopping” Internet site for Federal statistics that permits easy access via an initial point of entry to the wide array of statistical information available to the public from more than 100 Federal agencies. In 2000, FedStats nearly doubled (from 40 to 77) the number of agencies whose data series are indexed there. In 2001, the FedStats team updated its home page based on recommendations from a usability work group, and enhanced its MapStats section to provide an interactive map-based application to access a variety of data at the State, county, congressional district, and Federal judicial district levels.

The statistical system is also working effectively to enhance the quality of data the agencies produce. For example, statistical agencies have developed proposed data sharing legislation that would permit limited sharing of confidential data among selected agencies solely for statistical purposes. Enactment of this legislation, and of a companion Treasury Department proposal that would make complementary changes to provisions set forth in the “Statistical Use” section of the Internal Revenue Code, will create a framework for statistical agencies to compare and improve the quality of their data.

Despite these accomplishments, rapid changes in our economy and society, and funding levels that challenge statistical agencies to keep pace with them, can threaten the relevance, accuracy, and timeliness of our Nation's key statistics. Any growing inability of our statistical system to mirror accurately our economy and society, including the unprecedented growth of electronic commerce, could undermine core government activities, such as the accurate allocation of scarce Federal funds. Fortunately, the most serious shortcomings of our statistical infrastructure would be substantially mitigated by five programs supported in the Administration's budget as well as a legislative initiative. In particular, these actions would:

- develop an integrated statistical base for analysis of the effects of E-business across our Nation's products and industries, including changes in the structure of investment, pricing, and distribution

practices (Bureau of Economic Analysis and Bureau of the Census);

- support the tabulation, analysis, and dissemination of Census 2000 data in order to reap the benefits of Census 2000 investments (Bureau of the Census);
- support early planning for the 2010 Census predicated on a fundamental reengineering of the census process (Bureau of the Census);
- continue implementation of the American Community Survey program to produce far more timely data for States and local areas that will be used for various purposes, including the distribution of nearly \$200 billion in Federal funds annually (Bureau of the Census);
- improve coverage of the construction and service sectors in the Producer Price Index (which may also produce methodological techniques that further improve the Consumer Price Index) and enhance coverage of the service sector in BLS productivity estimates (Bureau of Labor Statistics); and
- provide new statutory authority for the limited sharing of data among designated Federal agen-

cies solely for statistical purposes. The proposed changes would permit these statistical agencies to manage information in many important respects as if they were part of a single agency, thereby increasing the accuracy of statistical estimates and the efficiency of Federal data collection.

Taken together, statistics produced by the Federal Government on demographic, economic, and social conditions and trends are essential to inform decisions that are made by virtually every organization and household in our Nation. The U.S. Federal statistical system comprises some 70 agencies that collect, analyze, and disseminate information for use by governments, businesses, researchers, and the public. Approximately one third of the funding for the statistical system provides resources for ten agencies that have statistical activities as their principal mission. (Please see Table 11-1.) The remaining funding is spread among some sixty agencies that carry out statistical activities in conjunction with other missions such as providing services or enforcing regulations. The following highlights elaborate on the Administration's proposals to strengthen the programs of the principal Federal statistical agencies.

HIGHLIGHTS OF 2002 PROGRAM PROPOSALS FOR PRINCIPAL STATISTICAL AGENCIES

Bureau of Economic Analysis: Funding is requested to address critical gaps in coverage and the growing measurement error in Gross Domestic Product (GDP) and the national income accounts. BEA will develop new data sources and methods to improve measurement of the services industry, including telecommunications and other E-business related services; savings, investment and household wealth; international trade and finance; and derivative instruments, and will incorporate this information into the economic accounts. BEA will work with other statistical agencies to: (1) ensure that E-business, including related investment, is captured in estimates of GDP and other economic accounts data, and (2) develop estimates of the impact of E-business across products and industries, including investment, prices, and distribution. In addition, BEA will upgrade its computer and data handling capabilities to protect and disseminate its data and meet the demands of these improved measures of economic performance. Without such improvements, timely release of the GDP and related measures would be put at risk.

Bureau of Justice Statistics: Funding is requested to: (1) design and field a statistical series on the nature and consequences of routine traffic stops based on administrative data from law enforcement agencies and supplemental data from the National Crime Victimization Survey (NCVS) to learn about the public's experience relating to traffic stops; (2) implement a voluntary reporting system of deaths of persons while in law enforcement custody as required by the Deaths in Custody Act of 2000 that will include reports, submitted quarterly by States, on the death of any person who is in the process of arrest, is en route to be incarcerated,

or is incarcerated at a municipal or county jail, State prison, or other local or State correctional facility; (3) initiate the conversion of the NCVS interviewing and data collection activities from primarily a paper and pencil operation to a fully computerized system; (4) develop a methodology and initiate preliminary testing of potential questions to be used to enhance the NCVS to measure victimization of the disabled population in the United States as required by the Crime Victims with Disabilities Awareness Act; and (5) continue the Cybercrime Statistical Program, initiated in 2001, designed to measure changes in the incidence, magnitude, and consequences of electronic crime.

Bureau of Labor Statistics: Funding is requested to: (1) begin a new effort to fundamentally change the way the Consumer Price Index is revised and updated by instituting a process for continuous improvement in place of the periodic major revisions that were undertaken about every ten years; (2) enhance BLS' data security program and start replacing much of its decade-old local area network (LAN) infrastructure with a more current and capable LAN system through a central Department of Labor appropriation; (3) proceed with development of a new survey to measure how Americans spend their time in order to improve assessments of national well-being, and produce diary estimates of time spent in market work to evaluate existing estimates of work hours; (4) continue work to extend Producer Price Index coverage for the first time to the construction sector of the U.S. economy and to enhance service sector coverage; (5) proceed with development of new industry labor and multifactor productivity series for the service-producing sector; and (6) continue

to improve the statistical quality of local area unemployment statistics.

Bureau of the Census: Funding is requested for Census 2000, Census 2010 Planning, and for the Census Bureau's economic and demographic programs. For Census 2000, funding is requested to: (1) continue to disseminate data products; (2) manage remaining activities to complete Census 2000; (3) ensure that the contracts for data capture are closed out efficiently; (4) respond to concerns from local and tribal governments about the accuracy of the census counts via the Count Question Resolution program; (5) compare data from the American Community Survey (ACS) with Census 2000 results; and (6) continue evaluating census operations. For the 2010 Census, funding is requested to provide for adequate testing and simplified data collection by: (1) establishing an early design and testing infrastructure to allow complete testing of all major elements of the 2010 Census design; (2) developing the Long Form Transitional Database to enable re-engineering of the 2010 Census through use of the ACS to collect long form data; and (3) replacing the MAF/TIGER system with one that uses Global Positioning System technology and satellite mapping imagery to update and improve the Census 2000 address information. For Census Bureau economic and demographic programs, funding is requested to: (1) maintain the program to measure E-business; (2) redesign samples for household surveys based on Census 2000 data; and (3) begin implementation of the 2002 Economic Censuses and Census of Governments.

Bureau of Transportation Statistics: Funding is requested to: (1) implement the Safety Data Action Plan, a series of projects to improve the quality, comparability, and timeliness of transportation safety data and to better understand accident causation; (2) improve the collection and analysis of aviation data, particularly data related to flight delay and airline competition; (3) continue developing the Intermodal Transportation Data Base, a web-based portal that provides one-stop shopping for transportation data; (4) expand the National Transportation Library, which provides access to the Nation's transportation research and planning literature via the Internet; (5) collect data on travel behavior, freight movement, customer satisfaction, and motor carrier operations; (6) strengthen transportation data analysis and study emerging trends; (7) improve statistical tools for geo-spatial data analyses and promote their use in transportation applications; (8) ensure the reliability of DOT's GPRA performance measurement data and develop measures for DOT's new strategic goals; and (9) publish the monthly Transportation Indicators report, the congressionally-mandated Transportation Statistics Annual Report, and its companion, the National Transportation Statistics report.

Economic Research Service: Funding is requested to: (1) provide economic analysis and expert witness litigation support related to the Pigford Consent Decree which resulted from a class action lawsuit that alleged racial discrimination in the administration of USDA

farm loan and benefit programs, and (2) publish information on retail purchases of representative meat products required by the Mandatory Price Reporting Act of 1999.

Energy Information Administration: Funding is requested to continue: (1) overhauling the natural gas and electricity surveys and data systems to accommodate the changes in these industries brought on by deregulation and restructuring; (2) updating EIA's 20-year-old energy consumption surveys; (3) improving the data quality and accuracy in crude oil, diesel, gasoline, and natural gas production surveys; (4) modifying surveys to reflect changes under Tier II of the Clean Air Act Amendments, and (5) integrating information processing infrastructure upgrades to enhance energy data collection, analyses, and dissemination, and meet Government Paperwork Elimination Act requirements.

National Agricultural Statistics Service: Funding is requested to: (1) finalize preparations for data collection and processing for the 2002 Census of Agriculture that include printing over three million questionnaires and other materials; developing final procedures for mailout and processing; designing and testing computer systems; developing State and national management and tabulation plans; preparing for the census in Puerto Rico and insular areas; training; and developing dissemination mechanisms for both electronic and printed media; and (2) establish a computer security architecture to increase protection of market-sensitive and confidential data from cybersecurity threats.

National Center for Education Statistics: Funding is requested to administer State-level reading and mathematics assessments for the National Assessment of Educational Progress (NAEP) annually in grades 4 and 8, as well as to continue the current NAEP assessment program. Funding is also requested to continue support for: (1) an institutional census survey program that provides information on elementary, secondary, and postsecondary education and on libraries; (2) a special cross-sectional surveys program that collects and reports data on a wide variety of topics, including schools and school staff, adult literacy, postsecondary faculty, and postsecondary student aid; (3) a longitudinal surveys program that includes the Early Childhood Longitudinal Studies' Birth and Kindergarten cohorts, the Education Longitudinal Study of 2002 which will follow a nationally representative sample of high school students, and two postsecondary surveys, the Beginning Postsecondary Longitudinal Survey and the Baccalaureate and Beyond; (4) an international studies program that includes a variety of projects, such as the Third International Mathematics and Science Study-Repeat (TIMSS-R); (5) a statistical standards and reporting program designed to enhance the quality and usefulness of NCES data; and (6) training, technical assistance, and dissemination projects.

National Center for Health Statistics: Funding is requested to: (1) continue to stabilize and rebuild core data systems as part of an ongoing effort to maintain existing data systems while retooling to meet new data

needs and more fully utilize new technology and methods; (2) support updating the design of household survey samples based on Census 2000 data; and (3) provide information critical to monitoring the dynamics of health and health care, and provide the underpinnings for biomedical research, health policy,

and public health practice through support of the National Health Interview Survey, the National Health and Nutrition Examination Survey, the National Vital Statistics System, and the National Health Care Survey.

Table 11-1. 2000-2002 BUDGET AUTHORITY FOR PRINCIPAL STATISTICAL AGENCIES

(In millions of dollars)

	2000 actual	2001 estimate	2002 estimate
Bureau of Economic Analysis	43.8	48.1	56.6
Bureau of Justice Statistics	25.5	29.0	30.5
Bureau of Labor Statistics	413.2	^{1, 2} 450.9	³ 468.3
Bureau of the Census	4,749.7	^{2, 4} 429.2	543.4
Periodic Censuses and Programs	4,609.3	⁴ 272.3	374.8
Salaries and Expenses	140.0	156.8	168.6
Bureau of Transportation Statistics	31.0	31.0	43.8
Economic Research Service	64.1	65.9	67.0
Energy Information Administration	72.4	75.5	75.5
National Agricultural Statistics Service ⁵	99.4	100.6	113.8
National Center for Education Statistics	108.0	120.0	193.1
Statistics	68.0	80.0	84.0
Assessment	36.0	36.0	105.0
National Assessment Governing Board	4.0	4.0	4.1
National Center for Health Statistics	111.8	122.4	127.0
PHS Evaluation Funds	71.7	71.7	127.0
Budget Authority	40.1	50.7	0.0

¹ Includes a transfer of \$20.7 million from elsewhere in the Department of Labor to centralize the preparation of labor market information.

² Includes rescission (P.L. 106-554)

³ Total reflects a financing charge that reduces the 2002 total by \$7.5 million.

⁴ Does not include \$260 million in carry-over funding made available to the Census Bureau in 2001 from funds appropriated for the Decennial Census in 2000, resulting in a 2001 program level of \$689.2 million.

⁵ Includes funds for the periodic Census of Agriculture and Special Studies of \$16.5, \$15.0, and \$25.0 (million) in 2000, 2001, and 2002, respectively.

7. FEDERAL INVESTMENT SPENDING AND CAPITAL BUDGETING

Investment spending is spending that yields long-term benefits. Its purpose may be to improve the efficiency of internal Federal agency operations or to increase the Nation's overall stock of capital for economic growth. The spending can be direct Federal spending or grants to State and local governments. It can be for physical capital, which yields a stream of services over a period of years, or for research and development or education and training, which are intangible but also increase income in the future or provide other long-term benefits.

Most presentations in the Federal budget combine investment spending with spending for current use. This chapter focuses solely on Federal and federally financed investment. An Administration proposal for capital acquisition funds that is being developed is dis-

cussed in Chapter 1, "Budget and Performance Integration," in this volume.

In this chapter, investments are discussed in the following sections:

- a description of the size and composition of Federal investment spending;
- a presentation of trends in the stock of federally financed physical capital, research and development, and education;
- alternative capital budget and capital expenditure presentations; and
- projections of Federal physical capital outlays and recent assessments of public civilian capital needs, as required by the Federal Capital Investment Program Information Act of 1984.

Part I: DESCRIPTION OF FEDERAL INVESTMENT

For more than fifty years, the Federal budget has included a chapter on Federal investment—defined as those outlays that yield long-term benefits—separately from outlays for current use. In recent years the discussion of the composition of investment includes estimates of budget authority as well as outlays and extends these estimates four years beyond the budget year, to 2007.

The classification of spending between investment and current outlays is a matter of judgment. The budget has historically employed a relatively broad classification, encompassing physical investment, research, development, education, and training. The budget further classifies investments into those that are grants to State and local governments, such as grants for highways or education, and all other investments, called "direct Federal programs," in this analysis. This "direct Federal" category consists primarily of spending for assets owned by the Federal Government, such as defense weapons systems and general purpose office buildings, but also includes grants to private organizations and individuals for investment, such as capital grants to Amtrak or higher education loans directly to individuals.

Presentations for particular purposes could adopt different definitions of investment:

- To suit the purposes of a traditional balance sheet, investment might include only those physical assets owned by the Federal Government, excluding capital financed through grants and intangible assets such as research and education.
- Focusing on the role of investment in improving national productivity and enhancing economic growth would exclude items such as national de-

fense assets, the direct benefits of which enhance national security rather than economic growth.

- Concern with the efficiency of Federal operations would confine the coverage to investments that reduce costs or improve the effectiveness of internal Federal agency operations, such as computer systems.
- A "social investment" perspective might broaden the coverage of investment beyond what is included in this chapter to include programs such as childhood immunization, maternal health, certain nutrition programs, and substance abuse treatment, which are designed in part to prevent more costly health problems in future years.

The relatively broad definition of investment used in this section provides consistency over time—historical figures on investment outlays back to 1940 can be found in the separate *Historical Tables* volume. The detailed tables at the end of this section allow disaggregation of the data to focus on those investment outlays that best suit a particular purpose.

In addition to this basic issue of definition, there are two technical problems in the classification of investment data, involving the treatment of grants to State and local governments and the classification of spending that could be shown in more than one category.

First, for some grants to State and local governments it is the recipient jurisdiction, not the Federal Government, that ultimately determines whether the money is used to finance investment or current purposes. This analysis classifies all of the outlays in the category where the recipient jurisdictions are expected to spend most of the money. Hence, the community development

block grants are classified as physical investment, although some may be spent for current purposes. General purpose fiscal assistance is classified as current spending, although some may be spent by recipient jurisdictions on physical investment.

Second, some spending could be classified in more than one category of investment. For example, outlays for construction of research facilities finance the acquisition of physical assets, but they also contribute to research and development. To avoid double counting, the outlays are classified in the category that is most commonly recognized as investment. Consequently outlays for the conduct of research and development do not include outlays for research facilities, because these outlays are included in the category for physical investment. Similarly, physical investment and research and

development related to education and training are included in the categories of physical assets and the conduct of research and development.

When direct loans and loan guarantees are used to fund investment, the subsidy value is included as investment. The subsidies are classified according to their program purpose, such as construction or education and training. For more information about the treatment of Federal credit programs, refer to Chapter 25, "Budget System and Concepts and Glossary."

This section presents spending for gross investment, without adjusting for depreciation. A subsequent section discusses depreciation, shows investment both gross and net of depreciation, and displays net capital stocks.

Composition of Federal Investment Outlays

Major Federal Investment

The composition of major Federal investment outlays is summarized in Table 7-1. They include major public physical investment, the conduct of research and development, and the conduct of education and training. Defense and nondefense investment outlays were \$292.6 billion in 2001. They are estimated to increase to \$324.6 billion in 2002 and are projected to increase further to \$342.6 billion in 2003. Major Federal investment outlays will comprise an estimated 16.1 percent of total Federal outlays in 2003 and 3.1 percent of the Nation's gross domestic product (GDP). Greater detail on Federal investment is available in Tables 7-2 and 7-3 at the end of this Part. Those tables include both budget authority and outlays.

Physical investment.—Outlays for major public physical capital investment (hereafter referred to as physical investment outlays) are estimated to be \$159.6 billion in 2003. Physical investment outlays are for construction and rehabilitation, the purchase of major equipment, and the purchase or sale of land and structures. More than three-fifths of these outlays are for direct physical investment by the Federal Government, with the remainder being grants to State and local governments for physical investment.

Direct physical investment outlays by the Federal Government are primarily for national defense. Defense outlays for physical investment are estimated to increase from \$69.1 billion in 2002 to \$72.6 billion in 2003. Almost all of these outlays, or an estimated \$63.7 billion in 2003, are for the procurement of weapons and other defense equipment, and the remainder is primarily for construction on military bases, family housing for military personnel, and Department of Energy defense facilities.

Outlays for direct physical investment for nondefense purposes are estimated to be \$29.8 billion in 2003. These outlays include \$17.7 billion for construction and rehabilitation. This amount includes funds for water, power, and natural resources projects of the Corps of Engineers, the Bureau of Reclamation within the De-

partment of the Interior, the Tennessee Valley Authority, and the power administrations in the Department of Energy; construction and rehabilitation of veterans hospitals and Postal Service facilities; facilities for space and science programs, and Indian Health Service hospitals and clinics. Outlays for the acquisition of major equipment are estimated to be \$11.7 billion in 2003. The largest amounts are for the air traffic control system. For the purchase or sale of land and structures, disbursements are estimated to exceed collections by \$0.4 billion in 2003. These purchases are largely for buildings and land for parks and other recreation purposes.

Grants to State and local governments for physical investment are estimated to be \$57.2 billion in 2003. Almost two-thirds of these outlays, or \$37.4 billion, are to assist States and localities with transportation infrastructure, primarily highways. Other major grants for physical investment fund sewage treatment plants, community development, and public housing.

Conduct of research and development.—Outlays for the conduct of research and development are devoted to increasing basic scientific knowledge and promoting research and development. They increase the Nation's security, improve the productivity of capital and labor for both public and private purposes, and enhance the quality of life. More than half of these outlays are for national defense. Physical investment for research and development facilities and equipment is included in the physical investment category.

Nondefense outlays for the conduct of research and development are largely for the space programs, the National Science Foundation, the National Institutes of Health, and research for nuclear and non-nuclear energy programs.

A more complete and detailed discussion of research and development funding appears in Chapter 8, "Research and Development Funding," in this volume.

Conduct of education and training.—Outlays for the conduct of education and training are estimated to be \$76.1 billion in 2003. These outlays add to the stock

Table 7-1. COMPOSITION OF FEDERAL INVESTMENT OUTLAYS

(In billions of dollars)

	2001 Actual	Estimate	
		2002	2003
Federal Investment			
Major public physical capital investment:			
Direct Federal:			
National defense	63.7	69.1	72.6
Nondefense	27.8	31.5	29.8
Subtotal, direct major public physical capital investment	91.4	100.6	102.4
Grants to State and local governments	53.4	56.8	57.2
Subtotal, major public physical capital investment	144.8	157.4	159.6
Conduct of research and development:			
National defense	48.4	54.3	59.9
Nondefense	38.0	42.9	47.0
Subtotal, conduct of research and development	86.4	97.3	106.9
Conduct of education and training:			
Grants to State and local governments	34.8	40.2	45.5
Direct Federal	26.5	29.6	30.5
Subtotal, conduct of education and training	61.3	69.9	76.1
Total, major Federal investment outlays	292.6	324.6	342.6
MEMORANDUM			
Major Federal investment outlays:			
National defense	112.1	123.5	132.6
Nondefense	180.4	201.1	210.0
Total, major Federal investment outlays	292.6	324.6	342.6
Miscellaneous physical investments:			
Commodity inventories	1.5	0.4	*
Other physical investment (direct)	3.8	4.3	4.5
Total, miscellaneous physical investment	5.4	4.7	4.5
Total, Federal investment outlays, including miscellaneous physical investment	297.9	329.3	347.1

* Indicates \$50 million or less.

of human capital by developing a more skilled and productive labor force. Grants to State and local governments for this category are estimated to be \$45.5 billion in 2003, almost three-fifths of the total. They include education programs for the disadvantaged and the handicapped, vocational and adult education programs, training programs in the Department of Labor, and Head Start. Direct Federal education and training outlays are estimated to be \$30.5 billion in 2003. Programs in this category are primarily aid for higher education through student financial assistance, loan subsidies, the veterans GI bill, and health training programs.

This category does not include outlays for education and training of Federal civilian and military employees. Outlays for education and training that are for physical investment and for research and development are in the categories for physical investment and the conduct of research and development.

Miscellaneous Physical Investment Outlays

In addition to the categories of major Federal investment, several miscellaneous categories of investment outlays are shown at the bottom of Table 7-1. These items, all for physical investment, are generally unrelated to improving Government operations or enhancing economic activity.

Outlays for commodity inventories are for the purchase or sale of agricultural products pursuant to farm price support programs and the purchase and sale of other commodities such as oil and gas. Purchases are estimated to exceed sales by \$28 million in 2003.

Outlays for other miscellaneous physical investment are estimated to be \$4.5 billion in 2003. This category includes primarily conservation programs. These are entirely direct Federal outlays.

Detailed Tables on Investment Spending

This section provides data on budget authority as well as outlays for major Federal investment. These estimates extend four years beyond the budget year to 2007. Table 7-2 displays budget authority (BA) and outlays (O) by major programs according to defense

and nondefense categories. The greatest level of detail appears in Table 7-3, which shows budget authority and outlays divided according to grants to State and local governments and direct Federal spending. Miscellaneous investment is not included in these tables because it is generally unrelated to improving Government operations or enhancing economic activity.

Table 7-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS

(in millions of dollars)

Description	2001 Actual	Estimate						
		2002	2003	2004	2005	2006	2007	
NATIONAL DEFENSE								
Major public physical investment:								
Construction and rehabilitation	BA	8,163	10,082	8,416	9,503	10,740	15,232	18,216
	O	7,452	8,218	8,947	8,815	8,592	9,558	11,939
Acquisition of major equipment	BA	63,789	63,103	70,414	76,277	80,747	88,476	100,533
	O	56,237	60,907	63,708	66,824	76,580	83,331	89,141
Purchase or sale of land and structures	BA	-14	-4	-14	-31	-31	-31	-31
	O	-21	-9	-12	-31	-31	-31	-31
Subtotal, major public physical investment	BA	71,938	73,181	78,816	85,749	91,456	103,677	118,718
	O	63,668	69,116	72,643	75,608	85,141	92,858	101,049
Conduct of research and development	BA	49,713	57,855	62,983	66,227	69,954	68,279	67,427
	O	48,444	54,346	59,939	61,467	65,453	66,931	66,825
Conduct of education and training (civilian)	BA	7	8	8	8	8	8	8
	O	7	8	8	8	8	8	8
Subtotal, national defense investment	BA	121,658	131,044	141,807	151,984	161,418	171,964	186,153
	O	112,119	123,470	132,590	137,083	150,602	159,797	167,882
NONDEFENSE								
Major public physical investment:								
Construction and rehabilitation:								
Highways	BA	34,564	35,136	30,716	26,336	31,775	32,365	32,966
	O	27,207	28,843	27,808	24,880	24,054	24,271	24,662
Mass transportation	BA	7,210	6,576	6,915	7,059	7,218	7,386	7,559
	O	6,760	6,222	6,330	6,425	6,457	6,408	7,106
Rail transportation	BA	53	21	21	21	22	22	23
	O	15	20	53	43	22	24	22
Air transportation	BA	2,611	3,193	3,432	3,490	3,553	3,620	3,689
	O	2,024	2,816	3,298	3,433	3,528	3,640	3,718
Community development block grants	BA	5,112	7,000	4,732	4,831	4,938	5,053	5,171
	O	4,939	5,235	5,878	6,526	5,472	4,950	5,014
Other community and regional development	BA	2,424	1,775	1,685	1,722	1,758	1,800	1,843
	O	1,684	1,909	1,933	1,790	1,783	1,729	1,787
Pollution control and abatement	BA	4,307	4,144	3,804	3,883	3,970	3,160	3,234
	O	4,214	3,902	4,130	4,255	4,244	4,222	4,142
Water resources	BA	5,084	4,415	3,902	3,970	4,338	4,201	4,293
	O	4,542	4,634	4,284	4,042	4,188	4,314	4,315
Housing assistance	BA	7,319	7,273	7,092	7,241	7,402	7,575	7,751
	O	7,220	7,644	7,706	8,093	8,124	8,614	7,672
Energy	BA	1,426	1,990	1,271	1,357	1,760	1,385	1,316
	O	1,436	1,981	1,272	1,359	1,762	1,386	1,318
Veterans hospitals and other health	BA	1,398	1,866	1,991	2,029	2,072	2,120	2,170
	O	1,297	1,684	1,686	1,802	1,876	1,922	1,969
Postal Service	BA	327	851	1,331	983	1,114	1,048	1,532
	O	1,039	612	1,039	1,080	1,070	1,103	1,267
GSA real property activities	BA	1,184	1,545	1,543	1,575	1,610	1,648	1,687
	O	959	1,325	1,298	1,336	1,388	1,420	1,449
Other programs	BA	10,355	8,164	6,032	6,069	6,210	6,352	6,493
	O	6,258	8,240	6,937	6,831	6,609	6,562	6,662
Subtotal, construction and rehabilitation	BA	83,374	83,949	74,467	70,566	77,740	77,735	79,727
	O	69,594	75,067	73,652	71,895	70,577	70,565	71,103
Acquisition of major equipment:								
Air transportation	BA	2,634	3,123	3,034	3,097	3,166	3,239	3,315
	O	2,327	2,516	2,766	2,895	2,961	3,156	3,229
Postal Service	BA	299	493	900	994	675	675	1,123
	O	675	694	612	787	796	736	839
Other	BA	6,683	7,997	8,323	8,443	8,610	8,801	9,002
	O	6,929	8,304	8,392	8,592	8,808	9,058	9,268
Subtotal, acquisition of major equipment	BA	9,616	11,613	12,257	12,534	12,451	12,715	13,440
	O	9,931	11,514	11,770	12,274	12,565	12,950	13,336
Purchase or sale of land and structures	BA	747	589	219	532	220	555	571
	O	704	614	377	627	290	612	621

Table 7-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS—Continued

(in millions of dollars)

Description	2001 Actual	Estimate						
		2002	2003	2004	2005	2006	2007	
Other physical assets (grants)	BA O	1,332 939	1,321 1,087	1,257 1,114	1,330 1,182	1,388 1,260	1,422 1,346	1,470 1,396
Subtotal, major public physical investment	BA O	95,069 81,168	97,472 88,282	88,200 86,913	84,962 85,978	91,799 84,692	92,427 85,473	95,208 86,456
Conduct of research and development:								
General science, space and technology	BA O	11,898 10,913	12,046 11,453	13,155 12,418	13,966 13,276	14,275 13,924	14,608 14,231	14,954 14,589
Energy	BA O	1,445 1,336	1,685 1,635	1,533 1,596	1,674 1,637	1,724 1,682	1,790 1,747	1,827 1,777
Transportation	BA O	1,679 1,420	1,706 1,208	1,456 1,603	1,401 1,531	1,474 1,511	1,507 1,539	1,541 1,570
Health	BA O	22,114 18,852	25,104 22,488	28,625 25,207	29,139 27,976	29,789 29,342	30,480 29,994	31,155 30,716
Natural resources and environment	BA O	2,122 1,749	2,183 1,897	2,087 1,888	2,129 1,860	2,174 1,887	2,225 1,933	2,278 1,960
All other research and development	BA O	4,061 3,683	4,243 4,253	4,029 4,297	4,103 4,458	4,175 4,512	4,264 4,639	4,355 4,748
Subtotal, conduct of research and development	BA O	43,319 37,953	46,967 42,934	50,885 47,009	52,412 50,738	53,611 52,858	54,874 54,083	56,110 55,360
Conduct of education and training:								
Education, training, employment and social services:								
Elementary, secondary, and vocational education	BA O	24,981 22,993	32,986 26,644	34,387 31,786	35,104 34,065	35,888 35,019	36,725 35,778	37,588 36,607
Higher education	BA O	18,040 17,202	20,621 18,295	19,187 19,080	18,743 18,264	19,254 18,563	19,775 19,042	20,301 19,560
Research and general education aids	BA O	2,857 2,572	2,587 2,995	2,552 2,680	2,605 2,598	2,643 2,664	2,698 2,664	2,753 2,713
Training and employment	BA O	5,555 5,129	5,338 5,953	4,800 5,804	4,907 5,425	5,018 4,973	5,136 4,989	5,257 5,107
Social services	BA O	9,339 8,265	9,946 9,347	10,057 9,866	10,271 10,133	10,501 10,395	10,746 10,618	10,999 10,859
Subtotal, education, training, and social services	BA O	60,772 56,161	71,478 63,234	70,983 69,216	71,630 70,485	73,304 71,558	75,080 73,091	76,898 74,846
Veterans education, training, and rehabilitation	BA O	2,635 2,221	2,804 2,893	2,939 3,255	3,427 3,443	3,592 3,627	3,764 3,759	3,923 3,898
Health	BA O	1,408 1,161	1,563 1,399	1,257 1,340	1,280 1,309	1,309 1,358	1,339 1,394	1,370 1,418
Other education and training	BA O	2,180 1,773	2,312 2,340	2,246 2,250	2,221 2,311	2,285 2,372	2,348 2,412	2,412 2,470
Subtotal, conduct of education and training	BA O	66,995 61,316	78,157 69,866	77,425 76,061	78,558 77,548	80,490 78,915	82,531 80,656	84,603 82,632
Subtotal, nondefense investment	BA O	205,383 180,437	222,596 201,082	216,510 209,983	215,932 214,264	225,900 216,465	229,832 220,212	235,921 224,448
Total, Federal investment	BA O	327,041 292,556	353,640 324,552	358,317 342,573	367,916 351,347	387,318 367,067	401,796 380,009	422,074 392,330

Table 7-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS

(in millions of dollars)

Description	2001 Actual	Estimate						
		2002	2003	2004	2005	2006	2007	
GRANTS TO STATE AND LOCAL GOVERNMENTS								
Major public physical investments:								
Construction and rehabilitation:								
Transportation:								
Highways	BA	34,564	35,136	30,716	26,336	31,775	32,365	32,966
	O	27,206	28,841	27,804	24,879	24,054	24,271	24,662
Mass transportation	BA	7,210	6,576	6,915	7,059	7,218	7,386	7,559
	O	6,760	6,222	6,330	6,425	6,457	6,408	7,106
Rail transportation	BA							
	O	7	2					
Air transportation	BA	2,597	3,176	3,404	3,462	3,524	3,591	3,659
	O	2,020	2,801	3,273	3,407	3,502	3,613	3,689
Subtotal, transportation	BA	44,371	44,888	41,035	36,857	42,517	43,342	44,184
	O	35,993	37,866	37,407	34,711	34,013	34,292	35,457
Other construction and rehabilitation:								
Pollution control and abatement	BA	2,851	2,898	2,581	2,635	2,694	1,853	1,897
	O	2,720	2,651	2,891	2,922	2,919	2,875	2,742
Other natural resources and environment	BA	82	36	41	42	43	44	45
	O	67	66	75	59	58	48	49
Community development block grants	BA	5,112	7,000	4,732	4,831	4,938	5,053	5,171
	O	4,939	5,235	5,878	6,526	5,472	4,950	5,014
Other community and regional development	BA	1,921	1,304	1,227	1,254	1,280	1,311	1,342
	O	1,320	1,530	1,499	1,405	1,316	1,262	1,303
Housing assistance	BA	7,285	7,238	7,057	7,205	7,365	7,538	7,713
	O	7,198	7,618	7,673	8,060	8,091	8,580	7,637
Department of Education	BA	1,213	48	45	46	47	48	49
	O	11	506	329	342	343	347	355
Other construction	BA	913	204	203	207	210	215	219
	O	165	185	201	213	216	220	226
Subtotal, other construction and rehabilitation	BA	19,377	18,728	15,886	16,220	16,577	16,062	16,436
	O	16,420	17,791	18,546	19,527	18,415	18,282	17,326
Subtotal, construction and rehabilitation	BA	63,748	63,616	56,921	53,077	59,094	59,404	60,620
	O	52,413	55,657	55,953	54,238	52,428	52,574	52,783
Other physical assets	BA	1,417	1,417	1,318	1,393	1,451	1,487	1,537
	O	990	1,158	1,209	1,237	1,316	1,407	1,453
Subtotal, major public physical investments	BA	65,165	65,033	58,239	54,470	60,545	60,891	62,157
	O	53,403	56,815	57,162	55,475	53,744	53,981	54,236
Conduct of research and development:								
Agriculture	BA	269	268	258	263	270	275	282
	O	238	259	265	298	281	297	304
Other	BA	264	249	250	237	266	269	231
	O	144	191	304	288	283	292	293
Subtotal, conduct of research and development	BA	533	517	508	500	536	544	513
	O	382	450	569	586	564	589	597
Conduct of education and training:								
Elementary, secondary, and vocational education	BA	22,511	31,180	33,172	33,864	34,621	35,429	36,261
	O	21,326	24,671	29,750	32,260	33,261	33,991	34,778
Higher education	BA	449	449	382	390	399	408	418
	O	360	523	445	445	449	455	467
Research and general education aids	BA	775	635	633	655	659	675	690
	O	670	896	734	680	660	675	690
Training and employment	BA	4,090	3,827	3,261	3,376	3,452	3,533	3,616
	O	3,791	4,516	4,317	4,030	3,646	3,664	3,755
Social services	BA	8,967	9,569	9,701	9,908	10,129	10,365	10,609
	O	7,960	8,739	9,526	9,784	10,038	10,254	10,485
Agriculture	BA	461	465	448	457	468	478	490
	O	458	505	463	470	487	504	515
Other	BA	268	451	328	338	359	379	399

Table 7-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	2001 Actual	Estimate					
		2002	2003	2004	2005	2006	2007
O	244	394	301	285	298	313	326
Subtotal, conduct of education and training	BA 37,521	46,576	47,925	48,988	50,087	51,267	52,483
O	34,809	40,244	45,536	47,954	48,839	49,856	51,016
Subtotal, grants for investment	BA 103,219	112,126	106,672	103,958	111,168	112,702	115,153
O	88,594	97,509	103,267	104,015	103,147	104,426	105,849
DIRECT FEDERAL PROGRAMS							
Major public physical investment:							
Construction and rehabilitation:							
National defense:							
Military construction and family housing	BA 7,672	9,330	7,753	8,827	10,050	14,528	17,497
O	6,875	7,525	8,292	8,136	7,900	8,852	11,217
Atomic energy defense activities and other	BA 491	752	663	676	690	704	719
O	577	693	655	679	692	706	722
Subtotal, national defense	BA 8,163	10,082	8,416	9,503	10,740	15,232	18,216
O	7,452	8,218	8,947	8,815	8,592	9,558	11,939
Nondefense:							
International affairs	BA 758	1,343	1,440	1,470	1,504	1,539	1,574
O	392	932	1,058	1,242	1,352	1,401	1,434
General science, space, and technology	BA 3,026	2,394	2,065	2,033	2,078	2,126	2,177
O	3,034	2,675	2,254	2,149	2,150	2,193	2,245
Water resources projects	BA 5,002	4,379	3,861	3,928	4,295	4,157	4,248
O	4,476	4,569	4,209	3,983	4,130	4,266	4,266
Other natural resources and environment	BA 2,192	1,902	1,795	1,833	1,874	1,919	1,963
O	1,970	1,893	1,910	1,999	1,961	1,960	2,001
Energy	BA 1,426	1,990	1,271	1,357	1,760	1,385	1,316
O	1,436	1,981	1,272	1,359	1,762	1,386	1,318
Postal Service	BA 327	851	1,331	983	1,114	1,048	1,532
O	1,039	612	1,039	1,080	1,070	1,103	1,267
Transportation	BA 332	317	370	376	386	393	402
O	383	359	412	383	376	390	401
Housing assistance	BA 34	35	35	36	37	37	38
O	22	26	33	33	33	34	35
Veterans hospitals and other health facilities	BA 1,298	1,766	1,891	1,927	1,968	2,013	2,061
O	1,237	1,593	1,591	1,702	1,776	1,821	1,865
Federal Prison System	BA 732	680	244	249	255	261	267
O	504	411	625	454	339	329	336
GSA real property activities	BA 1,184	1,545	1,543	1,575	1,610	1,648	1,687
O	959	1,325	1,298	1,336	1,388	1,420	1,449
Other construction	BA 3,315	3,131	1,700	1,722	1,765	1,805	1,842
O	1,729	3,034	1,998	1,937	1,812	1,688	1,703
Subtotal, nondefense	BA 19,626	20,333	17,546	17,489	18,646	18,331	19,107
O	17,181	19,410	17,699	17,657	18,149	17,991	18,320
Subtotal, construction and rehabilitation	BA 27,789	30,415	25,962	26,992	29,386	33,563	37,323
O	24,633	27,628	26,646	26,472	26,741	27,549	30,259
Acquisition of major equipment:							
National defense:							
Department of Defense	BA 63,679	62,994	70,305	76,166	80,634	88,360	100,415
O	56,131	60,802	63,600	66,708	76,460	83,208	89,016
Atomic energy defense activities	BA 110	109	109	111	113	116	118
O	106	105	108	116	120	123	125
Subtotal, national defense	BA 63,789	63,103	70,414	76,277	80,747	88,476	100,533
O	56,237	60,907	63,708	66,824	76,580	83,331	89,141
Nondefense:							
General science and basic research	BA 504	476	471	475	485	496	507
O	388	495	489	456	468	484	495
Space flight, research, and supporting activities	BA 990	702	632	655	670	686	702
O	1,042	671	620	638	659	676	692
Energy	BA 118	116	116	116	105	102	103

Table 7-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	2001 Actual	Estimate					
		2002	2003	2004	2005	2006	2007
Postal Service	O 118	116	116	116	105	102	103
	BA 299	493	900	994	675	675	1,123
	O 675	694	612	787	796	736	839
Air transportation	BA 2,634	3,123	3,034	3,097	3,166	3,239	3,315
	O 2,327	2,516	2,766	2,895	2,961	3,156	3,229
Water transportation (Coast Guard)	BA 271	482	547	558	571	584	598
	O 441	472	460	487	526	556	578
Other transportation (railroads)	BA 520	621	521	532	544	556	570
	O 553	854	571	562	544	556	570
Social security	BA .....	.....	.....	.....	.....	.....	.....
	O 80	64	47	49	52	56	59
Hospital and medical care for veterans	BA 653	606	610	623	637	653	668
	O 960	782	915	937	955	979	1,002
Department of Justice	BA 502	1,020	1,255	1,280	1,306	1,333	1,362
	O 409	917	1,098	1,183	1,211	1,233	1,259
Department of the Treasury	BA 1,340	1,859	1,904	1,933	1,976	2,024	2,072
	O 1,197	2,021	1,827	1,859	1,943	2,000	2,046
GSA general supply fund	BA 410	562	656	668	679	691	704
	O 552	562	656	668	679	691	704
Other	BA 1,290	1,457	1,550	1,540	1,574	1,611	1,649
	O 1,138	1,279	1,498	1,582	1,610	1,664	1,703
Subtotal, nondefense	BA 9,531	11,517	12,196	12,471	12,388	12,650	13,373
	O 9,880	11,443	11,675	12,219	12,509	12,889	13,279
Subtotal, acquisition of major equipment	BA 73,320	74,620	82,610	88,748	93,135	101,126	113,906
	O 66,117	72,350	75,383	79,043	89,089	96,220	102,420
Purchase or sale of land and structures:							
National defense	BA -14	-4	-14	-31	-31	-31	-31
	O -21	-9	-12	-31	-31	-31	-31
International affairs	BA 27	1	3	3	3	3	3
	O 88	1	1	1	1	1	1
Privatization of Elk Hills	BA .....	.....	.....	.....	-323	.....	.....
	O .....	.....	.....	.....	-323	.....	.....
Other	BA 720	588	216	529	540	552	568
	O 616	613	376	626	612	611	620
Subtotal, purchase or sale of land and structures	BA 733	585	205	501	189	524	540
	O 683	605	365	596	259	581	590
Subtotal, major public physical investment	BA 101,842	105,620	108,777	116,241	122,710	135,213	151,769
	O 91,433	100,583	102,394	106,111	116,089	124,350	133,269
Conduct of research and development:							
National defense							
Defense military	BA 46,702	53,721	59,354	62,533	66,191	64,442	63,516
	O 45,454	50,213	56,311	57,744	61,657	63,065	62,884
Atomic energy and other	BA 3,011	4,134	3,629	3,694	3,763	3,837	3,911
	O 2,990	4,133	3,628	3,723	3,796	3,866	3,941
Subtotal, national defense	BA 49,713	57,855	62,983	66,227	69,954	68,279	67,427
	O 48,444	54,346	59,939	61,467	65,453	66,931	66,825
Nondefense:							
International affairs	BA 252	268	182	186	190	195	199
	O 215	214	186	246	269	284	296
General science, space and technology:							
NASA	BA 6,432	6,339	7,228	7,953	8,130	8,320	8,517
	O 6,060	6,085	6,847	7,546	7,966	8,193	8,406
National Science Foundation	BA 3,075	3,285	3,441	3,475	3,550	3,633	3,719
	O 2,566	2,943	3,085	3,200	3,375	3,396	3,479
Department of Energy	BA 2,391	2,422	2,486	2,538	2,595	2,655	2,718
	O 2,287	2,425	2,486	2,530	2,583	2,642	2,704
Subtotal, general science, space and technology	BA 12,150	12,314	13,337	14,152	14,465	14,803	15,153
	O 11,128	11,667	12,604	13,522	14,193	14,515	14,885

Table 7-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	2001 Actual	Estimate						
		2002	2003	2004	2005	2006	2007	
Energy	BA	1,445	1,685	1,533	1,674	1,724	1,790	1,827
	O	1,336	1,635	1,596	1,637	1,682	1,747	1,777
Transportation:								
Department of Transportation	BA	558	648	488	478	507	518	531
	O	410	593	589	550	507	518	529
NASA	BA	973	918	817	793	811	830	849
	O	906	498	791	780	808	822	838
Subtotal, transportation	BA	2,976	3,251	2,838	2,945	3,042	3,138	3,207
	O	2,652	2,726	2,976	2,967	2,997	3,087	3,144
Health:								
National Institutes of Health	BA	20,993	23,860	27,504	27,992	28,613	29,279	29,964
	O	17,905	21,257	24,051	26,809	28,246	28,870	29,570
All other health	BA	1,043	1,159	1,033	1,053	1,078	1,101	1,130
	O	929	1,195	1,110	1,102	1,022	1,042	1,068
Subtotal, health	BA	22,036	25,019	28,537	29,045	29,691	30,380	31,094
	O	18,834	22,452	25,161	27,911	29,268	29,912	30,638
Agriculture	BA	1,389	1,437	1,445	1,472	1,489	1,524	1,558
	O	1,281	1,384	1,393	1,470	1,501	1,562	1,600
Natural resources and environment	BA	2,122	2,183	2,087	2,129	2,174	2,225	2,278
	O	1,749	1,897	1,888	1,860	1,887	1,933	1,960
National Institute of Standards and Technology	BA	374	421	366	374	382	392	401
	O	408	416	443	400	380	381	385
Hospital and medical care for veterans	BA	746	794	844	862	880	901	923
	O	857	943	994	1,018	1,042	1,067	1,093
All other research and development	BA	993	1,031	923	933	952	967	983
	O	662	999	981	1,004	1,026	1,037	1,058
Subtotal, nondefense	BA	42,786	46,450	50,377	51,912	53,075	54,330	55,597
	O	37,571	42,484	46,440	50,152	52,294	53,494	54,763
Subtotal, conduct of research and development	BA	92,499	104,305	113,360	118,139	123,029	122,609	123,024
	O	86,015	96,830	106,379	111,619	117,747	120,425	121,588
Conduct of education and training:								
Elementary, secondary, and vocational education	BA	2,470	1,806	1,215	1,240	1,267	1,296	1,327
	O	1,667	1,973	2,036	1,805	1,787	1,787	1,829
Higher education	BA	17,591	20,172	18,805	18,353	18,855	19,367	19,883
	O	16,842	17,772	18,635	17,819	18,114	18,587	19,093
Research and general education aids	BA	2,082	1,952	1,919	1,950	1,984	2,023	2,063
	O	1,902	2,099	1,946	1,918	1,948	1,989	2,023
Training and employment	BA	1,465	1,511	1,539	1,531	1,566	1,603	1,641
	O	1,338	1,437	1,487	1,395	1,327	1,325	1,352
Health	BA	1,390	1,549	1,243	1,266	1,294	1,324	1,355
	O	1,143	1,385	1,326	1,295	1,344	1,380	1,404
Veterans education, training, and rehabilitation	BA	2,635	2,804	2,939	3,427	3,592	3,764	3,923
	O	2,221	2,893	3,255	3,443	3,627	3,759	3,898
General science and basic research	BA	802	928	952	892	912	933	955
	O	575	905	927	943	928	926	943
National defense	BA	7	8	8	8	8	8	8
	O	7	8	8	8	8	8	8
International affairs	BA	369	248	258	263	269	276	282
	O	311	285	291	284	290	274	280
Other	BA	670	611	630	648	664	678	691
	O	508	873	622	692	740	773	794
Subtotal, conduct of education and training	BA	29,481	31,589	29,508	29,578	30,411	31,272	32,128
	O	26,514	29,630	30,533	29,602	30,084	30,808	31,624
Subtotal, direct Federal investment	BA	223,822	241,514	251,645	263,958	276,150	289,094	306,921
	O	203,962	227,043	239,306	247,332	263,920	275,583	286,481
Total, Federal investment	BA	327,041	353,640	358,317	367,916	387,318	401,796	422,074
	O	292,556	324,552	342,573	351,347	367,067	380,009	392,330

Part II: FEDERALLY FINANCED CAPITAL STOCKS

Federal investment spending creates a “stock” of capital that is available in the future for productive use. Each year, Federal investment outlays add to the stock of capital. At the same time, however, wear and tear and obsolescence reduce it. This section presents very rough measures over time of three different kinds of capital stocks financed by the Federal Government: public physical capital, research and development (R&D), and education.

Federal spending for physical assets adds to the Nation’s capital stock of tangible assets, such as roads, buildings, and aircraft carriers. These assets deliver a flow of services over their lifetime. The capital depreciates as the asset ages, wears out, is accidentally damaged, or becomes obsolete.

Federal spending for the conduct of research, development, and education adds to an “intangible” asset, the Nation’s stock of knowledge. Although financed by the Federal Government, the research and development or education can be performed by Federal or State government laboratories, universities and other nonprofit organizations, or private industry. Research and development covers a wide range of activities, from the investigation of subatomic particles to the exploration of outer space; it can be “basic” research without particular applications in mind, or it can have a highly specific practical use. Similarly, education includes a wide variety of programs, assisting people of all ages beginning with pre-school education and extending through graduate studies and adult education. Like physical assets, the capital stocks of R&D and education provide services over a number of years and depreciate as they become outdated.

For this analysis, physical and R&D capital stocks are estimated using the perpetual inventory method. In this method, the estimates are based on the sum of net investment in prior years. Each year’s Federal outlays are treated as gross investment, adding to the capital stock; depreciation reduces the capital stock. Gross investment less depreciation is net investment.

A limitation of the perpetual inventory method is that investment spending may not accurately measure the value of the asset created. However, alternative methods for measuring asset value, such as direct surveys of current market worth or indirect estimation based on an expected rate of return, are especially difficult to apply to assets that do not have a private market, such as highways or weapons systems.

In contrast to physical and R&D stocks, the estimate of the education stock is based on the replacement cost method. Data on the total years of education of the U.S. population are combined with data on the cost of education and the Federal share of education spending to yield the cost of replacing the Federal share of the Nation’s stock of education.

Additional detail about the methods used to estimate capital stocks appears in a methodological note at the end of this section. It should be stressed that these estimates are rough approximations, and provide a basis only for making broad generalizations. Errors may arise from uncertainty about the useful lives and depreciation rates of different types of assets, incomplete data for historical outlays, and imprecision in the deflators used to express costs in constant dollars.

The Stock of Physical Capital

This section presents data on stocks of physical capital assets and estimates of the depreciation on these assets.

Trends.—Table 7–4 shows the value of the net federally financed physical capital stock since 1960, in constant fiscal year 1996 dollars. The total stock grew at a 2.2 percent average annual rate from 1960 to 2001, with periods of faster growth during the late 1960s and the 1980s. The stock amounted to \$1,965 billion in 2001 and is estimated to increase to \$2,066 billion by 2003. In 2001, the national defense capital stock accounted for \$635 billion, or 32 percent of the total, and nondefense stocks for \$1,331 billion, or 68 percent of the total.

Table 7-4. NET STOCK OF FEDERALLY FINANCED PHYSICAL CAPITAL

(In billions of 1996 dollars)

Fiscal Year	Total	National Defense	Nondefense								
			Total Non-defense	Direct Federal Capital			Capital Financed by Federal Grants				
				Total	Water and Power	Other	Total	Transportation	Community and Regional	Natural Resources	Other
Five year intervals:											
1960	806	572	234	98	61	36	136	82	25	20	9
1965	892	554	338	128	78	51	209	146	30	21	12
1970	1,044	589	455	155	94	61	301	213	44	25	19
1975	1,091	521	570	176	109	67	394	261	71	39	23
1980	1,216	484	732	206	130	76	526	317	112	73	25
1985	1,422	569	853	234	143	90	619	368	135	92	24
1990	1,696	721	975	269	154	114	706	429	147	105	26
Annual data:											
1995	1,832	712	1,119	311	164	146	809	496	156	115	43
1996	1,845	691	1,153	319	165	154	834	511	159	116	48
1997	1,858	672	1,186	327	165	162	859	526	162	118	53
1998	1,869	657	1,212	330	165	165	883	540	165	119	59
1999	1,890	644	1,246	338	166	173	908	556	168	120	65
2000	1,922	635	1,286	351	167	183	936	574	170	121	70
2001	1,965	635	1,331	364	170	194	967	595	173	123	76
2002 est.	2,017	639	1,378	379	173	206	999	617	176	124	82
2003 est.	2,066	645	1,421	392	175	217	1,029	637	179	126	87

Real stocks of defense and nondefense capital show very different trends. Nondefense stocks have grown consistently since 1970, increasing from \$455 billion in 1970 to \$1,331 billion in 2001. With the investments proposed in the budget, nondefense stocks are estimated to grow to \$1,421 billion in 2003. During the 1970s, the nondefense capital stock grew at an average annual rate of 4.9 percent. In the 1980s, however, the growth rate slowed to 2.9 percent annually, with growth continuing at about that rate since then.

Real national defense stocks began in 1970 at a relatively high level, and declined steadily throughout the decade as depreciation from the Vietnam era exceeded new investment in military construction and weapons procurement. Starting in the early 1980s, a large defense buildup began to increase the stock of defense capital. By 1986, the defense stock had exceeded its earlier Vietnam-era peak. In recent years, depreciation on the increased stocks, together with a slower pace of defense physical capital investment allowed by the collapse of the Soviet Union and the closure or realignment of unneeded military bases, reduced the stock from its previous levels. The increased defense investment in this budget would reverse this decline.

Another trend in the Federal physical capital stocks is the shift from direct Federal assets to grant-financed assets. In 1960, 42 percent of federally financed nondefense capital was owned by the Federal Government, and 58 percent was owned by State and local governments but financed by Federal grants. Expansion in Federal grants for highways and other State and local capital, coupled with slower growth in direct Federal investment for water resources, for example, shifted the composition of the stock substantially. In 2001, 27 percent of the nondefense stock was owned by the Federal

Government and 73 percent by State and local governments.

The growth in the stock of physical capital financed by grants has come in several areas. The growth in the stock for transportation is largely grants for highways, including the Interstate Highway System. The growth in community and regional development stocks occurred largely with the enactment of the community development block grant in the early 1970s. The value of this capital stock has grown only slowly in the past few years. The growth in the natural resources area occurred primarily because of construction grants for sewage treatment facilities. The value of this federally financed stock has increased about 30 percent since the mid-1980s.

Table 7-5 shows nondefense physical capital outlays both gross and net of depreciation since 1960. Total nondefense net investment has been consistently positive over the period covered by the table, indicating that new investment has exceeded depreciation on the existing stock. For some categories in the table, such as water and power programs, however, net investment has been negative in some years, indicating that new investment has not been sufficient to offset estimated depreciation. The net investment in this table is the change in the net nondefense physical capital stock displayed in Table 7-4.

The Stock of Research and Development Capital

This section presents data on the stock of research and development, taking into account adjustments for its depreciation.

Trends.—As shown in Table 7-6, the R&D capital stock financed by Federal outlays is estimated to be \$933 billion in 2001 in constant 1996 dollars. Roughly

Table 7-5. COMPOSITION OF GROSS AND NET FEDERAL AND FEDERALLY FINANCED NONDEFENSE PUBLIC PHYSICAL INVESTMENT

(In billions of 1996 dollars)

Fiscal Year	Total nondefense investment			Direct Federal investment					Investment financed by Federal grants							
	Gross	Depreciation	Net	Gross	Depreciation	Net	Composition of net investment		Gross	Depreciation	Net	Composition of net investment				
							Water and power	Other				Transportation (mainly highways)	Community and regional development	Natural resources and environment	Other	
Five year intervals:																
1960	22.7	4.7	18.1	7.0	2.2	4.7	2.5	2.3	15.7	2.4	13.3	12.6	0.1	0.1	0.5	
1965	32.5	6.9	25.6	10.1	3.0	7.1	3.3	3.8	22.3	3.8	18.5	15.5	2.1	0.4	0.5	
1970	32.1	9.4	22.6	6.9	3.8	3.1	2.3	0.8	25.1	5.6	19.5	11.9	5.1	0.9	1.6	
1975	32.9	11.6	21.3	9.0	4.3	4.8	3.6	1.2	23.8	7.4	16.5	7.0	4.3	4.5	0.7	
1980	46.9	14.6	32.4	11.0	4.9	6.0	3.9	2.2	36.0	9.6	26.4	12.3	7.5	6.8	-0.2	
1985	45.4	17.8	27.7	13.7	6.4	7.4	2.6	4.8	31.7	11.4	20.3	13.0	4.1	3.2	-0.1	
1990	46.3	22.3	24.0	16.2	9.2	7.0	2.4	4.5	30.1	13.1	17.1	11.9	1.7	2.1	1.4	
Annual data:																
1995	59.9	26.3	33.5	19.5	11.4	8.2	1.8	6.3	40.3	15.0	25.4	15.2	2.8	2.0	5.4	
1996	61.1	27.3	33.8	20.7	11.8	8.9	0.9	8.0	40.3	15.4	24.9	14.9	3.0	1.6	5.5	
1997	60.9	28.2	32.7	20.0	12.3	7.7	-0.1	7.8	40.9	15.9	25.0	15.2	2.9	1.5	5.3	
1998	55.5	29.0	26.6	15.5	12.6	2.9	-*	2.9	40.0	16.4	23.7	14.1	2.7	1.1	5.8	
1999	63.5	29.8	33.7	21.3	12.9	8.4	0.7	7.8	42.2	16.8	25.3	16.1	2.7	1.2	5.3	
2000	71.1	30.9	40.2	25.7	13.5	12.2	1.6	10.6	45.4	17.4	28.1	18.1	2.7	1.6	5.7	
2001	76.3	32.2	44.1	27.7	14.3	13.3	2.7	10.7	48.6	17.9	30.7	21.0	2.8	1.5	5.4	
2002 est.	81.3	33.8	47.5	30.7	15.2	15.4	3.1	12.3	50.6	18.5	32.1	21.5	3.1	1.5	6.0	
2003 est.	78.2	35.3	42.9	28.5	16.1	12.3	1.9	10.4	49.7	19.1	30.6	19.9	3.4	1.6	5.6	

* \$50 million or less.

half is the stock of basic research knowledge; the remainder is the stock of applied research and development.

The nondefense stock accounted for about three-fifths of the total federally financed R&D stock in 2001. Although investment in defense R&D has exceeded that of nondefense R&D in every year since 1981, the nondefense R&D stock is actually the larger of the two, because of the different emphasis on basic research and applied research and development. Defense R&D spending is heavily concentrated in applied research and development, which depreciates much more quickly than basic research. The stock of applied research and development is assumed to depreciate at a ten percent geometric rate, while basic research is assumed not to depreciate at all.

The defense R&D stock rose slowly during the 1970s, as gross outlays for R&D trended down in constant dollars and the stock created in the 1960s depreciated. Increased defense R&D spending from 1980 through 1990 led to a more rapid growth of the R&D stock. Subsequently, real defense R&D outlays tapered off, depreciation grew, and, as a result, the real net defense R&D stock stabilized at around \$400 billion.

The growth of the nondefense R&D stock slowed from the 1970s to the 1980s, from an annual rate of 3.8 percent in the 1970s to a rate of 2.1 percent in the 1980s. Gross investment in real terms fell during much of the 1980s, and about three-fourths of new outlays went to replacing depreciated R&D. Since 1988, however, nondefense R&D outlays have been on an upward trend while depreciation has edged down. As a result, the net nondefense R&D capital stock has grown more rapidly.

The Stock of Education Capital

This section presents estimates of the stock of education capital financed by the Federal government.

As shown in Table 7-7, the federally financed education stock is estimated at \$1,057 billion in 2001 in constant 1996 dollars, rising to \$1,157 billion in 2003. The vast majority of the Nation's education stock is financed by State and local governments, and by students and their families themselves. This federally financed portion of the stock represents about 3 percent of the Nation's total education stock.¹ Nearly three-quarters is for elementary and secondary education, while the remaining one quarter is for higher education.

Despite a slowdown in growth during the early 1980s, the stock grew at an average annual rate of 5.3 percent from 1970 to 2001, and the expansion of the education stock is projected to continue under this budget.

Note on Estimating Methods

This note provides further technical detail about the estimation of the capital stock series presented in Tables 7-4 through 7-7.

As stated previously, the capital stock estimates are very rough approximations. Sources of possible error include:

Methodological issues.—The stocks of physical capital and research and development are estimated with the perpetual inventory method. A fundamental assumption of this method is that each dollar of investment spending adds a dollar to the value of the capital stock in the period in which the spending takes place. In reality,

¹For estimates of the total education stock, see table 3-4 in Chapter 3, "Stewardship: Toward a Federal Balance Sheet."

Table 7-6. NET STOCK OF FEDERALLY FINANCED RESEARCH AND DEVELOPMENT ¹

(In billions of 1996 dollars)

Fiscal Year	National Defense			Nondefense			Total Federal		
	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development
Five year intervals:									
1970	247	15	233	204	63	140	451	78	373
1975	262	19	242	249	92	157	511	112	399
1980	265	24	242	295	125	170	560	148	412
1985	304	29	276	321	165	156	626	194	432
1990	381	34	347	362	217	146	744	251	493
Annual data:									
1995	399	40	359	436	278	158	835	318	517
1996	401	42	360	448	290	158	850	332	518
1997	403	43	360	463	303	160	866	346	520
1998	403	44	360	478	317	162	882	360	522
1999	402	45	358	495	331	164	897	376	521
2000	398	46	353	512	347	164	910	393	517
2001	400	47	353	533	366	167	933	413	520
2002 est.	405	48	357	558	386	172	963	434	529
2003 est.	413	49	364	585	408	177	999	458	541

¹ Excludes stock of physical capital for research and development, which is included in Table 7-4.**Table 7-7. NET STOCK OF FEDERALLY FINANCED EDUCATION CAPITAL**

(In billions of 1996 dollars)

Fiscal Year	Total Education Stock	Elementary and Secondary Education	Higher Education
Five year intervals:			
1960	67	48	19
1965	93	67	26
1970	213	167	46
1975	307	247	60
1980	434	338	96
1985	535	399	137
1990	703	519	184
Annual data:			
1995	792	575	218
1996	822	597	226
1997	856	621	235
1998	909	661	248
1999	968	707	261
2000	1,013	742	271
2001	1,057	769	288
2002 est.	1,094	793	301
2003 est.	1,157	839	318

the value of the asset created could be more or less than the investment spending. As an extreme example, in cases where a project is canceled before completion, the spending on the project does not result in the creation of any asset. Even where asset value is equal to investment spending, there might be timing differences in spending and the creation of a capital asset. For example, payments for constructing an aircraft carrier might be made over a period of years, with the capital asset only created at the end of the period.

The historical outlay series.—The historical outlay series for physical capital was based on budget records since 1940 and was extended back to 1915 using data from selected sources. There are no consistent outlay

data on physical capital for this earlier period, and the estimates are approximations. In addition, the historical outlay series in the budget for physical capital extending back to 1940 may be incomplete. The historical outlay series for the conduct of research and development began in the early 1950s and required selected sources to be extended back to 1940. In addition, separate outlay data for basic research and applied R&D were not available for any years and had to be estimated from obligations and budget authority. For education, data for Federal outlays from the budget were combined with data for non-Federal spending from the institution or jurisdiction receiving Federal funds, which may introduce error because of differing fiscal

years and confusion about whether the Federal Government was the original source of funding.

Price adjustments.—The prices for the components of the Federal stock of physical, R&D, and education capital have increased through time, but the rates of increase are not accurately known. Estimates of costs in fiscal year 1996 prices were made through the application of price measures from the National Income and Product Accounts (NIPAs), but these should be considered only approximations of the costs of these assets in 1996 prices.

Depreciation.—The useful lives of physical, R&D, and education capital, as well as the pattern by which they depreciate, are very uncertain. This is compounded by using depreciation rates for broad classes of assets, which do not apply uniformly to all the components of each group. As a result, the depreciation estimates should also be considered approximations. This limitation is especially important in capital financed by grants, where the specific asset financed with the grant is often subject to the discretion of the recipient jurisdiction.

Research continues on the best methods to estimate these capital stocks. The estimates presented in the text could change as better information becomes available on the underlying investment data and as improved methods are developed for estimating the stocks based on those data.

Physical Capital Stocks

For many years, current and constant-cost data on the stock of most forms of public and private physical capital—e.g., roads, factories, and housing—have been estimated annually by the Bureau of Economic Analysis (BEA) in the Department of Commerce. With two recent comprehensive revisions of the NIPAs in January 1996 and October 1999, government investment has taken increased prominence. Government investment in physical capital is now reported separately from government consumption expenditures, and government consumption expenditures include depreciation as a measure of the services provided by the existing capital stock. In addition, as part of the most recent revisions, a new NIPA table explicitly links investment and capital stocks by reporting the net stock of Government physical capital and decomposing the annual change in the stock into investment, depreciation, extraordinary changes such as disasters, and revaluation.²

The BEA data are not directly linked to the Federal budget, do not extend to the years covered by the budget, and do not separately identify the capital financed but not owned by the Federal Government. For these reasons, OMB prepares separate estimates for budgetary purposes, using techniques that roughly follow the BEA methods.

Method of estimation.—The estimates were developed from the OMB historical data base for physical capital outlays and grants to State and local governments for

physical capital. These are the same major public physical capital outlays presented in Part I. This data base extends back to 1940 and was supplemented by rough estimates for 1915–1939.

The deflators used to convert historical outlays to constant 1996 dollars were based on chained NIPA price indexes for Federal, State, and local consumption of durables and gross investment. For 1915 through 1929, deflators were estimated from Census Bureau historical statistics on constant price public capital formation.

The resulting capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those of BEA, which estimates depreciation using much more detailed categories.³ The geometric rates were 1.9 percent for water and power projects; 2.4 percent for other direct nondefense construction and rehabilitation; 20.3 percent for nondefense equipment; 14.0 percent for defense equipment; 2.1 percent for defense structures; 2.0 percent for transportation grants; 1.7 percent for community and regional development grants; 1.5 percent for natural resources and environment grants; and 1.8 percent for other nondefense grants.

Research and Development Capital Stocks

Method of estimation.—The estimates were developed from a data base for the conduct of research and development largely consistent with the data in the Historical Tables. Although there is no consistent time series on basic and applied R&D for defense and nondefense outlays back to 1940, it was possible to estimate the data using obligations and budget authority. The data are for the conduct of R&D only and exclude outlays for physical capital for research and development, because those are included in the estimates of physical capital. Nominal outlays were deflated by the chained price index for gross domestic product (GDP) in fiscal year 1996 dollars to obtain estimates of constant dollar R&D spending.

The appropriate depreciation rate of intangible R&D capital is even more uncertain than that of physical capital. Empirical evidence is inconclusive. It was assumed that basic research capital does not depreciate and that applied research and development capital has a ten percent geometric depreciation rate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stock financed by private industry.⁴ More recent experimental work at BEA, extending estimates of tangible capital stocks to R&D, used slightly different assumptions. This work assumed straight-line depreciation for all R&D over a useful life of 18 years, which is roughly equivalent to a geometric depreciation rate of 11 percent. The slightly higher depreciation rate and its ex-

²BEA most recently presented its capital stocks in "Fixed Assets and Consumer Durable Goods for 1925–2000," *Survey of Current Business*, September 2001, pp. 27–38.

³BEA presented its depreciation methods and rates in "Improved Estimates of Fixed Reproducible Tangible Wealth, 1929–95," *Survey of Current Business*, May 1997, pp. 69–76. Changes in depreciation methods introduced with BEA's October 1999 comprehensive revisions were detailed in "Fixed Assets and Consumer Durable Goods," *Survey of Current Business*, April 2000, pp. 17–30.

⁴See U.S. Department of Labor, Bureau of Labor Statistics, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989.

tension to basic research would result in smaller stocks than the method used here.⁵

Education Capital Stocks

Method of estimation.—The estimates of the federally financed education capital stock in Table 7-7 were calculated by first estimating the Nation's total stock of education capital, based on the current replacement cost of the total years of education of the population, including opportunity costs. To derive the Federal share of this total stock, the Federal share of total educational expenditures was applied to the total amount. The per-

cent in any year was estimated by averaging the prior years' share of Federal education outlays in total education costs. For more information, refer to the technical note in Chapter 3, "Stewardship: Toward a Federal Balance Sheet."

The stock of capital estimated in Table 7-7 is based only on spending for education. Stocks created by other human capital investment outlays included in Table 7-1, such as job training and vocational rehabilitation, were not calculated because of the lack of historical data prior to 1962 and the absence of estimates of depreciation rates.

Part III: ALTERNATIVE CAPITAL BUDGET AND CAPITAL EXPENDITURE PRESENTATIONS

A capital budget would separate Federal expenditures into two categories: spending for investment and all other spending. In this sense, Part I of the present chapter provides a capital budget for the Federal Government, distinguishing outlays that yield long-term benefits from all others. But alternative capital budget presentations have also been suggested, and a capital budget process may take many different forms. This section is intended to show the implications of budgeting for capital separately or changing the basis for measuring capital investment in the budget. An Administration proposal being developed for capital acquisition funds is discussed in chapter 1 of this volume, "Budget and Performance Integration." It would neither budget for capital separately nor change the basis for measuring capital investment in the budget.

The Federal budget mainly finances investment for two quite different types of reasons. It invests in capital—such as office buildings, computers, and weapons systems—that primarily contributes to its ability to provide governmental services to the public; some of these services, in turn, are designed to increase economic growth. And it invests in capital—such as highways, education, and research—that contributes more directly to the economic growth of the Nation. Most of the capital in the second category, unlike the first, is not owned or controlled by the Federal Government. In the discussion that follows, the first is called "Federal capital" and the second is called "national capital." Table 7-8 compares total Federal investment as defined in Part I of this chapter with investment in Federal capital and in national capital. Some Federal investment is not classified as either Federal or national capital, and a relatively small part is included in both categories.

Capital budgets and other changes in Federal budgeting have been suggested from time to time for the Government's investment in both Federal and national capital. The proposals differ widely in coverage, depending on the rationale for the suggestion. Some would include all the investment shown in Table 7-1, or more, whereas others would be narrower in various ways.

These proposals also differ in other respects, such as whether the basis for measuring capital investment in the budget is altered, whether investment would be financed by borrowing, and whether the non-investment budget would necessarily be balanced. Some of these proposals are discussed below and illustrated by alternative capital budget and other capital expenditure presentations, although the discussion does not address matters of implementation such as the effect on the Budget Enforcement Act. The planning process for capital assets, which is a different subject, is discussed in a separate publication, the *Capital Programming Guide*.⁶

Investment in Federal Capital

The goal of investment in Federal capital is to deliver the right amount of Government services as efficiently and effectively as possible. The Congress allocates resources to Federal agencies to accomplish a wide variety of programmatic goals. Because these goals are diverse and most are not measured in dollars, they are difficult to compare with each other. Policy judgments must be made as to their relative importance.

Once amounts have been allocated for one of these goals, however, analysis may be able to assist in choosing the most efficient and effective means of delivering service. This is the context in which decisions are made on the amount of investment in Federal capital. For example, budget proposals for the Department of Justice must consider whether to increase the number of FBI agents, the amount of justice assistance grants to State and local governments, or the number of Federal prisons in order to accomplish the department's objectives. The optimal amount of investment in Federal capital to meet a goal derives from these decisions; the optimal amount of total investment to meet all of the Government's goals derives from these decisions and from the policy decisions about how much to allocate for each goal. There is no efficient target for total investment in Federal capital as such either for a single agency or for the Government as a whole.

⁵ See "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994, pp. 37-71.

⁶ Office of Management and Budget, *Capital Programming Guide* (July 1997).

Table 7-8. ALTERNATIVE DEFINITIONS OF INVESTMENT OUTLAYS, 2003
(In millions of dollars)

	Investment Outlays		
	All types of capital ¹	Federal capital	National capital
Construction and rehabilitation:			
Grants:			
Transportation	37,407	.....	37,407
Natural resources and environment	2,966	.....	2,966
Community and regional development	7,377	.....	1,238
Housing assistance	7,673	.....	.....
Other grants	530	.....	425
Direct Federal:			
National defense	8,947	8,947	.....
General science, space, and technology	2,254	2,239	2,254
Natural resources and environment	6,119	4,933	5,583
Energy	1,272	1,272	1,272
Transportation	412	359	412
Veterans and other health facilities	1,591	1,591	1,591
Postal Service	1,039	1,039	1,039
GSA real property activities	1,298	1,298	.....
Other construction	3,714	3,360	1,300
Total construction and rehabilitation	82,599	25,038	55,487
Acquisition of major equipment (direct):			
National defense	63,708	63,708	.....
Postal Service	612	612	612
Air transportation	2,766	2,766	2,766
Other	8,297	7,466	4,198
Total major equipment	75,383	74,552	7,576
Purchase or sale of land and structures	365	365	.....
Other physical assets (grants)	1,209	.....	95
Total physical investment	159,556	99,955	63,158
Research and development:			
Defense	59,939	.....	1,277
Nondefense	47,009	.....	46,668
Total research and development	106,948	.....	47,945
Education and training	76,069	.....	75,436
Total investment outlays	342,573	99,955	186,539

¹ Total outlays for "all types of capital" are equal to the total for "major Federal investment outlays" in Table 7-1. Some capital is not classified as either Federal or national capital, and a relatively small part is included in both categories.

The universe of Federal capital encompasses all federally owned capital assets. It excludes Federal grants to States for infrastructure, such as highways, and it excludes intangible investment, such as education and research. Investment in Federal capital in 2003 is estimated to be \$100.0 billion, or 29 percent of the total Federal investment outlays shown in Table 7-1. Of the investment in Federal capital, 73 percent is for defense and 27 percent for nondefense purposes.

A Capital Budget for Capital Assets

Discussion of a capital budget has often centered on Federal capital—buildings, other construction, equipment, and software that support the delivery of Federal services. This includes capital commonly available from the commercial sector, such as office buildings, computers, military family housing, veterans hospitals, research and development facilities, and associated equip-

ment; it also includes special purpose capital such as weapons systems, military bases, the space station, and dams. This definition excludes capital that the Federal Government has financed but does not own.

Some capital budget proposals would partition the unified budget into a capital budget, an operating budget, and a total budget. Table 7-9 illustrates such a capital budget for capital assets as defined above. It is accompanied by an operating budget and a total budget. The operating budget consists of all expenditures except those included in the capital budget, plus depreciation on the stock of assets of the type purchased through the capital budget. The capital budget consists of expenditures for capital assets and, on the income side of the account, depreciation. The total budget is the present unified budget, largely based on cash for its measure of transactions, which records all outlays and receipts of the Federal Government. It con-

solidates the operating and capital budgets by adding them together and netting out depreciation as an intragovernmental transaction. The operating budget has a smaller deficit than the unified budget by a modest amount, by \$17 billion, because capital expenditures are larger than depreciation by \$18 billion. (The difference between these two amounts is due to rounding.) This reflects both the small Federal investment in new capital assets relative to the budget as a whole (\$100 billion) and the largely offsetting effect of depreciation on the existing stock (\$82 billion). The figures in Table 7–9 and the subsequent tables of this section are rough estimates, intended only to be illustrative and to provide a basis for broad generalizations.

Table 7–9. CAPITAL, OPERATING, AND UNIFIED BUDGETS: FEDERAL CAPITAL, 2003^{1 2}

(In billions of dollars)

Operating Budget	
Receipts	2,048
Expenses:	
Depreciation	82
Other	2,028
Subtotal, expenses	2,111
Surplus or deficit (–)	–63
Capital Budget	
Income: depreciation	82
Capital expenditures	100
Surplus or deficit (–)	–18
Unified Budget	
Receipts	2,048
Outlays	2,128
Surplus or deficit (–)	–80

¹ Historical data to estimate the capital stocks and calculate depreciation are not readily available for Federal capital. Depreciation estimates were based on the assumption that outlays for Federal capital were a constant percentage of the larger category.

² The details of this table do not add to the totals in every case due to rounding.

Some proposals for a capital budget would exclude defense capital (other than military family housing). These exclusions—weapons systems, military bases, and so forth—would comprise three-fourths of the expenditures shown in the capital budget of Table 7–9. For 2003, this exclusion would make little difference to the operating budget surplus. If defense capital was excluded, the operating budget would have a deficit that was \$12 billion less than the unified budget surplus instead of \$17 billion less as shown above for the complete coverage of Federal capital. Capital expenditures for defense in 2003 are estimated to be \$6 billion more than depreciation, whereas capital expenditures for nondefense purposes (plus military family housing) are estimated to be \$12 billion more.

Budget Discipline and a Capital Budget

Many proposals for a capital budget, though not all, would effectively dispense with the unified budget and make expenditure decisions on capital asset acquisitions

in terms of the operating budget instead. When an agency proposed to purchase a capital asset, the operating budget would include only the estimated depreciation. For example, suppose that an agency proposed to buy a \$50 million building at the beginning of the year with an estimated life of 25 years and with depreciation calculated by the straightline method. Operating expense in the budget year would increase by \$2 million, or only 4 percent of the asset cost. The same amount of depreciation would be recorded as an increase in operating expense for each year of the asset's life.⁷ If the asset was constructed or built to order, no depreciation would be recorded until the work was completed and the asset put into service. This could be several years after the initial expenditure, in which case the budget would record no expense at all in the budget year or several years thereafter.

Recording the annual depreciation in the operating budget each year would provide little control over the decision about whether to invest in the first place. Most Federal investments are sunk costs and as a practical matter cannot be recovered by selling or renting the asset. At the same time, there is a significant risk that the need for a capital asset may change over a period of years, because either the need is not permanent, it is initially misjudged, or other needs become more important. Since the cost is sunk, however, control cannot be exercised later on by comparing the annual benefit of the asset services with depreciation and interest and then selling the asset if its annual services are not worth this expense. Control can only be exercised up front when the Government commits itself to the full sunk cost. By spreading the real cost of the project over time, however, use of the operating budget for expenditure decisions would make the budgetary cost of the capital asset appear very cheap when decisions were being made that compared it to alternative expenditures—as noted above, it could even be zero if the asset was made to order. As a result, there would be an incentive to purchase capital assets with little regard for need, and also with little regard for the least-cost method of acquisition.

A budget is a financial plan for allocating resources—deciding how much the Federal Government should spend in total, program by program, and for the parts of each program. The budgetary system provides a process for proposing policies, making decisions, implementing them, and reporting the results. The budget needs to measure costs accurately so that decision makers can compare the cost of a program with its benefit, the cost of one program with another, and the cost of alternative methods of reaching a specified goal. These costs need to be fully included in the budget up front, when the spending decision is made, so that executive and congressional decision makers have the information and the incentive to take the total costs into account in setting priorities.

⁷ The amount of depreciation that typically would be recorded as an expense in the budget year for an already existing asset is overstated by this illustration. Most assets are purchased after the beginning of the year, in which case less than a full year's depreciation would normally be recorded.

The present budget does this for investment. It records investment on a cash basis, and it requires Congress to vote budget authority before an agency can obligate the Government to make an outlay. By these means, it causes the total cost to be compared up front in a rough and ready way with the total expected future net benefits. Since the budget measures only cost, the benefits with which these costs are compared, based on policy makers' judgment, must be presented in supplementary materials. Such a comparison of total cost with benefits is consistent with the formal method of cost-benefit analysis of capital projects in government, in which the full cost of a capital asset as the cash is paid out is compared with the full stream of future benefits (all in terms of present values).⁸

This comparison is also consistent with common business practice, in which most capital budgeting decisions are made by comparing cash flows. The cash outflow for the full purchase price is compared with expected future cash inflows, either through a relatively sophisticated technique of discounted cash flows—such as net present value or internal rate of return—or through cruder methods such as payback periods.⁹ Regardless of the specific technique adopted, it usually requires comparing future returns with the entire cost of the asset up front—not spread over time through annual depreciation.¹⁰

Practice Outside the Federal Government

The proponents of making investment decisions on the basis of an operating budget with depreciation have sometimes claimed that this is the common practice outside the Federal Government. However, while the practice of others may differ from the Federal budget and the terms “capital budget” and “capital budgeting” are often used, these terms do not normally mean that capital asset acquisitions are decided on the basis of annual depreciation cost. The use of these terms in business and State government also does not mean that businesses and States finance all their investment by borrowing. Nor does it mean that under a capital budget the extent of borrowing by the Federal Government to finance investment would be limited by the same

⁸A For example, see Edward M. Gramlich, *A Guide to Benefit-Cost Analysis* (2nd ed.; Englewood Cliffs: Prentice Hall, 1990), chap. 6; or Joseph E. Stiglitz, *Economics of the Public Sector* (2nd ed.; New York: Norton, 1988), chap. 10. This theory is applied in formal OMB instructions to Federal agencies in OMB Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (October 29, 1992). General Accounting Office, *Discount Rate Policy*, GAO/OCE-17.1.1 (May 1991), discusses the appropriate discount rate for such analysis but not the foundation of the analysis itself, which is implicitly assumed.

⁹For a full textbook analysis of capital budgeting techniques in business, see Harold Bierman, Jr., and Seymour Smidt, *The Capital Budgeting Decision* (8th ed.; Saddle River, N.J.: Prentice-Hall, 1993). Shorter analyses from the standpoints of corporate finance and cost accounting may be found, for example, in Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance* (5th ed.; New York: McGraw-Hill, 1996), chap. 2, 5, and 6; Charles T. Horngren et al., *Cost Accounting* (9th ed.; Upper Saddle River, N.J.: Prentice-Hall, 1997), chap. 22 and 23; Jerold L. Zimmerman, *Accounting for Decision Making and Control* (Chicago: Irwin, 1995), chap. 3; and Surendra S. Singhvi, “Capital-Investment Budgeting Process” and “Capital-Expenditure Evaluation Methods,” chap. 19 and 20 in Robert Rachlin, ed., *Handbook of Budgeting* (4th ed.; New York: Wiley, 1999).

¹⁰Two surveys of business practice conducted a few years ago found that such techniques are predominant. See Thomas Klammer et al., “Capital Budgeting Practices—A Survey of Corporate Use,” *Journal of Management and Accounting Research*, vol. 3 (Fall 1991), pp. 113–30; and Glenn H. Petry and James Sprow, “The Theory and Practice of Finance in the 1990s,” *The Quarterly Review of Economics and Finance*, vol. 33 (Winter 1993), pp. 359–82. Petry and Sprow also found that discounted cash flow techniques are recommended by the most widely used textbooks in managerial finance.

forces that constrain business and State borrowing for investment.

Private business firms call their investment decision making process “capital budgeting,” and they record the resulting planned expenditures in a “capital budget.” However, decisions are normally based on up-front comparisons of the cash outflows needed to make the investment with the resulting cash inflows expected in the future, as explained above, and the capital budget records the period-by-period cash outflows proposed for capital projects.¹¹ This supports the business's goal of deciding upon and controlling the use of its resources to earn income.

The cash-based focus of business budgeting for capital is in contrast to business financial statements—the income statement and balance sheet—which use accrual accounting for a different purpose, namely, to record how well the business is meeting its objective of earning profit and accumulating wealth for its owners. For this purpose, the income statement shows the profit in a year from earning revenue net of the expenses incurred. These expenses include depreciation, which is an allocation of the costs of capital assets over their estimated useful lives. With similar objectives in mind, the Federal Accounting Standards Advisory Board has adopted the use of depreciation on general property, plant, and equipment owned by the Federal Government as a measure of expense in financial statements and cost accounting for Federal agencies.¹²

Businesses finance investment from net income, cash on hand, and other sources as well as borrowing. When they borrow to finance investment, they are constrained in ways that Federal borrowing is not. The amount that a business borrows is limited by its own profit motive and the market's assessment of its capacity to repay. The greater a business's indebtedness, other things equal, the more risky is any additional borrowing and the higher is the cost of funds it must pay. Since the profit motive ensures that a business will not want to borrow unless the expected return is at least as high as the cost of funds, the amount of investment that a business will want to finance is limited; it has an incentive to borrow only for projects where the expected return is as high or higher than the cost of funds. Furthermore, if the risk is great enough, a business may not be able to find a lender.

No such constraint limits the Federal Government—either in the total amount of its borrowing for investment, or in its choice of which assets to buy—because of its sovereign power to tax and the wide economic base that it taxes. It can tax to pay for investment;

¹¹A business capital budget is depicted in Glenn A. Welsch et al., *Budgeting: Profit Planning and Control* (5th ed.; Englewood Cliffs: Prentice Hall, 1988), pp. 396–99.

¹²Statement of Federal Financial Accounting Standards No. 6, *Accounting for Property, Plant, and Equipment*, pp. 5–14 and 34–35. (The Federal Accounting Standards Advisory Board was established by the Office of Management and Budget, Department of Treasury, and General Accounting Office to develop accounting standards and concepts for the Federal government. The American Institute of Certified Public Accountants has designated it as the body to establish generally accepted accounting principles (GAAP) for Federal government entities.) Depreciation is not used as a measure of expense for heritage assets, or for weapons systems and other national defense property, plant, and equipment. Depreciation also is not used as a measure of expense for physical property financed by the Federal Government but owned by State and local governments, or for investment that the Federal Government finances in human capital and research and development.

and, if it borrows, its power to tax ensures that the credit market will judge U.S. Treasury securities free from any risk of default even if it borrows “excessively” or for projects that do not seem worthwhile. The only constraint is policy decisions about the budget.

Most **States** also have a “capital budget,” but the operating budget is not like the operating budget envisaged by proponents of making Federal investment decisions on the basis of depreciation. State capital budgets differ widely in many respects but generally relate some of the State’s purchases of capital assets to borrowing and other earmarked means of financing. For the debt-financed portion of investment, the interest and repayment of principal are usually recorded as expenditures in the operating budget. For the portion of investment purchased in the capital budget but financed by Federal grants or State taxes, which may be substantial, State operating budgets do not record any amount. No State operating budget is charged for depreciation.¹³

States did not traditionally record depreciation expense in the financial accounting statements for governmental funds. They recorded depreciation expense only in their proprietary (commercial-type) funds and in those trust funds where net income, expense, or capital maintenance was measured.¹⁴ Under new financial accounting standards, however, depreciation on most capital assets will be recognized as an expense in government-wide financial statements. This requirement is now being phased-in and is effective for larger governments for fiscal years beginning after June 2001.¹⁵

State borrowing to finance investment, like business borrowing, is subject to limitations that do not apply to Federal borrowing. Like business borrowing, it is constrained by the credit market’s assessment of the State’s capacity to repay, which is reflected in the credit ratings of its bonds. Rating agencies place significant weight on the amount of debt outstanding compared to the economic output generated by the State. Furthermore, borrowing is usually designated for specified investments, and it is almost always subject to constitutional limits or referendum requirements.

Other **developed nations** tend to show a more systematic breakdown between investment and operating expenditures within their budgets than does the United States, even while they record capital expenditures on a cash basis within the same budget totals. The French budget, for example, has traditionally been divided into separate titles of which some are for current expenditures and others for capital expenditures. A study of

European countries several years ago found only four at that time which had a real difference between a current budget and a capital budget (Greece, Ireland, Luxembourg, and Portugal).¹⁶

In addition, three developed countries have recently adopted accrual budgets that include the use of depreciation in place of capital expenditures. These countries, however, require appropriations for the full cost or current cash disbursements as an additional control under some or all circumstances. New Zealand, the first country to shift to an accrual budget, requires the equivalent of appropriations for the full cost up front before a department can make net additions to its capital assets or before the government can acquire certain capital assets such as state highways. It also requires Cabinet approval for purchases above a threshold amount. Australia, which adopted an accrual budget as of its 1999–2000 budget, requires an appropriation for departments that do not have adequate reserves to purchase assets. The United Kingdom budgeted on an accrual basis starting with its 2001–02 fiscal year. However, Parliamentary approval is needed for both the “resource budget,” which includes depreciation, and the departmental cash requirement, which includes the cash payments made for capital assets.

Canada publishes its budget on a modified accrual basis and intends to shift to full accruals, including the depreciation of capital assets. However, it distinguishes between its budget and its “estimates.” The budget sets forth the overall fiscal framework, while the “estimates” comprise the detailed departmental appropriations. The estimates are on a modified cash basis, different from the budget, that does not make use of depreciation. This would be an additional control in the context of a full accrual budget.

A country with an accrual budget may calculate its measure of fiscal position on other bases as well. The Australian budget has several measures of fiscal position. The primary fiscal measure, the fiscal balance, is close to a cash basis and includes the purchase of property, plant, and equipment rather than depreciation.¹⁷

On the other hand, some countries—including Sweden, Denmark, Finland, and the Netherlands—formerly had separate capital budgets but abandoned them a number of years ago.¹⁸ The Netherlands and Sweden, though, are either planning to adopt accruals for their

¹³The characteristics of State capital budgets were examined in a survey of State budget officers for all 50 States in 1986. See Lawrence W. Hush and Kathleen Peroff, “The Variety of State Capital Budgets: A Survey,” *Public Budgeting and Finance* (Summer 1988), pp. 67–79. More detailed results are available in an unpublished OMB document, “State Capital Budgets” (July 7, 1987). Two GAO reports examined State capital budgets and reached similar conclusions on the issues in question. See *Budget Issues: Capital Budgeting Practices in the States*, GAO/AFMD-86-63FS (July 1986), and *Budget Issues: State Practices for Financing Capital Projects*, GAO/AFMD-89-64 (July 1989). For further information about state capital budgeting, see National Association of State Budget Officers, *Capital Budgeting in the States* (November 1999).

¹⁴Governmental Accounting Standards Board (GASB), *Codification of Governmental Accounting and Financial Reporting Standards* as of June 30, 2000, sections 1100.107 and 1400.114–1400.118.

¹⁵Governmental Accounting Standards Board, Statement No. 34, *Basic Financial Statements—and Management’s Discussion and Analysis—for State and Local Governments* (June 1999), paragraphs 18–29 and 44–45. For discussion of the basis for conclusions of these new standards, see paragraphs 330–43.

¹⁶M. Peter van der Hoek, “Fund Accounting and Capital Budgeting: European Experience,” *Public Budgeting and Financial Management*, vol. 8 (Spring 1996), pp. 39–40.

¹⁷The practices and plans of New Zealand, Australia, United Kingdom, and Canada are discussed in GAO, *Accrual Budgeting: Experiences of Other Nations and Implications for the United States*, GAO/AFMD-00-57 (February 2000).

¹⁸Denmark had accrual budgets generally, not just for capital assets, but abandoned that practice a number of years ago. The budgets in Sweden, Great Britain, Germany, and France as of the middle 1980s are described in GAO, *Budget Issues: Budgeting Practices in West Germany, France, Sweden, and Great Britain*, GAO/AFMD-87-8FS (November 1986). Sweden had separate capital and operating budgets from 1937 to 1981, together with a total consolidated budget from 1956 onwards. The reasons for abandoning the capital budget are discussed briefly in the GAO report and more extensively by a government commission established to recommend changes in the Swedish budget system. One reason was that borrowing was no longer based on the distinction between current and capital budgets. See Sweden, Ministry of Finance, *Proposal for a Reform of the Swedish Budget System: A Summary of the Report of the Budget Commission Published by the Ministry of Finance* (Stockholm, 1974), chapter 10.

budget generally or are actively considering whether to do so.

Many *developing countries* operate a dual budget system comprising a regular or recurrent budget and a capital or development budget. The World Bank staff has concluded that:

“The dual budget may well be the single most important culprit in the failure to link planning, policy and budgeting, and poor budgetary outcomes. The dual budget is misconceived because it is based on a false premise that capital expenditure by government is more productive than current expenditure. Separating development and recurrent budgets usually leads to the development budget having a lower hurdle for entry. The result is that everyone seeks to redefine their expenditure as capital so it can be included in the development budget. Budget realities are left to the recurrent budget to deal with, and there is no pretension that expenditure proposals relate to policy priorities.”¹⁹

Conclusions

It is for reasons such as these that the General Accounting Office issued a report in 1993 that criticized budgeting for capital in terms of depreciation. Although the criticisms were in the context of what is termed “national capital” in this chapter, they apply equally to “Federal capital.”

“Depreciation is not a practical alternative for the Congress and the administration to use in making decisions on the appropriate level of spending intended to enhance the nation’s long-term economic growth for several reasons. Currently, the law requires agencies to have budget authority before they can obligate or spend funds. Unless the full amount of budget authority is appropriated up front, the ability to control decisions when total resources are committed to a particular use is reduced. Appropriating only annual depreciation, which is only a fraction of the total cost of an investment, raises this control issue.”²⁰

After further study of the role of depreciation in budgeting for national capital, GAO reiterated that conclusion in another study in 1995.²¹ “The greatest disadvantage . . . was that depreciation would result in a loss of budgetary control under an obligation-based budgeting system.”²² Although that study also focused primarily on what is termed “national capital” in this chapter, its analysis applies equally to “Federal capital.” In 1996 GAO expressly extended its conclusions to Federal capital as well. “If depreciation were recorded in the federal budget in place of cash requirements for capital spending, this would undermine Congress’ ability to control expenditures because only a

small fraction of an asset’s cost would be included in the year when a decision was made to acquire it.”²³

Investment in National Capital

A Target for National Investment

The Federal Government’s investment in national capital has a much broader and more varied form than its investment in Federal capital. The Government’s goal is to support and accelerate sustainable economic growth for the Nation as a whole and in some instances for specific regions or groups of people. The Government’s investment concerns for the Nation are two-fold:

- *The effect of its own investment in national capital on the output and income that the economy can produce.*
- *The effect of Federal taxation, borrowing, and other policies on private investment.*

In its 1993 report, *Incorporating an Investment Component in the Federal Budget*, the General Accounting Office (GAO) recommended establishing an investment component within the unified budget—but not a separate capital budget or the use of depreciation—for this type of investment.²⁴ GAO defined this investment as “federal spending, either direct or through grants, that is directly intended to enhance the private sector’s long-term productivity.”²⁵ To increase investment—both public and private—GAO recommended establishing targets for the level of Federal investment.²⁶ Such a target for investment in national capital would focus attention on policies for growth, encourage a conscious decision about the overall level of growth-enhancing investment, and make it easier to set spending priorities in terms of policy goals for aggregate formation of national capital. GAO reiterated its recommendation in another report in 1995.²⁷

Table 7–10. UNIFIED BUDGET WITH NATIONAL INVESTMENT COMPONENT, 2003

(In billions of dollars)

Receipts	2,048
Outlays:	
National investment	187
Other	1,942
Subtotal, outlays	2,128
Surplus or deficit (–)	–80

Table 7–10 illustrates the unified budget reorganized as GAO recommends to have a separate component for investment in national capital. This component is roughly estimated to be \$187 billion in 2003. It includes infrastructure outlays financed by Federal grants to State and local governments, such as highways and

¹⁹The World Bank, *Public Expenditure Management Handbook* (Washington, D.C.: The World Bank, 1998), Box 3.11, page 53.

²⁰GAO, *Budget Issues: Incorporating an Investment Component in the Federal Budget*, GAO/AIMD-94–40 (November 1993), p. 11. GAO had made the same recommendation in earlier reports but with less extensive analysis.

²¹GAO, *Budget Issues: The Role of Depreciation in Budgeting for Certain Federal Investments*, GAO/AIMD-95–34 (February 1995), pp. 1 and 19–20.

²²*Ibid.*, p. 17. Also see pp. 1–2 and 16–19.

²³GAO, *Budget Issues: Budgeting for Federal Capital*, GAO/AIMD-97–5 (November 1996), p. 28. Also see p. 4.

²⁴*Incorporating an Investment Component in the Federal Budget*, pp. 1–2, 9–10, and 15.

²⁵*Ibid.*, pp. 1 and 5.

²⁶*Ibid.*, pp. 2 and 13–16.

²⁷*The Role of Depreciation in Budgeting for Certain Federal Investments*, pp. 2 and 19–20.

sewer projects, as well as direct Federal purchases of infrastructure, such as electric power generation equipment. It also includes intangible investment for non-defense research and development, for basic research financed through defense, and for education and training. Much of this expenditure consists of grants and credit assistance to State and local governments, non-profit organizations, or individuals. Only 11 percent of national investment consists of assets to be owned by the Federal Government. Military investment and some other capital assets as defined previously are excluded, because that investment does not primarily enhance economic growth.

A Capital Budget for National Investment

Table 7–11 roughly illustrates what a capital budget and operating budget would look like under this definition of investment—although it must be emphasized that this is *not* GAO's recommendation. Some proponents of a capital budget would make spending decisions within the framework of such a capital budget and operating budget. But the limitations that apply to the use of depreciation in deciding on investment decisions for Federal capital apply even more strongly in deciding on investment decisions for national capital. Most national capital is neither owned nor controlled by the Federal Government. Such investments are sunk costs completely and can be controlled only by decisions made up front when the Government commits itself to the expenditure.²⁸

In addition to these basic limitations, the definition of investment is more malleable for national capital than Federal capital. Many programs promise long-term intangible benefits to the Nation, and depreciation rates are much more difficult to determine for intangible investment such as research and education than they are for physical investment such as highways and office buildings. These and other definitional questions are hard to resolve. The answers could significantly affect budget decisions, because they would determine whether the budget would record all or only a small part of the cost of a decision when policy makers were comparing the budgetary cost of a project with their judgment of its benefits. The process of reaching an answer with a capital budget would open the door to manipulation, because there would be an incentive to make the operating expenses and deficit look smaller by classifying outlays as investment and using low depreciation rates. This would “justify” more spending by the program or the Government overall.²⁹

²⁸GAO's conclusions about the loss of budgetary control that were quoted at the end of the section on Federal capital came from studies that predominantly considered “national capital.”

²⁹These problems are also pointed out in GAO, *Incorporating an Investment Component in the Federal Budget*, pp. 11–12. They are discussed more extensively with respect to highway grants, research and development, and human capital in GAO, *The Role of Depreciation in Budgeting for Certain Federal Investments*, pp. 11–14. GAO found no government that budgets for the depreciation of human capital or research and development (except that New Zealand budgets for the depreciation of research and development if it results in a product that is intended to be used or marketed).

Table 7–11. CAPITAL, OPERATING, AND UNIFIED BUDGETS: NATIONAL CAPITAL, 2003^{1 2}

(In billions of dollars)

Operating Budget	
Receipts	2,016
Expenses:	
Depreciation ³	81
Other	1,942
Subtotal, expenses	2,023
Surplus or deficit (–)	–6
Capital Budget	
Income:	
Depreciation ³	81
Earmarked tax receipts ⁴	32
Subtotal, income	113
Capital expenditures	187
Surplus or deficit (–)	–74
Unified Budget	
Receipts	2,048
Outlays	2,128
Surplus or deficit (–)	–80

¹For the purpose of this illustrative table only, education and training outlays are arbitrarily depreciated over 30 years by the straight-line method. This differs from the treatment of education and training elsewhere in this chapter and in Chapter 3. All depreciation estimates are subject to the limitations explained in Part II of this chapter. Depreciation is measured in terms of current cost, not historical cost.

²The details of this table do not add to the totals in every case due to rounding.

³Excludes depreciation on capital financed by earmarked tax receipts allocated to the capital budget.

⁴Consists of tax receipts of the highway and airport and airways trust funds, less trust fund outlays for operating expenditures. These are user charges earmarked for financing capital expenditures.

A Capital Budget and the Analysis of Saving and Investment

Data from the Federal budget may be classified in many different ways, including analyses of the Government's direct effects on saving and investment. As Parts I and II of this chapter have shown, the unified budget provides data that can be used to calculate Federal investment outlays and federally financed capital stocks. However, the budget totals themselves do not make this distinction. In particular, the budget surplus or deficit does not measure the Government's contribution to the nation's net saving (i.e., saving net of depreciation). A capital budget, it is sometimes contended, is needed for this purpose.

This purpose, however, is fulfilled by the Federal sector of the national income and product accounts (NIPA) for Government purchases of structures, equipment, and software. The NIPA Federal sector measures the impact of Federal current receipts, current expenditures, and the current surplus or deficit on the national economy. It is part of an integrated set of measures of aggregate U.S. economic activity that is prepared by the Bureau of Economic Analysis in the Department of Commerce in order to measure gross domestic product (GDP), the income generated in its production, and many other variables used in macroeconomic analysis. The NIPA Federal sector for recent periods is published monthly in the *Survey of Current Business* with separate releases for historical data. Estimates for the President's proposed budget through the budget year

are normally published in the budget documents. The NIPA translation of the budget, rather than the budget itself, is ordinarily used by economists to analyze the effect of Government fiscal policy on the aggregate economy.³⁰

The NIPA Federal sector distinguishes between government purchases of goods and services for consumption and investment.³¹ It is a current account or an operating account for the Federal Government and accordingly shows current receipts and current expenditures. It excludes expenditures for structures, equipment, and software owned by the Federal Government; it includes depreciation on the federally owned stock of structures, equipment, and software as a proxy for the services of capital assets consumed in production and thus as part of the Federal Government's current expenditures. It applies this treatment to a comprehensive definition of federally owned structures, equipment, and software, both defense and nondefense, similar to the definition of Federal capital in this chapter.³²

The NIPA "current surplus or deficit" of the Federal Government thus measures the Government's direct contribution to the Nation's net saving (given the definition of investment that is employed). The 2001 Federal Government current account surplus was reduced \$1.3 billion by including depreciation rather than gross investment, because depreciation of federally owned structures, equipment, and software was more than gross investment. The 2003 Federal current account surplus is estimated to be increased \$2.5 billion.³³ A capital budget is not needed to capture this effect.

Borrowing to Finance a Capital Budget

A further issue traditionally raised by a capital budget is the financing of capital expenditures. Some have argued that the Government ought to balance the operating budget and borrow to finance the capital budget—capital expenditures less depreciation. The rationale is that if the Government borrows for net investment and the rate of return exceeds the interest rate, the additional debt does not add a burden onto future generations. Instead, the burden of paying interest on the debt and repaying its principal is spread over the gen-

erations that will benefit from the investment. The additional debt is "justified" by the additional assets.

As this argument has traditionally been framed, it might appear as though it did not always apply. The Government has had a large surplus for several years, which was mostly used to repay Federal debt held by the public; and although a deficit is estimated in 2002 and 2003, largely due to the recession and the response to the terrorist attacks, the budget estimates a return to surplus in 2005. When the Government has a surplus, additional expenditure is generally financed by repaying less debt rather than borrowing more. However, the argument about borrowing for investment is fundamentally about the proper target for Federal debt and whether that target should be higher if the Government has net investment. If the Government has deficits financed by selling debt, should it *borrow more than otherwise* because of its net investment? Or if the Government has surpluses used to repay debt, should it *repay less than otherwise* because of its net investment? This section follows the traditional way of discussing the issue by referring to "borrowing to finance net investment." However, for the present analysis, "borrowing more" is equivalent to "repaying less debt."

This argument about financing capital expenditures is at best a justification to borrow to finance *net* investment, after depreciation is subtracted from *gross* outlays, not to borrow to finance *gross* investment. To the extent that capital is used up during the year, there are no additional assets to justify additional debt. If the Government borrows to finance *gross* investment, the additional debt exceeds the additional capital assets. The Government is thus adding onto the amount of future debt service without providing the additional capital that would produce the additional income needed to service that debt.

This justification, furthermore, requires that depreciation be measured in terms of the current replacement cost, not the historical cost. Current cost depreciation is needed in order to measure all activities in the budget on a consistent basis, since other outlays and receipts are automatically measured in the prices of the current year. Current cost depreciation is also needed to obtain a valid measure of net investment. This requires that the addition to the capital stock from new purchases and the subtraction from depreciation on existing assets both be measured in the prices of the same year. When prices change, historical cost depreciation does not measure the extent to which the capital stock is used up each year.

As a broad generalization, Tables 7–9 and 7–11 suggest that this rationale would currently justify some change in borrowing (or debt repayment) under the two capital budgets roughly illustrated in this chapter, but for Federal capital the change would not be much. For Federal capital, Table 7–9 indicates that current cost depreciation is less than gross investment for Federal capital—the capital budget deficit is \$18 billion. The rationale of borrowing to finance net investment would

³⁰See chapter 17 of this volume, "National Income and Product Accounts," for the NIPA current account of the Federal Government based on the budget actuals and estimates for 2001–03, and for a discussion of the NIPA Federal sector and its relationship to the budget.

³¹This distinction is also made in the national accounts of most other countries and in the System of National Accounts (SNA), which is guidance prepared by the United Nations and other international organizations. Definitions of investment vary. For example, the SNA does not include the purchase of military equipment as investment.

³²The treatment of investment (except for the recent recognition of software) in the NIPA Federal sector is explained in *Survey of Current Business*, "Preview of the Comprehensive Revision of the National Income and Product Accounts: Recognition of Government Investment and Incorporation of a New Methodology for Calculating Depreciation" (September 1995), pp. 33–39. As is the case of private sector investment, government investment does not include expenditures on research and development or on education and training. Government purchases of structures, equipment, and software remain a part of gross domestic product (GDP) as a separate component. The NIPA State and local government account is defined in the same way and includes depreciation on structures, equipment, and software owned by State and local governments that were financed by Federal grants as well as by their own resources. Depreciation is not displayed as a separate line item in the summary tables of the government account: depreciation on general government capital assets is included as part of government "consumption expenditures"; and depreciation on the capital assets of government enterprises is subtracted in calculating the "current surplus of government enterprises."

³³See actuals and estimates for 2001–03 in Table 17–2 of chapter 17 of this volume, "National Income and Product Accounts."

justify the Federal Government borrowing this amount (\$18 billion) and no more to finance its investment in Federal capital. For national capital, Table 7–11 indicates that current cost depreciation (plus the excise taxes earmarked to finance capital expenditures for highways and airports and airways³⁴) is less than gross investment—the capital budget deficit is \$74 billion. The rationale of borrowing to finance net investment would justify the Federal Government borrowing this amount (\$74 billion) and no more to finance its investment in national capital.³⁵

Even with depreciation calculated in current cost, the rationale for borrowing to finance net investment is not persuasive. The Federal Government, unlike a business or household, is responsible not only for its own affairs but also for the general welfare of the Nation. To maintain and accelerate national economic growth and development, the Government needs to encourage private investment as well as its own national investment. A high level of net national saving is needed to meet the demographic and other challenges expected in the decades ahead.

To the extent that the Government finances its own investment in a way that results in lower private investment, the net increase of total investment in the

economy is less than the increase from the additional Federal capital outlays alone. The net increase in total investment is significantly less if the Federal investment is financed by borrowing than if it is financed by taxation, because borrowing primarily draws upon the saving available for private (and State and local government) investment whereas much of taxation instead comes out of private consumption. Therefore, the net effect of Federal investment on economic growth would be reduced if it were financed by borrowing. This would be the result even if the rate of return on Federal investment was higher than the rate of return on private investment. For example, if a Federal investment that yielded a 15 percent rate of return crowded out private investment that yielded 10 percent, the net social return would still be positive but it would only be 5 percent.³⁶

The present budget estimates a deficit this year largely due to the recession and the response to the terrorist attacks, but it also estimates a return to surplus in 2005. This will prevent the Government from crowding out private investment once the economy is stronger. A capital budget is not a justification to relax the budget discipline that will contribute to this goal.

Part IV: SUPPLEMENTAL PHYSICAL CAPITAL INFORMATION

The Federal Capital Investment Program Information Act of 1984 (Title II of Public Law 98–501; hereafter referred to as the Act) requires that the budget include projections of Federal physical capital spending and information regarding recent assessments of public civilian physical capital needs. This section is submitted to fulfill that requirement.

This part is organized in two major sections. The first section projects Federal outlays for public physical capital and the second section presents information regarding public civilian physical capital needs.

Projections of Federal Outlays For Public Physical Capital

Federal public physical capital spending is defined here to be the same as the “major public physical capital investment” category in Part I of this chapter. It covers spending for construction and rehabilitation, acquisition of major equipment, and other physical assets. This section excludes outlays for human capital, such as the conduct of education and training, and outlays for the conduct of research and development.

The projections are done generally on a current services basis, which means they are based on 2002 enacted appropriations and adjusted for inflation in later years.

The current services concept is discussed in Chapter 15, “Current Services Estimates.”

Federal public physical capital spending was \$144.8 billion in 2001 and is projected to increase to \$190.0 billion by 2011 on a current services basis. The largest components are for national defense and for roadways and bridges, which together accounted for more than three-fifths of Federal public physical capital spending in 2001.

Table 7–12 shows projected current services outlays for Federal physical capital by the major categories specified in the Act. Total Federal outlays for transportation-related physical capital were \$38.9 billion in 2001, and current services outlays are estimated to increase to \$53.2 billion by 2011. Outlays for nondefense housing and buildings were \$13.5 billion in 2001 and are estimated to be \$18.4 billion in 2011. Physical capital outlays for other nondefense categories were \$28.7 billion in 2001 and are projected to be \$38.5 billion by 2011. For national defense, this spending was \$63.7 billion in 2001 and is estimated on a current services basis to be \$79.9 billion in 2011.

Table 7–13 shows current services projections on a constant dollar basis, using fiscal year 1996 as the base year.

³⁴The capital budget deficit would be about \$17 billion larger if current cost depreciation were used instead of earmarked excise taxes for investment in highways and airports and airways.

³⁵This discussion abstracts from non-budgetary transactions that affect Federal borrowing requirements, such as changes in the Treasury operating cash balance and the net financing

disbursements of the direct loan and guaranteed loan financing accounts. See chapter 13 of this volume, “Federal Borrowing and Debt,” and the explanation of Table 13–2.

³⁶GAO considered deficit financing of investment but did not recommend it. See *Incorporating an Investment Component in the Federal Budget*, pp. 12–13.

Table 7-12. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING

(In billions of dollars)

	2001 Actual	Estimate									
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Nondefense:											
Transportation-related categories:											
Roadways and bridges	27.2	28.9	30.9	32.1	33.0	33.8	34.6	35.3	36.0	36.7	37.4
Airports and airway facilities	4.4	5.3	6.0	6.4	6.7	7.0	7.1	7.2	7.4	7.5	7.7
Mass transportation systems	6.8	6.2	6.4	6.4	6.4	6.2	6.9	7.1	7.2	7.3	7.5
Railroads	0.6	0.9	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.8	0.8
Subtotal, transportation	38.9	41.3	44.0	45.7	46.7	47.8	49.3	50.3	51.3	52.3	53.2
Housing and buildings categories:											
Federally assisted housing	7.9	9.1	8.2	8.7	8.8	9.3	8.4	8.4	8.6	8.8	9.0
Hospitals	1.8	1.9	2.0	2.1	2.2	2.3	2.3	2.4	2.4	2.5	2.6
Public buildings ¹	3.8	5.6	5.8	6.4	6.1	6.2	6.3	6.4	6.5	6.7	6.8
Subtotal, housing and buildings	13.5	16.5	15.9	17.1	17.1	17.8	17.0	17.2	17.6	18.0	18.4
Other nondefense categories:											
Wastewater treatment and related facilities	3.3	3.1	3.3	3.3	3.4	3.4	3.6	3.7	3.7	3.8	3.8
Water resources projects	4.8	4.9	4.7	4.7	4.9	5.1	5.1	5.2	5.3	5.5	5.6
Space and communications facilities	6.1	4.9	5.3	5.6	5.7	5.7	6.1	6.2	6.5	6.8	6.5
Energy programs	1.6	2.1	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.1	2.1
Community development programs	5.6	6.1	7.0	8.4	8.3	8.2	8.3	8.4	8.5	8.7	8.9
Other nondefense	7.3	9.3	9.2	9.8	9.8	10.4	10.6	10.9	11.1	11.4	11.7
Subtotal, other nondefense	28.7	30.5	31.5	33.8	34.0	34.7	35.6	36.4	37.3	38.2	38.5
Subtotal, nondefense	81.2	88.3	91.4	96.6	97.8	100.3	101.9	104.0	106.1	108.5	110.1
National defense	63.7	69.1	69.9	71.6	73.4	74.8	76.0	75.7	77.0	78.4	79.9
Total	144.8	157.4	161.3	168.2	171.1	175.1	177.9	179.6	183.2	186.9	190.0

¹Excludes outlays for public buildings that are included in other categories in this table.

Table 7-13. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING

(In billions of constant 1996 dollars)

	2001 Actual	Estimate				
		2002	2003	2004	2005	2006
Nondefense:						
Transportation-related categories:						
Roadways and bridges	24.8	25.8	26.9	27.3	27.3	27.3
Airports and airway facilities	4.2	5.0	5.4	5.7	5.8	6.0
Mass transportation systems	6.2	5.5	5.6	5.5	5.3	5.0
Railroads	0.6	0.9	0.7	0.7	0.6	0.6
Subtotal, transportation	35.7	37.1	38.6	39.1	39.0	39.0
Housing and buildings categories:						
Federally assisted housing	7.3	8.2	7.1	7.4	7.3	7.6
Hospitals	1.8	1.8	1.9	2.0	2.0	2.0
Public buildings ¹	3.7	5.4	5.5	5.9	5.7	5.6
Subtotal, housing and buildings	12.8	15.4	14.5	15.3	15.0	15.2
Other nondefense categories:						
Wastewater treatment and related facilities	3.0	2.8	2.8	2.8	2.8	2.8
Water resources projects	4.8	4.8	4.5	4.5	4.5	4.6
Space and communications facilities	6.1	4.8	5.0	5.3	5.2	5.2
Energy programs	1.5	2.0	1.9	1.8	1.8	1.8
Community development programs	5.1	5.5	6.1	7.2	6.9	6.6
Other nondefense	7.2	8.9	8.7	9.1	8.9	9.2
Subtotal, other nondefense	27.8	28.8	29.1	30.6	30.2	30.2
Subtotal, nondefense	76.3	81.3	82.2	85.0	84.2	84.4
National defense	65.2	69.2	68.8	69.2	69.7	69.8
Total	141.5	150.5	151.0	154.3	153.9	154.1

¹ Excludes outlays for public buildings that are included in other categories in this table.

Public Civilian Capital Needs Assessments

The Act requires information regarding the state of major Federal infrastructure programs, including highways and bridges, airports and airway facilities, mass transit, railroads, federally assisted housing, hospitals, water resources projects, and space and communications investments. Funding levels, long-term projections, policy issues, needs assessments, and critiques, are required for each category.

Capital needs assessments change little from year to year, in part due to the long-term nature of the facilities themselves, and in part due to the consistency of the analytical techniques used to develop the assessments and the comparatively steady but slow changes in underlying demographics. As a result, the practice has arisen in reports in previous years to refer to earlier discussions, where the relevant information had been carefully presented and changes had been minimal.

The needs assessment material in reports of earlier years is incorporated this year largely by reference to earlier editions and by reference to other needs assessments. The needs analyses, their major components, and their critical evaluations have been fully covered in past Supplements, such as the 1990 Supplement to Special Analysis D.

It should be noted that the needs assessment data referenced here have not been determined on the basis of cost-benefit analysis. Rather, the data reflect the level of investment necessary to meet a predefined standard (such as maintenance of existing highway conditions). The estimates do not address whether the benefits of each investment would actually be greater than its cost or whether there are more cost-effective alternatives to capital investment, such as initiatives to reduce demand or use existing assets more efficiently. Before investing in physical capital, it is necessary to compare the cost of each project with its estimated benefits, within the overall constraints on Federal spending.

Significant Factors Affecting Infrastructure Needs Assessments

Highways

1. Projected annual average growth in travel to the year 2017	2.16 percent
2. Annual cost to maintain 1997 physical conditions on highways	\$50.8 billion (1997 dollars)
3. Annual cost to maintain 1997 physical conditions on bridges	\$5.8 billion (1997 dollars)

Airports and Airway Facilities

1. Airports in the National Plan of Integrated Airport Systems with scheduled passenger traffic	528
2. Air traffic control towers	451
3. Airport development eligible under airport improvement program for period 1993–1997	\$29.7 billion (\$9.4 billion for capacity) (1992 dollars)

Mass Transportation Systems

1. Yearly cost to maintain condition and performance of rail facilities over a period of 20 years	\$7.7 billion (1997 dollars)
2. Yearly cost to replace and maintain the urban, rural, and special services bus fleet and facilities	\$3.1 billion (1997 dollars)

Wastewater Treatment

1. Total remaining needs of sewage treatment facilities	\$128 billion (1996 dollars)
2. Total Federal expenditures under the Clean Water Act of 1972 through 2001	\$79 billion
3. The population served by centralized treatment facilities: percentage that benefits from at least secondary sewage treatment systems	99 percent
4. States and territories served by State Revolving Funds	51

Housing

1. Total unsubsidized very low income renter households with worst case needs (4.9 million*)	
A. In severely substandard units	0.5 million
B. With a rent burden greater than 50 percent	4.6 million

*The total is less than the sum because some renter families have both problems.

Indian Health Service (IHS) Health Care Facilities

1. IHS hospital occupancy rates (2000)	39.9 percent
2. Average length of stay, IHS hospitals (days) (2001)	4.1
3. Hospital admissions (2001)	63,560
4. Outpatient visits (2001)	7,772,926
5. Eligible population (2001)	1,540,129

Department of Veterans Affairs (VA) Hospitals (2002)

1. Medical Centers	172
2. Outpatient clinics	852
3. Domiciliaries	43
4. Vet centers	206
5. Nursing homes	137

Water Resources

Water resources projects include navigation (deepwater ports and inland waterways); flood and storm damage protection; irrigation; hydro-power; municipal and industrial water supply; recreation; fish and wildlife mitigation, enhancement, and restoration; and soil conservation.

Potential water resources investment needs typically consist of the set of projects that pass both a benefit-cost test for economic feasibility and a test for environmental acceptability. In the case of fish and wildlife mitigation or restoration projects, the set of eligible projects includes those that pass a cost-effectiveness test.

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8. RESEARCH AND DEVELOPMENT

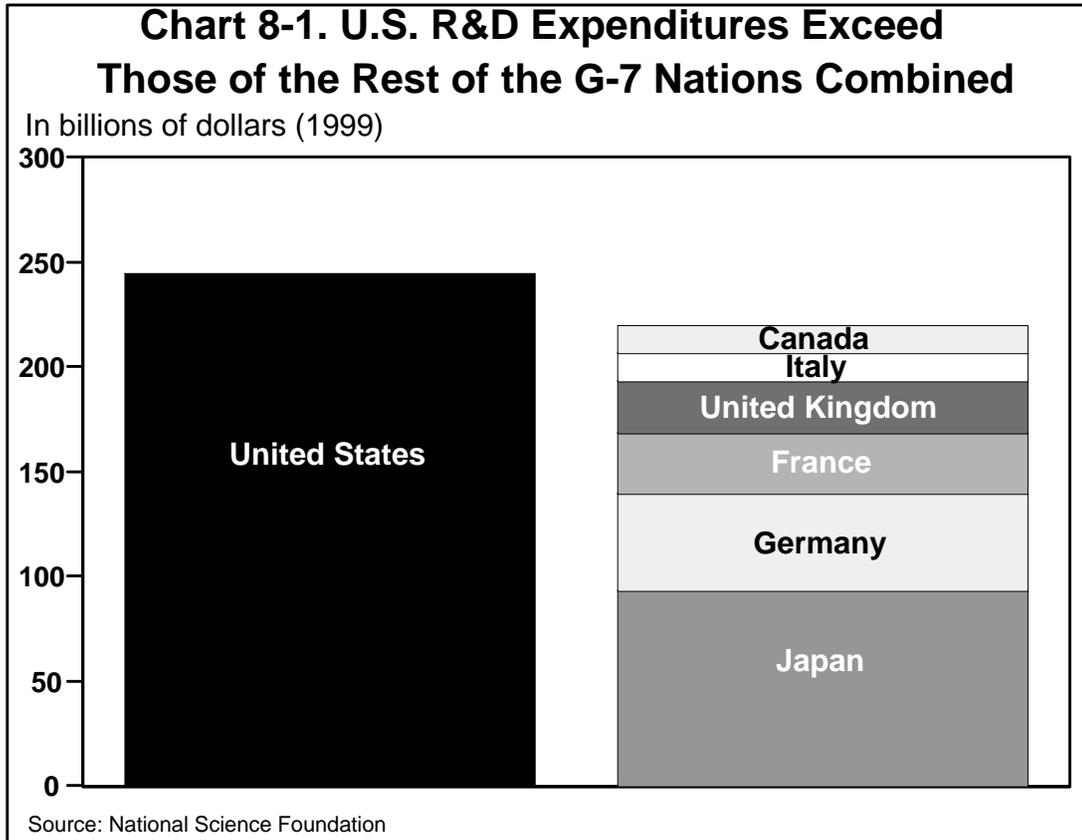
I. INTRODUCTION

Technological innovation and scientific discovery generated much of the Nation's economic growth over the last 50 years, creating millions of jobs, and improving the quality of life. For example, about two-thirds of the 80 percent gain in economic productivity since 1995 can be attributed to information technology. This innovation and discovery was possible because of both public and private investment in research and development (R&D).

The United States' investment in R&D is unparalleled. Our country's investment in R&D plays a major role in the state of the world's science and technology. Not only does the U.S. continue to lead the world in total R&D spending, but, as the most recent data indicate in the accompanying figure, U.S. R&D expenditures—combining private and public—exceed those of the rest of the G-7 countries combined.

The Nation's investments in innovation and discovery are also vital to strengthening our capabilities to combat terrorism and defend our country. The President's

2003 Budget focuses on winning the war against terrorism and securing the homeland, while moderating the growth in overall spending. These priorities have affected the way R&D is being funded and directed, as well as the way the results of R&D are being used. Within the federal government's research portfolio, agencies have been directing many of their programs to assist in the defense effort. For example, one focus of R&D at the Department of Defense (DOD) is to improve detection of biological and chemical threats; the National Institutes of Health (NIH) is financing and conducting research to discover new disease treatments; and the Department of Transportation (DOT) is performing R&D to improve aviation security technology. Investments today in R&D will translate into the new capabilities for tomorrow for detecting threats to our security, defending ourselves against them, and responding to emergencies should they arise.



If adopted, this budget will provide the highest level of funding for R&D in history, but the focus should not be on how much we are spending, but rather on what we are getting for our investment. Our current priorities also call for redoubling our efforts to meet the President's charge that we improve the management, performance, and results of the federal government. A dedicated effort to improve the overall quality of the total investment in R&D by strengthening effective programs and fixing lower performers through reforms or reallocations will increase the productivity of the federal R&D portfolio and transcend the all-too-common attention given to year-to-year marginal increases or decreases. Additionally, while it can be difficult to assess the outcomes of some research programs—many of which may not have a measurable effect for decades—it is important to establish meaningful goals for them and to measure annual progress toward them and performance in appropriate ways. Towards that end, the Administration is developing investment criteria for R&D programs across the government. Finally, the government must coordinate interrelated and complementary R&D efforts among agencies, combining programs where appropriate to improve effectiveness and eliminating redundant programs, to leverage these resources to the greatest effect.

The federal government has multiple roles in achieving these goals. The government should be strong in

its support of basic research, as it is the source of tomorrow's discoveries and new capabilities, and it will fuel further gains in economic productivity, quality of life, and national security. The government should also support those areas of applied research and development critical to the missions of the federal agencies, particularly in priority areas that private sources are not motivated to support. If the private sector cannot profit from the development of a particular technology, federal funding may be appropriate if the technology in question addresses a National priority or otherwise provides societal benefits. Finally, the federal government should help stimulate private investment and provide the proper incentives for private sources to continue to fuel the discovery and innovation of tomorrow. The Administration plans to do this through the permanent extension of the Research and Experimentation tax credit.

To these ends, this chapter discusses how the Administration will improve the performance of R&D programs through new investment principles and other means that encourage and reinforce quality research. The chapter also highlights the priority areas proposed for R&D agencies and the coordinated efforts among them. The chapter concludes with details of R&D funding data across the federal government.

II. IMPROVING PERFORMANCE OF R&D PROGRAMS

R&D is critically important for keeping our Nation economically competitive. It will help solve the challenges we face in health, defense, energy, and the environment. As a result, and consistent with the Government Performance and Results Act, every federal R&D dollar must be invested as effectively as possible.

R&D Investment Principles

The Administration is improving the effectiveness of the federal government's investments in R&D by sub-

jecting investment decisions to transparent investment criteria. R&D requires special consideration in the context of performance assessment, as many R&D outcomes—especially those of basic research—may not be obvious for years or decades. Nevertheless, the government must improve its basis for deciding among R&D investments, including applying specific criteria that projects must meet and clear milestones for measuring performance.

The Department of Energy (DOE) R&D Performance Pilot: As announced in the President's Management Agenda, the Administration developed investment criteria using DOE's applied energy R&D programs as a pilot. These are the Fossil Energy, Nuclear Science and Technology, and Energy Efficiency and Renewable Energy programs. The Administration is using the R&D criteria to recommend funding levels for the Department's applied R&D programs that support the President's National Energy Policy report.

In the first year of the pilot project, application of the criteria indicated that data on the expected performance of many R&D projects are not readily available. For instance, using one energy-based metric, some of 19 Fossil Energy R&D programs failed to report any performance data at all, and those that did tended to report goals rather than the current cost performance of technologies under development. The Department, in conjunction with the Office of Management and Budget, is working to improve these performance metrics and data. DOE will improve the grading method to distinguish among programs more effectively. In this first year, about 80 percent of the criteria graded by DOE achieved a maximum score.

Despite these initial problems, the criteria provided enough guidance to determine some opportunities for redirecting funds. In the fossil energy program, research to control greenhouse gases was increased, since there is little incentive for private investment in this area. Conversely, areas such as oil drilling technology, where the industry has the financing and incentive to do its own research, are funded at lower levels. Within DOE's renewable energy portfolio, wind power research will shift focus from technologies for high wind-speed areas to cost-effective technologies for low wind-speed areas, which are further from commercial viability and show great promise for greatly expanding the land area that can be used to capture this renewable energy resource. DOE will continue to work to integrate the R&D criteria more meaningfully into their budget formulation process in the coming year.

Based on lessons learned from the DOE pilot project and other inputs from experts and stakeholders, the Administration will develop R&D investment criteria to assist with budget allocation decisions at major R&D agencies starting in the 2004 budget process. While the specific criteria to be used in 2004 are still under development, several fundamental principles motivate and will guide them, including:

- Federal R&D priorities should be consistent with priorities identified by the President.
- Federal R&D programs should focus on activities that require a federal presence to attain national goals. To avoid public funds displacing private investment, federally funded R&D should focus primarily on areas where the private sector cannot capture the benefits of the R&D.
- Programs and proposals should have thorough plans for the research, with clear goals and planned end points or off-ramps, when appropriate.
- To maximize the quality of the research process and the efficiency of the public investment, research programs should use a competitive, merit-based process where appropriate. Exceptions must be well justified.
- Agencies and programs judged to be outstanding in conducting, awarding, and managing R&D should be identified and supported.
- Less successful programs should follow successful models to achieve improvements, or they should be reduced or moved to agencies where they can be managed more effectively.
- Resources for new R&D priorities will be increased by reducing or eliminating the funding for pro-

grams that have completed their mission or that are redundant or obsolete.

The Administration recognizes that researcher time is best spent on research and that added administrative burden for researchers is counterproductive. During the development and implementation of the investment criteria, the Administration will take the necessary steps to minimize their administrative burden and maximize their utility.

The Administration has been studying management strategies for R&D that some agencies use to promote particularly effective programs. OMB and the Office of Science and Technology Policy (OSTP) are developing a common analytical framework to assess the strengths and weaknesses of R&D programs across agencies, in order to identify and apply good R&D management practices across the government. For example, some agencies have more deliberate prioritization process, while other agencies have more experience estimating the returns of R&D and assessing the impact after the fact. The process of developing this framework will be iterative, involving the research agencies and the science and technology community.

Due to the distinct goals and methods of basic research versus applied research and development, separate criteria are being developed. The Office of Science and Technology Policy (OSTP), OMB, and the federal agencies will work with the science and technology community to define helpful criteria and implement them effectively in preparation of the 2004 budget.

Using some of the principles identified above, the President's Budget begins to improve the performance of research programs across the government.

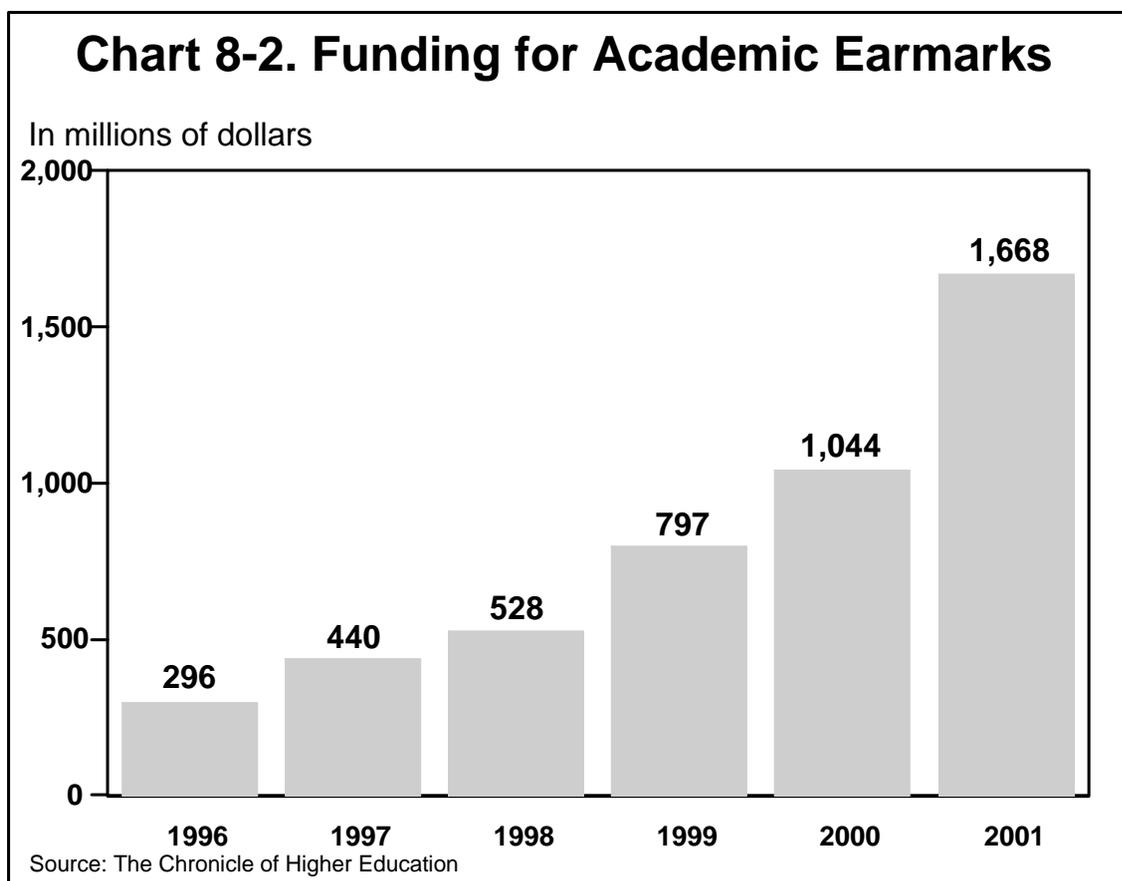
As an example of improving a program, the Administration is reforming the Department of Education's Office of Educational Research and Improvement (OERI) by implementing a more rigorous grant solicitation and peer review process. The Department is also developing a reauthorization proposal for OERI that should allow it to improve the quality, objectivity, coordination, and focus of the Department's research activities.

The budget transfers some R&D programs between agencies. For example, the transfer of the U.S. Geological Survey's Toxic Substances Hydrology program and the National Oceanic and Atmospheric Administration's Sea Grant program to NSF's more competitive, peer-review award process will improve the scientific rigor of the research. The peer review process allows the assessment of merit by other experts in the field, while competition ensures that the grants ultimately awarded

have demonstrated their merit, over other competitive proposals.

Research Earmarks

The Administration supports awarding research funds based on merit review through a competitive process. Such a system ensures that the best research is supported. Research earmarks—in general the assignment of money during the appropriation process for use only by a specific organization or project—are counter to the competitive process of selection based on merit. The use of earmarks improperly signals to potential investigators that there is an alternative to creating quality research proposals for merit-based consideration, including the use of political influence or by appealing to parochial interests.



Moreover, the practice of earmarking funds directly to colleges and universities for specific research projects has expanded dramatically in recent years. Despite broad-based support for merit review, earmarks for specific projects at colleges and universities have yet again broken prior records. According to *The Chronicle of Higher Education*, academic earmarks have steadily increased from a level of \$296 million in 1996 to an estimated \$1.67 billion in 2001. In 2001 alone, earmarked funds to colleges and universities increased

nearly 60 percent (see figure). These funds represent an increasing share of the total federal funding to colleges and universities, which increasingly displaces competitive research, awarded by merit. For example, in 1996, academic earmarks accounted for 2.5 percent of all federal funding to colleges and universities. By 2001, the earmarked share of federal academic funding had increased to a high of 9.4 percent. While comparable figures for 2002 are not yet available, the assessment of research allocation in Table 8-5 at the

end of this chapter suggests that this trend has continued to grow for non-defense agencies in 2002.

Some argue that earmarks help spread the research money to the states that would receive less research funding through other means. However, *The Chronicle of Higher Education* reports that this is not the main role they play. In 1999, for example, only a small share of academic earmark funding went to the states with the smallest shares of federal research funds. In fact, the 25 states with the largest shares of federal research dollars also received 74 percent of the earmark funding to colleges and universities. Meanwhile, earmarks help some rich institutions become richer. In 1999, 13 of the 25 institutions receiving the most earmarks were also members of the top 100 for total research funds. Table 8-7 provides a list of the 30 colleges and universities that received the most earmarked funding in 2001, according to *The Chronicle of Higher Education* (results for 2002 are not available at this time).

There is a tendency to confuse a high budget number appropriated for an agency with a good outcome for the agency, but this is often not the case. Often, earmarks drive these increases. Worse yet, the flood of earmarks within that level displaces important competitive programs that have to be deferred or terminated. For example, in 2002 appropriations, earmarked funding for constructing a low priority propulsion lab at the National Aeronautics and Space Administration (NASA) was paid for by cutting the very research that the lab is to support.

Earmarks for research facilities can come at the cost of operations or research at those facilities. For example, earmarks in DOE's Office of Science increased 60 percent from 2001 to 2002. As a result, DOE has only the resources to operate its scientific user facilities at approximately 75 percent of the optimally available

hours. Had these funds been allocated to facility operations as needed, a broader segment of the research community could have benefited, and the return on the federal investment in these facilities would have been higher.

Some proponents of earmarking assert that earmarks provide a means of funding unique projects that would not be recognized by the conventional peer-review process. On the contrary, a number of agencies have procedures and programs to reward out-of-the-box thinking in the research they award. For example, DOD's Defense Advanced Research Projects Agency seeks out high risk, high payoff scientific proposals, and NSF program managers set aside a share of funding for higher-risk projects in which they see high potential.

Many earmarks have little to do with an agency's mission. For example, Congress earmarked DOD's 2002 budget to fund research on a wide range of diseases, including breast cancer, ovarian cancer, prostate cancer, diabetes, and osteoporosis. Funding at DOD for such research totals over \$600 million in that year alone. While research on these diseases is very important, it is not unique to the U.S. military and can be carried out and coordinated better within civil medical research agencies, without disruption to the military mission.

The Administration is working with the scientific community to discourage the practice of research earmarks. Academic organizations, such as the Association of American Universities, and colleges and universities, including Massachusetts Institute of Technology and Washington University in St. Louis, have stated that they share the Administration's preference for merit review and recognize the problems with academic earmarks. The Administration will continue to work with such organizations and universities and the Congress to achieve our common objectives.

III. PRIORITIES FOR FEDERAL RESEARCH AND DEVELOPMENT

The 2003 budget requests record levels for federal R&D (\$111.8 billion, an 8 percent increase, as shown in Table 8-2). The Administration recognizes that investments in research—especially in basic research—will lead to the discoveries and technologies of tomorrow. The 2003 budget includes an emphasis on basic research, increasing associated funding across the agencies by \$2.0 billion (or 9 percent).

In a 1995 report from the National Academy of Sciences, the scientific community proposed a "Federal Science and Technology" (FS&T) budget. Such a compilation highlights activities central to the creation of new knowledge and technologies more consistently and accurately than the traditional R&D data collection reported in Table 8-2. As shown in Table 8-3, the 2003 budget requests \$57.0 billion for FS&T (a 9 percent increase). The resulting FS&T budget is less than half of the total federal spending on R&D, though FS&T also includes some funding that is not R&D. Discussions of agency efforts in this section include the FS&T values from Table 8-3.

Some in the science community call for greater "balance" across research agencies and disciplines, at times suggesting that all agencies should receive increases similar to those that NIH and other agencies have received. However, "balance" by that definition makes prioritization impossible. Increases in our top-priority research areas should logically be greater than increases for other areas. Instead, the 2003 budget provides funding for top priority areas, while ensuring a good mix of basic, applied, and development in many fields of science and technology across the federal agencies. The Administration believes the focus should not be on how much we are spending, but rather on what we are getting for our investment and how well it is being managed.

Over the past year, OSTP and OMB have worked with the federal agencies and the science community to identify top priorities for federal R&D. Some are in areas critical to the Nation, such as information technologies. Some are in emerging fields, such as nanotechnology, that will provide new breakthroughs

across many fields. Others, such as anti-terrorism R&D, address newly recognized needs. The discussion below identifies four multi-agency priority areas, followed by highlights of agency-specific R&D priorities.

Multi-Agency R&D Priorities

The 2003 budget targets investments in important research that benefits from improved coordination across multiple agencies. Two of these multi-agency initiatives—nanotechnology and information technology R&D—have separate coordination offices under the auspices of NSF to ensure coordinated strategic planning and implementation. Both initiatives will be producing integrated plans to describe detailed research proposals for 2003. The Administration is in the process of forming new organizations and strengthening interagency coordination for two priority areas—anti-terrorism and climate change R&D. The Administration will continue to consider other areas of critical need that could benefit in the future from improved focus and coordination among agencies.

Anti-terrorism R&D: Scientific and technological advances will be used to prevent and respond to possible future terrorist activities at home and abroad. Potential antiterrorism R&D applications span a wide range, including safeguarding the mail, developing new vaccines and air safety systems, and creating advanced materials and enhanced building designs. Most aspects of our national life are being assessed for vulnerabilities to terrorists. Often, the scientific and technological community will be asked to devise solutions in cost-effective ways that do not impinge on our way of life. Over the next six months, OMB, OSTP, and the Office of Homeland Security will be working through the National Science and Technology Council (NSTC) to develop a coordinated, interagency R&D plan for antiterrorism. This budget identifies many antiterrorism R&D priorities (such as rapid detection and verification of biological threats). The NSTC plan will chart a comprehensive and integrated course for these efforts as well as provide cross-agency budgetary information.

Networking and Information Technology R&D: The budget provides \$1.9 billion (a 3 percent increase) for the multi-agency Networking and Information Technology Research and Development Program (NITRD). By coordinating key advanced information technology research efforts, the NITRD agencies leverage resources to make broader advances in computing and networking than a single agency could attain. For example, the NITRD agencies develop and deploy computing platforms and software that perform over a trillion computing operations per second, to support advanced federal research in the biomedical sciences, earth and space sciences, physics, materials science and engineering, and related scientific fields. Accomplishments include: development of end-to-end optical fiber networking, providing vast improvements in bandwidth and network security for research and commercial ap-

plications; new technologies enabling cluster, or “grid,” computing, providing for the first time access to high-performance computation for scientific researchers nationwide; technologies for network security protection such as intrusion detection and risk and vulnerability analyses; and technologies for archiving, managing, and using large-scale information repositories, or “digital libraries.” In 2003, research emphasizes include network “trust” (security, reliability, and privacy); high-assurance software and systems; micro- and embedded sensor technologies; revolutionary architectures to reduce the cost, size, and power requirements of high end computing platforms; and social and economic impacts of information technology.

Nanotechnology R&D: The budget provides \$679 million for the multi-agency National Nanotechnology Initiative, a 17 percent increase over 2002. The initiative focuses on long-term research on the manipulation of matter down to the atomic and molecular levels, giving us unprecedented building blocks for new classes of devices as small as molecules and machines as small as human cells. This research could lead to continued improvement in electronics for information technology; higher-performance, lower-maintenance materials for defense, transportation, space, and environmental applications; and accelerated biotechnical applications in medicine, healthcare, and agriculture. In 2003, the initiative will focus on fundamental nanoscale research through investments in investigator-led activities, centers and networks of excellence, as well as the supporting infrastructure. Priority areas include: research to enable efficient nanoscale manufacturing; innovative nanotechnology solutions for detection of and protection from biological-chemical-radiological-explosive agents; the education and training of a new generation of workers for future industries; and partnerships and other policies to enhance industrial participation in the nanotechnology revolution. The convergence of nanotechnology with information technology, modern biology and social sciences will reinvigorate discoveries and innovation in many areas of the economy.

Climate Change R&D: In June 2001, the President announced that the Administration’s climate change policy will be science-based, and it will encourage research breakthroughs that lead to technological innovation. To advance and bring focus to climate change science and technology, the President created two new initiatives: the Climate Change Research Initiative (CCRI) and the National Climate Change Technology Initiative (NCCTI). The Administration committed to funding high-priority areas where investments can make a difference. These new initiatives will complement ongoing research funded under the U.S. Global Change Research Program (USGCRP) and other related technology research programs that address climate change.

The USGCRP has existed for more than a decade, and provides funding at nine different agencies for fundamental research on natural and human-induced

changes in the global environment, with the goal of attaining a more complete understanding of global climate change to better respond to the challenges it presents. In 2003, this program will continue, with a total funding level of \$1.7 billion, an increase of 3 percent over the 2002 enacted level. The 2003 budget will pause the development of follow-on NASA satellites, the largest single item in the USGCRP budget, consuming more than half of total program funding. NASA will not start new satellites until a review of the USGCRP, and its relationship to the new CCRI, is complete.

In addition to increasing funding for USGCRP, the budget requests \$40 million in CCRI, to be shared among five agencies (NOAA, NSF, NASA, DOE, and USDA). This investment will begin to focus on answering key gaps in knowledge among those recently identified by the National Academy of Sciences in a report from 2001: "Climate Change Science: An Analysis of Some Key Questions." This includes improving the capability of "integrating scientific knowledge, including its uncertainty, into effective decision support systems." CCRI will adopt performance metrics and deliverable products useful to policymakers in a short time frame (2–5 years).

The NCCTI will build on an existing base of research and development in climate change technologies, primarily at DOE, EPA, and USDA. The budget requests \$40 million for NCCTI within the DOE budget. Specific research areas are being identified through an inter-agency review process.

Agency R&D Highlights

Each federal agency conducts R&D in the context of that agency's unique mission, structure, and statutory requirements. Below are highlights of key R&D programs in selected agencies in the 2003 budget. Table 8–3 shows the FS&T budget. As shown in Table 8–2, these programs and those of other agencies are part of the larger federal R&D portfolio.

National Institutes of Health: NIH comprises 25 Institutes and Centers whose collective mission is to sponsor and conduct biomedical research and research training that leads to better health for all Americans. While NIH does conduct research in its own laboratories, a majority of its funding supports more than 50,000 scientists working in 2,000 institutions across the United States. With the help of NIH grants, these scientists have been making great advances in the detection and treatment of diseases. All NIH grants are peer-reviewed and are funded based on their scientific merit.

During the presidential campaign, the President promised to double the budget of the NIH by 2003 to \$27.3 billion, from the 1998 level of \$13.6 billion. The 2003 budget includes the final installment of \$3.9 billion needed to fulfill the President's commitment, which will maximize the opportunity to expand scientific discovery by increasing the number of new research grants funded. With this increase, NIH will fur-

ther its efforts to support research on diseases that affect the lives of all Americans. For example, the budget provides \$5.5 billion for cancer-related research at the National Cancer Institute and other NIH Institutes.

This NIH funding increase will also finance important research needed for the war against terrorism. As the country faces new and dangerous bioterrorism threats, the NIH will expand research on the effects of bioterrorism attacks and develop treatments in the event our Nation is ever attacked. The 2003 budget provides \$1.75 billion for bioterrorism research, including genomic sequencing of dangerous pathogens, development of improved anthrax vaccine, and laboratory and research facilities construction and upgrades related to bioterrorism and Z-chip technology research. With the ability to identify a vast number of molecular signatures, the Z-chip can be used on the front line of medical response for nearly instant diagnosis of a wide array of biothreats or naturally occurring diseases, saving precious time and therefore lives in the first hours of a biological attack.

National Aeronautics and Space Administration: The 2003 budget provides \$8.8 billion for FS&T programs at NASA, an 8 percent increase over 2002. The 2003 budget restructures under-performing programs and provides funding to address key issues including establishing a long-term strategy for planetary exploration, emphasizing near-term results in climate change research, prioritizing research on the International Space Station, lowering the cost of access to space, and improving the safety and efficiency of the Nation's civil aviation system.

In Space Science, the 2003 budget of \$3.4 billion discontinues NASA's Outer Planets program due to substantial cost and schedule growth and redirects funding to a revamped New Frontiers program of competitively selected planetary missions focused on understanding the origins and existence of life beyond Earth. The 2003 budget also supports investments in safe and reliable nuclear power and nuclear-electric propulsion technologies to enable much faster and more frequent planetary investigations with greater science capabilities in this decade and the next. The 2003 budget for Earth Science (\$1.6 billion) supports two important demonstrations—the National Polar-Orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project and the Jason follow-on—which will measure key variables that are needed to provide long-term, climate quality data to understand how the Earth's climate is changing. In Biological and Physical Research, the 2003 budget of \$851 million will yield clear priorities for Space Station research and invests in space radiation and space biology research initiatives that will enable new space platforms through which biological and physical research can be pursued.

The 2003 budget continues planned increases in funding for NASA's Space Launch Initiative (\$759 million in 2003), a high priority program that will lead to safer and lower cost, commercial launch vehicles to replace the Space Shuttle. The 2003 budget maintains key in-

vestments in technologies to improve aircraft safety and to reduce congestion in the Nation's civil aviation system (\$220 million).

National Science Foundation: The 2003 budget provides \$5.0 billion, a 5 percent increase, for research at NSF, whose broad mission is to promote science and engineering research and education. The budget provides: \$678 million for NSF's lead role in NITRD, focusing on long-term computer science research and applications; \$221 million for NSF's lead role in the National Nanotechnology Initiative; \$15 million for NSF participation in the Climate Change Research Initiative—in addition to \$188 million for USGCRP—for research on climate change risk management, understanding the North American carbon cycle, and computer modeling; \$27 million (a \$20 million increase) for NSF basic research programs in microbe genome sequencing and the transmission of infectious diseases, two research areas of importance in combating bioterrorism.

Based on NSF's noted expertise and success in funding competitive research, the 2003 budget aims to improve the quality of a number of science and engineering programs by transferring them to NSF. The budget transfers the National Oceanic and Atmospheric Administration's Sea Grant program and the United States Geological Survey's toxic substances hydrology research program to NSF, where merit-based competition will improve overall program effectiveness. These transfers will take advantage of NSF's competitive culture and demonstrated quality of results.

The President's goal to improve the quality of math and science education in Grades K–12 will be pursued through the President's Math and Science Partnerships Initiative, which allows states to join with institutions of higher education, particularly math and science departments, in strengthening math and science education. The initiative provides a mechanism to allow scientists and engineers to be part of the solution in improving grades K–12 education. Funding for the programs is proposed to increase by \$40 million, to \$200 million. The budget also aims to further attract the most promising U.S. students into graduate level science and engineering by increasing graduate stipends from \$21,500 to \$25,000 annually.

Department of Energy: The 2003 budget provides \$5.0 billion for FS&T at DOE. The budget proposes \$3.3 billion, a 1.5-percent increase over 2002, for DOE Science programs, the Nation's leading sponsor of research in the physical sciences. DOE has a special role in supporting research in particle physics, nuclear physics, fusion energy sciences, chemistry of the radioactive elements, nanoscience, genomic sequencing, and computational science. The Department also supports research that will reduce key scientific uncertainties inherent in climate change and carbon cycle models. These basic science programs support the DOE's applied missions in energy, national nuclear security and environmental quality. The Department contributes to national science stewardship, a cornerstone of the De-

partment's mission, by operating a suite of 27 scientific user facilities—such as x-ray light sources, fusion experiments, particle accelerators and colliders. Over 18,000 scientists from universities, industry and government agencies use these facilities every year. Consistent with the Administration's emphasis on shifting funds to higher priority programs, the budget redirects funding to maintain operations at Fermi National Accelerator Laboratory.

The Department sponsors applied research and development programs with two primary interests. In the national security area, DOE sponsors R&D that sustains the safety, reliability, and performance of the Nation's nuclear weapons (\$3.1 billion in 2003). Non-proliferation and verification research conducted by the Department advances technologies for detection of nuclear weapons proliferation, nuclear explosion monitoring, and chemical and biological response. In the energy area, DOE sponsors research in energy production and use, from fossil, nuclear, and renewable sources. The Department has had success in reducing the cost of renewable energy resources (wind, solar, geothermal, and biomass), and it will continue R&D efforts to make these energy sources more cost-competitive. Last year's budget provided \$150 million to existing coal research towards the President's commitment to spend \$2 billion over ten years on clean coal research. In the 2003 budget, all coal programs are brought under one umbrella—the President's Clean Coal Research Initiative. Using a more transparent budget structure, this approach will improve the management and oversight of this \$326 million program.

DOE also sponsors R&D to improve the energy efficiency of buildings, industry, the transportation sector, and the federal government (\$589 million in 2003). DOE's energy conservation efforts include the following examples. Cost-shared R&D with industry will to continue to increase industrial output per unit of energy input. Development of a web-based tool will assist contractors and homeowners in identifying the most efficient energy-saving retrofit activities, based on the age and condition of the home and the funds available. A partnership with the trucking industry will dramatically improve fuel efficiency by 2010. And, a program to increase energy efficiency in federal buildings will achieve a 35 percent efficiency increase by 2010, compared to 1985 levels.

Department of Defense: DOD funds a wide range of R&D to ensure that our military forces have the tools to protect the Nation's security. DOD's 2003 budget includes \$5.0 billion that appears in the FS&T budget.

Due in part to the events of September 11, 2001, research and development of technologies and systems that address terrorist threats have been the focus of additional funds and urgency. Systems or technologies under development include: improved detectors of chemical and biological threats (for both remote and on-site application); more comfortable and more effective troop protective gear for use under chemical and bio-

logical attack; vaccines to provide protection against biological agents; surveillance systems to provide longer range and earlier warning of possible attacks using weapons of mass destruction; and more effective cave and other "hard target" attack munitions.

DOD's "Science and Technology" programs (over \$9 billion in 2003) range from basic research and applied research (included in FS&T), to fabrication of component prototypes for potential future systems. These programs explore and develop technical options for new defense systems and help reduce the chance of being surprised by new technologies in the hands of adversaries. Areas of emphasis include computing and communications, sensors, nanotechnology, understanding the military environment (for example, oceans, atmospheric and geological sciences), propulsion systems, and technologies for the next generation of long-range strike aircraft. Promising technologies and processes may be incorporated into weapon systems of the future.

Later stage development, test and evaluation funds (\$45 billion) support development of new weapons and supporting systems, including testing the effectiveness of those systems and how they interface with other weapons or control systems. Systems under development in 2003 include: the Joint Strike Fighter, ballistic missile defense systems, a new aircraft carrier, the DD(X) naval destroyer, space-based missile warning satellites, and unmanned underwater vehicles. Systems in the final stages of development include the F-22 fighter aircraft and the V-22 Osprey tilt-rotor aircraft. The Army continues development efforts in support of the Future Combat System as a major part of their transformation to a lighter, more mobile, and more effective fighting force.

Department of Agriculture: The 2003 budget provides \$1.9 billion, a one percent increase, for FS&T at the Department of Agriculture (USDA). The budget for USDA's research, education and extension programs proposes significant increases for high priority national needs and for competitive, peer-reviewed grants, while reducing or eliminating lower priority projects, particularly earmarks. Funded at \$2.3 billion in 2003, this program includes activities that are not part of the FS&T budget, such as USDA laboratory construction and rehabilitation, extension grants, and statistical programs. The 2003 budget adds \$58 million to the programs of the Agricultural Research Service (ARS) in the following areas: air and water quality and climate change, biobased products, bioenergy and biotechnology, protection against bioterrorism, emerging and exotic diseases, genomics and genetics, and library resources. In addition, the budget provides \$240 million (a 100 percent increase) for the National Research Initiative (NRI), which funds competitive research grants covering a broad spectrum of agricultural research areas. The budget provides additional increases over 2002 of \$7 million for the expansion of the Agricultural Resources Management Study and of \$15.5 million for necessary cyclical costs associated with the five year Census of Agriculture.

The 2003 budget for Forest Service Research and Development programs (\$254 million) includes \$10 million for new priority research on biobased products and bioenergy and a quantitative planning and graphic data analysis tool for forest planning. The budget also places additional emphasis on annualized forest inventories.

In order to fund these increases and ensure that taxpayer dollars are used most effectively in the public interest, the budget proposes to eliminate unrequested earmarks for specific purposes at specific locations that were provided in 2002. These total \$205 million for in-house research (\$89 million in ARS and \$16 million in the Forest Service) and \$123 million for research grants, for a total of over 400 projects.

Department of the Interior: Within the Department of the Interior (DOI), the 2003 budget provides \$904 million for the United States Geological Survey (USGS), for science that emphasizes the mission responsibility of providing sound and impartial science to manage land, water, biological, energy, and mineral resources. The 2003 budget reduces direct federal funding for programs that support outside customers in order to increase the proportion of services paid for by these customers. The 2003 budget focuses resources on those programs that directly address the science needs of Interior bureaus, including funding for science to support ecosystem restoration in the Everglades. To support sound conservation decisions, USGS will combine natural resource monitoring and information technology that will promote conservation partnerships and better inform federal, state, and local land acquisition.

The budget transfers USGS toxic substances hydrology research program funding to NSF. While the work of USGS is generally of high quality, this transfer will provide new emphasis on merit-based competitive selection. USGS will continue to play a role in identifying research priorities.

Beginning in 2002, the Bureau of Land Management and USGS will help support the development of the E-Gov Geospatial One-Stop initiative. This initiative, led by the interagency Federal Geographic Data Committee, will make geospatial data more accessible and usable by developing government-wide data standards and deploying a user friendly web portal for geospatial data and mapping applications.

Department of Commerce: The 2003 budget provides \$861 million for FS&T at the Department of Commerce (DOC). For the National Institute of Standards and Technology (NIST), the budget provides \$402 million—a 23 percent increase over 2002—for research and physical improvements at NIST's Measurement and Standards Laboratories. In addition to funding ongoing research, the budget increase supports construction of new NIST facilities, including equipment for the Advanced Measurement Laboratory in Maryland. NIST labs work with industry to develop the measurements and standards needed to support technological innovation. Facilities modernization is needed to support NIST's groundbreaking research.

The 2003 budget also provides \$107 million for NIST's Advanced Technology Program (ATP), which makes R&D grants to commercial firms. In 2003, ATP will modify its program regulations to increase university participation and allow cost-recoupment for successfully commercialized technologies.

The 2003 budget provides \$297 million for FS&T at the National Oceanic and Atmospheric Administration (NOAA) to improve understanding of climate change, weather and air quality, and ocean processes. In 2003, NOAA's R&D will also support economic growth through continued efforts in marine biotechnology and aquaculture, as well as a new initiative to demonstrate benefits to the energy sector through improved weather and river forecasting capabilities. The budget also transfers the National Sea Grant College Program to NSF to promote more rigorous, merit-based competition among researchers. NOAA and NSF will jointly manage the program, and NOAA will continue to play a role in identifying research priorities.

Environmental Protection Agency: The budget provides \$797 million for FS&T at the Environmental Protection Agency (EPA). The Office of Research and Development (ORD) performs the majority of EPA's research and provides a sound scientific and technical foundation for environmental policy and regulatory decision-making. EPA relies on strong science to achieve its mission and has a responsibility to ensure that efforts to reduce environmental risks are based on the best available scientific information. In 2003, EPA will work to improve methods for assessing the cumulative risks of complex pollutant mixtures, tools to describe the impact of exposures to them on cumulative risk, and the tools for decision makers to address cumulative risks. EPA will also focus essential scientific support on its highest-priority pending regulations to help strengthen its regulatory process. A new EPA effort to identify innovative environmental technologies through a national competition is expected to help solve such vexing problems as effluent trading programs and removing arsenic from drinking water. EPA will also fund a new biotechnology research effort to address information gaps and develop management tools for allergenicity, and ecological risk and resistance. The budget includes \$75 million for research into technologies and procedures to cope with future biological or chemical incidents.

Department of Transportation: The 2003 budget provides \$548 million for FS&T at the Department of Transportation (DOT). DOT research funds are concentrated primarily in the federal Highway Administration (FHWA), the National Highway Traffic Safety Administration (NHTSA), and the Federal Airline Administration (FAA). The FHWA (\$421 million in 2003) supports research to improve the quality and safety of the Nation's transportation infrastructure. Specifically, the research focuses on methods to increase the quality and longevity of roadways, identifies safety improvements possible through the use of Intelligence Trans-

portation Systems (ITS), and analyzes the use of surveillance technology for improved traffic control, emergency evacuations and critical infrastructure. NHTSA's 2003 budget provides \$58 million for R&D in crash worthiness, crash avoidance and data analysis to help reduce highway fatalities and injuries.

In aviation research, and in light of the September 11th terrorist attacks, security will be the major focus for the FAA as it develops the best technologies to prevent future incidents. The 2003 budget provides \$95 million for aviation security technology research.

Department of Education: The 2003 budget provides \$431 million for FS&T at the Department of Education. The vast majority of the Department's research and development is administered by three offices: the Office of Educational Research and Improvement (OERI), National Institute for Disability and Rehabilitation Research (NIDRR), and the Office of Special Education Programs (OSEP).

OERI, which administers the largest share of FS&T funds through Research, Development, and Dissemination, conducts research on teaching, learning and achievement; develops materials and methods to help students succeed; and disseminates these techniques to teachers and schools. In 2003, OERI's research portfolio will include a program that builds on the substantial science of reading to study conditions under which children decode and ultimately comprehend what they read. A second new program will support trials of existing preschool curricula to identify which work best. A third will identify strategies to enhance the use of research findings by teachers, school administrators, and policymakers.

The Administration is developing a reauthorization proposal for OERI that will address many of its perennial research quality issues through structural reform. The new structure should allow OERI to improve the quality, objectivity, coordination, and focus of the Department's research activities. Until reauthorizing legislation is enacted, the Assistant Secretary is improving the scientific quality of OERI-funded research projects through implementation of a more rigorous grant solicitation and peer review process.

The Office of Special Education and Rehabilitative Services administers R&D related to persons with disabilities through NIDRR and OSEP. NIDRR conducts research and related activities to maximize the full integration, employment, and independent living of individuals with disabilities, consistent with the President's New Freedom Initiative, which aims to help individuals with disabilities lead more independent lives.

OSEP supports special education research projects, demonstrations, and outreach in order to produce new knowledge in the fields of special education and early intervention, apply effective research in model demonstration projects, and put knowledge into the hands of those who work with children with disabilities.

Department of Veterans Affairs: The 2003 budget provides \$409 million for FS&T at the Department of

Veterans Affairs (VA), an increase of 10 percent. In addition, the Department receives significant funding from other governmental agencies and private entities to support VA-conducted research, which brings the total of R&D VA performs to \$1.4 billion. The 2003 budget provides \$394 million for clinical, epidemiological, and behavioral studies across a broad spectrum of medical research disciplines. Among the agency's top research priorities are improving the translation of research results into patient care, special populations (those afflicted with spinal cord injury, visual and hearing impairments, and serious mental illness), geriatrics, diseases of the brain (e.g., Alzheimer's and Parkinson's disease), treatment of chronic progressive multiple sclerosis, and chronic disease management.

Stimulating Private Investment

Along with direct spending on R&D, the federal government has sought to stimulate private investment in these activities with tax preferences. The current law provides a 20-percent tax credit for private research and experimentation expenditures above a certain base amount. The credit, which expired in 1999, was retro-

actively reinstated for five years, to 2004, in the Tax Relief Extension Act of 1999. The budget proposes to make the Research and Experimentation (R&E) tax credit permanent. The proposed extension will cost \$14 billion over the period from 2004 to 2007. In addition, a permanent tax provision lets companies deduct, up front, the costs of certain kinds of research and experimentation, rather than capitalize these costs. Finally, equipment used for research benefits from relatively rapid cost recovery.

Table 8-1 shows a forecast of the costs of the tax credit.

Table 8-1. PERMANENT EXTENSION OF THE RESEARCH AND EXPERIMENTATION TAX CREDIT

(Budget authority, dollar amounts in millions)

	2003	2004	2005	2006	2007	2003-2007
Current Law	4,590	4,020	2,330	990	410	12,350
Proposed Extension	0	906	2,949	4,654	5,623	14,132
Total	4,590	4,926	5,279	5,644	6,033	26,482

IV. FEDERAL R&D DATA

Federal R&D Funding

R&D is the collection of efforts directed towards gaining greater knowledge or understanding and applying knowledge toward the production of useful materials, devices, and methods. R&D investments can be characterized as basic research, applied research, development, R&D equipment, or R&D facilities, and OMB has used those or similar categories in its collection of R&D data since 1949.

Basic research is defined as systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind.

Applied research is systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.

Development is systematic application of knowledge toward the production of useful materials, devices, and systems or methods, including design, development, and

improvement of prototypes and new processes to meet specific requirements.

Research and development equipment includes acquisition or design and production of movable equipment, such as spectrometers, microscopes, detectors, and other instruments.

Research and development facilities include the acquisition, design, and construction of, or major repairs or alterations to, all physical facilities for use in R&D activities. Facilities include land, buildings, and fixed capital equipment, regardless of whether the facilities are to be used by the Government or by a private organization, and regardless of where title to the property may rest. This category includes such fixed facilities as reactors, wind tunnels, and particle accelerators.

There are over twenty federal agencies that fund R&D in the U.S. The nature of the R&D that these agencies fund depends on the mission of each agency and on the role of R&D in accomplishing it. Table 8-2 shows agency-by-agency spending on basic and applied research, development, and R&D equipment and facilities.

Table 8-2. FEDERAL RESEARCH AND DEVELOPMENT SPENDING

(Budget authority, dollar amounts in millions)

	2000 Actual	2001 Actual	2002 Estimate	2003 Proposed	Dollar Change: 2002 to 2003	Percent Change: 2002 to 2003
By Agency						
Defense	39,664	42,235	49,171	54,544	5,373	11%
Health and Human Services	18,051	21,037	23,938	27,683	3,745	16%
National Aeronautics and Space Administration	9,242	9,675	9,560	10,069	509	5%
Energy	6,892	7,772	9,253	8,510	-743	-8%
National Science Foundation	2,947	3,363	3,571	3,700	129	4%
Agriculture	1,773	2,182	2,336	2,118	-218	-9%
Commerce	1,110	1,054	1,129	1,114	-15	-1%
Veterans Affairs	618	748	796	846	50	6%
Transportation	603	792	867	725	-142	-16%
Environmental Protection Agency	559	598	612	650	38	6%
Interior	645	622	660	628	-32	-5%
Education	238	264	268	311	43	16%
Other	796	922	1,021	858	-163	-16%
Total	83,138	91,264	103,182	111,756	8,574	8%
Basic Research						
Defense	1,136	1,271	1,305	1,336	31	2%
Health and Human Services	10,062	11,601	13,183	14,467	1,284	10%
National Aeronautics and Space Administration	2,137	1,652	1,909	2,298	389	20%
Energy	2,262	2,390	2,420	2,517	97	4%
National Science Foundation	2,540	2,894	3,093	3,242	149	5%
Agriculture	684	801	860	880	20	2%
Commerce	42	50	52	73	21	40%
Veterans Affairs	52	301	344	367	23	7%
Transportation	10	17	13	25	12	92%
Environmental Protection Agency	58	105	107	101	-6	-6%
Interior	266	56	58	55	-3	-5%
Education	2	2	2	1	-1	-50%
Other	170	190	196	183	-13	-7%
Subtotal	19,421	21,330	23,542	25,545	2,003	9%
Applied Research						
Defense	3,405	3,673	3,656	3,616	-40	-1%
Health and Human Services	7,692	9,064	10,249	12,379	2,130	21%
National Aeronautics and Space Administration	1,534	2,533	2,766	3,099	333	12%
Energy	1,874	2,330	2,874	2,866	-8	0%
National Science Foundation	184	181	192	199	7	4%
Agriculture	831	1,045	988	946	-42	-4%
Commerce	780	768	838	795	-43	-5%
Veterans Affairs	520	432	436	462	26	6%
Transportation	396	445	522	396	-126	-24%
Environmental Protection Agency	388	370	381	431	50	13%
Interior	367	534	570	541	-29	-5%
Education	151	172	178	212	34	19%
Other	344	413	432	348	-84	-19%
Subtotal	18,466	21,960	24,082	26,290	2,208	9%
Development						
Defense	35,026	37,270	44,200	49,570	5,370	12%
Health and Human Services	44	107	129	100	-29	-22%
National Aeronautics and Space Administration	2,702	2,698	2,582	2,648	66	3%
Energy	1,855	2,042	2,851	2,162	-689	-24%
National Science Foundation	0	0	0	0	0	N/A
Agriculture	111	152	163	156	-7	-4%
Commerce	130	170	162	109	-53	-33%
Veterans Affairs	29	15	16	17	1	6%
Transportation	185	247	256	221	-35	-14%
Environmental Protection Agency	92	101	103	97	-6	-6%
Interior	12	32	32	32	0	0%
Education	85	90	88	98	10	11%
Other	253	306	378	310	-68	-18%
Subtotal	40,524	43,230	50,960	55,520	4,560	9%
Facilities and Equipment						
Defense	97	21	10	22	12	120%
Health and Human Services	253	265	377	737	360	95%

Table 8-2. FEDERAL RESEARCH AND DEVELOPMENT SPENDING—Continued

(Budget authority, dollar amounts in millions)

	2000 Actual	2001 Actual	2002 Estimate	2003 Proposed	Dollar Change: 2002 to 2003	Percent Change: 2002 to 2003
National Aeronautics and Space Administration	2,869	2,792	2,303	2,024	-279	-12%
Energy	901	1,010	1,108	965	-143	-13%
National Science Foundation	223	288	286	259	-27	-9%
Agriculture	147	184	325	136	-189	-58%
Commerce	158	66	77	137	60	78%
Veterans Affairs	17	0	0	0	0	N/A
Transportation	12	83	76	83	7	9%
Environmental Protection Agency	21	22	21	21	0	0%
Interior	0	0	0	0	0	N/A
Education	0	0	0	0	0	N/A
Other	29	13	15	17	2	13%
Subtotal	4,727	4,744	4,598	4,401	-197	-4%

Federal Science and Technology Budget

Table 8-3 contains the FS&T budget, which accounts for nearly all of federal basic research, over 80 percent

of federal applied research, and about half of civilian development.

Table 8-3. FEDERAL SCIENCE AND TECHNOLOGY BUDGET

(Budget authority, dollar amounts in millions)

	2000 Actual	2001 Actual	2002 Estimate	2003 Proposed	Dollar Change: 2002 to 2003	Percent Change: 2002 to 2003
By Agency						
National Institutes of Health ¹	17,827	20,438	23,433	27,335	3,902	17%
NASA ²	7,013	7,789	8,113	8,774	661	8%
Space Science	2,606	2,760	3,034	3,428	394	13%
Earth Science	1,734	1,825	1,695	1,639	-56	-3%
Biological and Physical Research	839	944	828	851	23	3%
Aero-space Technology	1,834	2,260	2,556	2,856	300	12%
National Science Foundation	3,903	4,437	4,795	5,036	241	5%
Energy	4,338	4,911	5,099	5,027	-72	-1%
Science Programs ³	2,820	3,218	3,240	3,285	45	1%
Renewable Energy	306	370	386	408	22	6%
Nuclear Energy	226	261	244	251	7	3%
Energy Conservation ⁴	577	619	641	589	-52	-8%
Fossil Energy ⁵	409	443	588	494	-94	-16%
Defense	4,541	4,944	4,961	4,952	-9	0%
Basic Research	1,136	1,271	1,305	1,336	31	2%
Applied Research	3,405	3,673	3,656	3,616	-40	-1%
Agriculture	1,759	1,885	1,890	1,913	23	1%
CSREES Research and Education	488	514	552	563	11	2%
Economic Research Service	67	69	70	82	12	17%
Mandatory Research Grants ⁶	120	120	0	0	0	N/A
Agricultural Research Service ⁷	866	936	1,017	1,014	-3	0%
Forest Service ⁸	218	246	251	254	3	1%
Interior (USGS)	847	918	950	904	-46	-5%
Commerce	826	828	948	861	-87	-9%
NOAA (Oceanic and Atmospheric Research) ⁹	285	325	362	297	-65	-18%
NIST ¹⁰	541	503	586	564	-22	-4%
Environmental Protection Agency ¹¹	683	746	750	797	47	6%
Transportation	593	521	651	548	-103	-16%
Highway research ¹²	490	387	448	421	-27	-6%
Aviation research ¹³	103	134	203	127	-76	-37%
Education	317	363	377	431	54	14%
Special Education Research and Innovation	64	77	78	78	0	0%
NIDRR ¹⁴	86	100	110	110	0	0%
Research, Development, and Dissemination	167	186	189	243	54	29%

Table 8-3. FEDERAL SCIENCE AND TECHNOLOGY BUDGET—Continued
(Budget authority, dollar amounts in millions)

	2000 Actual	2001 Actual	2002 Estimate	2003 Proposed	Dollar Change: 2002 to 2003	Percent Change: 2002 to 2003
Veterans Affairs ¹⁵	321	363	373	409	36	10%
Total	42,968	48,143	52,340	56,987	4,647	9%

Notes: Levels adjusted to include the full share of accruing employee pensions and annuitants health benefits. For more information on these items, please see Chapter 14. Levels for 2000 are derived without accrual in most instances.

¹ The 2002 appropriation includes \$100 million for the Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria.

² All years normalized to reflect 2003 transfers of funding for Space Station research facilities, space communications activities, and associated institutional support from human space flight.

³ Includes \$36 million for programs transferred from Environmental Management.

⁴ Excludes state grant programs.

⁵ Excludes balances transferred from the Clean Coal Technology program for activities in 2001 (\$95 million), 2002 (\$34 million), and 2003 (\$40 million).

⁶ Initiative for Future Agriculture and Food Systems.

⁷ Excludes buildings and facilities.

⁸ Forest and Rangeland Research.

⁹ Excludes Manufacturing Extension Program.

¹⁰ The 2003 level does not include the Sea Grant program, which was transferred to NSF.

¹¹ Science and Technology, plus superfund transfer. The 2002 level does not include anti-terrorism supplemental funding, which is primarily for drinking water vulnerability standards. The 2003 level includes an additional superfund transfer for security research related to building decontamination.

¹² Includes research and development funding for the Federal Highway Administration, the Federal Motor Carrier Safety Administration, and the National Highway Traffic Safety Administration.

¹³ Federal Aviation Administration Research, Engineering, and Development. Excludes funding for aviation security research in all years, now funded through the Transportation Security Administration.

¹⁴ National Institute on Disability and Rehabilitation Research.

¹⁵ Medical and Prosthetic Research.

Interagency R&D Efforts

Table 8-4 shows agency spending for Networking and Information Technology R&D, the National

Nanotechnology Initiative, and the climate change research and technology initiatives.

Table 8-4. AGENCY DETAIL OF SELECTED INTERAGENCY R&D EFFORTS
(Budget authority, dollar amounts in millions)

	2001 Actual	2002 Estimate	2003 Proposed	Dollar Change: 2002 to 2003	Percent Change: 2002 to 2003
Networking and Information Technology R&D					
National Science Foundation	636	676	678	2	0%
Health and Human Services	277	310	336	26	8%
Energy	326	312	313	1	0%
Defense	310	320	306	-14	-4%
National Aeronautics and Space Administration	177	181	213	32	18%
Commerce	38	43	42	-1	-2%
Environmental Protection Agency	4	2	2	0	0%
Total	1,768	1,844	1,890	46	3%
National Nanotechnology Initiative					
National Science Foundation	150	199	221	22	11%
Defense	125	180	201	21	12%
Energy	88	91	139	48	53%
Commerce	33	38	44	6	16%
National Institutes of Health	40	41	43	2	6%
National Aeronautics and Space Administration	22	22	22	0	0%
Environmental Protection Agency	5	5	5	0	0%
Department of Transportation	0	2	2	0	0%
Department of Justice	1	1	1	0	0%
Total	464	579	679	100	17%
Climate Change Research Initiative.					
Commerce	0	0	18	18	N/A
National Science Foundation	0	0	15	15	N/A
National Aeronautics and Space Administration	0	0	3	3	N/A
Energy	0	0	3	3	N/A
Agriculture	0	0	1	1	N/A
Total	0	0	40	40	N/A
U.S. Global Change Research Program					
National Aeronautics and Space Administration	1,176	1,090	1,109	19	2%
National Science Foundation	181	188	188	0	0%
Energy	116	120	126	6	5%

Table 8-4. AGENCY DETAIL OF SELECTED INTERAGENCY R&D EFFORTS—Continued
(Budget authority, dollar amounts in millions)

	2001 Actual	2002 Estimate	2003 Proposed	Dollar Change: 2002 to 2003	Percent Change: 2002 to 2003
Commerce	93	100	100	0	0%
National Institutes of Health	54	60	68	8	13%
Agriculture	51	56	66	10	18%
Interior	27	28	28	0	0%
Environmental Protection Agency	23	21	22	1	5%
Smithsonian	7	7	7	0	0%
Total	1,728	1,670	1,714	44	3%

* Includes \$9 million in offsetting collections in 2003 for the Agency for Healthcare Research and Quality. These activities were funded at \$15 million in 2001 and \$14 million in 2002.

Allocation of Research Funding

Federal funds appropriated to Executive Branch agencies may be used in different ways, ranging from grants awarded to university researchers to supporting research at federal laboratories. The Administration supports the competitive, merit review process for funding research in most cases. However, there are appropriate roles for other modes of allocating research funding in some circumstances, such as funding research at specific facilities that have unique capabilities.

In order to better understand and characterize the methods agencies use to allocate their research funding, agencies reported how research funds are allocated by the following five categories:

Research performed at congressional direction consists of intramural and extramural research programs where funded activities are awarded to a single performer or collection of performers with limited or no competitive selection or with competitive selection but outside of the agency's primary mission, based on direction from the Congress in law, in report language, or by other direction.

Inherently unique research is intramural and extramural research programs where funded activities are awarded to a single performer or team of performers without competitive selection. The award may be based on the provision of unique capabilities, concern for timeliness, or prior record of performance (e.g., facility operations support for a unique facility, such as an electron-positron linear collider; research grants for rapid response studies such as Pfisteria, an environmental hazard that arose suddenly).

Merit-reviewed research with limited competitive selection is intramural and extramural research pro-

grams where funded activities are competitively awarded from a pool of qualified applicants that are limited to organizations that were created to largely serve federal missions and continue to receive most of their annual research revenue from federal sources. The limited competition may be for reasons of stewardship, agency mission constraints, or retention of unique technical capabilities (e.g., funding set aside for researchers at laboratories or centers of DOD, NASA, EPA, NOAA, and NIH; Federally-Funded Research and Development Centers; formula funds for USDA).

Merit-reviewed research with competitive selection and internal (program) evaluation is intramural and extramural research programs where funded activities are competitively awarded following review for scientific or technical merit. The review is conducted by the program manager or other qualified individuals from within the agency program, without additional independent evaluation (e.g., merit-reviewed research at DOD).

Merit-reviewed research with competitive selection and external (peer) evaluation is intramural and extramural research programs where funded activities are competitively awarded following review by a set of external scientific or technical reviewers (often called peers) for merit. The review is conducted by appropriately qualified scientists, engineers, or other technically-qualified individuals who are apart from the people or groups making the award decisions, and serves to inform the program manager or other qualified individual who makes the award (e.g., NSF's single-investigator research; NASA's research and analysis funds).

Table 8-5 lists how federal R&D agencies report allocating research funding among these categories.

Table 8-5. ALLOCATION OF FEDERAL RESEARCH FUNDING, 2001 and 2002

(Budget authority, dollar amounts in millions)

	Research Performed at Congressional Direction		Inherently Unique Research		Merit-Reviewed Research with Limited Competitive Selection		Merit-Reviewed Research with Competitive Selection and Internal Evaluation		Merit-Reviewed Research with Competitive Selection and External Evaluation		Total	
	2001	2002	2001	2002	2001	2002	2001	2002	2001	2002	2001	2002
By Agency												
Health and Human Services	89	142	206	230	2,392	2,718	201	216	17,777	20,126	20,665	23,432
Energy	134	223	1,078	1,068	2,382	2,820	305	395	821	788	4,720	5,294
Defense *	678	426	295	350	1,012	1,014	2,712	2,950	247	221	4,944	4,961
National Aeronautics and Space Administration	230	287	152	149	532	398	1,377	1,550	1,894	2,291	4,185	4,675
National Science Foundation	0	0	0	0	191	206	184	192	2,700	2,887	3,075	3,285
Agriculture **	105	122	815	893	720	676	0	0	206	157	1,846	1,848
Commerce	18	21	354	377	100	108	204	218	142	166	818	890
Veterans Affairs	1	0	0	0	2	2	349	370	381	408	733	780
Interior	27	48	156	154	379	392	26	31	2	3	590	628
Transportation	55	82	69	73	0	0	338	380	0	0	462	535
Environmental Protection Agency	39	60	39	38	195	192	69	68	133	130	475	488
Education	5	0	0	0	0	0	0	0	169	180	174	180
Smithsonian Institution	0	0	108	111	0	0	0	0	0	0	108	111
Other	385	413	11	7	17	17	76	74	6	6	495	517
Total	1,766	1,824	3,283	3,450	7,922	8,543	5,841	6,444	24,478	27,363	43,290	47,624

* Allocation among categories is preliminary.

** Does not include net mandatory funding for USDA research grant programs of \$120 million in FY 2001.

Earmarks

Table 8-6 lists the top 30 recipients of individual academic earmarks in 2001, as identified by *The Chronicle of Higher Education*. In addition to \$1.2 billion in earmarks to specific colleges and universities, there

is another \$431 million in earmarked funding to be shared in an unspecified distribution among these and other colleges and universities.

Table 8-6. 30 Colleges and Universities Received Over 40 Percent of Unshared* Academic Earmarks in 2001

Table 8-6. COLLEGES AND UNIVERSITIES RECEIVED OVER 40 PERCENT OF UNSHARED* ACADEMIC EARMARKS IN 2001

College or University	State	Number of Earmarks Received	Sum of Earmarks* (millions)
1. University of Alaska at Fairbanks	Alaska	20	\$35.0
2. Loma Linda University	California	4	\$35.0
3. Marshall University	West Virginia	6	\$27.6
4. University of New Hampshire	New Hampshire	14	\$27.5
5. Dartmouth College	New Hampshire	5	\$25.9
6. University of Missouri at Columbia	Missouri	21	\$23.7
7. University of Mississippi	Mississippi	20	\$23.7
8. University of Alabama at Birmingham	Alabama	12	\$22.1
9. University of Nebraska	Nebraska	4	\$19.5
10. Kansas State University	Kansas	12	\$18.3
11. University of Florida	Florida	14	\$18.3
12. Mississippi State University	Mississippi	33	\$18.2
13. Pennsylvania State University at University Park	Pennsylvania	14	\$16.7
14. Wheeling Jesuit University	West Virginia	9	\$16.3
15. University of Maine	Maine	9	\$16.2
16. West Virginia University	West Virginia	17	\$15.6
17. Auburn University	Alabama	17	\$15.2
18. University of South Carolina at Columbia	South Carolina	6	\$14.6
19. Southern Illinois University at Edwardsville	Illinois	3	\$14.3
20. University of Alabama at Tuscaloosa	Alabama	10	\$14.2
21. University of South Florida	Florida	8	\$13.2
22. University of Minnesota—Twin Cities	Minnesota	5	\$12.7
23. University of Louisville	Kentucky	9	\$12.5

Table 8-6. COLLEGES AND UNIVERSITIES RECEIVED OVER 40 PERCENT OF UNSHARED* ACADEMIC EARMARKS IN 2001—Continued

College or University	State	Number of Earmarks Received	Sum of Earmarks* (millions)
24. New Mexico Institute of Mining and Technology	New Mexico	7	\$12.5
25. University of Southern Mississippi	Mississippi	11	\$11.8
26. Montana State University at Bozeman	Montana	17	\$11.1
27. Washington State University	Washington	18	\$10.5
28. University of Hawaii, Manoa	Hawaii	20	\$10.4
29. Medical University of South Carolina	South Carolina	3	\$10.0
30. University of Miami	Florida	4	\$9.5

* Totals do not include earmarks split among institutions, where the distribution was not specified.

9. CREDIT AND INSURANCE

Federal credit programs offer direct loans and loan guarantees for a wide range of activities, primarily housing, education, business and rural development, and exports. At the end of 2001, there were \$242 billion in Federal direct loans outstanding and \$1,084 billion in loan guarantees. Through its insurance programs, the Federal Government insures bank, thrift, and credit union deposits up to \$100,000, guarantees private defined-benefit pensions, and insures against other risks such as natural disasters.

The Federal Government also enhances credit availability for targeted sectors indirectly through Government-sponsored enterprises (GSEs)—privately owned companies and cooperatives that operate under Federal charters. GSEs provide direct loans and increase liquidity by guaranteeing and securitizing loans. Some GSEs have become major players in the financial market. In 2001, the face value of GSE lending totaled \$3.1 trillion. In return for serving social purposes, GSEs enjoy some privileges, which include eligibility of their securities to collateralize public deposits and be held in unlimited amounts by most banks and thrifts, exemption of their securities from SEC registration, exemption of their earnings from State and local income taxation, and ability to borrow from Treasury, at Treasury's discretion, in amounts ranging up to \$4 billion. These privileges leave many people with the impression that their securities are risk-free. GSEs, however, are not part of the Federal Government, and their securities are not federally guaranteed. By law, the GSEs' securities carry a disclaimer of any U.S. obligation.

The role and risk of these diverse programs critically depend on the state of financial markets. In recent

years, financial markets have been changing fast because of rapid technological advances and active de-regulation. The Federal Government, therefore, needs to reassess the extent and nature of credit and insurance programs more carefully in order to adapt those programs to rapidly changing financial markets.

The rest of this chapter is organized as follows.

- The first section analyzes the role of Federal credit and insurance programs. Federal programs play useful roles when market imperfections prevent the private market from efficiently providing credit and insurance. Financial evolution has partly corrected many imperfections and generally weakened the justification for Federal intervention.
- The second section identifies four key criteria for evaluating Federal programs: objectives, economic justification, availability of alternative means, and efficiency. Recognizing that improving efficiency is an everlasting concern, this section pays particular attention to the issue, and also discusses Federal loan sales as a special issue in improving efficiency.
- The third section reviews Federal credit programs and GSEs in four sectors: housing, education, business and community development, and exports. This section discusses program objectives, recent developments, and future plans for each program.
- The final section describes Federal deposit insurance, pension guarantees, and disaster insurance in a context similar to that for credit programs.

I. FEDERAL PROGRAMS IN CHANGING FINANCIAL MARKETS

The Federal Role

The roles of Federal credit and insurance programs can be broadly classified into two areas: helping disadvantaged groups and correcting market failures. Subsidized Federal credit programs redistribute resources from the general taxpayer to disadvantaged regions or segments of the population. Since disadvantaged groups can be assisted through other means, such as direct subsidies, the value of a credit or insurance program critically depends on the extent to which it corrects market failures.

In most cases, private lending and insurance business efficiently meets societal demands by allocating resources to the most productive uses, and Federal intervention is unnecessary or can even be distortionary. However, Federal intervention may improve the market outcome in some situations. The market imperfections

that justify some Federal involvement can be broadly classified as follows.

- **Information opaqueness** interferes with the optimal allocation of capital. In most cases, financial intermediaries efficiently gather and process information needed to evaluate the creditworthiness of borrowers. However, there may be little objective information about some groups of borrowers such as start-up businesses, start-up farmers, and students, who have limited incomes and credit histories. Because it is difficult for those borrowers to prove their creditworthiness to a large number of lenders, they must rely on the subjective judgments of a few lenders. In this situation, many creditworthy borrowers may fail to obtain credit. Even for borrowers who are approved for credit, insufficient competition can result in higher inter-

est rates. Government intervention, such as loan guarantees, enable these groups of borrowers to obtain credit more easily and cheaply and provides an opportunity for the lender to become more comfortable with that group of borrowers. Similarly, the private sector efficiently insures against various risks. Insurance companies estimate the expected loss based on probabilities of loss-generating events and charge adequate premiums. Private insurers, however, are reluctant to insure against an event for which they cannot reasonably estimate the probability and the magnitude of loss. Without these estimates, they cannot adequately set the premium. Terrorism emerged as one of these cases after the September 11 attacks. In these cases, Government intervention limiting uncertainties for the private sector may be necessary to ensure the provision of insurance.

- **Externalities** cause either underinvestment or overinvestment in some sectors. Individuals and private entities do not make socially optimal decisions when they do not capture the full benefit (positive externalities) or bear the full cost (negative externalities) of their activities. Examples of positive and negative externalities are education and pollution. The general public benefits from high productivity and good citizenship of a well-educated person and suffers from pollution. Without Government intervention, people will invest less than the socially optimal amount in activities that generate positive externalities and more in activities that generate negative externalities. The Federal Government can encourage activities involving positive externalities by offering subsidized credit or other rewards such as tax benefits and discourage activities involving negative externalities by imposing taxes or other penalties. Alternatively, the Government may offer credit or direct subsidies to encourage activities reducing negative externalities (e.g., pollution control).
- **Resource constraints** sometimes limit the private sector's ability to offer certain products. Deposit insurance is one example. Since the performance of banks is often affected by common factors such as macroeconomic conditions, bank failures tend to be clustered in bad economic times. Furthermore, if depositors become doubtful about the soundness of the banking system as a whole upon observing a large number of failures, they may rush to withdraw deposits, forcing even sound banks into liquidation. To prevent these undesirable withdrawals, which would harm the whole economy, deposit insurance needs to be backed by a sufficient fund to resolve a very large number of failures. It may be difficult for private insurers to secure such a large fund. Some catastrophic events can also threaten the solvency of private insurers. For some events involving a small risk of a very large loss, therefore, Government insurance commanding more resources can be more

credible and effective. Another form of resource constraint is a liquidity constraint. It is usually difficult for a private entity to raise a large amount in a short time. The funding difficulty can limit the private market's ability to extend credit and thereby disrupt economic activity. The Federal Government can prevent economic disruption by providing liquidity in illiquid sectors or during illiquid periods.

- **Imperfect competition** justifies some Government intervention. Competition is imperfect in some markets because of barriers to entry, economies of scale, and foreign government intervention. For example, legal barriers to entry or geographic isolation can cause imperfect competition in some rural areas. If the lack of competition forces some rural residents to pay excessively high interest on loans, Government lending programs aiming to increase the availability of credit and lower the borrowing cost for those rural residents may improve economic efficiency.

Changing Financial Markets

Financial markets have undergone many changes in recent years. The most fundamental developments are financial services deregulation and technological advances, which have promoted competition and economic efficiency. Deregulation and technological advances have led to many important developments. Deregulation has promoted consolidation by removing legal barriers to business combinations. By increasing the availability of information and lowering transaction costs, technological advances have significantly contributed to enhancing liquidity, refining risk management tools, and spurring globalization. The current economic downturn, however, can temporarily interrupt these trends.

Financial services deregulation has promoted competition by removing geographic and industry barriers. Active deregulation at the state level substantially removed restrictions on interstate banking and intrastate branching in the 1980s and early 1990s. At the Federal level, the full implementation of the Riegle-Neal Interstate Banking and Branching Act in 1997 essentially removed geographic barriers. The Financial Services Modernization Act of 1999 has repealed the provisions of the Glass-Steagall Act and the Bank Holding Company Act that restricted the affiliation between banks, securities firms, and insurance companies. The Act allows financial holding companies to engage in various financial activities, including traditional banking, securities underwriting, insurance underwriting, asset securitization, and financial advising. As a result, competition has become nationwide and across all financial products.

Advances in communication and information processing technology have made the evaluation of borrowers' creditworthiness more accurate and lowered the cost of financial transactions. Lenders now have easy access to large databases, powerful computers, and sophisticated analytical models. Thus, many lenders use

credit scoring models that evaluate creditworthiness based on various borrower characteristics derived from extensive credit bureau data. As a result, lending decisions have become more accurate and objective. Powerful computing and communication devices have also lowered the cost of financial transactions by producing new transaction methods such as electronic fund transfers, Internet banking, and Internet brokerage. The development of reliable screening methods and efficient transaction methods have resulted in intense competition for creditworthy borrowers and narrowed lending margins. Financial institutions are more willing to compete for customers with diverse characteristics, customers in distant areas, and small profit opportunities. A notable example of increased competition is the credit card business, where offering lower rates to lower-risk customers has become much more common in recent years.

Consolidation among financial institutions, especially banks, has been very active due to deregulation and increased competition. Because of active consolidation, the number of banks has sharply decreased, and the concentration of assets has increased. At the end of calendar 2000, there were about 8,300 commercial banks, which represented a decrease by over 4,000 or 33 percent from the end of calendar 1990. The top 10 banks controlled 37 percent of banking assets at the end of calendar 2000, compared with 21 percent at the end of calendar 1990. Consolidation across traditional industry boundaries has produced financial holding companies that control multiple types of financial institutions. The leading example is Citigroup encompassing the commercial banking (Citibank), insurance (Travelers), and securities (Salomon Smith Barney) businesses.

Direct capital market access by borrowers has become more common. Advances in communication and information processing technology enabled many companies (less-established medium-sized companies, as well as large well-known ones) to validate their financial information at low costs and to borrow directly in capital markets, instead of relying on banks. In particular, commercial paper (short-term financing instruments issued by corporations) has been very popular. In the 1990s, growth of commercial paper substantially outpaced growth of bank business loans. The current economic slowdown, however, has had a much larger negative effect on growth of commercial paper than on growth of bank business loans.

Nonbank financial institutions, such as finance companies and venture capital firms, increased their market share, partly thanks to advanced communications and information processing technology that helped to level the playing field. Over the last decade, both consumer loans and business loans have been growing at finance companies faster than at commercial banks. The growth of venture capital firms was rather phenomenal. Between calendar 1995 and calendar 2000, their new investments, which were mostly in small firms' equity, increased more than 17-fold (from \$6 bil-

lion to \$104 billion). Due to the economic downturn and the slumping stock market, venture capital investments in calendar 2001 decreased to less than half of the calendar 2000 level, but were still several times as much as those in the mid-1990s.

Internet-based financial intermediaries provide financial services more cheaply and widely. The Internet lowers the cost of financial transactions and reduces the importance of physical location. Internet brokers slashed the commission on stock trading. Internet-only banks, which started appearing recently, bid up deposit interest rates. Furthermore, their services are nationwide. The Electronic Signatures in Global and National Commerce Act of 2000, which eliminates legal barriers to the use of electronic technology to sign contracts, should accelerate the growth of transactions over the Internet.

Securitization (pooling a certain type of asset and selling shares of the asset pool to investors) is a financial instrument produced by technological advances. Increased transparency of asset quality created demand for securitized assets. Securitization has enhanced liquidity in financial markets by enabling lenders to raise funds without borrowing or issuing equity. It also helps financial institutions to reduce risk exposure to a particular line of business. Commonly securitized assets include credit card loans, automobile loans, and residential mortgages, whose quality can be more objectively analyzed. In recent years, financial institutions began securitizing to a very limited extent many other assets such as commercial mortgages and small business loans, the riskiness of which is more difficult to evaluate.

Financial derivatives, such as options, swaps, and futures, have improved investors' ability to manage risk (either increase or decrease risk exposure). Financial institutions and some other types of companies are increasingly using these relatively new instruments to manage various types of risk such as interest rate risk, credit risk, price risk, and even catastrophe-related risk. The interest rate swap, for example, is an effective tool to reduce a firm's exposure to interest rate movements. However, a firm can also use an interest rate swap to take interest risk. Interest rate swaps are widely used now. After the September 11 attacks, catastrophe bonds drew some attention as a potential means to manage a large risk. This derivative offers yields higher than market interest rates. If a specified catastrophe occurs, however, the bondholders lose a part or all of the principal, depending on the size of the damage. In this contract, the higher yield and the loss of principal respectively are equivalent to the insurance premium and the insurance payout. In this way, the potential large loss can be spread among a large number of investors, instead of a few insurance companies. The size of the catastrophe bond market, however, is still very small.

Globalization has been accelerating as a result of the reduced importance of geographic proximity and knowledge of local markets. Both commercial and in-

vestment banking institutions headquartered in Europe and Japan are actively competing in the U.S. market, and many U.S. financial institutions have branches worldwide.

The current economic downturn has increased loan delinquency rates and bankruptcies. The delinquency rate of business loans at banks averaged 2.9 percent during the first three quarters of calendar 2001, compared with 2.2 percent in calendar 2000. The increases in delinquency rates were modest for consumer loans (from 3.6 to 3.7 percent) and real estate loans (from 1.9 to 2.1 percent). Between 2000 and 2001, however, personal bankruptcy filings increased 14.1 percent, which was much faster than the 6.6 percent increase in business bankruptcy filings. Jitters about credit quality reduced the supply of business credit in the private market, especially from nonbank sources such as commercial paper. The stock market bust also increased the cost of equity financing, especially for start-ups that relied on venture capital. For households, credit conditions remained relatively easy, partly thanks to the continued strength of the housing market.

Implications for Federal Programs

In general, financial evolution has increased the private market's capacity to serve the populations traditionally targeted by Federal programs and hence weakened the role of Federal credit and insurance programs. Thus, it may be desirable to focus on narrower target populations that still have difficulty in obtaining credit from private lenders and on more specific objectives that have been less affected by financial evolution.

Information about borrowers is more widely available and easier to process, thanks to technological advances. Credit scoring models, for example, enable lenders to screen many borrowers at low cost and to make more accurate lending decisions. As a result, creditworthy borrowers are less likely to be turned down, while borrowers that are not creditworthy are less likely to be approved for credit. The Federal role of improving credit allocation, therefore, is generally not as strong as before. The benefit from financial evolution, however, can be uneven across groups and over time. Large financial institutions with global operations, which are products of consolidation, may want to focus more on large customers and business lines that utilize economies of scale and scope more fully. Thus, some small borrowers, who used to rely heavily on the private information of small institutions, can be under-

served. In an economic downturn, lenders can be overly cautious, leaving out some creditworthy borrowers. The Federal Government may need to better target those underserved groups, while reducing general involvement.

Externalities have not been significantly affected by financial evolution. The private market fundamentally relies on decisions at the individual level. Thus, it is inherently difficult for the private market to correct problems related to externalities.

Resource constraints have been alleviated. Securitization and financial derivatives facilitate fund raising and risk sharing. By securitizing loans and writing derivatives contracts, a lender can make a large amount of risky loans, while limiting its risk exposure. An insurer can distribute the risk of a natural or man-made catastrophe among a large number of investors through catastrophe-related derivatives, although the extent of risk sharing in this way is limited due to the small size of the catastrophe bond market.

Imperfect competition is much less likely in general. Developments that contributed to increasing competition are financial deregulation, direct capital market access by borrowers, stronger presence of nonbank financial institutions, emergence of Internet-based financial institutions, and globalization. Consolidation has a potential negative effect on competition, especially in markets that were traditionally served by small institutions. Given that the Nation still has many banks and other financial institutions, the negative effect, if any, should be insignificant overall. It is possible, however, that some communities in remote rural areas and inner city areas have been adversely affected by consolidation.

Uncertainties about the Federal Government's liability have increased in some areas. Consolidation has increased bank size, and deregulation has allowed banks to engage in many risky activities. Thus, the loss to the deposit insurance funds can turn out to be unusually large in some bad years. The potential loss needs to be limited by large insurance reserves and effective regulation. The large size of some GSEs is also a potential problem. Financial trouble of a large GSE could cause strong repercussions in financial markets, affecting federally insured entities and economic activity. The current economic downturn also makes it more difficult to estimate the costs of credit and insurance programs because they can change abruptly.

II. A CROSS-CUTTING ASSESSMENT

To systematically assess Federal programs, policymakers and program managers need to consider the following questions. (1) Are the programs' objectives still worthwhile? (2) Is the program economically justified? (3) Is the credit or insurance program the best way to achieve the goals? (4) Is the program operating efficiently and effectively? If the answer is "No" to any of the first three questions, the program should be

eliminated or phased out. For programs that pass the three tests, the focus should be on improving efficiency and effectiveness.

Objectives

The first step in reassessing Federal credit and insurance programs is to identify clearly the objective of each program, such as an increase in homeownership, an increase in college graduates, an increase in jobs, or an increase in exports. The objective must be worthwhile to justify a program. For some programs, the objective might be unclear or of low importance. In some other cases, an initially worthwhile objective might have become obsolete. For example, the main objective of the Rural Telephone Bank is to increase telephone service in rural areas. This was a worthwhile objective when many rural residents had limited or costly access to telephone service. In the current environment with ample supply of telephone lines and intense competition among telephone companies, however, the objective may be obsolete.

Economic Justifications

For a credit or insurance program to be economically justified, the program's benefits must exceed its costs. The benefits are the net effects of the program on intended outcomes compared with what would have occurred in the absence of the program. They exclude, for example, gains that would have been obtained with private credit in the absence of the program. Financial evolution may have significantly affected the net benefit from some programs. Suppose, for example, that financial evolution made information about borrowers transparent in some sectors where information opacity had been a major problem. Then the net benefit would be substantially smaller for the Federal programs that were mainly intended to solve the information problem in those sectors.

Many Federal credit and insurance programs involve subsidy costs, and all of them incur administrative costs. A subsidy cost occurs when the beneficiaries of a program do not pay enough to cover the cost to the Federal Government (e.g., they pay below-cost interest rates and below-cost fees). The administrative costs include the costs of loan origination, direct loan servicing, and guaranteed loan monitoring. The net benefit of a program can be smaller than the combined cost of subsidy and administration either because it is inherently costly to pursue the program's goal or because the program is inefficiently managed (failure to maximize the benefit and minimize the cost). The program should be discontinued in the first case and restructured in the second case.

Alternatives

Even a program that is economically justified should be discontinued if there is a better way to achieve the same goals. The Federal Government has other means to achieve social and economic goals, such as providing direct subsidies, offering tax benefits, and encouraging private institutions to provide the intended services.

In general, direct subsidies are more efficient than credit programs for the purpose of fulfilling social objectives such as helping low-income people, as opposed

to economic objectives such as improving credit allocation. Direct subsidies are less likely to interfere with the efficient allocation of resources. Suppose that the Government makes a subsidized loan to be used for a specific project. Then the borrower will undertake the project if its return is greater than the subsidized rate. Thus, the subsidized loan can induce the borrower to undertake a normally unprofitable project and hence result in a social loss. On the other hand, a direct subsidy is a simple income transfer, which is less likely to cause a social loss.

To a certain extent, the Federal Government can also correct market failures by helping the private market to improve efficiency, instead of directly offering credit or insurance. For example, policies encouraging the standardization of information (e.g., standardization of loan origination documents) may improve the private lenders' ability to serve those sectors where information is opaque. Standardization helps to reduce opacity by facilitating information processing. With reduced opacity, loan sales should be easier, and the secondary market should develop more quickly. Then the lending market would be more liquid and competitive. A more specific example is the development of floodplain maps by the National Flood Insurance Program. Before the development of the maps, private insurance companies had little information on flood risks by geographic area. The lack of information was a main reason why private companies were unwilling to insure against flood risk.

Improving Efficiency

Some programs may be well-justified based on the three criteria above. However, few programs may be perfectly designed or managed. It is almost impossible to take all relevant factors into consideration at the beginning. In addition, financial evolution can lower the efficiency of initially well-designed and well-managed programs. Thus, improving efficiency is an everlasting concern. Although the ways to improve efficiency vary across programs, there are some general categories and principles that apply to most programs.

Pricing (setting appropriate lending terms or insurance premiums) is a critical part of credit and insurance programs. If program managers fail to accurately estimate the default and prepayment probabilities for a credit program and the loss probability for an insurance program, the program may be mispriced, and the actual subsidy may substantially deviate from the intended subsidy. To improve the estimation accuracy, using advanced analytical tools is important, especially for some programs, for which pricing involves many complications. An inappropriate intended subsidy rate can also impair program efficiency. If a program's subsidy is too small, the intended population may be discouraged from using the program. On the other hand, an excessive subsidy may attract unintended customers.

Some programs are inherently difficult to price. To price deposit insurance, for example, the Federal Deposit Insurance Corporation (FDIC) needs to estimate

bank failure probabilities, which are highly changeable. An unexpected event can cause many failures, and the banking business changes over time, introducing new risks. FDIC recently made a constructive proposal to improve deposit insurance pricing. Agencies dealing with complicated pricing need to continuously endeavor to refine pricing. In many cases, utilizing both historical experience and sophisticated analytical tools may be necessary. Private sector participation may also help the pricing of complicated programs. Federal agencies can make risk-sharing arrangements with private firms that may have better pricing expertise and derive information from the private firms' pricing.

The subsidy rate and the manner in which subsidies are provided can also affect program efficiency. The Farm Service Agency (FSA) offers agricultural loans at Treasury rates to borrowers who have been denied credit by private lenders. Since Treasury rates are lower than market rates for creditworthy borrowers, this pricing strategy can attract borrowers who can obtain credit elsewhere. It is possible that some creditworthy borrowers are denied credit by chance or by misrepresentation. One solution to this problem is to make loans at the market rate for average borrowers, which would still subsidize the intended population with low credit ratings. When further subsidies to the disadvantaged are desirable, the Government may supplement the loans with direct subsidies.

Another pricing issue arises when the Government relies on private intermediaries. The student loan guarantee program sets the interest rate that participating lenders receive, which differs from the rate that students pay. While an unattractively low lender rate set by the Government would reduce participation, an excessively high rate would unnecessarily increase the cost of the program. A similar problem exists for the crop insurance program. Private insurance companies sell and service crop insurance policies, and the Federal Government reimburses the private companies for the administrative expenses and reinsures them for excess insurance losses. Excessive profits of private companies are also possible in this case. One way to deal with this problem is to carefully examine the profit of participating intermediaries. An alternative is to set the price through competitive bidding.

Targeting the right population is also an important element of program efficiency. The net benefit will increase if program managers more successfully identify the populations that would benefit more from credit and insurance programs and reach out to them. Right populations include borrowers who have worthwhile projects but have difficulty in obtaining private credit (e.g., beginning farmers, new businesses, new exporters), populations underserved by the private market (e.g., low-income, minority), underserved neighborhoods (e.g., rural, inner city), and legislatively targeted populations (e.g., students, veterans). In addition to making credit available, program managers need to actively inform potential borrowers of the credit availability and provide high-quality customer services, so that igno-

rance or inconvenience does not deter the targeted populations from accessing the program. Federal credit programs can also play a more useful role when there is temporary inefficiency in the private market. The financial market can occasionally face a liquidity crisis or become overly pessimistic (e.g., at the time of the Asian financial crisis and the near collapse of Long Term Capital Management, a hedge fund). Economic downturns can also reduce the credit available from private sources, as evidenced by declines in commercial paper and venture capital investment in 2001. On those occasions, Federal agencies can promote the extension of credit to creditworthy borrowers. While outreaching, program managers should avoid overreaching, which would waste taxpayers' money.

While targeting may not be a problem for some well-defined programs, such as deposit insurance and student loan programs, it can be a major concern for many programs that serve broader purposes, such as housing, business, and international programs. Given that private lenders have been reaching out to more traditionally underserved homebuyers, for example, there are ever increasing needs for Federal housing agencies to improve their focus on the populations that may still be underserved by the private market, such as minorities and inner city residents. In the agricultural sector, FSA provides loan guarantees to many borrowers who have access to private credit. To improve program efficiency, FSA needs to focus on borrowers who would benefit most from the government program (for example, helping more small, beginning farmers and fewer large, established farmers). The Small Business Administration (SBA) faces a similar problem. Given that the definition of small business is not really tight, access to private credit may differ widely across small businesses. It is an ongoing challenge for SBA to focus more narrowly on start-ups and very small businesses, which may have more difficulty in obtaining credit without Government assistance.

Even when the target population is fairly well defined, a program can extend its role beyond the original mission. The housing program of the Department of Veterans Affairs (VA), of which the main purpose is to help veterans, offers direct loans to the purchasers of foreclosed VA homes, who are not veterans. The loans do not necessarily increase the cost to the government if the favorable lending terms positively influence sale prices. Nevertheless, the loans to the general public can be considered as overreaching. The program also allows veterans to obtain the subsidized loans more than once. Provided that the primary goal of the program is to help disadvantaged veterans right out of the military, repeated offers of subsidized loans may be unnecessary in many cases. Rural Utilities Service (RUS) offers credit to utility providers serving rural areas. Once the eligibility is determined, however, requalification is not required for new loans. This lax rule enables some borrowers, where rural areas have become urban after the first loan, to obtain new loans to support both rural and urban areas.

Targeting too narrowly can also be a problem. Export credit provided by the Export-Import Bank is highly concentrated to a few large exporters. Overseas Private Investment Corporation (OPIC) has been primarily assisting large U.S. companies investing abroad. In these cases, reaching out to smaller exporters and investors might improve program efficiency.

Risk management needs to be effective to limit the cost of credit and insurance programs. Careful screening of borrowers would reduce the default risk. Although the goal of most credit programs is not to lend to the most creditworthy borrowers, it is important to identify relatively more creditworthy borrowers even among those who might be denied credit by private lenders. Other key elements of risk management include monitoring existing borrowers and collecting defaulted loans. One way to improve screening, monitoring, and collecting is to use advanced analytical tools such as credit scoring and to maintain useful data bases. In some cases, the private sector may perform those tasks more efficiently. Then delegation would be an effective strategy. For example, if banks are better at screening some opaque borrowers because of their extensive experience with those borrowers, Federal agencies may delegate the screening of those borrowers to banks with appropriate risk-sharing arrangements.

Technological advances have significantly improved the screening of borrowers, especially in the housing market, where standardizing information is relatively easy. Private lenders process loans efficiently using automated and sophisticated tools. Federal agencies targeting the populations that are largely served by the private sector need to be alert to catch up with rapid technological advances. Falling behind, they could be left with riskier borrowers. Analytical models also play an important role in monitoring borrowers and insurance policyholders. Pension Benefit Guarantee Corporation (PBGC) has an Early Warning Program designed to identify weak industries and companies. The program, which facilitates early intervention and negotiations, has been fairly successful in reducing insurance losses.

Since standardizing information is still difficult for small business, banks with extensive business relationships may have advantages in screening borrowers. The Small Business Administration (SBA), which guarantees small business loans, delegates credit evaluation with some risk-sharing arrangements. SBA has been strengthening the delegation through its Preferred Lender Program, which has shown some success in reducing default rates. However, since designing optimal risk-sharing arrangements is a challenging task, SBA and other Federal agencies delegating credit evaluation to private lenders should keep trying to develop finer risk-sharing arrangements.

Delegation of loan servicing is generally desirable, but it should be accompanied by close monitoring of contractors. VA lets private servicers track the performance of VA loans. VA, however, is not notified of delinquencies until loans are 60 to 90 days overdue. Closer

monitoring might help to reduce the default rate of VA loans. The performance of private contractors may also be improved through performance-based contracting. The Department of Education (ED) relies on private contractors for collecting defaulted student loans. ED lets multiple debt collectors compete for the loan volume by assigning more loans to the best performers. This performance-based contracting has helped to increase the collection of defaulted loans.

Cost control is a concern for all types of organizations. For Federal credit and insurance programs, key elements include delivery and servicing costs, in addition to the general administration cost. There are many ways for Federal agencies to save costs. They may streamline the delivery system, computerize loan servicing, and eliminate redundant servicing facilities. In cases where the private sector is more efficient in some specific functions such as loan servicing, it may be best to contract out those functions. When several Federal agencies serve similar purposes, inter-agency cooperation can result in a substantial cost saving.

The student loan guarantee program involves multiple layers of private and public institutions. There may be an opportunity to streamline the delivery system and save on administrative cost. SBA operates multiple loan servicing centers throughout the Nation. Given that advances in communication technology have reduced the importance of physical presence for loan servicing, consolidating some of those facilities might reduce costs without sacrificing customer service.

ED contracts out the servicing of direct student loans. Since many private institutions are more experienced with loan servicing than the Government, contracting out can be more cost-effective in many cases. To realized the potential cost savings, however, Federal agencies need to use well-designed competitive bidding and incentive arrangements, as well as to monitor the quality of service. Without these appropriate steps, contracting out could represent more of a private opportunity for a windfall gain than of the Government's opportunity for a cost saving. The Federal Housing Administration and SBA have been selling loans to private financial institutions. Provided that private institutions are more efficient in loan servicing, loan sales should help to save servicing and administrative costs. Well-designed competitive bidding is important in this case, as well.

There are several Federal agencies that are involved in home-purchase financing and several agencies that provide export-related credit. In these cases, substantial cost saving can be achieved through sharing data bases, exchanging expertise, and consolidating redundant operations. Housing agencies have been sharing data, but to a limited extent. International credit agencies use a common risk assessment system. There may remain many cost-saving opportunities that can be realized through fuller cooperation.

Initiative plays an important role in a rapidly changing environment. Information technology and fi-

financial markets have been changing rapidly. To achieve the maximum efficiency, program managers need to closely watch and quickly adapt their programs to new developments. Tardy responses to changes in information technology may mean missed opportunities for improving risk management and reducing costs. Financial market developments also have important implications. For example, many loans guaranteed by the Government are securitized. Securitization may reduce the lenders' incentives to screen and monitor borrowers if they believe that guaranteeing agencies do not properly track the performance of securitized loans. To prevent this adverse effect, the Government needs well-organized databases and modern monitoring systems. Private lenders are more willing to serve many customers to whom they did not want to lend in the past. Thus, some Federal credit programs may need to focus more narrowly on customers who are still underserved by private lenders. Without agencies' initiative, needed adjustments might be substantially delayed.

Federal agencies have been active in initiating automation and Internet-based services. PBGC has a pilot project that enables participants in certain PBGC-trusted plans to calculate their approximate benefits online. VA recently developed web-based application that allows lenders to obtain appraiser assignments and loan numbers for VA loan applications. ED has undertaken an automation and modernization initiative to streamline the management of student financial assistance programs. Rural Utilities Service has made many forms available for download at its website.

Many agencies have proposed to develop analytical models to improve risk management. SBA has been developing a loan monitoring system and an advanced subsidy-estimation model. Rural Housing Service have been working on models to evaluate the creditworthiness of borrowers. However, the progress has been slow in many cases.

There have also been proposals for regulatory changes. FDIC recently made reform proposals ranging from merging bank and thrift insurance funds to refining risk-based premiums. FHA recently proposed a rule that would help to reduce fraudulent practices in the housing market. In general, however, credit and insurance agencies have not been very active in proposing regulatory changes. Given that individual agencies are on the frontiers of detecting changes in market conditions, they may need to take a more active role in bringing about regulatory changes that would improve the effectiveness and efficiency of their programs.

Federal Loan Asset Sales: A Current Issue in Improving Efficiency

Federal loan asset sales provide an opportunity for agencies to achieve many of the efficiency gains already discussed. For programs where loan asset sales are appropriate, sales can free up existing agency resources to better serve their target population, lower the risk exposure of the Federal government, and create better overall management of Federal loan assets. In addition,

while outsourcing specific functions, such as loan servicing, to the private sector has shown cost savings to the Government, outsourcing requires careful monitoring of the contractor. By selling the asset outright to the private sector, Federal agencies can further reduce administrative costs.

At the end of 2000, the Federal Government held loan assets valued at \$241 billion. Of the \$241 billion, \$208 billion were direct loans, and \$33 billion were guaranteed loans acquired by the Federal Government after default. Both types of loans are eligible to be sold. Sale of Federal loan assets can provide several benefits to the Federal Government: revenues from sales, administrative cost savings, and management improvements. In a time of tight budgetary resources, it makes good sense to free up agency resources for redirection to core Governmental functions and outsource activities that are more efficiently done by the private sector. Agencies can use the freed-up financial and human resources to better target new lending to the right population, better manage the remaining portfolio, and improve technological areas where they are lagging, such as loan servicing and credit screening.

The Debt Collection Improvement Act of 1996 (DCIA), which authorizes agencies to sell debt that is over 90 days delinquent, grew out of an increased recognition of the Government's inefficiency at managing poorly performing assets. For example, some agencies did not have a policy in place to take action when borrowers were delinquent or in default. The lack of an adequate policy resulted in unnecessarily large losses to the Government. In implementing the DCIA, OMB Circular A-129 imposes a more stringent rule requiring agencies to sell loans that are over one year delinquent and loans for which collection action has been terminated. Circular A-129 also recommends that agencies develop plans for selling performing loans, thereby using asset sales as a portfolio management tool.

To effectively conduct loan sales, agencies need to establish policies and procedures for tracking both performing and non-performing loans. These efforts will also help to improve overall portfolio management, resulting in reduced default rates and better cost estimates for future loans. Agencies may also acquire knowledge that helps to decide outsourcing of some functions such as loan servicing and liquidation.

The bulk of Federal loan assets are held by five Federal credit agencies: Department of Veterans Affairs, Department of Agriculture, Department of Education, the Federal Housing Administration (FHA), and the Small Business Administration (SBA). To date, two agencies, FHA and SBA, have conducted loan asset sales, selling non-performing loans, which satisfies the DCIA provisions of selling delinquent loans, and selling performing loans as well. Successful sales to date by these two agencies have shown that loan assets can be priced advantageously to both the Government and the private sector due to the private sector's expertise and scale economies in loan servicing. Both agencies are currently planning future sales. The sales to date

have generated revenue for the Government, while reducing the costs of maintaining and liquidating those assets. Other benefits of asset sales include the transfer of resources from certain credit program functions that

are not inherently Governmental to core Governmental functions that are essential in carrying out the mission and overall improvements in asset management.

III. CREDIT IN FOUR SECTORS

Housing Credit Programs and GSEs

The Federal Government makes direct loans, provides loan guarantees, and enhances liquidity in the housing market to promote homeownership among low- and moderate-income people and to help finance rental housing for low-income people. While direct loans are largely limited to low-income borrowers, loan guarantees are offered to a much larger segment of the population, including moderate-income borrowers. Increased liquidity achieved through GSEs benefits virtually all borrowers in the housing market, although it helps low and moderate-income borrowers more.

The main government agencies and GSEs involved in housing finance are the Department of Housing and Urban Development (HUD), the Department of Veterans Affairs (VA), the Department of Agriculture (USDA), Fannie Mae, Freddie Mac, and the Federal Home Loan Bank System. In 2001, HUD, VA, and USDA supported \$219 billion of direct loans and loan guarantees, contributing to a record high homeownership rate of 68.1 percent. Roughly one out of six single-family mortgages originated in the United States receives assistance from one of these programs.

Federal Housing Administration

HUD's Federal Housing Administration (FHA) operates several insurance funds, the largest of which is the Mutual Mortgage Insurance Fund. FHA mortgage insurance is directed to expanding access to homeownership for people who lack the financial resources or credit history to qualify for a conventional home mortgage. In 2001, FHA insured \$107 billion in mortgages for almost 1 million households, 10 percent more households than in 2000. The dollar volume of mortgages exceeded 2000 by 24 percent, partially driven by the rapid increase in house prices and low interest rates.

FHA has contributed significantly to the recent homeownership gains, but its target population of first-time home buyers is most at risk of surrendering these gains. After increasing significantly since 1994, the share of FHA's home purchase mortgages going to first-time home buyers and minority households dropped slightly in 2001. FHA helped its borrowers retain their homes by increasing use of loss mitigation tools (such as lender forbearance, loan modification, and partial claims) by 62 percent over the previous year. The Budget will further protect home buyers from losing their homes by expanding HUD homeownership counseling to nearly twice as many families. HUD delivers both pre- and post-purchase counseling services through a network of counseling agencies.

Congress enacted a 2002 Budget proposal to allow FHA to insure a financial product that has gained popularity in the conventional market—hybrid adjustable-rate mortgages. Congress also clarified HUD's legal authority to operate FHA Credit Watch—a lender monitoring program that rates lenders by the performance of the loans they underwrite and allows FHA to sever relationships with those showing poor performance. Credit Watch is critical to protect the FHA Mutual Mortgage Insurance Fund from unexpected losses due to mismanagement and fraud.

FHA combats fraud on many fronts, including predatory lending. The President's Management Agenda sets out several critical tasks for FHA to improve its risk management. FHA issued a proposed rule in 2001 that would prevent the predatory practice of property flipping, in which a lender and an appraiser conspire to sell a home at a falsely inflated price, thereby victimizing the borrower and exposing FHA to excessive losses. The Department is considering other regulatory changes to help prevent predatory lending.

FHA Neighborhood Watch helps home buyers help themselves by providing an internet-accessible lender monitoring system. The system tracks each lender's defaults, by neighborhood, enabling a mortgage shopper to identify lenders with good records of mortgage performance in the shopper's local area. Lenders with high rates of defaulted loans are flagged as potential problems. The system also helps the industry self-police; other financial institutions are unlikely to purchase FHA loans from a lender identified by Neighborhood Watch as high risk.

VA Housing Program

The VA assists veterans, members of the Selected Reserve, and active duty personnel to purchase homes as a recognition of their service to the Nation. The program substitutes the Federal guarantee for the borrower's down payment. In 2001, VA provided \$31 billion in guarantees to assist 252,700 borrowers. Both the volume of guarantees and the number of borrowers increased substantially from 2000 as lower interest rates increased loan originations and refinancings in the housing market.

Since the main purpose of this program is to help veterans, lending terms are more favorable than market rates. In particular, VA guarantees zero down payment loans. As a result, the default rate is relatively high. The subsidy rate, however, declined slightly in 2001, thanks to efforts to reduce foreclosure rates and the strong housing market.

In order to help veterans retain their homes and avoid the expense and damage to their credit resulting

from foreclosure, VA plans aggressive intervention to reduce the likelihood of foreclosures when loans are referred to VA after missing three payments. VA was successful in 40 percent of their 2001 interventions, and its goal is to maintain the 40 percent level in 2003. Future military base closures, however, may negatively affect the default rate in the VA guaranteed housing program. Guaranteed loans issued to active duty military and military reservists are vulnerable to the impact of base closures on the neighboring community. VA is continuing its efforts to reduce administrative costs through restructuring and consolidations.

Rural Housing Service

USDA's Rural Housing Service (RHS) offers direct and guaranteed loans and grants to help very low- to moderate-income rural residents buy and maintain adequate, affordable housing. The single family guaranteed loan program guarantees up to 90 percent of a private loan for low to moderate-income rural residents. The program's emphasis is on reducing the number of rural residents living in substandard housing. In 2001, \$2.4 billion of guarantees went to 31,000 households, of which 30 percent went to low-income borrowers (with income 80 percent or less than median area income). For 2001, Congress statutorily increased the premium charged on the RHS single-family guarantees from 1 to 2 percent, which allowed RHS to provide more guarantees at less cost to the taxpayers.

In the single family housing guaranteed loan program, lender monitoring and external audits have helped to identify program weaknesses, train servicers, and identify troubled lenders. RHS's guaranteed loan program is also moving toward automated underwriting. In 2001, RHS continued to enhance an Internet-based system that will, with future planned improvements, provide the capacity to accept electronic loan originations from their participating lenders. Utilizing electronic loan origination technology will add significant benefits to loan processing efficiency and timeliness for RHS, the lenders, and customers. RHS continues to operate under the "best practice" for asset disposition for its guaranteed loan program. For single family guarantees, the lender is paid the loss claim, including costs incurred for up to three months after the default. After the loss claim is paid, RHS has no involvement in the loan, and it becomes the sole responsibility of the lender to dispose of the property.

RHS programs differ from other Federal housing loan guarantee programs. RHS programs are means-tested and more accessible to low-income, rural residents. In addition, the RHS direct loan program offers deeper assistance to very-low-income homeowners by reducing the interest rate down to 1 percent for such borrowers. The program helps the "on the cusp" borrower obtain a mortgage, and requires graduation to private credit as the borrower's income increases over time. The interest rate depends on the borrower's income. Each loan is reviewed annually to determine the interest rate that

should be charged on the loan in that year based on the borrower's actual annual income.

The program cost is balanced between interest subsidy and defaults. For 2003, RHS expects to provide \$1 billion in loans with a subsidy cost of 19.37 percent. Its most recent and ongoing servicing improvement effort has been the implementation of the Dedicated Loan Origination Service System (DLOS), which centralized the servicing and monitoring of the direct loan program. DLOS, in conjunction with 2 major regulations implemented between 1996 and 1997, reduced RHS's direct loan subsidy rate by 40 percent. RHS has reduced default rates and losses. RHS also has less than 1,200 Real Estate Owned (REO) properties, which is less than 0.02 percent of the portfolio.

RHS also offers multifamily housing loans. Direct loans are offered to private developers to construct and rehabilitate multi-family rental housing for very-low to low-income residents, elderly households, or handicapped individuals. These loans to developers are very heavily subsidized; the interest rate is between 1 and 2 percent. The Farm Labor Housing direct loans, which are similarly priced, help developers to provide rental units for minority farm workers and their families. RHS rental assistance grants supplement both of these loan programs in the form of project based rents for very low-income rural households (for renewals and new construction, the cost will be \$712 million in 2003). RHS also offers guaranteed multifamily housing loans. RHS will address management issues in its multifamily housing portfolio in 2003 by restricting the \$60 million loan level to repair and rehabilitation of its existing portfolio (17,800 projects, 459,000 units). They will also conduct a study on how to fund new construction in a more cost efficient manner with the expectation that new construction will be a priority for the funds in future budgets. Farm labor housing will have a program level of \$53 million and will provide for new construction.

Housing Finance Challenges and Opportunities

Private banks, thrifts, and mortgage bankers, which originate the mortgages that FHA insures and VA and RHS guarantee, may deal with all three programs, as well as with the Government National Mortgage Association (Ginnie Mae, an agency of the Department of Housing and Urban Development), which guarantees timely payment on securities based on pools of these mortgages. In addition, the same private firms originate conventional mortgages, many of which are securitized by Government-sponsored enterprises—Fannie Mae and Freddie Mac.

Many of these firms already use or are moving toward electronic loan origination and automated underwriting. Behind such underwriting are data warehouses that show default experience by type of loan, borrower characteristics, home location, originator, and servicer. Automated valuation models relate these factors to default cost, and provide comparative analysis of home sales data to estimate property collateral values with-

out relying on a human appraiser. After loan origination, software programs grade delinquent loans in terms of their credit and collateral risk and allow servicers to devote resources to the highest-risk loans.

These technological developments offer challenges and opportunities to the Federal mortgage guarantors and Ginnie Mae. Federal credit program managers are challenged to make programs electronically accessible to their clients and loan originators. They are challenged to assess and monitor their risks more closely as private firms are reaching out to the better risks among their potential clients. They also have an opportunity to provide better service at a lower cost, to target their efforts to help borrowers retain their homes, and to reach further to bring affordable housing and homeownership opportunities to those who are not currently served.

Data Sharing. Federal credit program managers are benefitting and would benefit more from additional data-sharing capability across the Government, which provides access to integrated information on program designs, borrower characteristics, and lender and loan performance.

Loan Origination. Electronic underwriting provides convenient, faster service at a lower cost to both lenders and borrowers. Currently, both FHA and VA permit mortgage lenders to use approved automated underwriting systems, including Freddie Mac's "Loan Prospector" and Fannie Mae's "Desktop Underwriter," to originate these loans. FHA, however, will soon deploy its "Total Scorecard." By transitioning FHA's third party lenders to its own automated scorecard, FHA will improve its program controls and credit management. RHS is currently developing its own system and scorecard.

Performance Measurement. As in underwriting, private firms are heavily involved in servicing Government-backed mortgages. Measurement of the private sector's servicing capacity is thus critical. The Government needs to improve its systems to measure this performance. For example, monthly data would not only give housing programs a better understanding of how their guarantee portfolios behave, but also serve as an early warning system and feedback mechanism. The Government could adjust underwriting standards or loan servicing requirements in quick response to changing market conditions.

Managing Risk. Risk-based pricing is emerging in the conventional mortgage market as an important means by which lenders can take on more risk. Technology is giving lenders much more precise ability to assess the initial default risk associated with making a particular loan. This increasingly precise underwriting technology, in turn, allows lenders and insurers to adjust fees or loan rates to reflect risk accurately. Federal loan guarantee programs are assessing the impact of private sector customization on their loan port-

folios, and adopting a similar pricing structure to avoid riskier customer composition and larger losses. FHA recently authorized annual premium cancellation at 78 percent loan-to-value ratio. Proceeding cautiously, FHA will next explore varied pricing for its mortgage insurance based on risk factors such as impaired credit or limited resources, for borrowers who currently do not qualify for FHA insurance, to help achieve the President's goal of increasing homeownership. More flexible pricing would let FHA extend its reach and thereby enable more borrowers to purchase a first home at a reasonable mortgage cost.

Asset Disposition. Common wisdom in the mortgage industry is to avoid foreclosure because that process involves significant losses, including costs for maintenance and marketing. Managers of Federal guarantee programs have found that the best practice is to allow the more experienced private sector to manage delinquent loans and dispose of properties. By 2003, FHA will move out of the property management business for the majority of its defaulted loans by implementing its statutory authority to accelerate the mortgage insurance claim process. The accelerated claim process will enable FHA to sell defaulted notes to the private sector for servicing and/or disposition, thereby reducing foreclosures and eliminating much of the acquisition of real property and increasing net recoveries by FHA.

Fannie Mae and Freddie Mac

Fannie Mae and Freddie Mac were chartered by Congress to increase the liquidity of mortgages and to promote access to mortgage credit for households that historically have been underserved by private markets. They carry out this mission by purchasing and/or guaranteeing residential mortgages. The guaranteed loans are packaged for sale as mortgage-backed securities (MBS), which are held by general investors, mortgage lenders, and Fannie Mae and Freddie Mac themselves. The two GSEs finance their acquisitions of loans and MBS assets by issuing debt. In September 2001, Fannie Mae and Freddie Mac had \$2.6 trillion outstanding in mortgages that they had purchased or guaranteed. Of this, \$1.2 trillion was held in the GSEs' asset portfolios, and \$1.4 trillion served as collateral for outstanding MBS not held in portfolio. Together, the two firms' purchases of single-family mortgages averaged 63 percent of all conventional conforming mortgages originated in calendar years 1998–2000 measured by dollar value.

Fannie Mae and Freddie Mac have grown faster than the mortgage market in recent years. From September 1997 to September 2001, their combined mortgage asset portfolios increased 150 percent in dollar volume, and their guarantees of MBS increased 40 percent. To fund their rapidly growing asset portfolios, Fannie Mae and Freddie Mac have increased their outstanding debt. The GSEs' combined debt outstanding rose from \$518 billion at September 1997 to \$1.26 trillion at the end of September 2001, an annualized growth rate of nearly 25 percent a year.

Increased guarantee volume and retained portfolios imply increased credit and interest rate exposure. In recent years, both Fannie Mae and Freddie Mac have tried to limit their credit and interest rate risk using various risk management techniques such as credit enhancements, additional pool-level insurance supplementing primary mortgage insurance, long-term callable debt, interest rate swaps, and other hedging transactions. These risk management tools, however, do not eliminate all the risk associated with funding long-term, mostly fixed-rate assets that have uncertain payment streams. Furthermore, the hedging transactions transform credit or interest rate risk into counterparty risk (the risk that the counterparty of a hedging transaction fails to honor the contract). Thus, the GSEs' management of counterparty risk is of increasing importance.

The credit quality of mortgages owned or guaranteed by Fannie Mae and Freddie Mac has benefited in recent years from strong housing markets that have improved collateral values. More typical growth in house prices and a weaker economy might raise credit costs from the very low levels of recent years. The credit risk to the GSEs from new or outstanding loans is limited by their required use of mortgage insurance and other credit enhancements for loans with high loan-to-value (LTV) ratios. Both GSEs are increasingly active purchasers of subprime loans, and mortgages with very high LTV ratios, which now range up to 100 percent. These loans tend to have more credit risk than the GSEs' traditional mortgage purchases.

The Federal Housing Enterprises Safety and Soundness Act of 1992 reformed Federal regulation of Fannie Mae and Freddie Mac. The Act created the Office of Federal Housing Enterprise Oversight (OFHEO) to conduct safety and soundness examinations and enforce minimum leverage and risk-based capital requirements on Fannie Mae and Freddie Mac. Examinations of the GSEs and enforcement of leverage capital ratios have proceeded since OFHEO's inception. Risk-based capital requirements were published in September 2001 and became fully enforceable in September 2002.

Fannie Mae and Freddie Mac took steps in 2001 to help the market identify any future change in their riskiness. The GSEs have committed to issue subordinated debt on a regular basis. Following a three-year phase-in period, subordinated debt will equal about 1.5 percent of their on-balance-sheet assets. Because holders of subordinated debt have a junior claim on the

assets of the GSEs, subordinated debt prices tend to be more sensitive to marginal changes in risk. The price of the GSEs' subordinated debt, therefore, could provide a market signal of an increase in their riskiness.

Because of the benefits derived from their unique Federal charters, Fannie Mae and Freddie Mac have lower costs of senior debt and obtain better pricing on securities' issuance. The Congressional Budget Office (CBO) estimates that, in 2000, these implicit subsidies combined with the GSEs' tax and regulatory exemptions were worth \$10.7 billion. According to the study ("Federal Subsidies and the Housing GSEs," May 2001), the GSEs passed along 64 percent of the \$10.7 billion in implicit subsidy and tax and regulatory benefits to mortgage borrowers, while 36 percent accrued to the benefit of the shareholders and other stakeholders of Fannie Mae and Freddie Mac.

One of the GSEs' public purposes is to promote access to mortgage credit for low- and moderate-income families in underserved areas. Accordingly, the Secretary of Housing and Urban Development (HUD) establishes affordable housing goals for the GSEs. The goals effective for calendar years 2001–2003 require the following:

- 50 percent of the total number of dwelling units financed by each GSE's mortgage purchases are affordable by low- and moderate-income families (Low- and Moderate-Income Housing Goal);
- 31 percent of the total number of dwelling units financed by each GSE's mortgage purchases are in central cities, rural areas, and other metropolitan areas with low and moderate income and high concentrations of minority residents (Geographically Targeted Goal); and
- 20 percent of the total number of dwelling units financed by each GSE's mortgage purchases are special affordable housing for very-low-income families and low-income families living in low-income areas (Special Affordable Goal).

Fannie Mae and Freddie Mac have met or exceeded the affordable housing goals since they were established in 1996. The GSEs' achievements, however, do not surpass the level of affordable lending in the conventional market. By the most recent estimate available, the conventional market's loans to low- and moderate-income families and families in underserved areas exceed the purchases of such mortgages by Fannie Mae and Freddie Mac. (See the table "Mortgages to Target Populations.")

Mortgages to Target Populations
(Percent)

	Low- and Moderate-Income	Geographically Targeted	Special Affordable Housing
Private market average*	56	33	28
Freddie Mac in 2000	50	29	21
Fannie Mae in 2000	49	31	19
HUD Goal for GSEs in 2000	42	24	14

Source: Department of Housing and Urban Development (HUD).

* Private market average 1995–98, the most recent market average available from HUD for the conventional conforming market. "HUD's Regulation of Fannie Mae and Freddie Mac; Final Rule," *Federal Register*, October 31, 2000, page 65055.

Federal Home Loan Bank System

The Federal Home Loan Bank System (FHLBS) was established in 1932 to provide liquidity to home mortgage lenders. The FHLBS carries out this mission by issuing debt and using the proceeds to make advances (secured loans) to its members. Member institutions primarily secure advances with residential mortgages and other housing-related assets.

The Gramm-Leach-Bliley (GLB) Act of 1999 repealed the requirement that federally chartered thrifts be members of the FHLBS. Membership is open to federally chartered and state-chartered thrifts, commercial banks, credit unions, and insurance companies on a voluntary basis. As of September 30, 2001, 7,897 financial institutions were FHLBS members, an increase of 177 over September 2000. About 73 percent of members are commercial banks, 19 percent are thrifts, and the remaining 8 percent are credit unions and insurance companies. However, 53.2 percent of outstanding FHLBS advances were held by thrifts as of September 30, 2001.

The FHLBS reported net income of \$2.1 billion for the year ending September 30, 2001, down from \$2.2 billion in the previous 12 months. System capital rose from \$30.6 billion to \$33.1 billion, while the ratio of capital to assets remained unchanged at 4.8 percent. Average return on equity was about 6.6 percent. Outstanding advances reached \$466.8 billion in September 2001, an 8.6 percent increase over the \$429.8 billion outstanding a year earlier. As of September 30, 2001, about 64 percent of advances had a remaining maturity of greater than one year—up from 52 percent one year earlier.

The GLB Act requires the System to adopt a risk-based capital structure. On October 26, 2001, the Federal Housing Finance Board (Finance Board) approved a revised final capital standards rule. The rule covers System governance, stock issuance, and risk-based and leverage capital requirements. These new capital standards, when fully implemented, will replace the current "subscription" capital structure for the Federal Home Loan Banks (FHLBanks) with one that includes both risk-based and minimum leverage requirements. Each Bank will also be required to adopt and implement

a capital plan consistent with provisions of the GLB Act and Finance Board regulations.

The GLB Act changed the FHLBanks' annual payment towards the interest payments on bonds issued by the Resolution Funding Corporation (REFCorp) from \$300 million annually to 20 percent of net earnings. The FHLBanks are required to pay the greater of 10 percent of net income or \$100 million to the Affordable Housing Program (AHP) and to provide discounted advances for targeted housing and community investment lending through a Community Investment Program.

The FHLBS' exposure to credit risk on advances has traditionally been virtually nonexistent. All advances to member institutions are collateralized, and the FHLBanks can call for additional or substitute collateral during the life of an advance. No FHLBank has ever experienced a loss on an advance to a member. The System's investment activities, including mortgage purchase programs, create more risks. To control the System's risk exposure, the Finance Board has established regulations and policies that the FHLBanks must follow to evaluate and manage their credit and interest-rate risk. FHLBanks must file periodic compliance reports, and the Finance Board conducts an annual on-site examination of each FHLBank. Each FHLBank's board of directors must establish risk-management policies that comport with Finance Board guidelines.

The FHLBanks held \$22.6 billion in mortgage loans on September 30, 2001, approximately 3.3 percent of total assets. The mortgage purchase programs offer members alternative ways of doing mortgage business. In one of these programs, the FHLBanks finance mortgage loans and assume the interest-rate and prepayment risks, while the members originate and service the loans and assume most of the credit risk. All assets held by an FHLBank under these mortgage purchase programs are required, pursuant to the terms of the program, to be credit enhanced to at least the level of an investment-grade security. In addition, an FHLBank must hold risk-based capital against mortgage assets that have credit risk equivalent to an instrument rated lower than double A.

The FHLBanks' investment activities also pose important public policy issues about the degree to which their asset composition adequately reflects the mission

of the System. Although System investments other than advances rose to \$194 billion through September 2001, compared to \$178 billion a year earlier, as a percentage of total assets, those investments remained at 28 percent. Like other Government Sponsored Enterprises (GSEs), the System issues debt securities at close to U.S. Treasury rates and invests the proceeds in higher-yielding securities. In 2001, the FHLBS issued \$4.9 trillion in debt securities. However, the majority of the debt issued by the System is overnight or short-term, but 73 percent of debt outstanding had an original maturity of one year or longer, and total debt outstanding was about \$611 billion at the end of 2001.

Education Credit Programs and GSEs

The Federal Government guarantees loans through intermediary agencies and makes direct loans to students to encourage post-secondary education. The Student Loan Marketing Association (Sallie Mae), a GSE, securitizes guaranteed student loans.

Student Loans

The Department of Education helps to finance student loans through two major programs: the Federal Family Education Loan (FFEL) program and the William D. Ford Federal Direct Student Loan (Direct Loan) program. Eligible institutions of higher education may participate in one or both programs. Loans are available to students regardless of income. Borrowers with low family incomes are eligible for higher interest subsidies. For need-based Stafford Loans, the Federal Government subsidizes interest costs while borrowers are in school, during a six-month grace period after graduation, and during certain deferment periods.

In 2003, more than 6 million borrowers will receive nearly 11 million loans totaling \$53 billion. Of this amount, nearly \$41 billion is for new loans, and the remainder is to consolidate existing loans. Loan levels have risen dramatically over the past 10 years as a result of rising educational costs, higher loan limits, and more eligible borrowers.

The Federal Family Education Loan program provides loans through an administrative structure involving over 3,500 lenders, 36 State and private guaranty agencies, roughly 50 participants in the secondary market, and approximately 4,000 participating schools. Under FFEL, banks and other eligible lenders loan private capital to students and parents, guaranty agencies insure the loans, and the Federal Government reinsures the loans against borrower default. In 2003, FFEL lenders will disburse more than 7 million loans exceeding \$35 billion in principal. Lenders bear two percent of the default risk, and the Federal Government is responsible for the remainder. The Department also makes administrative payments to guaranty agencies and pays interest subsidies to lenders.

The William D. Ford Direct Student Loan program was authorized by the Student Loan Reform Act of 1993. Under Direct Loans, the Federal Government pro-

vides loan capital directly to roughly 1,200 schools, which then disburse loan funds to students. In 2003, the Direct Loan program will generate more than 3 million loans with a total value of over \$18 billion. The program offers a variety of flexible repayment plans including income-contingent repayment, under which annual repayment amounts vary based on the income of the borrower and payments can be made over 25 years with any residual balances forgiven.

Consolidation Loans, which allow borrowers to combine one or more FFEL, Direct Loan, or other Federal student loan into a single loan with a fixed interest rate, have grown dramatically in recent years. In 1995, Consolidation Loans totaled \$3.6 billion, accounting for roughly 13 percent of overall student loan volume. In 2001, the program had grown to more than \$17 billion, making up approximately 33 percent of all student loan volume. This trend, which reflects a nearly five fold increase from 1995 to 2001, is expected to stabilize. Consolidation Loans are projected to be \$17 billion in 2002 and decrease to \$12 billion in 2003. The 2001 spike in Consolidation Loan volume resulted from lower interest rates and a special discount offered to Direct Loan consolidators.

For Fiscal Year 2003, the Administration is proposing to address the shortage of qualified, skilled math, science, and special education teachers in elementary and secondary schools by increasing the amount of forgivable guaranteed and direct student loans from \$5,000 to \$17,500 for highly qualified teachers who teach math, science, or special education for five years in high-need schools. This proposal builds upon the teacher loan forgiveness program authorized in the 1998 Higher Education Amendments. High-need schools would include those with a high concentration of low-income students and those in which there is a large proportion of out-of-field math, science, and special education teachers.

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Sallie Mae

The Student Loan Marketing Association (Sallie Mae) was chartered by Congress in 1972 as a for-profit, shareholder-owned, Government-sponsored enterprise (GSE). Sallie Mae was privatized in 1997 pursuant to the au-

thority granted by the Student Loan Marketing Association Reorganization Act of 1996. The GSE is a wholly owned subsidiary of USA Education, Inc. and must wind down and be liquidated by September 30, 2008. The Omnibus Consolidated and Emergency Supplemental Appropriations for 1999 allows the USA Education, Inc. to affiliate with a financial institution upon the approval of the Secretary of the Treasury. Any affiliation will require the holding company to dissolve the GSE within two years of the affiliation date (unless such period is extended by the Department of the Treasury).

Sallie Mae makes funds available for student loans by providing liquidity to lenders participating in the FFEL program. Sallie Mae purchases guaranteed student loans from eligible lenders and makes warehousing advances (secured loans to lenders). Generally, under the privatization legislation, the GSE cannot engage in any new business activities or acquire any additional program assets other than purchasing student loans. The GSE can continue to make warehousing advances under contractual commitments existing on August 7, 1997. Sallie Mae currently holds approximately 42 percent of all outstanding guaranteed student loans.

Business and Rural Development Credit Programs and GSEs

The Federal Government guarantees small business loans to promote entrepreneurship. The Government also offers direct loans and loan guarantees to farmers who may have difficulty obtaining credit elsewhere and to rural communities that need to develop and maintain infrastructure. Two GSEs, the Farm Credit System (FCS) and the Federal Agricultural Mortgage Corporation (Farmer Mac), increase liquidity in the agricultural lending market.

Small Business Administration

The Small Business Administration (SBA), created in 1953, helps entrepreneurs start, sustain, and grow small businesses. As a "gap lender" SBA works to correct market imperfections and provide access to credit where private lenders are reluctant to do so without a government guarantee.

The Administration's 2003 Budget anticipates that SBA's lending programs will make available capital resources of over \$16 billion. The 7(a) General Business Loan program will support approximately \$4.85 billion in guaranteed loans, while the 504 Certified Development Company program will support \$4.5 billion in guaranteed loans. SBA will supplement the capital of Small Business Investment Companies (SBICs), which provide equity capital and long-term loans to small businesses, with \$7 billion in participating securities and guaranteed debentures. In addition, SBA expects to provide \$26 million in microloans, along with \$17 million in technical assistance to increase the probability of borrower success.

To continue to meet the needs of small businesses, SBA will focus program management in three areas: 1) providing economic relief to small businesses, 2) improving risk management, and 3) operating more efficiently.

In the aftermath of the September 11th attacks, legislation was enacted to temporarily reduce fees for borrowers and lenders participating in the 7(a) General Business Loan program. As a result, the annual fee in the 7(a) program is reduced in half from 0.50 percent to 0.25 percent and up-front fees in the 7(a) program have been reduced in half to one percent for loans below \$150,000. For loans between \$150,000 and \$700,000,

the up-front fee was reduced to 2.5 percent (a reduction of one percentage point), and for loans above 700,000, the up-front fee remains at 3.5 percent.

As a result of the fee reductions, the subsidy rate for the 7(a) program has increased to 1.76 percent in 2003 from 1.07 percent in 2002. This increase in cost translates into a reduced program level of \$4.85 billion in 2003 from \$9.3 billion in 2002. Given the additional cost and limited resources, the Administration will target funds to creditworthy small businesses most likely to be underserved by the commercial markets. While SBA can guaranty loans up to \$1 million, the greatest need for government assistance is for loans below \$150,000. Loans below \$150,000 are usually for very small or start-up businesses. Lenders, however, are generally reluctant to make these loans due to high administrative costs and low financial returns. The SBA guarantee, along with the reduction in fees, will encourage banks to increase the number of loans they make that are below \$150,000.

Measuring and mitigating risks in SBA's \$50 billion business loan portfolio is one of the agency's greatest challenges. As SBA delegates more authority to the private sector to administer SBA guaranteed loans, oversight functions become increasingly important. SBA has taken steps to improve oversight with the establishment of the Office of Lender Oversight, which will be responsible for evaluating individual SBA lenders. This office will employ a variety of analytical techniques to ensure strong performance, including overall financial performance analysis, industry concentration analysis, peer lending performance comparisons, SBA portfolio performance analysis, and selected credit reviews. The oversight program will also encompass on-site safety and soundness examinations and off-site monitoring of the Small Business Lending Companies (SBLCs) and compliance reviews of SBA lenders. This office will develop incentives for lenders to minimize defaults and performance measures to monitor results.

SBA has been developing a Loan Monitoring System (LMS) which will support lender oversight functions by improving SBA's data collection and processing capabilities, providing a better interface with lenders, and helping to increase lender accountability. However,

after five years and more than \$30 million, the LMS project is behind schedule, over cost, and under performing. SBA will attempt to refocus the project to ensure successful implementation. The agency will refocus the project and by March 2002, develop a detailed plan for effective implementation.

Improving risk management also means improving SBA's ability to more accurately estimate the cost of subsidizing small business loans. This will enable the agency to allocate resources more effectively, determine program risk more precisely, and increase the ability to target programs to the neediest populations. The Administration has made significant progress in improving the accuracy of the subsidy estimate in the 7(a) program. Reflecting long-term changes in the program, the 2003 budget uses an improved estimation method, resulting in a reduced program cost. To refine the estimation in future years, SBA is developing an econometric model, which integrates a variety of programmatic and economic changes that affect loan performance. SBA is also reviewing the cost estimation method for the 504 Certified Development Company Program.

To operate more efficiently, SBA will automate loan origination activities in the disaster loan program with a paperless loan application. As a result, loan-processing costs, times, and errors will decrease, while government responsiveness to the needs of disaster victims will increase. While still in the design stage, SBA expects to begin full implementation of the paperless disaster loan application in 2003. Additionally, because loan-servicing functions can be better performed by the private sector, SBA is privatizing these activities. The agency will therefore, focus its resources on core programs such as providing access to capital, technical assistance, and federal contracting opportunities. SBA is selling its current portfolio of defaulted guaranteed loans and direct loans. The agency has already sold more than \$4 billion in such loans and will begin to reflect human resource and cost efficiencies that result from these sales.

Still, with all of these management improvements, Government should only foster, not replace private-sector investment. As such, the Administration continues to seek alternative and innovative ways to support small business development. For instance, the advent of interstate banking and the Gramm-Leach-Bliley Financial Modernization Act of 1999 have expanded small businesses' access to capital. Banks have greater liberties to engage in merchant banking activities, including venture capital investments, allowing them to support small businesses in a variety of ways. While the Small Business Investment Company program has been effective in providing patient capital to small businesses, the venture capital market has matured over the last twenty years and may no longer need the same level of government intervention.

Another way to support small business development is to provide financing opportunities beyond the limited 7(a) loan program, which historically has served less

than one-tenth of one percent of the Nation's small businesses annually and provided less than one percent of annual small business lending. The Administration will work with the Congress, the lending community, and the small business communities to explore new approaches to insure that a greater number of the Nation's small businesses have adequate access to capital. One possible model is Capital Access Programs (CAPs). Many States participate in CAPs, but the programs are managed largely by private parties. Under a CAP program, the bank and the borrower pay an up-front insurance premium typically between three and seven percent of the loan amount into a reserve account, which is matched by the participating state government. CAPs or other innovative state programs that place greater emphasis on market solutions may point the way toward modernizing and complementing SBA's lending programs.

USDA Rural Infrastructure and Business Development Programs

USDA provides grants, loans, and loan guarantees to communities for constructing facilities such as health-care clinics, day-care centers, and water and wastewater systems. Direct loans are available at lower interest rates for the poorest communities. These programs have very low default rates. The cost associated with them is due primarily to subsidized interest rates that are below the prevailing Treasury rates. The program level for the Water and Waste (W&W) loan and grant program in the 2003 President's Budget is \$1.5 billion. These funds are available to communities of 10,000 or less residents. The program finances drinking water, sewer, solid waste disposal, and storm drainage facilities through direct or guaranteed loans and grants. In order to qualify, applicant communities must be unable to finance their needs through their own resources or with credit from commercial lenders. Priority is given to loans serving smaller communities that have greater financial need, based on their median household income, poverty levels, and size of service population as determined by the USDA's field office staff. The community typically receives a combination of loans and grants depending on how much they can afford. The grant is usually for 35–45 percent of the project cost (it can be up to 75 percent). Loans are for 40 years with interest rates based on a three-tiered structure (poverty, intermediate, and market) depending on community income. The community facility programs are targeted to rural communities with fewer than 20,000 residents and have a program level of \$477 million in 2003. USDA also provides grants, direct loans, and loan guarantees to assist rural businesses, including cooperatives, to increase employment and diversify the rural economy. In 2003, USDA proposes to provide \$700 million in loan guarantees to rural businesses (these loans serve communities of 50,000 or less).

These community programs are all part of the Rural Community Advancement Program (RCAP). Under RCAP, States have increased flexibility within the three

funding streams for Water and Wastewater, Community Facilities, and Business and Industry (B&I). USDA also provides loans through the Intermediary Relending Program (IRP), which provides loan funds at a 1 percent interest rate to an intermediary such as a State or local government agency that, in turn, provides funds for economic and community development projects in rural areas. In 2002, USDA expects to retain or create 44,000 new jobs through the B&I guarantee and the IRP loan programs.

Electric and Telecommunications Loans

USDA's rural electric and telecommunications program makes new loans to maintain existing infrastructure and to modernize electric and telephone service in rural America. Historically, the Federal risk associated with the \$40 billion loan portfolio in electric and telephone loans has been small, although several large defaults occurred in the electric program. In 1997, \$667 million, largely nuclear power construction loans, was written off, but this case was an exception.

The subsidy rates for the electric and telecommunication programs remain low mainly due to low interest rates projected in the Budget. The default rates for both programs are very low. With increased deregulation, however, there is the possibility of increased defaults in the electric program because competition resulting from deregulation may erode the ability of some borrowers to repay. As information on the impact of deregulation increases, this risk will be factored into the default rates. The number of electric loans has been increasing due to large increases in loan level appropriated over the last several years. The average size for electric loans has also been increasing. The number and the size of telecommunications loans have remained steady.

Maintaining the goal of "affordable, universal service" is of concern to USDA. Many rural cooperatives are by nature high cost providers of electricity because there are fewer subscribers per line-mile than in urban areas. USDA's Rural Utilities Service (RUS) proposes to make \$2.6 billion in direct and guaranteed loans in 2003 to rural electric cooperatives, public bodies, nonprofit associations, and other utilities in rural areas for generating, transmitting, and distributing electricity. Included in this funding request is \$100 million for private sector guarantees. The demand for loans to rural electric cooperatives is expected to continue to rise as borrowers replace many of the 40-year-old electric plants. With the \$2.6 billion in loans, RUS borrowers are expected to upgrade 225 rural electric systems, which will benefit over 3.4 million customers and create or preserve approximately 50,000 jobs.

USDA's RUS proposes to make \$495 million in direct loans in 2003 to companies providing telecommunications in rural areas. The uses of the telecommunication loans are changing from bringing service to new customers to upgrading existing service with new technology. With the \$495 million in loans, RUS borrowers are expected to fund over 50 telecommunication sys-

tems for advanced telecommunications services. This funding will provide broadband and high-speed Internet access and benefit over 300 thousand rural customers.

The Rural Telephone Bank (RTB) provides financing for rural telecommunications systems. The 2003 Budget proposes the elimination of funding to support new loans. This is expected to generate increased member and borrower support for statutorily authorized privatization. The RTB is financially able to privatize by the end of 2003, and this provides enough time to perform a privatization study and prepare for privatization. The RTB is provided full salaries and expenses to service existing loans, to perform a privatization study, and prepare for privatization by the end of 2003.

The Distance Learning and Telemedicine program provides grants and loans to improve telemedicine and distance learning services in rural areas and encourage students, teachers, medical professionals, and rural residents to use telecommunications, computer networks, and related advanced technologies. With the \$25 million in grants and \$50 million in loans, RUS borrowers are expected to provide distance learning facilities to 300 schools, libraries, and rural education centers and telemedicine equipment to 150 rural health care providers, benefiting millions of residents in rural America. The loan level has been reduced to \$50 million from \$300 million due to low demand (average loan total per year is less than \$20 million).

There are various legislative actions that are impacting or will impact RUS. This includes the Local TV Act that provides authorization for RUS to provide loans to bring local television to rural customers. Funding was provided in the 2002 appropriations. The various Farm Bills being debated by Congress include changes to existing programs and authorization and/or funding for new programs.

Loans to Farm Operators

Farm Service Agency (FSA) assists low-income family farmers in starting and maintaining viable farming operations. Emphasis is placed upon aiding beginning and socially disadvantaged farmers. FSA offers operating loans and ownership loans, both of which may be either direct or guaranteed loans. Operating loans provide credit to farmers and ranchers for annual production expenses and purchases of livestock, machinery, and equipment. Farm ownership loans assist producers in acquiring their farming or ranching operations. As a condition of eligibility for direct loans, borrowers must have been denied private credit at reasonable rates and terms, or they must be beginning or socially disadvantaged farmers. Loans are provided at Treasury rates or 5 percent. As FSA is the "lender of last resort," high defaults and delinquencies are inherent in the direct loan program; over \$15 billion in direct farm loans have been written off since 1990.

FSA guaranteed farm loans are made to more credit-worthy borrowers who have access to private credit markets. Because the private loan originators must retain 10 percent of the risk, they exercise care in exam-

ining borrower repayment ability. As a result, guaranteed farm loans have not experienced losses as high as those on direct loans.

The 1999 Appropriations Bill changed some of the servicing requirements for delinquent borrowers. A borrower who has received an FSA loan write-down or write-off may now be eligible for an additional farm operating loan when the borrower is current under a debt reorganization plan or in certain emergency circumstances. Property acquired through foreclosure on direct loans must now be sold at auction within 105 days of acquisition, and leasing of inventory property is no longer permitted except to beginning farmers. Prior to the 1996 Farm Bill, acquired property remained in inventory on average for five years before the FSA could dispose of it.

The subsidy rates for these programs have been fluctuating over the past several years. These fluctuations are mainly due to the interest component of the subsidy rate. The default rates for these programs tend to be below ten percent. Guaranteed farm ownership loans have experienced a decreasing default rate. Though some direct loan programs have experienced an increase in the default rate in the last few years, the overall default rate for direct loan programs, which was as high as 20 percent in 1996, has been reduced to 11 percent as of October 2001. In 2001, FSA provided loans and loan guarantees to over 29,000 family farmers totaling \$3.2 billion. The number of loans provided by these programs have fluctuated over the past several years. The average size for farm loans has been increasing. The majority of assistance provided in the operating loan program is to existing FSA farm borrowers. In the farm ownership program, new customers receive the bulk of the benefits furnished.

In the last few years, the demand for FSA direct and guaranteed loans have been high due to crop/livestock price decreases and some regional production problems. In 2003, USDA's FSA proposes to make \$3.8 billion in direct and guaranteed loans through discretionary programs and \$3.6 billion in guaranteed loans through mandatory programs.

The Farm Credit System and Farmer Mac

The Farm Credit System (FCS or System) and the Federal Agricultural Mortgage Corporation (Farmer Mac) are Government-sponsored Enterprises (GSEs) that enhance credit availability for the agricultural sector. The FCS provides production, equipment, and mortgage lending to farmers and ranchers, aquatic producers, their cooperatives, and related businesses, while Farmer Mac provides a secondary market for agricultural real estate and rural housing mortgages. Both GSEs face a business risk because their borrowers are generally dependent on a single economic sector, agriculture. The downturn in the agricultural sector in the 1980s caused severe financial difficulties within the FCS. Legislation in 1987 provided temporary Federal assistance to the FCS and created Farmer Mac.

The Nation's agricultural sector and its lenders continue to exhibit stability in their income and balance sheets, thanks in part to significant Government emergency assistance payments from 1998 through 2001. The current economic downturn may not have a significant effect on the agricultural economy because the farm economic cycle doesn't quite coincide with the general economic cycle. Commodity prices remained low in 2001, and long-term forecasts are for very gradual recovery. Farm income levels, including Government payments, have enabled most borrowers to maintain low debt-to-asset ratios, and lenders to keep loan delinquencies well below problem thresholds. Farmland values gained modestly in 2000 (up 4.6 percent) due to a combination of government payments and urban influences. However, such aggregate facts may mask the problems of certain sectors within the farm economy.

From 1986 to 2000, commercial banks' share of all farm debt increased from 26.5 percent to 41.6 percent, while the share for the FCS declined from 29.2 percent to 26.4 percent. The United States Department of Agriculture (USDA) direct farm loan programs went from a market share of 15.4 percent to 4.0 percent, though that percentage would more than double if adjusted for its guaranteed loans issued through private institutional lenders. USDA expects that both commercial banks and the FCS have maintained their market share in 2001.

The Farm Credit System

The financial condition of the Farm Credit System banks and associations during 2001 continued a 13-year trend of improving financial health and performance. Non-performing assets were 1.22 percent of the portfolio in September 2001, unchanged from December 2000, and down from 1.62 percent in 1999. Loan volume has increased since 1995 to \$80.1 billion in September 2001, which is close to the high of \$81.9 billion in the early 1980s. Competitive pressures have narrowed the FCS's net interest margin from 3.03 percent in 1995 to 2.79 percent in 2000. The net interest margin has remained relatively stable about at the 2000 level in 2001. However, the net interest margin is expected to increase in the near-term, given that the Federal Reserve has significantly lowered short-term interest rates.

Improved asset quality and income enabled FCS to post record capital levels: on September 30, 2001, capital stood at \$15.7 billion—an increase of 9.2 percent for the year. Not included in this capital are investments set aside to repay the remaining amount (\$1.3 billion) of Federal assistance provided through the Farm Credit System Financial Assistance Corporation. The System has adopted an annual repayment mechanism requiring FCS institutions to pre-fund its interest and principal repayment obligations for the Federal assistance. The FCS has further reduced its risk exposure by using marginal cost loan pricing and asset/liability management practices designed to reduce its interest rate risk. Substantial consolidation continues in the

structure of the FCS. In January 1995, there were nine banks and 232 associations; by October 2001, the numbers reduced to seven banks and 115 associations. From October 2000 to October 2001, the number of associations fell by 43 because of mergers and acquisitions.

The 1987 legislation established the Farm Credit System Insurance Corporation to insure timely payment of interest and principal on FCS obligations. The Insurance Fund's balances, largely comprised of premiums paid by FCS institutions, supplement the System's capital and the joint and several liability of all System banks for FCS obligations. On September 30, 2001, the Insurance Fund's net assets were \$1.5 billion, and were slightly below the statutory minimum of two percent of outstanding debt. The Insurance Corporation will resume premium collection from System institutions in 2002 to ensure that the Insurance Fund grows in concert with the growth in the System's outstanding debt caused by continued growth in its loan portfolio.

Improvement in the FCS's financial condition is also reflected in the evaluations of FCS member institutions by the Farm Credit Administration (FCA), its Federal regulator. Each of the System institutions are rated under the FCA Financial Institution Rating System for capital, asset quality, management, earnings, liquidity, and sensitivity (CAMELS). At the beginning of 1995, 197 institutions carried the best CAMELS ratings of 1 or 2, 36 were rated 3, one institution was rated 4, and no institutions received the lowest rating of 5. In September 2001, in contrast, 121 institutions were given the top ratings, only one small association was rated 3, and none were rated 4 or 5. As of September 30, 2001, there were no FCS institutions under an enforcement action.

The System had \$80.1 billion in gross loans outstanding as of September 30, 2001. Total loans outstanding have grown by \$7.1 billion, or 9.8 percent, over the year ended September 30, 2001, and by \$19.2 billion, or 31.5 percent, over the past five years. The volume of lending secured by farmland has increased 34.2 percent, while farm-operating loans have increased 40.8 percent since 1996. Total members served increased about 3 percent during the past year.

Agricultural producers represented by far the largest borrower group, with \$61.1 billion including loans to rural homeowners and leases, or more than three-quarters of the total dollar amount of loans outstanding. As required by law, all borrowers are also stockholder-owners of System institutions. The System has more than 430,000 stockholders; about 84 percent of these are farmers with voting stock. About half of the System's total loan volume outstanding (49.6 percent) is

in long-term real estate loans, one-quarter (26.7 percent) in short- and intermediate-term loans to agricultural producers, and 20.4 percent to cooperatives. International loans (export financing) represent 3.3 percent of the System's loan portfolio. Rural home loans make up about 2.5 percent of total loans (included in long-term real estate loans). Loans to finance rural utilities (included in cooperative loans) comprise more than \$6.5 billion, or 8.1 percent of overall loan volume; this segment has roughly doubled over the past five years. Lease receivables (included in both the long-term real estate loans and the short- and intermediate-term loan categories) account for about 3.6 percent of the overall System portfolio.

The USDA expects 2001 net farm income to be \$49.4 billion, up 4.3 billion, or 6.5 percent, from 2000. These strong expected earnings generally have relied heavily on government assistance payments in recent years. Federal payments averaging over \$20 billion from 1999 to 2001 (totaling over \$90 billion from 1996 to 2001) to farmers and ranchers compensated for depressed commodity prices and declining exports. The System, while continuing to record strong earnings and capital growth, remains exposed to numerous risks, including concentration risk, changes in government assistance payments, the volatility of exports and crop prices, and lower non-farm earnings of farm households associated with weakness in the general economy.

Farmer Mac

Farmer Mac was established in 1987 to create and oversee a secondary market for farm real estate and rural housing loans. Since the Agricultural Credit Act of 1987, there have been several amendments to Farmer Mac's chartering statute. Perhaps the most significant amending legislation for Farmer Mac was the Farm Credit System Reform Act of 1996 that transformed Farmer Mac from a guarantor of securities backed by loan pools into a direct purchaser of mortgages, enabling it to form pools to securitize. The 1996 Act increased Farmer Mac's ability to achieve its statutory mission. Since the passage of the 1996 Act, loan purchases and guarantees have steadily increased, indicating positive progress in the development of a viable secondary market for agricultural mortgages.

Farmer Mac continues to meet statutory minimum core capital requirements. Additionally, the FCA implemented in 2001 a risk-based capital regulation that determines the minimum level of regulatory capital necessary to enable Farmer Mac to maintain positive capital during the most stressful credit and interest rate risk conditions.

International Credit Programs

Seven Federal agencies, the Department of Agriculture (USDA), the Department of Defense, the Department of State, the Department of the Treasury, the Agency for International Development (AID), the Export-Import Bank, and the Overseas Private Invest-

ment Corporation (OPIC), provide direct loans, loan guarantees, and insurance to a variety of foreign private and sovereign borrowers. These programs are intended to level the playing field for U.S. exporters, deliver robust support for U.S. manufactured goods, sta-

bilize international financial markets, and promote sustainable development.

Leveling the Playing Field

Federal lending counters subsidies that foreign governments, largely in Europe and Japan, provide their exporters usually through export credit agencies (ECAs). The U.S. government has worked since the 1970's to constrain official credit support through a multilateral agreement in the Organization for Economic Cooperation and Development (OECD). This agreement has significantly constrained direct interest rate subsidies and tied-aid grants. Further negotiations resulted in a multilateral agreement that standardized the fees for sovereign lending across all ECA's beginning in April 1999. Fees for non-sovereign lending, however, continue to vary widely across ECAs and markets, thereby providing implicit subsidies.

The Export-Import Bank attempts to strategically "level the playing field" and to fill gaps in the availability of private export credit. The Export-Import Bank provides export credits, in the form of direct loans or loan guarantees, to U.S. exporters who meet basic eligibility criteria and who request the Bank's assistance. USDA's "GSM" programs similarly help to level the playing field. Like programs of other agricultural exporting nations, GSM programs guarantee payment from countries and entities that want to import U.S. agricultural products but cannot easily obtain credit. The U.S. has been negotiating in the OECD the terms of agricultural export financing, the outcome of which could affect the GSM programs.

Stabilizing International Financial Markets

In today's global economy, the health and prosperity of the American economy depend importantly on the stability of the global financial system and the economic health of our major trading partners. The United States can contribute to orderly exchange arrangements and a stable system of exchange rates by providing resources on a multilateral basis through the IMF (discussed in other sections of the Budget), and through financial support provided by the Exchange Stabilization Fund (ESF).

The ESF may provide "bridge loans" to other countries in times of short-term liquidity problems and financial crises. In the past, "bridge loans" from ESF provided dollars to a country over a short period before the disbursement an IMF loan to the country. Also, a package of up to \$20 billion of medium-term ESF financial support was made available to Mexico during its crisis in 1995. Such support was essential in helping to stabilize Mexican and global financial markets. Mexico paid back its borrowings under this package ahead of schedule in 1997, and the United States earned almost \$600 million in interest. There was zero subsidy cost for the United States as defined under credit reform, as the medium-term credit carried interest rates reflecting an appropriate country risk premium.

The United States also expressed a willingness to provide ESF support in response to the financial crises

affecting some countries such as South Korea in 1997 and Brazil in 1998. It did not prove necessary to provide an ESF credit facility for Korea, but the United States agreed to guarantee through the ESF up to \$5 billion of a \$13.2 billion Bank for International Settlements credit facility for Brazil. Such support helped to provide the international confidence needed by these countries to begin the stabilization process.

Using Credit to Promote Sustainable Development

Credit is an important tool in U.S. bilateral assistance to promote sustainable development. In 2002, all of USAID's credit programs were consolidated to create the unified Development Credit Authority. Development Credit Authority (DCA) is a legislative authority allowing the use of credit by USAID to support its development activities abroad. This unit encompasses DCA activities as well as USAID's traditional microenterprise and urban environmental credit programs. DCA provides non-sovereign loans and loan guarantees in targeted cases where credit serves more effectively than traditional grant mechanisms to achieve sustainable development. DCA is intended to mobilize host country private capital to finance sustainable development in line with USAID's strategic objectives. Through the use of partial loan guarantees and risk sharing with the private sector, DCA stimulates private-sector lending for financially viable development projects, thereby leveraging host-country capital and strengthening sub-national capital markets in the developing world. The demand for DCA's facilities is prevalent in these emerging economies, but the utilization rate for these facilities is still very low. In 2003, DCA will be working towards strengthening their institutional capacity to conduct project oversight, risk analysis, and credit budgeting.

OPIC also supports a mix of development, employment, and export goals by promoting U.S. direct investment in developing countries. OPIC pursues these goals through political risk insurance, direct loans, and guarantee products, which provide finance, as well as associated skills and technology transfers. These programs are intended to create more efficient financial markets, eventually encouraging the private sector to supplant OPIC finance in developing countries. OPIC has also created a number of investment funds that provide equity to local companies with strong development potential.

Ongoing Coordination

International credit programs are coordinated through two groups to ensure consistency in policy design and credit implementation. The Trade Promotion Coordinating Committee (TPCC) works within the Administration to develop a National Export Strategy to make the delivery of trade promotion support more effective and convenient for U.S. exporters.

The Interagency Country Risk Assessment System (ICRAS) standardizes the way in which agencies budget for the risk of international lending. The cost of lending

by the agencies is governed by ratings and ICRAS default estimates. The methodology establishes assumptions about default risks in international lending using averages of international bond market data. The strength of this method is its link to the market.

For 2003, OMB has updated the methodology using more sophisticated financial analyses and comprehensive market data. In particular, the new method better isolates the expected cost of default implicit in interest rates charged by private investors to sovereign borrowers. All else equal, this change will expand the level of international lending an agency can support with a given appropriation. For example, the Export-Import Bank will be able to generally provide higher lending levels using lower appropriations in 2003.

Adapting to Changing Market Conditions

Overall, officially supported finance and transfers account for a tiny fraction of international capital flows. Furthermore, the private sector is continuously adapting its size and role in emerging markets finance to changing market conditions. In response, the Administration is working to adapt international lending at Export-Import Bank and OPIC to dynamic private sector finance. The Export-Import Bank for example is

developing a sharper focus on lending that would otherwise not occur without Federal assistance. Measures under development include reducing risks, collecting fees from program users, and improving the focus on exporters who truly cannot access private export finance.

OPIC in the past has focused too narrowly on providing financing and insurance services to large U.S. companies investing abroad. As a result, OPIC did not pay adequate attention to its mission of promoting development through mobilizing private capital. OPIC is developing and will implement policy changes that reflect the Administration's mandate to return to its development mission.

These changes at the Export-Import Bank and at OPIC will place more emphasis on correcting market imperfections as the private sector's ability to bear emerging market risks becomes larger, more sophisticated, and more efficient.

The Budget requests a lower level for the Export-Import Bank than in prior years, but this level supports a projected increase over the Bank's level of lending in 2002. The Budget also restores OPIC credit subsidy for 2003.

IV. INSURANCE PROGRAMS

Deposit Insurance

Federal deposit insurance was established in the depression of the 1930s, which prompted the need to protect small depositors and prevent bank failures from causing widespread disruption in financial markets. Before the establishment of Federal deposit insurance, failures of some depository institutions often caused depositors to lose confidence in the banking system as a whole and rush to withdraw deposits from other institutions. Such sudden withdrawals would seriously disrupt the economy.

The Federal Deposit Insurance Corporation (FDIC) insures the deposits in banks and savings associations (thrifts) through separate insurance funds, the Bank Insurance Fund (BIF) and the Savings Association Insurance Fund (SAIF). Deposits of credit unions are insured through the National Credit Union Administration (NCUA). Deposits are currently insured up to \$100,000 per account. The FDIC insures a combined \$3.2 trillion of deposits at almost 8,200 commercial banks and over 1,500 savings institutions. The NCUA insures 10,145 credit unions with \$387 billion in insured shares.

Current Industry and Insurance Fund Conditions

The 1980s and early 1990s were a turbulent period for the banking industry, with over 1,400 bank failures and 1,100 thrift failures. The Federal Government responded with the Financial Institutions Reform, Recovery and Enforcement Act of 1989 and the Federal Deposit Insurance Corporation Improvement Act of 1991, which were largely designed to improve the safety and

soundness of the banking system. These reforms, combined with more favorable economic conditions, helped to restore the health of depository institutions and the deposit insurance system.

Despite the sluggish economic growth in the past year, depository institutions and their Federal insurance funds are in good financial condition overall. One thrift failed in 2001, becoming only the fourth SAIF-member to fail since 1996, but it was the largest failure of an FDIC-insured institution since June 1993. Three BIF members failed during 2001. Since 1997, assets associated with BIF failures have averaged \$100 million per year. During 2001, 25 Federally insured credit unions with \$22 million in assets failed (including assisted mergers). The FDIC currently classifies 94 institutions with \$18 billion in assets as "problem institutions," compared to 90 institutions with \$19 billion in assets a year ago.

Bank earnings declined, but remained strong in 2001. The industry net income totaled \$17.4 billion in the third quarter of 2001, a decline of 9.9 percent from the third quarter of 2000. The largest factor in the earnings decline was a \$4.8 billion (71.7 percent) increase in provisions for loan losses. Thrift earnings, on the other hand, continued to increase in 2001. Net income during fiscal year 2001 was \$800 million higher than a year ago. These favorable conditions, however, may not last indefinitely. Many economic and institutional developments indicate that the industry currently faces numerous challenges. The current economic

slowdown could put pressure on industry profits and, ultimately, on the deposit insurance funds.

For both BIF and SAIF, the reserve ratio (ratio of insurance reserves to insured deposits) declined in 2001, but remained comfortably higher than the 1.25-percent statutory target. As of September 30, 2001, BIF had estimated reserves of \$32 billion, or 1.32 percent of insured deposits. During the same period, SAIF had reserves of \$10.8 billion, or 1.39 percent of insured deposits. The FDIC continues to maintain deposit insurance premiums in a range from zero for the healthiest institutions to 27 cents per \$100 of assessable deposits for the riskiest institutions. Due to the strong financial condition of the industry and the insurance funds, 92 percent of commercial banks and 90 percent of thrifts did not pay insurance premiums in 2001.

The National Credit Union Share Insurance Fund (NCUSIF) also remains strong with assets of \$4.9 billion. Each insured credit union is required to deposit and maintain an amount equal to 1 percent of its member share accounts in the fund. Premiums were waved during 2001 because sufficient investment income was generated. After the end of the fiscal year, the NCUA Board approved a dividend to reduce the Fund's equity ratio to 1.30 percent. This was the sixth consecutive year that the Fund paid a dividend to federally insured credit unions.

As a result of consolidation, a few large banks control a substantial share of banking assets. Thus, the failure of even one of these large institutions could strain the insurance fund. Banks are increasingly using sophisticated financial instruments such as asset-backed securities and financial derivatives, which could have unforeseen effects on risk levels. Whether or not these new instruments add to risk, they do complicate the work of regulators who must gauge each institution's financial health and the potential for deposit insurance losses that a troubled institution may represent.

The Gramm-Leach-Bliley Act of 1999 allows new affiliations in the financial sector, enabling banks, security firms and insurance companies to be commonly owned. Over time, such expanded affiliations may make

depository institutions safer by improving asset diversification. A recent development related to inter-industry mergers is that securities firms are indirectly offering insured accounts to their customers through their banking affiliates. Regulators will need to pay attention to this development because these account conversions increase insured deposits. For instance, since the end of March 2000, these types of conversions have added an estimated \$73.3 billion to BIF-insured deposits and \$4.4 billion to SAIF-insured deposits, accounting for almost 30 percent of the growth in all insured deposits.

On-going Issues

While the deposit insurance system is in good condition, the Administration is developing proposals to strengthen the system further. The FDIC has been prohibited from charging premiums to "well capitalized" institutions since 1996. Therefore, under the current pricing structure, only eight percent of banks and 10 percent of thrifts pay regular insurance premiums. A stronger system might require all institutions pay at least a nominal amount for federal deposit insurance and would assess new deposits.

Under the current system, the FDIC is required to maintain a designated reserve ratio (DRR, the ratio of insurance fund reserves to total insured deposits) of 1.25 percent. If the DRR falls below 1.25 percent and cannot be restored to 1.25 percent within a year, all institutions could be required to pay premiums averaging 23 basis points. This current structure requires institutions to face a cliff of high premium payments when they are weakest. Again, a stronger system might replace the current fixed reserve ratio with a flexible range. Merging the funds would also make them stronger and better diversified than either fund standing alone. Additionally, given that many institutions currently hold both bank- and thrift-insured deposits, merging the funds would eliminate the need to track bank and thrift deposits separately and would help streamline mergers and acquisitions. The Administration, however, is not considering any proposals to raise the current deposit limit above \$100,000.

Pension Guarantees

The Pension Benefit Guaranty Corporation (PBGC) insures most defined-benefit pension plans sponsored by private employers. PBGC pays the benefits guaranteed by law when a company with an underfunded pension plan becomes insolvent. PBGC's exposure to claims relates to the underfunding of pension plans, that is, to any amount by which vested future benefits exceed plan assets. In the near term, its loss exposure results from financially distressed firms with underfunded plans. In the longer term, additional loss exposure results from firms that are currently healthy but become distressed, and from changes in the funding of plans and their investment results.

The number of plans insured by PBGC has been declining as small companies with defined-benefit plans

terminate them and shift to defined-contribution pension arrangements such as 401(k) accounts. The number of plans with 1,000 or more participants, which include both retired workers (inactive members) and active workers, has increased slightly since 1980. However, the number of active workers in defined-benefit plans declined from 27 million in 1988 to an estimated 22 million in 1999, a decrease of 18 percent. If the trend continues, by 2003 the number of inactive participants will exceed the number of active workers.

The financial position of the PBGC, while still strong, weakened in 2001 for the first time in eight years, largely due to losses from plan terminations and equity investments. Risk remains because of economic uncertainties. The risk has been reduced somewhat by steps

taken by the Congress and PBGC. Congress enacted legislation to make insurance premiums more reflective of risk. Under its Early Warning Program, PBGC has negotiated 90 major settlements with companies, which have provided nearly \$17.5 billion in extra contributions and other protections that improved pension security for over 2 million people and reduced PBGC's future exposure.

PBGC's single-employer program experienced its largest loss in fifteen years, reflecting losses on equity investments, termination of Northwestern Steel and Wire's plans, and new probable terminations. Other large terminations during the year, booked previously, included some of the largest plans that PBGC has trusted: TWA, Grand Union, Bradlees, and Laclede Steel. (In early 2002, Outboard Marine, also booked previously, terminated its plans.) In 2001, overall investment returns in the single-employer program were slightly negative, with negative returns in its trust funds, which hold mostly equities, and positive returns in PBGC's revolving funds, which are invested in U.S. Government securities. Premium revenues increased slightly. PBGC's multi-employer program, which guarantees pension benefits of certain unionized plans of

fered by several employers in an industry, remained financially strong, but experienced a loss for the year attributable to future financial assistance.

PBGC continues to speed up issuance of benefit determinations so that when a participant retires, PBGC can put him or her into pay status with a final rather than estimated benefit amount, thereby providing the participant certainty and avoiding the processing complexities and costs associated with benefit adjustments. The average calculation time for benefit determinations issued in 2001 was 3.6 years, down from 4.9 years in 2000. Improved automated benefit calculation programs are reducing the cost of putting participants into pay status and helping to speed the process. This automation will help PBGC administer benefits for the 89,000 participants taken in trusteeship in 2001, the largest increase in new participants in PBGC's history. PBGC is working to send first benefit checks more speedily. In 2001, 94 percent of pensioners got their first benefit checks within three months of completing their applications. PBGC also has established a pilot project that enables participants in certain plans to estimate their benefits online at PBGC's website.

Disaster Insurance

Flood Insurance

The Federal Government provides flood insurance through the National Flood Insurance Program (NFIP), which is administered by the Federal Emergency Management Agency (FEMA). Flood insurance is available to homeowners and businesses in communities that have adopted and enforced appropriate flood plain management measures. Coverage is limited to buildings and their contents. By 2003, the program is projected to have approximately 4.6 million policies from more than 19,000 communities with \$656 billion of insurance in force.

Prior to the creation of the program in 1968, many factors made it cost prohibitive for private insurance companies alone to make affordable flood insurance available. In response, the NFIP was established to make insurance coverage widely available. The NFIP also requires building standards and other mitigation efforts to reduce losses, and operates a flood hazard mapping program to quantify the geographic risk of flooding. The NFIP has substantially met these goals.

The number of policies in the program has grown significantly over time. The number of enrolled policies grew from 2.4 to 4.3 million between 1990 and 2001, and by about 78,000 policies in 2001. FEMA is using three strategies to increase the number of flood insurance policies in force: lender compliance, program simplification, and expanded marketing. FEMA is educating financial regulators about the mandatory flood insurance requirement for properties with mortgages from federally regulated lenders. The NFIP also has a multi-pronged strategy for reducing future flood damage. The NFIP offers mitigation insurance to allow flood

victims to rebuild to code, thereby reducing future flood damage costs. Further, FEMA adjusts premium rates to encourage community and State mitigation activities beyond those required by the NFIP.

Despite these efforts, the program faces major financial challenges. In some years, the program's financing account, which is a cash fund, has expenses greater than its revenue, preventing it from building sufficient long-term reserves. This is mostly because a large portion of the policyholders pay subsidized premiums. FEMA charges subsidized premiums for properties built before a community adopts the NFIP building standards. Properties built subsequently are charged actuarially fair rates. The creators of the NFIP assumed that eventually the NFIP would become self-sustaining as older properties left the program. The share of subsidized properties in the program has fallen, but remains substantial; it was 70 percent in 1978 and is 29 percent today.

Until the mid-1980s, Congress appropriated funds periodically to support subsidized premiums. However, the program has not received appropriations since 1986. During the 1990s, FEMA relied on Treasury borrowing to help finance its loss expenses (the NFIP may borrow up to \$1.5 billion). By February 2001, FEMA had repaid all of its accumulated debt to Treasury, but as of the end of 2001, outstanding borrowing stood at \$600 million mainly due to Tropical Storm Allison.

The 2003 Budget proposes several reforms to the program intended to improve its financial condition and to increase individual accountability for building in flood prone areas. Reforms include phasing out premium subsidies for vacation properties, including ero-

sion as a risk factor in determining flood premiums, ending state taxation of flood insurance, and requiring that properties with Federally backed mortgages be insured to value.

Crop Insurance

Subsidized Federal crop insurance administered by USDA's Risk Management Agency (RMA) assists farmers in managing yield shortfalls due to bad weather or other natural disasters. Private companies are reluctant to offer multi-peril crop insurance without Government reinsurance because of the difficulty of limiting risk exposure; insurance companies are exposed to large losses because losses tend to occur across a wide geographic area. For example, a drought usually affects many farms at the same time. The USDA crop insurance program is a cooperative effort between the Federal Government and the private insurance industry. Private insurance companies sell and service crop insurance policies. The Federal Government reimburses private companies for the administrative expenses associated with providing crop insurance and reinsures the private companies for excess insurance losses on all policies. The Federal Government also subsidizes premiums for farmers. In crop year 2001, 207.6 million acres were insured, with an estimated \$2,884 million in total premium income, including \$1,723 million in premium subsidy.

The dollar volume of total gains for the insurance companies went from \$201 million to \$378 million (a 88 percent increase) between 1999 and 2001. While the companies should have an incentive to participate in the crop insurance program, there should be some constraints on windfall profits. With that in mind, the 2003 Budget includes a legislative proposal that would cap the underwriting gains to 12.5 percent of each company's premiums for the year. This is expected to save \$115 million in 2003.

There are various types of insurance programs. The most basic type of coverage is Catastrophic Crop Insurance (CAT), which compensates the farmer for losses up to 50 percent of the individual's average yield at 55 percent of the expected market price. The CAT premium is entirely subsidized, and farmers pay only a small administrative fee. Commercial insurance companies deliver the product to the producer in all states. Additional coverage is available to producers who wish to insure crops above the basic coverage. Premium rates for additional coverage depend on the level of coverage selected and vary from crop to crop and county to county. The additional levels of insurance coverage are more attractive to farmers due to availability of optional units, other policy provisions not available with CAT

coverage, and the ability to obtain a level of protection that permits them to use crop insurance as loan collateral and to achieve greater financial security. Private companies sell and adjust the catastrophic portion of the crop insurance program, and also provide higher levels of coverage, which are also federally subsidized. Approximately 73 percent of eligible acres participated in one or more crop insurance programs in 2001.

Revenue insurance programs protect against loss of revenue stemming from low prices, poor yields, or a combination of both. The plans available are Revenue Coverage (CRC), Revenue Assurance (RA), and the Income Protection (IP) plan. These three plans have many similar features and some very distinctive features. All provide a guaranteed revenue by combining coverage on both yield and price variability. CRC and RA also provide protection against crop price changes. Indemnities are due when any combination of yield and price result in revenue that is less than the revenue guarantee. Revenue protection for all products is provided by extending traditional multi-peril crop insurance protection, based on actual production history, to include price variability. The price component common to CRC, RA, and IP uses the commodity futures market for price discovery. These programs all seek to help ensure a certain level of annual income and are offered through private insurance companies. For 1999, a Group Risk Income Protection plan was developed by the private sector to provide protection against decline in county revenue, based on futures market prices and NASS county average yields, as adjusted by FCIC. FCIC is also piloting an Adjusted Gross Revenue (AGR) program, which is designed to insure a portion of producers' gross revenue based on their Schedule F Farm and Income Tax reports.

USDA continues to expand revenue coverage. RMA plans to roll out Round IV of the Dairy Options Pilot Program (DOPP) during 2002, which includes reaching producers in a total of 300 counties in 40 states. RMA's partners in the program are registered commodities brokers who are authorized by the Commodity Futures Trading Commission to buy put options on behalf of DOPP participants on the Chicago Mercantile Exchange. In September 2001, RMA published an interim rule that allows RMA to reimburse developers of private crop insurance products for their research and development costs and maintenance costs. In November 2001, two livestock pilot programs were approved—the Livestock Gross Margin and Livestock Risk Protection. The pilot livestock programs will cover swine in the State of Iowa and will be made available beginning in 2002.

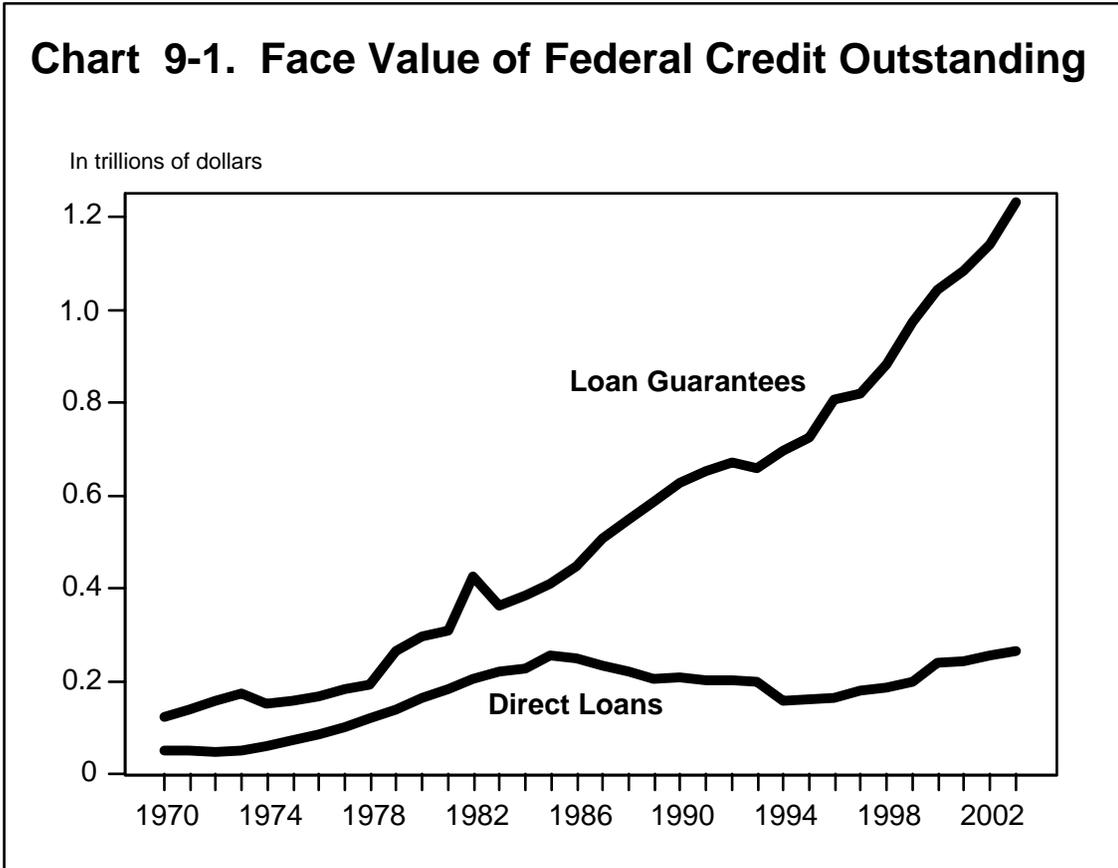


Table 9-1. ESTIMATED FUTURE COST OF OUTSTANDING FEDERAL CREDIT PROGRAMS
(In billions of dollars)

Program	Outstanding 2000	Estimated Future Costs of 2000 Outstanding ¹	Outstanding 2001	Estimated Future Costs of 2001 Outstanding ¹
Direct Loans:²				
Federal student loan programs	80	10	90	11
Farm Service Agency (excl. CCC), Rural development, Rural housing	46	11	46	10
Rural Utilities Service and Rural telephone bank	33	2	31	2
Housing and Urban Development	13	2	12	2
Agency for International Development	11	5	10	4
P. L. 480	11	8	11	2
Export-Import Bank	11	5	12	4
Commodity Credit Corporation	8	5	7	3
Federal Communications Commission spectrum auction	8	-1	6	.....
Disaster assistance	6	1	4	.....
Other direct loan programs	13	3	13	.....
Total Direct Loans	241	50	242	38
Guaranteed Loans:²				
FHA-mutual mortgage insurance	450	-1	459	1
Veterans housing	224	5	237	5
Federal family education loan	144	12	159	14
FHA-general and special risk	99	8	99	8
Small business	34	2	37	3
Export-Import Bank	30	5	31	4
International assistance	19	1	19	2
Farm Service Agency and Rural housing	20	.....	22	.....
Commodity Credit Corporation	6	1	5	.....
Other guaranteed loan programs	16	3	16	2
Total Guaranteed Loans	1,043	37	1,084	39
Total Federal Credit	1,284	75	1,326	77

¹ Direct loan future costs are the financing account allowance for subsidy cost and the liquidating account allowance for estimated uncollectible principal and interest. Loan guarantee future costs are estimated liabilities for loan guarantees.

² Excludes loans and guarantees by deposit insurance agencies and programs not included under credit reform, such as CCC commodity price supports. Defaulted guaranteed loans which become loans receivable are accounted for as direct loans.

Table 9-2. FACE VALUE OF GOVERNMENT-SPONSORED ENTERPRISE LENDING¹

(In billions of dollars)

	Outstanding	
	2000	2001
Government Sponsored Enterprises:		
Fannie Mae	1,231	1,460
Freddie Mac	913	1,101
Federal Home Loan Banks ²	433	477
Sallie Mae ³ .....	.....	.....
Farm Credit System	68	75
Total	2,645	3,113

¹ Net of purchases of federally guaranteed loans.

² The lending by the Federal Home Loans Banks measures their advances to member thrift and other financial institutions. In addition, their investment in private financial instruments at the end of 2001 was \$194 billion, including federally guaranteed securities, GSE securities, and money market instruments.

³ The face value and Federal costs of Federal Family Education Loans in the Student Loan Marketing Association's portfolio are included in the totals for that program under guaranteed loans in table 9-1.

Table 9-3. REESTIMATES OF CREDIT SUBSIDIES ON LOANS DISBURSED BETWEEN 1992-2001¹

(Budget authority and outlays, in millions of dollars)

Program	1994	1995	1996	1997	1998	1999	2000	2001	2002
Direct Loans:									
Agriculture:									
Agriculture credit insurance fund	-72	28	2	-31	23		331	-656	921
Farm storage facility loans									-2
Apple loans									-1
Agricultural conservation	-1								
Rural electrification and telecommunications loans	*	61	-37	84		-39		-17	
Rural telephone bank	1			10		-9		-1	
Rural housing insurance fund	2	152	46	-73		71		19	
Rural economic development loans				1		-1	*		
Rural development loan program		1				-6			
Rural community advancement program ²				8		5		37	
P.L. 480			-37	-1				-23	110
P.L. 480 title I food for progress credits									28
Commerce:									
Fisheries finance								-19	-1
Education:									
Federal direct student loans: ³									
Technical reestimate			3	-83	172	-383	-2,158	560	
Volume reestimate						22		-6	
College housing and academic facilities loans								-1	*
Interior:									
Bureau of Reclamation loans							3	3	-7
Bureau of Indian Affairs direct loans						1	5	-1	2
Transportation:									
High priority corridor loans					-3				
Alameda corridor loan							-58		-50
Transportation infrastructure finance and innovation								18	
Treasury:									
Community development financial institutions fund							1		1
Veterans Affairs:									
Veterans housing benefit program fund	-39	30	76	-72	465	-111	-52	-107	-697
Native American veteran housing									-2
Environmental Protection Agency:									
Abatement, control and compliance								3	-1
Federal Emergency Management Agency:									
Disaster assistance							47	36	
General Services Administration:									
Columbia hospital for women									-6
International Assistance Programs:									
Foreign military financing				13	4	1	152	-166	119
U.S. Agency for International Development:									
Micro and small enterprise development									*
Overseas Private Investment Corporation:									
OPIC direct loans									-9
Debt reduction							36	-4	
Small Business Administration:									
Business loans								1	-2
Disaster loans					-193	246	-398	-282	347
Other Independent Agencies:									
Export-Import Bank direct loans	-28	-16	37				-177	157	117
Federal Communications Commission spectrum auction					4,592	980	-1,501	-804	92
Loan Guarantees:									
Agriculture:									
Agriculture credit insurance fund	5	14	12	-51	96		-31	205	46
Agriculture resource conservation demonstration project								2	2
Commodity Credit Corporation export guarantees	3	103	-426	343				-1,410	2
Rural development insurance fund	49			-3					
Rural housing insurance fund	2	10	7	-10		109		152	
Rural community advancement program ²				-10		41		63	
P.L. 480 title I food for progress credits		84	-38						
Commerce:									
Fisheries finance					-2			-3	-1

Table 9-3. REESTIMATES OF CREDIT SUBSIDIES ON LOANS DISBURSED BETWEEN 1992-2001¹—Continued

(Budget authority and outlays, in millions of dollars)

Program	1994	1995	1996	1997	1998	1999	2000	2001	2002
Education:									
Federal family education loan: ³									
Technical reestimate	97	421	60	.....	.....	-140	667	-3,484	.....
Volume reestimate .....	.....	.....	535	99	.....	-13	-60	-42	.....
Health and Human Services:									
Heath center loan guarantees .....	.....	.....	.....	.....	.....	.....	3	.....	*
Health education assistance loans .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Housing and Urban Development:									
Indian housing loan guarantee .....	.....	.....	.....	.....	.....	.....	.....	-6	*
FHA-mutual mortgage insurance .....	.....	.....	.....	-340	.....	3,789	.....	2,413	-1,386
FHA-general and special risk ⁴	-175	.....	-110	-25	743	79	.....	-217	-403
Interior:									
Bureau of Indian Affairs guaranteed loans .....	.....	.....	.....	31	.....	.....	.....	-14	-1
Transportation:									
Maritime guaranteed loans (title XI) .....	.....	.....	.....	.....	.....	-71	30	-15	184
Veterans Affairs:									
Veterans housing benefit fund program	-447	167	334	-706	38	492	229	-770	-163
International Assistance Programs:									
U.S. Agency for International Development:									
Housing guaranty	-2	-1	-7	.....	-14	.....	.....	.....	.....
Development credit authority .....	.....	.....	.....	.....	.....	.....	.....	.....	-1
Micro and small enterprise development .....	.....	.....	.....	.....	.....	.....	.....	.....	-1
Urban and environmental credit .....	.....	.....	.....	.....	.....	.....	.....	.....	-13
Assistance to the new independent states of the former Soviet Union .....	.....	.....	.....	.....	.....	.....	.....	.....	-25
Overseas Private Investment Corporation:									
OPIC guaranteed loans .....	.....	.....	.....	.....	.....	.....	.....	.....	46
Small Business Administration:									
Business loans .....	.....	.....	257	-16	-279	-545	-235	-528	-183
Other Independent Agencies:									
Export-Import Bank guarantees	-11	-59	13	.....	.....	.....	-191	-1,520	-417
Total	-616	995	727	-832	5,642	4,518	-3,641	-6,427	-1,355

* \$500 thousand or less.

¹ Excludes interest on reestimates. Additional information on credit reform subsidy rates is contained in the Federal Credit Supplement.² Includes rural water and waste disposal, rural community facilities, and rural business and industry programs.³ Volume reestimates in mandatory loan guarantee programs represent a change in volume of loans disbursed in the prior years. These estimates are the result of guarantee programs where data from loan issuers on actual disbursements of loans are not received until after the close of the fiscal year.⁴ 1999 figure includes interest on reestimate.

Table 9-4. DIRECT LOAN SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS, 2001-2003

(dollar amounts in millions)

Agency and Program	2001 Actual			2002 Enacted			2003 Proposed		
	Subsidy rate ¹	Subsidy budget authority	New loan levels	Subsidy rate ¹	Subsidy budget authority	New loan levels	Subsidy rate ¹	Subsidy budget authority	New loan levels
Agriculture:									
Agricultural credit insurance fund	15.36	164	1,068	6.78	60	885	14.09	113	802
Farm storage facility loans	2.18	2	86	2.42	3	125	1.28	2	125
Apple loans	-4.80	-1	12	.....	.....	.....	.....	.....	.....
Emergency boll weevil loan	60.00	6	10	.....	.....	.....	.....	.....	.....
Rural community advancement program	12.64	155	1,226	6.56	74	1,128	10.15	108	1,064
Rural electrification and telecommunications loans	-0.52	-16	3,051	-0.54	-24	4,466	-0.66	-20	3,016
Rural telephone bank	1.48	3	175	2.14	4	175	.....	.....	.....
Distance learning and telemedicine program	-0.75	-3	400	.....	.....	380	2.31	3	130
Farm labor	52.59	15	28	47.31	13	28	49.02	18	36
Rural housing insurance fund	19.35	239	1,235	16.11	201	1,248	20.86	224	1,074
Rural development loan fund	50.91	19	38	43.21	16	38	48.26	19	40
Rural economic development loans	26.07	4	15	24.16	4	15	21.36	3	15
Public law 480 title I	71.51	114	159	81.73	127	155	75.11	99	132
Commerce:									
Fisheries finance .....	.....	.....	74	-12.50	-3	24	-12.50	-3	24
Defense—Military:									
Family housing improvement fund	38.18	42	110	66.19	24	36	45.10	.....	.....
Education:									
Federal direct student loan program	-4.47	-891	19,914	-4.02	-855	21,266	-3.50	-648	18,843
Housing and Urban Development:									
FHA-mutual mortgage insurance .....	.....	.....	1	.....	.....	250	.....	.....	50
FHA-general and special risk .....	.....	.....	50	.....	.....	50	.....	.....	50
Interior:									
Bureau of Reclamation loan	33.33	9	27	26.92	7	26	.....	.....	.....
Assistance to territories	15.58	3	19	.....	.....	.....	.....	.....	.....
State:									
Repatriation loans	80.00	1	1	80.00	1	1	80.00	1	1
Transportation:									
Federal-aid highways	10.99	96	874	5.36	118	2,200	4.42	89	2,014
Railroad rehabilitation and improvement program .....	.....	.....	.....	.....	.....	150	.....	.....	100
Treasury:									
Community development financial institutions fund	41.67	5	12	36.36	4	11	36.94	4	11
Veterans Affairs:									
Veterans housing benefit program fund	2.16	32	1,463	0.86	16	1,809	-5.09	-98	1,917
Miscellaneous veterans housing loans	7.72	.....	1	7.72	.....	.....	43.48	10	23
Miscellaneous veterans programs loan fund	1.88	.....	2	2.18	.....	3	1.50	.....	3
Federal Emergency Management Agency:									
Disaster assistance direct loan	8.00	2	25	91.92	.....	25	-4.00	-1	25
International Assistance:									
Debt restructuring .....	.....	88	.....	.....	5	.....	.....	.....	.....
Overseas Private Investment Corporation	7.11	15	204	11.00	.....	.....	11.00	11	100
Small Business Administration:									
Disaster loans	17.47	153	876	17.67	162	917	13.94	76	545
Business loan	8.95	3	30	6.78	2	26	13.05	3	27
Other Independent Agencies:									
Export-Import Bank loans	10.91	95	871	21.74	35	161	17.32	31	179
Total	N/A	354	32,057	N/A	-6	35,598	N/A	44	30,346

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.
N/A = Not applicable.

Table 9-5. LOAN GUARANTEE SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS, 2001-2003

(dollar amounts in millions)

Agency and Program	2001 Actual			2002 Enacted			2003 Proposed		
	Subsidy rate ¹	Subsidy budget authority	New loan levels	Subsidy rate ¹	Subsidy budget authority	New loan levels	Subsidy rate ¹	Subsidy budget authority	New loan levels
Agriculture:									
Agricultural credit insurance fund	4.41	102	2,314	3.98	128	3,220	3.23	97	3,000
Commodity Credit Corporation export loans	6.01	194	3,227	6.80	267	3,926	6.96	294	4,225
Rural community advancement program	0.67	18	2,668	2.46	25	1,018	2.65	27	1,018
Rural electrification and telecommunications loans	0.01	.....	59	0.08	.....	100	0.08	.....	100
Local television loan guarantee .....	.....	.....	.....	7.75	20	258	.....	.....	.....
Rural housing insurance fund	0.28	9	3,236	1.36	44	3,238	0.84	24	2,850
Commerce:									
Emergency oil and gas guaranteed loan	32.91	1	3	42.03	.....	.....	.....	.....	.....
Emergency steel guaranteed loan	11.68	13	110	14.00	31	221	.....	.....	.....
Defense—Military:									
Family housing improvement fund	6.25	3	48	6.25	12	221	5.66	.....	.....
Education:									
Federal family education loan	8.84	3,069	34,705	9.76	3,782	38,750	10.37	4,101	39,559
Health and Human Services:									
Health resources and services	3.01	.....	7	4.76	1	21	5.88	1	17
Housing and Urban Development:									
Indian housing loan guarantee fund	8.13	1	12	2.47	6	234	2.43	5	194
Native Hawaiian housing loan guarantee fund .....	.....	.....	.....	2.47	1	40	2.43	1	40
Native American housing block grant	11.07	1	9	11.07	6	53	11.07	2	17
Community development loan guarantees	2.30	29	1,258	2.30	14	609	2.30	6	275
FHA-mutual mortgage insurance	-2.15	-2,246	160,000	-2.07	-2,791	160,000	-2.53	-2,938	160,000
FHA-general and special risk	-0.14	36	21,000	-1.46	-242	21,000	-0.85	-158	21,000
Interior:									
Indian guaranteed loan	6.73	4	60	6.00	4	75	6.91	5	72
Transportation:									
Minority business resource center program	2.69	2	14	2.70	1	18	2.69	1	18
Federal-aid highways .....	.....	.....	.....	3.97	8	200	4.35	5	100
Maritime guaranteed loan (title XI)	4.66	34	729	5.00	33	660	.....	.....	.....
Treasury:									
Air transportation stabilization .....	.....	.....	.....	28.52	1,426	5,000	29.26	1,463	5,000
Veterans Affairs:									
Veterans housing benefit program fund	0.41	132	31,948	0.56	187	33,286	1.27	437	34,364
Miscellaneous veterans housing loans	48.25	.....	.....	48.25	.....	.....	.....	.....	.....
International Assistance:									
Microenterprise and small enterprise development	5.51	2	36	3.93	.....	.....	.....	.....	.....
Development credit authority	2.72	1	35	6.42	13	202	6.44	.....	.....
Overseas Private Investment Corporation	1.37	14	1,024	1.65	.....	.....	1.70	13	765
Small Business Administration:									
Business loan	0.96	135	13,990	0.68	153	22,458	0.52	85	16,350
Other Independent Agencies:									
Export-Import Bank loans	8.81	737	8,370	9.68	991	10,239	5.52	625	11,321
Presidio Trust	0.46	.....	.....	0.12	.....	200	0.13	.....	.....
Total	N/A	2,291	284,862	N/A	4,120	305,247	N/A	4,096	300,285
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS									
GNMA:									
Guarantees of mortgage-backed securities loan guarantee	-0.36	-356	200,000	-0.33	-398	200,000	-0.33	-398	200,000

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.

N/A = Not applicable.

Table 9-6. SUMMARY OF FEDERAL DIRECT LOANS AND LOAN GUARANTEES

(In billions of dollars)

	Actual							Estimate	
	1995	1996	1997	1998	1999	2000	2001	2002	2003
Direct Loans:									
Obligations	30.9	23.4	33.6	28.8	38.4	37.1	39.1	47.3	39.9
Disbursements	22.0	23.6	32.2	28.7	37.7	35.5	37.1	43.3	37.3
New subsidy budget authority				-0.8	1.6	-0.4	0.3		
Reestimated subsidy budget authority ¹				7.3	1.0	-4.4	-1.8	1.2	
Total subsidy budget authority ²	2.6	1.8	2.4	6.5	2.6	-4.8	-1.5	1.2	
Loan Guarantees: ³									
Commitments	138.5	175.4	172.3	218.4	252.4	192.6	256.4	293.5	282.8
Lender disbursements	117.9	143.9	144.7	199.5	224.7	180.8	212.9	253.6	247.5
New subsidy budget authority				3.3		3.3	1.9	3.7	3.7
Reestimated subsidy budget authority ¹				-0.7	4.3	0.3	-7.1	-3.0	
Total subsidy budget authority ²	4.6	4.0	3.6	2.6	4.3	3.6	-5.2	0.7	3.7

¹ Includes interest on reestimate.² Prior to 1998 new and reestimated subsidy budget authority were not reported separately.³ GNMA secondary guarantees of loans that are guaranteed by FHA, VA and RHS are excluded from the totals to avoid double-counting.

Table 9-7. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS

Agency and Program	(Dollar amounts in millions)			As a percentage of outstanding loans ¹		
	2001 actual	2002 estimate	2003 estimate	2001 actual	2002 estimate	2003 estimate
DIRECT LOAN WRITEOFFS						
Agriculture:						
Agricultural credit insurance fund	176	247	242	1.98	2.87	2.97
Rural community advancement program	1			0.01		
Rural electrification and telecommunications loans	2,953	142	130	9.69	0.46	0.41
Rural development insurance fund	1	1	1	0.03	0.03	0.03
Rural housing insurance fund	214	139	134	0.76	0.50	0.48
Rural development loan fund	1			0.27		
Commerce:						
Economic development revolving fund	1	1	1	2.85	3.22	3.70
Education:						
Student financial assistance	9	9	9	1.47	1.49	1.53
Housing and Urban Development:						
Revolving fund (liquidating programs)	47	2	2	58.75	11.76	14.28
FHA—Mutual mortgage insurance		1	9		3.70	19.14
Flexible subsidy fund	71	71	71	10.51	11.52	12.97
Guarantees of mortgage-backed securities	4	27	25	3.66	27.00	30.48
Interior:						
Indian direct loan	2	2	2	3.22	3.70	4.25
State:						
Repatriation loans	1	1	1	25.00	25.00	25.00
Veterans Affairs:						
Veterans housing benefit program	21	24	25	1.15	1.23	1.37
Federal Emergency Management Agency:						
Disaster assistance		29			18.01	
International Assistance Programs:						
Military debt reduction		16			84.21	
Overseas Private Investment Corporation	2	1	1	2.98	1.25	1.16
Small Business Administration:						
Disaster loans	350	40	41	7.42	1.19	1.69
Business loans	63	18	16	12.75	4.50	4.80
Other Independent Agencies:						
Spectrum auction program	2,231			32.40		
Tennessee Valley Authority fund	1		1	1.92		1.72
Total, direct loan writeoffs	6,149	771	711	2.91	0.35	0.31
GUARANTEED LOAN TERMINATIONS FOR DEFAULT						
Agriculture:						
Agricultural credit insurance fund	116	121	125	1.24	1.19	1.09
Commodity Credit Corporation export loans	52	334	325	0.91	6.90	6.88
Rural community advancement program	34	50	50	0.94	1.09	0.84
Rural electrification and telecommunications loans	24	23	21	4.32	3.95	3.25
Rural housing insurance fund	64	85	99	0.53	0.62	0.64
Commerce:						
Emergency oil and gas guaranteed loan program		2			66.66	
Emergency steel guaranteed loan program		45			25.86	
Fisheries finance	1	1	1	1.03	1.21	1.49
Education:						
Federal family education loan	3,503	3,677	4,209	2.29	2.23	2.43
Health and Human Services:						
Health education assistance loans	30	40	42	1.35	1.87	2.04
Housing and Urban Development:						
Indian housing loan guarantee		1	2		1.40	2.40
Title VI Indian Federal guarantees program			1			2.17
FHA—Mutual mortgage insurance	4,987	3,785	3,699	1.09	0.80	0.71
FHA—General and special risk	1,426	2,107	2,409	1.44	2.12	2.30
Interior:						
Indian guaranteed loan		2	1		0.92	0.41

Table 9-7. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS—Continued

Agency and Program	(Dollar amounts in millions)			As a percentage of outstanding loans ¹		
	2001 actual	2002 estimate	2003 estimate	2001 actual	2002 estimate	2003 estimate
Transportation:						
Maritime guaranteed loan (title XI)	76	367	94	1.70	7.78	2.05
Treasury:						
Air transportation stabilization guaranteed loan		608	1,006		31.09	18.51
Veterans Affairs:						
Veterans housing benefit program	1,760	2,431	2,619	0.76	1.00	1.04
International Assistance Programs:						
Foreign military financing		2	5		0.04	0.13
Micro and small enterprise development		1	1		2.63	2.22
Urban and environmental credit program	44	44	47	2.00	2.14	2.41
Development credit authority		1	1		1.03	0.46
Overseas Private Investment Corporation	34	164	46	1.04	4.74	1.25
Small Business Administration:						
Business loans	661	682	695	1.87	1.79	1.72
Other Independent Agencies:						
Export-Import Bank	569	373	455	1.88	1.20	1.51
Total, guaranteed loan terminations for default	13,381	14,946	15,953	0.80	0.86	0.86
Total, direct loan writeoffs and guaranteed loan terminations	19,530	15,717	16,664	1.03	0.80	0.80
ADDENDUM: WRITEOFFS OF DEFAULTED GUARANTEED LOANS THAT RESULT IN LOANS RECEIVABLE						
Education:						
Federal family education loan	296	301	318	1.48	1.51	1.54
Health and Human Services:						
Health education assistance loans	24	24	24	4.31	4.33	4.41
Housing and Urban Development:						
FHA—Mutual mortgage insurance	39	18		50.00	100.00	
FHA—General and special risk	477	95	388	18.60	3.32	11.84
Transportation:						
Federal ship financing fund	17			100.00		
Veterans Affairs:						
Veterans housing benefit program	48	54	57	10.52	8.19	7.75
Small Business Administration:						
Business loans	188	80	85	14.00	5.55	5.16
Total, writeoffs of loans receivable	1,089	572	872	3.61	1.85	2.62

¹ Average of loans outstanding for the year.

Table 9–8. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS ¹

(Dollar amounts in millions)

Agency and Program	Enacted		Proposed
	2001	2002	2003
DIRECT LOAN OBLIGATIONS			
Agriculture:			
Apple loans	12	.....	.....
Agricultural credit insurance fund	848	885	802
Emergency boll weevil	10	.....	.....
Distance learning and telemedicine	400	380	130
Rural electrification and telecommunications	3,051	4,466	3,016
Rural telephone bank	175	175	.....
Rural water and waste disposal direct loans	767	879	814
Rural housing insurance fund	1,263	1,277	1,110
Rural community facility direct loans	409	249	250
Rural economic development	15	15	15
Rural development loan fund	38	38	40
Rural business and industry direct loans	50	.....	.....
P.L. 480 direct credit	160	155	132
Commerce:			
Fisheries finance	74	24	24
Education:			
Historically black college and university capital financing	311	295	254
Housing and Urban Development:			
FHA-general and special risk	50	50	50
FHA-mutual mortgage insurance	250	250	50
Interior:			
Bureau of Reclamation	27	26	.....
Assistance to American Samoa	19	.....	.....
State:			
Repatriation loans	1	1	1
Transportation:			
Transportation infrastructure finance and innovation program direct loan	1,800	2,000	2,400
Transportation infrastructure finance and innovation program line of credit	200	200	100
Treasury:			
Community development financial institutions fund	12	11	11
Veterans Affairs:			
Miscellaneous veterans housing loans .....	.....	.....	5
Miscellaneous veterans programs loan fund	3	3	3
Federal Emergency Management Agency:			
Disaster assistance	25	25	25
Small Business Administration:			
Business loans	30	25	26
Total, limitations on direct loan obligations	10,000	11,429	9,258
LOAN GUARANTEE COMMITMENTS			
Agriculture:			
Agricultural credit insurance fund	2,053	3,006	3,000
Rural electrification and telecommunications guaranteed loans	59	100	100
Rural water and waste water disposal guaranteed loans	75	75	75
Local television loan guarantee .....	.....	258	.....
Rural housing insurance fund	3,236	3,238	2,850
Rural community facility guaranteed loans	210	210	210
Rural business and industry guaranteed loans	2,383	733	733
Defense—Military:			
Defense export loan guarantee	14,980	14,980	14,980
Housing and Urban Development:			
Indian housing loan guarantee fund	72	234	234
Title VI Indian Federal guarantees	53	53	17
Native Hawaiian housing loan guarantee fund .....	.....	40	40
Community development loan guarantees	1,258	609	275
FHA-general and special risk	21,000	21,000	21,000
FHA-mutual mortgage insurance	160,000	160,000	160,000

Table 9-8. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS¹—Continued

(Dollar amounts in millions)

Agency and Program	Enacted		Proposed
	2001	2002	2003
Interior:			
Indian guaranteed loan	60	75	72
Transportation:			
Minority business resource center	14	18	18
Transportation infrastructure finance and innovation program loan guarantee	200	200	100
Treasury:			
Air transportation stabilization		10,000	
Small Business Administration:			
Business loans	13,990	22,458	16,350
Total, limitations on loan guarantee commitments	219,643	237,287	220,054
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS			
Housing and Urban Development:			
Guarantees of mortgage-backed securities	200,000	200,000	200,000
Total, limitations on secondary guaranteed loan commitments	200,000	200,000	200,000

¹ Data represent loan level limitations enacted or proposed to be enacted in appropriation acts. For information on actual and estimated loan levels supportable by new subsidy budget authority requested, see Tables 9-4 and 9-5.

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-604	-638	-608
Outstandings	4,463	3,825	3,217
Farm storage facility direct loan financing account:			
Obligations	81	125	125
Loan disbursements	48	156	125
<i>Change in outstandings</i>	46	120	89
Outstandings	78	198	287
Apple loans direct loan financing account:			
Obligations	12		
Loan disbursements	11	1	
<i>Change in outstandings</i>	11	-3	-4
Outstandings	11	8	4
Agricultural credit insurance fund direct loan financing account:			
Obligations	1,066	1,003	902
Loan disbursements	1,072	1,011	917
<i>Change in outstandings</i>	404	296	8
Outstandings	4,313	4,609	4,617
Emergency boll weevil direct loan financing account:			
Obligations	10		
Loan disbursements	10		
<i>Change in outstandings</i>	10	-1	-1
Outstandings	10	9	8
Commodity Credit Corporation fund:			
Obligations	8,267	10,624	8,844
Loan disbursements	8,267	10,624	8,844
<i>Change in outstandings</i>	-1,188	689	-489
Outstandings	2,276	2,965	2,476
Rural Utilities Service			
Rural communication development fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1	-1	
Outstandings	5	4	4
Distance learning and telemedicine direct loan financing account:			
Obligations	100	380	130
Loan disbursements	15	12	24
<i>Change in outstandings</i>	14	11	22
Outstandings	16	27	49
Rural development insurance fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-201	-188	-177
Outstandings	3,068	2,880	2,703
Rural electrification and telecommunications direct loan financing account:			
Obligations	3,051	4,466	3,016
Loan disbursements	2,151	2,416	2,618
<i>Change in outstandings</i>	1,941	2,210	2,351
Outstandings	9,072	11,282	13,633
Rural telephone bank direct loan financing account:			
Obligations	175	175	
Loan disbursements	81	129	127
<i>Change in outstandings</i>	70	115	111
Outstandings	338	453	564

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Rural water and waste disposal direct loans financing account:			
Obligations	743	893	814
Loan disbursements	694	800	779
Change in outstandings	606	734	703
Outstandings	4,548	5,282	5,985
Rural electrification and telecommunications liquidating account:			
Obligations			
Loan disbursements	9	13	13
Change in outstandings	-2,724	-1,676	-1,540
Outstandings	21,009	19,333	17,793
Rural telephone bank liquidating account:			
Obligations			
Loan disbursements	7	7	6
Change in outstandings	-129	-71	-72
Outstandings	795	724	652
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1,183	-989	-912
Outstandings	16,183	15,194	14,282
Rural housing insurance fund direct loan financing account:			
Obligations	1,276	1,328	1,110
Loan disbursements	1,212	1,290	1,160
Change in outstandings	644	724	527
Outstandings	11,697	12,421	12,948
Rural community facility direct loans financing account:			
Obligations	325	403	250
Loan disbursements	163	264	275
Change in outstandings	124	232	238
Outstandings	988	1,220	1,458
Rural Business—Cooperative Service			
Rural economic development loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1		
Outstandings			
Rural economic development direct loan financing account:			
Obligations	23	15	15
Loan disbursements	16	22	14
Change in outstandings	4	9	-1
Outstandings	73	82	81
Rural development loan fund direct loan financing account:			
Obligations	44	38	40
Loan disbursements	40	42	44
Change in outstandings	31	33	33
Outstandings	313	346	379
Rural business and industry direct loans financing account:			
Obligations	50		
Loan disbursements	27	30	6
Change in outstandings	23	24	
Outstandings	82	106	106
Rural development loan fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-3	-3
Outstandings	66	63	60

Table 9–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Foreign Agricultural Service			
Expenses, Public Law 480, foreign assistance programs, Agriculture liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-323	-294	-278
Outstandings	8,219	7,925	7,647
P.L. 480 direct credit financing account:			
Obligations	60	514	132
Loan disbursements	180	119	107
<i>Change in outstandings</i>	121	60	34
Outstandings	2,176	2,236	2,270
P.L. 480 title I food for progress credits, financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-39	-56	-56
Outstandings	465	409	353
Debt reduction—financing account:			
Obligations			
Loan disbursements	82		
<i>Change in outstandings</i>	75	-7	-7
Outstandings	132	125	118
Department of Commerce			
Economic Development Administration			
Economic development revolving fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-4	-4	-4
Outstandings	33	29	25
National Oceanic and Atmospheric Administration			
Fisheries finance direct loan financing account:			
Obligations	74	24	24
Loan disbursements	24	24	74
<i>Change in outstandings</i>	24	14	66
Outstandings	161	175	241
Department of Defense—Military			
Family Housing			
Family housing improvement direct loan financing account:			
Obligations		36	
Loan disbursements		33	110
<i>Change in outstandings</i>		33	110
Outstandings		33	143
Department of Education			
Office of Postsecondary Education			
College housing and academic facilities loans liquidating account:			
Obligations			
Loan disbursements	1		
<i>Change in outstandings</i>	-34	-34	-29
Outstandings	424	390	361
College housing and academic facilities loans financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1		-1
Outstandings	25	25	24
Historically black college and university capital financing direct loan financing account:			
Obligations	16	42	40
Loan disbursements	11	39	35
<i>Change in outstandings</i>	10	39	34
Outstandings	31	70	104

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Office of Student Financial Assistance			
Student financial assistance:			
Obligations			
Loan disbursements			
Change in outstandings	-9	-10	-18
Outstandings	606	596	578
Federal direct student loan program financing account:			
Obligations	19,219	21,266	19,123
Loan disbursements	18,166	19,805	17,279
Change in outstandings	11,962	14,848	10,479
Outstandings	70,484	85,332	95,811
Department of Energy			
Power Marketing Administration			
Bonneville Power Administration fund:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	2	2	2
Department of Health and Human Services			
Health Resources and Services Administration			
Medical facilities guarantee and loan fund:			
Obligations			
Loan disbursements			
Change in outstandings	-2	-4	-5
Outstandings	9	5	
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Obligations			
Loan disbursements			
Change in outstandings	-70	-70	-70
Outstandings	1,280	1,210	1,140
Community Planning and Development			
Revolving fund (liquidating programs):			
Obligations			
Loan disbursements			
Change in outstandings	-123	-3	-3
Outstandings	19	16	13
Community development loan guarantees liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-3	-2	-2
Outstandings	8	6	4
Housing Programs			
Nonprofit sponsor assistance liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	1	1	1
Flexible subsidy fund:			
Obligations			
Loan disbursements	20	12	
Change in outstandings	-55	-63	-75
Outstandings	648	585	510
FHA-mutual mortgage and cooperative housing insurance funds liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings		-3	
Outstandings	3		

Table 9–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
FHA-general and special risk insurance funds liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-6	-5	-10
Outstandings	38	33	23
FHA-general and special risk direct loan financing account:			
Obligations		4	4
Loan disbursements	1	4	4
Change in outstandings	1		
Outstandings	2	2	2
Housing for the elderly or handicapped fund liquidating account:			
Obligations			
Loan disbursements	4	5	1
Change in outstandings	-118	-182	-220
Outstandings	7,805	7,623	7,403
FHA-mutual mortgage insurance direct loan financing account:			
Obligations	1	125	50
Loan disbursements	1	125	50
Change in outstandings	1	51	-9
Outstandings	1	52	43
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Obligations			
Loan disbursements	47	46	45
Change in outstandings	1	-20	-15
Outstandings	110	90	75
Department of the Interior			
Bureau of Reclamation			
Bureau of Reclamation loan liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-13	-4	-3
Outstandings	50	46	43
Water and related resources:			
Obligations			
Loan disbursements			
Change in outstandings	-1		
Outstandings	2	2	2
Bureau of Reclamation direct loan financing account:			
Obligations	27	16	
Loan disbursements	25	48	9
Change in outstandings	-6	47	6
Outstandings	160	207	213
National Park Service			
Construction and major maintenance:			
Obligations			
Loan disbursements			
Change in outstandings			-1
Outstandings	5	5	4
Bureau of Indian Affairs			
Revolving fund for loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-4	-4
Outstandings	35	31	27
Indian direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-3	-3
Outstandings	23	20	17

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Insular Affairs			
Payments to the United States territories, fiscal assistance:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-2	-2	-1
Outstandings	13	11	10
Assistance to American Samoa direct loan financing account:			
Obligations	19		
Loan disbursements	13	6	
<i>Change in outstandings</i>	12	5	-1
Outstandings	12	17	16
Department of State			
Administration of Foreign Affairs			
Repatriation loans financing account:			
Obligations	1	1	1
Loan disbursements	1	1	1
<i>Change in outstandings</i>			
Outstandings	4	4	4
Department of Transportation			
Office of the Secretary			
Minority business resource center direct loan financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-2	-5	
Outstandings	5		
Federal Highway Administration			
Transportation infrastructure finance and innovation program direct loan financing account:			
Obligations	874	2,000	1,914
Loan disbursements		430	830
<i>Change in outstandings</i>		430	830
Outstandings	300	730	1,560
Transportation infrastructure finance and innovation program line of credit financing account:			
Obligations		200	100
Loan disbursements			
<i>Change in outstandings</i>			
Outstandings			
Right-of-way revolving fund liquidating account:			
Obligations			
Loan disbursements	11	10	10
<i>Change in outstandings</i>	-20	-14	-14
Outstandings	109	95	81
Federal Railroad Administration			
Amtrak corridor improvement loans liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1	-1	-1
Outstandings	4	3	2
Alameda corridor direct loan financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	15	31	33
Outstandings	503	534	567
Railroad rehabilitation and improvement liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>		-9	-4
Outstandings	49	40	36

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Railroad rehabilitation and improvement direct loan financing account:			
Obligations		210	197
Loan disbursements		150	100
Change in outstandings		150	92
Outstandings	4	154	246
Department of the Treasury			
Departmental Offices			
Community development financial institutions fund direct loan financing account:			
Obligations	12	11	11
Loan disbursements	9	10	10
Change in outstandings	9	9	9
Outstandings	24	33	42
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans housing benefit program fund liquidating account:			
Obligations			
Loan disbursements	7	6	5
Change in outstandings	-36	-34	-26
Outstandings	128	94	68
Veterans housing benefit program fund direct loan financing account:			
Obligations	1,463	1,809	1,917
Loan disbursements	1,463	1,809	1,917
Change in outstandings	226	101	-298
Outstandings	1,782	1,883	1,585
Miscellaneous veterans housing loans direct loan financing account:			
Obligations	2	3	15
Loan disbursements	2	3	15
Change in outstandings	2	2	14
Outstandings	19	21	35
Miscellaneous veterans programs loan fund direct loan financing account:			
Obligations	3	3	3
Loan disbursements	2	3	3
Change in outstandings			
Outstandings	1	1	1
Environmental Protection Agency			
Abatement, control, and compliance direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-4	-5	-5
Outstandings	42	37	32
Federal Emergency Management Agency			
Disaster assistance direct loan liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-29		
Outstandings			
Disaster assistance direct loan financing account:			
Obligations		25	25
Loan disbursements	31	25	25
Change in outstandings	29	-8	17
Outstandings	165	157	174
General Services Administration			
Real Property Activities			
Columbia Hospital for Women direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-13	
Outstandings	13		

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Obligations			
Loan disbursements	7	7	7
Change in outstandings	-456	-397	-339
Outstandings	3,767	3,370	3,031
Foreign military financing direct loan financing account:			
Obligations			
Loan disbursements	546	339	54
Change in outstandings	173	-114	-402
Outstandings	1,943	1,829	1,427
Military debt reduction financing account:			
Obligations			
Loan disbursements			
Change in outstandings		-16	
Outstandings	19	3	3
Agency for International Development			
Economic assistance loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-613	-526	-487
Outstandings	9,373	8,847	8,360
Debt reduction financing account:			
Obligations			
Loan disbursements	68	1	
Change in outstandings	10	-56	-15
Outstandings	175	119	104
Private sector revolving fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	1	1	1
Microenterprise and small enterprise development credit direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-1	
Outstandings	1		
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			-1
Outstandings	1	1	
Overseas Private Investment Corporation direct loan financing account:			
Obligations	204	73	100
Loan disbursements	44	42	40
Change in outstandings	18	8	6
Outstandings	75	83	89
Small Business Administration			
Business direct loan financing account:			
Obligations	30	25	26
Loan disbursements	53	29	18
Change in outstandings	47	14	3
Outstandings	107	121	124
Disaster direct loan financing account:			
Obligations	951	1,272	795
Loan disbursements	683	1,334	976
Change in outstandings	-1,924	-231	-1,393
Outstandings	3,288	3,057	1,664

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Disaster loan fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-437	-132	-116
Outstandings	248	116	
Business loan fund liquidating account:			
Obligations			
Loan disbursements	14	12	11
<i>Change in outstandings</i>	-148	-101	-50
Outstandings	337	236	186
Other Independent Agencies			
Export-Import Bank of the United States			
Export-Import Bank of the United States liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-308	-268	-232
Outstandings	4,152	3,884	3,652
Debt reduction financing account:			
Obligations			
Loan disbursements	50	545	10
<i>Change in outstandings</i>	44	261	-1
Outstandings	146	407	406
Export-Import Bank direct loan financing account:			
Obligations	871	161	179
Loan disbursements	1,738	1,452	560
<i>Change in outstandings</i>	924	721	-248
Outstandings	7,590	8,311	8,063
Farm Credit System Financial Assistance Corporation			
Financial Assistance Corporation assistance fund liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-15	-16	-40
Outstandings	868	852	812
Federal Communications Commission			
Spectrum auction direct loan financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-2,584	-4,395	-97
Outstandings	5,593	1,198	1,101
Federal Deposit Insurance Corporation			
FSLIC resolution fund:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-1	-3	
Outstandings	3		
National Credit Union Administration			
Community development credit union revolving loan fund:			
Obligations	10	14	15
Loan disbursements	2	7	5
<i>Change in outstandings</i>	-1	4	1
Outstandings	10	14	15
Tennessee Valley Authority			
Tennessee Valley Authority fund:			
Obligations	13	18	19
Loan disbursements	12	18	19
<i>Change in outstandings</i>	-2	6	2
Outstandings	51	57	59

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Subtotal, direct loan transactions:			
Obligations	39,073	47,302	39,936
Loan disbursements	37,141	43,316	37,282
Change in outstandings	4,197	11,346	7,427
Outstandings	213,286	224,632	232,059
ADDENDUM: DEFAULTED GUARANTEED LOANS THAT RESULT IN A LOAN RECEIVABLE			
Department of Agriculture			
Farm Service Agency			
Commodity Credit Corporation export guarantee financing account:			
Claim payments	52	334	325
Change in outstandings	21	286	259
Outstandings	485	771	1,030
Commodity Credit Corporation guaranteed loans liquidating account:			
Claim payments			
Change in outstandings	-162	-184	-201
Outstandings	3,969	3,785	3,584
Department of Commerce			
National Oceanic and Atmospheric Administration			
Fisheries finance guaranteed loan financing account:			
Claim payments	1	1	1
Change in outstandings	1	-3	-3
Outstandings	13	10	7
Federal ship financing fund fishing vessels liquidating account:			
Claim payments			
Change in outstandings	-2	-2	-2
Outstandings	12	10	8
Department of Education			
Office of Student Financial Assistance			
Federal family education loan liquidating account:			
Claim payments	377	58	17
Change in outstandings	-866	-706	-632
Outstandings	14,120	13,414	12,782
Federal family education loan program financing account:			
Claim payments	2,692	3,133	3,655
Change in outstandings	-3	1,479	1,398
Outstandings	5,339	6,818	8,216
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Claim payments	14	27	30
Change in outstandings	10	22	24
Outstandings	63	85	109
Health education assistance loans liquidating account:			
Claim payments	12	8	7
Change in outstandings	-3	-33	-34
Outstandings	497	464	430
Department of Housing and Urban Development			
Housing Programs			
FHA-mutual mortgage and cooperative housing insurance funds liquidating account:			
Claim payments		35	34
Change in outstandings	-42	-4	
Outstandings	4		
FHA-general and special risk insurance funds liquidating account:			
Claim payments	618	981	1,235
Change in outstandings	39	447	337
Outstandings	1,999	2,446	2,783

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
FHA-general and special risk guaranteed loan financing account:			
Claim payments	295	418	460
Change in outstandings	66	32	25
Outstandings	618	650	675
FHA-mutual mortgage insurance guaranteed loan financing account:			
Claim payments	1	377	671
Change in outstandings	-98	-4	
Outstandings	4		
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Claim payments			
Change in outstandings	-1	-4	-4
Outstandings	26	22	18
Indian guaranteed loan financing account:			
Claim payments		2	1
Change in outstandings	-13	1	
Outstandings	24	25	25
Department of Transportation			
Maritime Administration			
Federal ship financing fund liquidating account:			
Claim payments			
Change in outstandings	-17		
Outstandings			
Department of the Treasury			
Departmental Offices			
Air transportation stabilization guaranteed loan financing account:			
Claim payments		577	957
Change in outstandings		577	842
Outstandings		577	1,419
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans housing benefit program fund liquidating account:			
Claim payments	30	29	27
Change in outstandings	-12	8	8
Outstandings	274	282	290
Veterans housing benefit program fund guaranteed loan financing account:			
Claim payments	362	129	126
Change in outstandings	335	74	62
Outstandings	344	418	480
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Claim payments	24	23	31
Change in outstandings	24	-13	31
Outstandings	39	26	57
Agency for International Development			
Housing and other credit guaranty programs liquidating account:			
Claim payments	40	40	42
Change in outstandings	-73	15	24
Outstandings	435	450	474
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Claim payments	13	2	1
Change in outstandings	6		
Outstandings	19	19	19

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Overseas Private Investment Corporation guaranteed loan financing account:			
Claim payments	21	162	45
Change in outstandings	18	148	31
Outstandings	49	197	228
Small Business Administration			
Pollution control equipment fund liquidating account:			
Claim payments			
Change in outstandings			
Outstandings	49	49	49
Business guaranteed loan financing account:			
Claim payments	645	670	684
Change in outstandings	149	258	252
Outstandings	966	1,224	1,476
Business loan fund liquidating account:			
Claim payments	16	12	11
Change in outstandings	-141	-70	-29
Outstandings	381	311	282
Subtotal, defaulted guaranteed loans that result in a loan receivable:			
Claim payments	5,213	7,018	8,360
Change in outstandings	-764	2,324	2,388
Outstandings	29,729	32,053	34,441
Total:			
Obligations	39,073	47,302	39,936
Loan disbursements	42,354	50,334	45,642
Change in outstandings	3,433	13,670	9,815
Outstandings	243,015	256,685	266,500

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT
(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-60	-67	-52
Outstandings	411	344	292
Agricultural credit insurance fund guaranteed loan financing account:			
Commitments	2,315	3,220	3,000
New guaranteed loans	2,200	2,988	3,025
Change in outstandings	510	1,312	1,302
Outstandings	9,111	10,423	11,725
Commodity Credit Corporation export guarantee financing account:			
Commitments	3,227	3,926	4,225
New guaranteed loans	2,183	3,926	4,225
Change in outstandings	-1,568	-153	-80
Outstandings	4,915	4,762	4,682
Natural Resources Conservation Service			
Agricultural resource conservation demonstration guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings			-10
Outstandings	24	24	14
Rural Utilities Service			
Rural communication development fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings			
Outstandings	4	4	4
Rural development insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-13	-12	-10
Outstandings	99	87	77
Rural electrification and telecommunications guaranteed loans financing account:			
Commitments	59	100	100
New guaranteed loans	35	68	113
Change in outstandings	35	65	109
Outstandings	203	268	377
Rural water and waste water disposal guaranteed loans financing account:			
Commitments	5	75	75
New guaranteed loans		43	72
Change in outstandings	-8	41	69
Outstandings	11	52	121
Local television loan guarantee financing account:			
Commitments		258	
New guaranteed loans		52	116
Change in outstandings		52	114
Outstandings		52	166
Rural electrification and telecommunications liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-24	-23	-21
Outstandings	358	335	314
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-2	-2	-1
Outstandings	18	16	15

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Rural housing insurance fund guaranteed loan financing account:			
Commitments	2,342	3,250	2,850
New guaranteed loans	2,171	2,817	2,751
Change in outstandings	1,374	1,915	1,698
Outstandings	12,673	14,588	16,286
Rural community facility guaranteed loans financing account:			
Commitments	139	210	210
New guaranteed loans	15	155	179
Change in outstandings	2	137	155
Outstandings	227	364	519
Rural Business—Cooperative Service			
Rural business and industry guaranteed loans financing account:			
Commitments	1,076	1,152	733
New guaranteed loans	809	1,777	1,294
Change in outstandings	324	1,453	908
Outstandings	3,504	4,957	5,865
Department of Commerce			
Departmental Management			
Emergency oil and gas guaranteed loan financing account:			
Commitments	3	2	
New guaranteed loans	3	2	
Change in outstandings	3		
Outstandings	3	3	3
Emergency steel guaranteed loan financing account:			
Commitments	110	236	
New guaranteed loans	110	236	
Change in outstandings	109	131	-62
Outstandings	109	240	178
Economic Development Administration			
Economic development revolving fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-1		
Outstandings			
National Oceanic and Atmospheric Administration			
Fisheries finance guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-11	-11	-11
Outstandings	51	40	29
Federal ship financing fund fishing vessels liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-4	-4	-3
Outstandings	39	35	32
Department of Defense—Military			
Operation and Maintenance			
Defense export loan guarantee financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-4	-4	-4
Outstandings	8	4	
Procurement			
Arms initiative guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings		-1	-1
Outstandings	28	27	26

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Family Housing			
Family housing improvement guaranteed loan financing account:			
Commitments	48	221	.....
New guaranteed loans	41	70	88
Change in outstandings	41	69	86
Outstandings	70	139	225
Department of Education			
Office of Student Financial Assistance			
Federal family education loan liquidating account:			
Commitments .....	.....	.....	.....
New guaranteed loans .....	.....	.....	.....
Change in outstandings	-2,030	-1,921	-1,135
Outstandings	4,493	2,572	1,437
Federal family education loan program financing account:			
Commitments	34,705	38,750	39,559
New guaranteed loans	30,537	34,255	34,732
Change in outstandings	15,873	11,981	8,651
Outstandings	154,807	166,788	175,439
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Commitments .....	.....	.....	.....
New guaranteed loans .....	.....	.....	.....
Change in outstandings	-22	-35	-39
Outstandings	1,513	1,478	1,439
Health education assistance loans liquidating account:			
Commitments .....	.....	.....	.....
New guaranteed loans .....	.....	.....	.....
Change in outstandings	-54	-50	-50
Outstandings	668	618	568
Health center guaranteed loan financing account:			
Commitments	7	21	17
New guaranteed loans	7	21	17
Change in outstandings	7	21	17
Outstandings	12	33	50
Medical facilities guarantee and loan fund:			
Commitments .....	.....	.....	.....
New guaranteed loans .....	.....	.....	.....
Change in outstandings	-5	-6	-6
Outstandings	19	13	7
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Commitments .....	.....	.....	.....
New guaranteed loans .....	.....	.....	.....
Change in outstandings	-278	-278	-278
Outstandings	2,464	2,186	1,908
Indian housing loan guarantee fund financing account:			
Commitments	13	20	20
New guaranteed loans	10	20	23
Change in outstandings	6	11	12
Outstandings	66	77	89
Title VI Indian Federal guarantees financing account:			
Commitments	10	26	40
New guaranteed loans	9	23	36
Change in outstandings	9	20	33
Outstandings	10	30	63

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Native Hawaiian housing loan guarantee fund financing account:			
Commitments			10
New guaranteed loans			1
Change in outstandings			1
Outstandings			1
Community Planning and Development			
Community development loan guarantees financing account:			
Commitments	244	609	275
New guaranteed loans	335	400	400
Change in outstandings	195	200	200
Outstandings	1,887	2,087	2,287
Community development loan guarantees liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-26	-29	-6
Outstandings	81	52	46
Housing Programs			
FHA-mutual mortgage and cooperative housing insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-7,656	-6,624	-3,272
Outstandings	39,963	33,339	30,067
FHA-general and special risk insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-4,391	-1,989	-2,174
Outstandings	25,370	23,381	21,207
FHA-general and special risk guaranteed loan financing account:			
Commitments	21,000	21,000	21,000
New guaranteed loans	15,238	17,027	19,892
Change in outstandings	4,248	2,622	12,601
Outstandings	73,376	75,998	88,599
FHA-loan guarantee recovery fund financing account:			
Commitments	2	4	
New guaranteed loans	2	4	
Change in outstandings	1	1	-3
Outstandings	4	5	2
FHA-mutual mortgage insurance guaranteed loan financing account:			
Commitments	134,841	147,339	142,441
New guaranteed loans	107,449	133,557	121,674
Change in outstandings	17,353	33,174	60,342
Outstandings	419,313	452,487	512,829
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-12	-12	-12
Outstandings	134	122	110
Guarantees of mortgage-backed securities financing account:			
Commitments	161,657	238,343	200,000
New guaranteed loans	153,798	120,000	120,000
Change in outstandings	1,568	23,310	47,832
Outstandings	604,309	627,619	675,451
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-12	-8	-6
Outstandings	17	9	3

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Indian guaranteed loan financing account:			
Commitments	60	75	72
New guaranteed loans	52	65	55
Change in outstandings	22	38	29
Outstandings	184	222	251
Department of Transportation			
Office of the Secretary			
Minority business resource center guaranteed loan financing account:			
Commitments	14	18	18
New guaranteed loans	7	18	18
Change in outstandings	7	17	11
Outstandings	7	24	35
Federal Highway Administration			
Transportation infrastructure finance and innovation program loan guarantee financing account:			
Commitments		200	100
New guaranteed loans		160	183
Change in outstandings		160	183
Outstandings		160	343
Maritime Administration			
Federal ship financing fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-66	-60	-55
Outstandings	182	122	67
Maritime guaranteed loan (title XI) financing account:			
Commitments	729	800	
New guaranteed loans	729	800	
Change in outstandings	543	-42	-224
Outstandings	4,738	4,696	4,472
Department of the Treasury			
Departmental Offices			
Air transportation stabilization guaranteed loan financing account:			
Commitments		5,000	5,000
New guaranteed loans		5,000	5,000
Change in outstandings		3,910	3,046
Outstandings		3,910	6,956
Department of Veterans Affairs			
Veterans Benefits Administration			
Veterans housing benefit program fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-3,558	-2,571	-1,876
Outstandings	9,182	6,611	4,735
Veterans housing benefit program fund guaranteed loan financing account:			
Commitments	31,948	33,286	34,364
New guaranteed loans	31,948	33,286	34,364
Change in outstandings	16,137	11,138	11,963
Outstandings	227,705	238,843	250,806
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-357	-350	-348
Outstandings	4,194	3,844	3,496

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Agency for International Development			
Loan guarantees to Israel financing account:			
Commitments			
New guaranteed loans			
Change in outstandings		-20	-157
Outstandings	9,226	9,206	9,049
Development credit authority guaranteed loan financing account:			
Commitments	35	265	109
New guaranteed loans	33	136	142
Change in outstandings	33	116	121
Outstandings	39	155	276
Housing and other credit guaranty programs liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-140	-96	-96
Outstandings	1,596	1,500	1,404
Microenterprise and small enterprise development guaranteed loan financing account:			
Commitments	36	31	
New guaranteed loans	5	24	22
Change in outstandings	-28	4	10
Outstandings	36	40	50
Urban and environmental credit guaranteed loan financing account:			
Commitments			
New guaranteed loans		22	17
Change in outstandings	-31	-12	-18
Outstandings	514	502	484
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-18	-7	-9
Outstandings	26	19	10
Overseas Private Investment Corporation guaranteed loan financing account:			
Commitments	1,024	666	765
New guaranteed loans	470	525	525
Change in outstandings	252	163	280
Outstandings	3,350	3,513	3,793
Small Business Administration			
Pollution control equipment fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-23	-7	-4
Outstandings	16	9	5
Business guaranteed loan financing account:			
Commitments	13,990	22,458	16,350
New guaranteed loans	10,963	9,111	10,111
Change in outstandings	3,368	3,068	1,910
Outstandings	35,107	38,175	40,085
Business loan fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-509	-325	-255
Outstandings	1,501	1,176	921
Other Independent Agencies			
Export-Import Bank of the United States			
Export-Import Bank of the United States liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-163	-351	-229
Outstandings	941	590	361

Table 9–10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2001 Actual	Estimate	
		2002	2003
Export-Import Bank guaranteed loan financing account:			
Commitments	8,370	10,239	11,321
New guaranteed loans	7,504	6,965	8,384
Change in outstandings	906	990	-1,934
Outstandings	29,584	30,574	28,640
National Credit Union Administration			
Credit union share insurance fund:			
Commitments	4	3	4
New guaranteed loans	4	3	4
Change in outstandings	3	2	-2
Outstandings	7	9	7
Presidio Trust			
Presidio Trust guaranteed loan financing account:			
Commitments			100
New guaranteed loans			50
Change in outstandings			49
Outstandings			49
Subtotal, Guaranteed loans (gross)			
Commitments	418,013	531,803	482,758
New guaranteed loans	366,667	373,556	367,513
Change in outstandings	41,855	81,051	139,289
Outstandings	1,688,507	1,769,558	1,908,847
Less, secondary guaranteed loans: ¹			
GNMA guarantees of FmHA/VA/FHA pools:			
Commitments	-161,657	-238,343	-200,000
New guaranteed loans	-153,798	-120,000	-120,000
Change in outstandings	-1,556	-23,298	-47,820
Outstandings	-604,443	-627,741	-675,561
Total, primary guaranteed loans: ²			
Commitments	256,356	293,460	282,758
New guaranteed loans	212,869	253,556	247,513
Change in outstandings	40,299	57,753	91,469
Outstandings	1,084,064	1,141,817	1,233,286

¹ Loans guaranteed by FHA, VA, or FmHA are included above. GNMA places a secondary guarantee on these loans, so they are deducted here to avoid double counting.

² When guaranteed loans result in loans receivable, they are shown in the direct loan table.

Table 9–11. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES (GSEs)¹
(In millions of dollars)

Enterprise	2001 Actual	Estimate	
		2002	2003
LENDING			
Student Loan Marketing Association:			
<i>Net change</i>	3,819	-373	-3,644
Outstandings	41,032	40,659	37,015
Federal National Mortgage Association:			
Portfolio programs:			
<i>Net change</i>	112,884	117,677	125,227
Outstandings	700,484	818,161	943,388
Mortgage-backed securities:			
<i>Net change</i>	116,278	141,037	139,874
Outstandings	822,382	963,419	1,103,293
Federal Home Loan Mortgage Corporation:			
Portfolio programs:			
<i>Net change</i>	109,226	71,370	77,117
Outstandings	470,850	542,220	619,337
Mortgage-backed securities:			
<i>Net change</i>	76,602	38,787	56,656
Outstandings	635,844	674,631	731,287
Farm Credit System:			
Agricultural credit bank:			
<i>Net change</i>	318	745	823
Outstandings	19,588	20,333	21,156
Farm credit banks:			
<i>Net change</i>	5,752	2,566	2,477
Outstandings	52,445	55,011	57,488
Federal Agricultural Mortgage Corporation:			
<i>Net change</i>	1,576	1,106	.....
Outstandings	4,894	6,000	6,000
Federal Home Loan Banks:			
<i>Net change</i>	44,908	.....	.....
Outstandings	489,413	489,413	489,413
Subtotal GSE lending (gross):			
<i>Net change</i>	471,363	372,915	398,530
Outstandings	3,236,932	3,609,847	4,008,377
Less guaranteed loans purchased by:			
Student Loan Marketing Association:			
<i>Net change</i>	3,819	-373	-3,644
Outstandings	41,032	40,659	37,015
Federal National Mortgage Association:			
<i>Net change</i>	-336	.....	.....
Outstandings	62,599	62,599	62,599
Other:			
<i>Net change</i>	1,784	.....	.....
Outstandings	23,615	23,615	23,615
Total GSE lending (net):			
<i>Net change</i>	466,096	373,288	402,174
Outstandings	3,109,686	3,482,974	3,885,148
BORROWING			
Student Loan Marketing Association:			
<i>Net Change</i>	5,820	-2,640	-4,776
Outstandings	47,321	44,681	39,905
Federal National Mortgage Association:			
Portfolio programs:			
<i>Net Change</i>	119,953	122,184	133,147
Outstandings	726,992	849,176	982,323
Mortgage-backed securities:			
<i>Net Change</i>	116,278	141,037	139,874
Outstandings	822,382	963,419	1,103,293

**Table 9–11. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES (GSEs) ¹—
Continued**

(In millions of dollars)

Enterprise	2001 Actual	Estimate	
		2002	2003
Federal Home Loan Mortgage Corporation:			
Portfolio programs:			
<i>Net Change</i>	124,518	74,072	71,836
Outstandings	531,312	605,384	677,220
Mortgage-backed securities:			
<i>Net Change</i>	76,602	38,787	56,656
Outstandings	635,844	674,631	731,287
Farm Credit System:			
Agricultural credit bank:			
<i>Net Change</i>	304	808	894
Outstandings	21,275	22,083	22,977
Farm credit banks:			
<i>Net Change</i>	5,895	3,232	3,168
Outstandings	58,010	61,242	64,410
Federal Agricultural Mortgage Corporation:			
<i>Net Change</i>	9	204	-10
Outstandings	2,870	3,074	3,064
Federal Home Loan Banks:			
<i>Net Change</i>	34,281		
Outstandings	611,338	611,338	611,338
Subtotal GSE borrowing (gross):			
<i>Net change</i>	483,660	377,684	400,789
Outstandings	3,457,344	3,835,028	4,235,817
Less borrowing from other GSEs:			
<i>Net Change</i>	61,565		
Outstandings	181,909	181,909	181,909
Less purchase of Federal debt securities:			
<i>Net Change</i>	1,506	-32	-141
Outstandings	3,126	3,094	2,953
Less borrowing to purchase loans guaranteed by:			
Student Loan Marketing Association:			
<i>Net Change</i>	3,819	-373	-3,644
Outstandings	41,032	40,659	37,015
Federal National Mortgage Association:			
<i>Net Change</i>	-336		
Outstandings	62,599	62,599	62,599
Other:			
<i>Net Change</i>	1,784		
Outstandings	23,615	23,615	23,615
Total GSE borrowing (net):			
<i>Net change</i>	415,322	378,089	404,574
Outstandings	3,145,063	3,523,152	3,927,726

¹ The estimates of borrowing and lending were developed by the GSEs based on certain assumptions but are subject to periodic review and revision and do not represent official GSE forecasts of future activity, nor are they reviewed by the President. The data for all years include programs of mortgage-backed securities. In cases where a GSE owns securities issued by the same GSE, including mortgage-backed securities, the borrowing and lending data for that GSE are adjusted to remove double-counting.

Table 9-12. GOVERNMENT-SPONSORED ENTERPRISE PARTICIPATION IN THE CREDIT MARKET ¹

(Dollar amounts in billions)

	Actual												
	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001
Total net lending in credit market	66.8	88.2	169.6	336.9	829.3	705.2	702.5	716.4	724.1	985.2	1,110.4	933.4	1,008.0
Government-sponsored enterprise loans ²	1.2	4.9	5.3	21.4	57.9	115.4	125.7	141.5	112.8	293.1	284.0	245.6	466.1
GSE lending participation rate (percent)	1.8	5.6	3.1	6.4	7.0	16.4	17.9	19.8	15.6	29.8	25.6	26.3	46.2
Total net borrowing in credit market	66.8	88.2	169.6	336.9	829.3	705.2	702.5	716.4	724.1	985.2	1,110.4	933.4	1,008.0
Government-sponsored enterprise borrowing ²	1.4	5.2	5.5	24.1	60.7	90.0	68.2	161.2	107.9	276.2	346.8	277.9	415.3
GSE borrowing participation rate (percent)	2.1	5.9	3.2	7.2	7.3	12.8	9.7	22.5	14.9	28.0	31.2	29.8	41.2

¹ Government-sponsored enterprises (GSEs) are financial intermediaries. GSE borrowing (lending) is nevertheless compared with total credit market borrowing (lending) by nonfinancial sectors, because GSE borrowing (lending) is a proxy for the borrowing (lending) by nonfinancial sectors that the GSEs assist through intermediation. The GSEs assist the ultimate nonfinancial borrower by purchasing its loans from the initial, direct lender or by other methods, which they finance by issuing securities themselves in the credit market. Borrowing and lending include mortgage-backed securities, because the GSEs assist nonfinancial borrowers through this type of intermediation as well as by types of intermediation that involve financial instruments recognized on the GSEs' balance sheets. The data for this table are adjusted, with some degree of approximation, to remove double counting in making a comparison with other Federal and federally guaranteed transactions. GSE borrowing and lending are calculated net of transactions between components of GSEs and transactions in guaranteed loans; GSE borrowing is also calculated net of borrowing from other GSEs and purchases of Federal debt securities.

² Total net borrowing (or lending) in credit market by domestic nonfinancial sectors, excluding equities. Credit market borrowing (lending) is the acquisition (loan) of funds other than equities through formal credit channels. Financial sectors are omitted from the series used in this table to avoid double counting, since financial intermediaries borrow in the credit market primarily in order to finance lending in the credit market. Equities, trade credit, security credit, and other sources of funds are also excluded from this series. Source: Federal Reserve Board flow of funds accounts. Estimates for 2002 and 2003 are not available.

Table 9-13. BORROWING BY FINANCING VEHICLES ¹

(In millions of dollars)

Financing Vehicle	2001 Actual	Estimate	
		2002	2003
Financing Corporation (FICO):			
<i>Net change</i>	1	2	1
Outstandings	8,148	8,150	8,151
Resolution Funding Corporation (REFCORP):			
<i>Net change</i>	-2	-2	-2
Outstandings	30,062	30,060	30,058
Subtotal, gross borrowing:			
<i>Net change</i>	-1	.....	-1
Outstandings	38,210	38,210	38,209
Less purchases of Federal debt securities:			
<i>Net change</i>	594	644	698
Outstandings	7,763	8,407	9,105
Total, net borrowing:			
<i>Net change</i>	-595	-644	-699
Outstandings	30,447	29,803	29,104

¹ Financing vehicles are Government corporations established pursuant to law in order to provide financing for a Federal program but excluded from the on-budget and off-budget totals. FICO and REFCORP borrowed from the public in the past but have not loaned to the public. During the period covered by this table, the change in debt outstanding is due solely to the amortization of discounts and premiums. No sale or redemption of debt securities occurred in 2001 or is estimated to occur in 2002 or 2003.

10. AID TO STATE AND LOCAL GOVERNMENTS¹

State and local governments have a vital constitutional responsibility to provide government services. They have the major role in providing domestic public services, such as public education, law enforcement, roads, water supply, and sewage treatment. The Federal Government contributes to that role both by promoting a healthy economy and by providing grants, loans, and tax subsidies to State and local governments.

Federal grants help State and local governments finance programs covering most areas of domestic public spending, including income support, infrastructure, education, and social services. Federal grant outlays were \$317.2 billion in 2001 and are estimated to increase to \$346.5 billion in 2002 and \$376.4 billion in 2003.

Grant outlays for payments for individuals, such as Medicaid, are estimated to be 64.3 percent of total grants in 2003; for physical capital investment, 15.2 percent; and for all other purposes, largely education, training, and social services, 20.5 percent.

Federal aid to State and local governments is also provided through tax expenditures. Tax expenditures are the result of special exclusions, exemptions, deductions, credits, deferrals, or tax rates in the Federal tax laws.

The two major tax expenditures benefitting State and local governments are the deductibility of personal income and property taxes from gross income for Federal income tax purposes, and the exclusion of interest on State and local public purpose bonds from Federal taxation. These provisions, on an outlay equivalent basis, are estimated to be \$80.1 billion in 2002 and \$82.9 billion in 2003. A detailed discussion of the measurement and definition of tax expenditures and a complete list of the amount of specific tax expenditures are in Chapter 6, "Tax Expenditures." As discussed in that chapter, there are generally interactions among tax ex-

penditure provisions, so that the estimates above only approximate the aggregate effect of these provisions.

Tax expenditures that especially aid State and local governments are displayed separately at the end of Table 6–5 in that chapter.

Table 10–1. FEDERAL GRANT OUTLAYS BY AGENCY

(In billions of dollars)

Agency	2001 Actual	2002 Estimate	2003 Proposed
Department of Agriculture	20.2	21.8	22.4
Department of Commerce	0.4	0.8	0.6
Department of Education	24.0	28.1	33.0
Department of Energy	0.2	0.3	0.4
Department of Health and Human Services	183.1	201.2	220.1
Department of Housing and Urban Development	26.2	28.0	29.4
Department of the Interior	2.7	2.6	2.7
Department of Justice	6.2	4.3	7.2
Department of Labor	7.7	8.9	8.6
Department of Transportation	36.7	38.7	38.4
Department of the Treasury	0.5	0.5	0.4
Department of Veterans Affairs	0.4	0.5	0.5
Environmental Protection Agency	3.8	3.7	4.0
Federal Emergency Management Agency	3.2	4.8	6.7
Other agencies	1.8	2.3	2.1
Total	317.2	346.5	376.4

Table 10–1 shows the distribution of grants by agency. Grant outlays for the Department of Health and Human Services are estimated to be \$220.1 billion in 2003, 58.5 percent of total grants, more than five times as much as any other agency.

HIGHLIGHTS OF THE FEDERAL AID PROGRAM

Major proposals in this budget affect Federal aid to State and local governments and the important relationships between the levels of government. Through the use of grants, the Federal government can share with State and local governments the cost and, ultimately, the benefits of a better educated, healthier, and safer citizenry. The Administration is committed to working with State and local governments to make the Federal system more efficient and effective and to improving the design, administration, and financial management of Federal grant programs. One way the Administration will do this is by expanding a government-

wide effort to use electronic processing in the administration of grant programs, which includes interagency work on standard and streamlined forms and processes. Each of the Federal grant-making agencies is responsible for working individually and collectively under the auspices of the Federal Financial Assistance Management Improvement Act of 1999 (P.L. 106–107) to simplify grants and provide an electronic option for grantees to conduct business with the Federal government.

Highlights of grants to State and local governments follow. For additional information on grants, see the

¹Federal aid to State and local governments is defined as the provision of resources by the Federal Government to support a State or local program of governmental service

to the public. The three primary forms of aid are grants, loan subsidies, and tax expenditures.

detailed Table 10–3 in this Chapter, and discussions in the *Budget* volume.

Federal Emergency Management Agency

The budget provides the Federal Emergency Management Agency (FEMA) with \$3.5 billion in budget authority in 2003 to create a grant program to improve State and local terrorism preparedness. While State and local jurisdictions will have discretion to tailor the assistance to meet local needs, it is anticipated that more than one-third of the funds will be used to improve communications. It is further assumed that an additional one-third will be used to equip State and local first responders and that the remainder will be used for training, planning, technical assistance and administration. The First Responder State/Local Preparedness grant program would consolidate several existing programs, including a first responder grant previously funded within the Department of Justice (funded at \$635 million in 2002). As part of this consolidation, FEMA will take over the functions of Justice's Office of Domestic Preparedness. The program would also encompass the recently created FEMA FIRE grant program (funded at \$360 million in 2002).

Education

The budget requests \$36.1 billion in 2003 budget authority for the Department of Education for grants to States and local governments for education, an increase of \$2.0 billion above the 2002 amount of \$34.1 billion. The education proposals in this budget will help States improve accountability for school and student performance, increase flexibility, and support proven programs.

The Department of Education seeks to ensure equal access to education and promote educational excellence for all students throughout the Nation. It promotes educational excellence and access in elementary and secondary education by providing formula and competitive grants to States and local educational agencies in areas of national priority.

The budget requests \$11.4 billion for Title I grants to school districts to help raise student achievement in the Nation's most impoverished communities. At this level, funding will have increased 85 percent since 1993. Major reform is underway for Title I grants which have fallen short in meeting their objectives. Historically, Title I has done little to raise student achievement as measured by test scores of low-income students. For instance, reading scores of at-risk students have remained flat over this period. However, in light of this year's legislative reforms, the Administration believes that the program now holds promise for improving performance by the schools and for the students who face the most challenges. Schools that receive Title I funds must show academic progress each year, both for students overall and for each student group, to ensure that all groups of students are proficient in reading and math within 12 years. If a school that receives Title I funds does not improve for three consecutive years, parents can use Federal funds for outside educational assistance from a public or private tutor of

their choice. The budget builds a foundation for success by investing \$1.0 billion in 2003 in the Reading First program, a \$100 million increase over 2002. Reading is the foundation skill for all other learning. The President's goal is to ensure that all students can read at grade level by the end of the third grade. The Reading First program, initiated through the new Elementary and Secondary Education Act (ESEA), will provide funds to States to support only the most proven reading practices. The budget includes \$75 million for Early Reading First, the same level as 2002, to develop model programs to help children in high-poverty communities prepare for school. The budget also proposes \$387 million for the second year of Federal support of States' development of annual reading and math assessments for grades 3 through 8. These assessments will be used to monitor the yearly progress of schools under the new requirements of ESEA.

The budget proposes \$665 million for performance-based grants to States to promote English language acquisition. Under the new law, students served by this program must also show adequate yearly progress, thus giving States a strong incentive to improve student performance on annual assessments.

The budget proposes \$2.9 billion for the Teacher Quality State Grants program to recruit, train, and retain qualified teachers. This funding should assist States in ensuring that all new teachers in schools receiving Title I funds are highly qualified as required by the new ESEA.

Children with disabilities are among those at greatest risk of being left behind. The Individuals with Disabilities Education Act (IDEA) establishes the right of children with disabilities to a free and appropriate public education. To help States and localities meet their responsibilities toward children with disabilities, the budget proposes \$9.4 billion for the Special Education grant to States program for 2003, a \$1.0 billion increase. This total includes \$437 million for States to identify and serve infants and toddlers with disabilities, a \$20 million increase. In many cases, this early intervention can reduce or even eliminate the need for special education as children grow up.

As part of the President's initiative to tie budget decisions to program performance, this budget will launch a multi-year effort to reform job training programs across the Federal government, target resources to programs with documented effectiveness, and eliminate funding for ineffective, duplicative, and overlapping programs. As part of this initiative, the budget proposes a new \$30 million incentive grant, which will be allocated to State Vocational Rehabilitation (VR) agencies based on their performance in helping individuals with disabilities obtain competitive jobs. While nationwide State VR agency performance has improved in recent years, there is still wide variation among States.

Training and Employment

The budget reflects the Administration's continued efforts to reform the Nation's workforce development

system and provide job training opportunities to help workers succeed in the economy of the 21st Century.

The Workforce Investment Act (WIA) of 1998 took full effect on July 1, 2000, as the Job Training Partnership Act (JTPA) was repealed and all States began to fully implement the WIA requirements. However, the WIA's authorization will expire in 2003, providing the Administration an opportunity to evaluate critically the current program structure, financing, and performance. The Administration will undertake that work in the coming year, and the 2004 Budget will outline a proposal to further consolidate training programs. In 2003, estimates indicate that more than \$9.3 billion will be available for investments in job training and other dislocated worker services, including \$5 billion in new budget authority and \$4.3 billion in unspent resources carried forward into 2003.

The Administration is proposing short- and longer-term legislative reforms to promote flexibility and strengthen the Unemployment Insurance (UI) and Employment Service (ES) programs. Near-term reforms are designed to meet the immediate needs of unemployed workers during the current economic slowdown. Longer-term reforms will enable more workers to receive extended UI benefits; reduce employers' Federal payroll taxes, spurring economic growth; and allow States to control their own administrative funding. The budget also includes two proposals to strengthen financial management of the UI program and help States cut wasteful benefit overpayments. These proposals would enable the Inspector General to uncover fraudulent benefits schemes and train States to detect and reduce overpayments; and assist States in their efforts to use existing databases to eliminate fraudulent payments to ineligible claimants. The budget proposes \$12 million for these efforts.

The Administration also is encouraging greater competition and participation by faith-based and community organizations in Federal grant programs. To this end, the Department of Labor has scrutinized its grant program applications to remove barriers. For example, it discovered that under the Women in Apprenticeship and Non-traditional Occupations (WANTO) program, applicants were required to demonstrate a "history of commitment to economic and social justice." The Department of Labor dropped this restrictive language, and received 37 applications, more than twice the average received in recent years. Of the 11 actual grant recipients, 4 were new applicants who never had received a WANTO grant.

Social Services

The Head Start program gives low-income children a comprehensive approach to child development, stressing language and cognitive development, health, nutrition, and social competency. Head Start is administered by the Administration for Children and Families (ACF) in the Department of Health and Human Services. The Administration requests \$6.7 billion for Head Start for 2003, a \$130 million increase above 2002. The Presi-

dent has proposed to reform Head Start and return it to its original focus getting children ready to learn. The Department of Health and Human Services and the Department of Education have formed a taskforce to assess ways to improve Head Start and lay the groundwork for the proposed transfer to the Department of Education as part of the program's reauthorization.

The budget requests \$1.7 billion for the Social Services Block Grant for 2003. This program provides flexible funds to States for social services for low-income individuals and families.

Income Support

Food and nutrition assistance.—This budget requests \$7.5 billion in budget authority for grants for the National School Lunch and School Breakfast Programs, which provide free or low-cost nutritious meals to children in participating schools. In 2003, the programs will serve an estimated 26.3 million lunches and 7.7 million breakfasts daily. The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides vouchers for nutritious supplemental food packages, nutrition education and counseling, and health and immunization referrals to low-income women, infants, and children. The budget provides \$4.8 billion in 2003 for WIC, including a \$150 million contingency fund. The request is sufficient to serve 7.8 million persons monthly and the contingency fund will ensure that the program can expand to serve an increasing number of eligible persons should that be necessary for any reason.

Other income security.—The Child Care and Development Fund provides grants to States for the purposes of providing low-income families with financial assistance for child care, improving the quality and availability of child care, and establishing, expanding, or conducting early childhood development programs and before- and after-school programs. The Child Care Development Fund is funded through both the Child Care and Development Block Grant (\$2.1 billion proposed for 2003) and the Child Care Entitlement to States (\$2.7 billion proposed for 2003).

Health

This budget proposes \$172.0 billion in outlays for 2003 grants to State and local governments for health, \$16.4 billion more than for 2002.

Transitional Medicare Low-Income Drug Assistance.—The Administration proposes to begin to phase in comprehensive drug coverage for lower-income Medicare beneficiaries up to 150 percent of poverty, as envisioned in all major prescription drug proposals. This proposal would allow States to expand drug coverage to Medicare beneficiaries up to 100 percent of poverty—about \$12,000 for a family of two—at current Medicaid matching rates, much like existing programs that subsidize Medicare premiums and cost-sharing for low-income Medicare beneficiaries. Further, as an added incentive for States to expand coverage up to 150 percent

of poverty—about \$17,000 for a family of two—the Federal government would pay 90 percent of the States' costs of expansion above 100 percent of poverty with States being responsible for the remaining 10 percent. This policy eventually would expand drug coverage for up to 3 million beneficiaries currently without prescription drug assistance.

Medicaid.—Medicaid is the largest grant program, with outlays projected to be \$160.1 billion in 2003, including the changes proposed in this budget. In 2001, this Federal-State health care program served about 37 million low-income Americans, primarily children, pregnant women, the elderly, and those with disabilities. The Federal Government spent \$129.4 billion, 57 percent of the total program in 2001, while States spent \$98.4 billion or 43 percent. Medicaid covers one-fourth of the Nation's children and is the largest single purchaser of maternity care and nursing home and other long-term care services. The elderly and disabled made up one-third of Medicaid enrollees in 2001, but accounted for approximately two-thirds of spending on benefits. Medicaid pays for over one-third of the Nation's long-term care services.

The Administration proposes several Medicaid initiatives. One initiative would extend for one year Transitional Medicaid Assistance, which provides health insurance coverage to former welfare recipients who would otherwise lose Medicaid eligibility due to earnings from employment. The Administration also proposes to strengthen management and enforcement of Federal payment policies for hospital, nursing home, and school-based health services. The General Accounting Office and the Department of Health and Human Services' Inspector General have identified questionable Medicaid claiming practices for these services, and have recommended increased Federal oversight.

State Children's Health Insurance Program.—The State Children's Health Insurance Program (SCHIP) was established in 1997 in the Balanced Budget Act to make available approximately \$40 billion over 10 years for States to provide health care coverage to low-income, uninsured children. The Balanced Budget Act of 1997 authorized annual allotments that are available to States for three years; remaining funds were then to be redistributed among the States and available for one additional year before returning to the Treasury. According to current estimates, \$3.2 billion in funds will return to the Treasury at the end of 2002 and 2003. The Administration proposes to extend the availability of these expiring funds until 2006. According to current estimates, this extension will allow every State to retain some funds. This proposal will enable more States to maintain their current coverage levels as well as provide additional health insurance coverage to more Americans under the Administration's Health Insurance Flexibility and Accountability (HIFA) initiative. SCHIP gives States broad flexibility in program design while protecting beneficiaries through basic Federal standards. Approximately 4.6 million children were enrolled in SCHIP programs in 2001.

Health Insurance Flexibility and Accountability Initiative.—In August 2001, the Administration introduced the HIFA demonstration initiative, which gives States the flexibility they need to design innovative ways to increase access to health insurance coverage for the uninsured. The HIFA initiative:

- Encourages States to develop comprehensive health insurance coverage approaches that utilize available Medicaid and SCHIP funding to address insurance coverage for individuals with incomes less than twice the official poverty level.
- Gives States the programmatic flexibility to increase health insurance coverage through support of private group health coverage.
- Simplifies the waiver application process by providing clear guidance and data templates.
- Increases accountability in the State and Federal partnership by ensuring that Medicaid and SCHIP funds are effectively being used to increase health insurance coverage.

The Administration will continue to build on the HIFA initiative to give States the flexibility they need to extend coverage to more of the neediest residents and reduce the number of uninsured.

Bioterrorism.—The budget requests over \$1.4 billion to assist States and localities prepare for, identify and respond to acts of bioterrorism. The President's proposal will improve the ability of State public health laboratories to identify dangerous agents, allow hospitals to conduct training exercises with the State public health and emergency departments, improve coordination between hospitals on a regional basis and allow them to purchase better equipment, and improve the communication between State public health and emergency response systems in the case of an attack.

Community Health Centers.—This budget requests Federal spending to assist State and local governments in increasing access to health care by increasing the number of community health center sites. Community health centers (CHCs) provide family-oriented, preventive and primary health care to over 11 million patients through a network of over 3,400 health centers sites. CHCs are successfully improving the health status of the Nation's underserved populations. The budget builds on the 2002 Community Health Centers Presidential Initiative to increase the number of health center sites by 1,200 to serve an additional 6.1 million patients by 2006.

Natural Resources and Environment

The Administration requests over \$900 million for the Land and Water Conservation Fund (LWCF), of which \$575 million is for grants and assistance programs. Traditionally, funds from the LWCF have been used to acquire and conserve lands in national parks, forests, refuges, and public lands, and provide grants to States for broad conservation and outdoor recreation purposes. Last year, the LWCF funded two of the President's priorities, both of which recognize that Federal acquisition is not always the best or only way to con-

serve land and other natural resources. These programs, which include the Landowner Incentive Grants and Private Stewardship Grants, provide new ways to cooperate with private landowners to enhance habitat for imperiled species and encourage conservation efforts on private lands.

The budget funds the Cooperative Conservation Initiative (CCI) by allocating \$100 million in matching funds for natural resource conservation projects. Projects can range from working with The Nature Conservancy to removing invasive species from Channel Islands National Park, to working with local communities to reclaim abandoned mine sites. Half of these funds would be allocated through cost-shared programs between non-Federal partners and the Department of Interior's National Park Service, Fish and Wildlife Service, and Bureau of Land Management. The other half would be distributed to States as part of the LWCF State Grant program.

The Administration's focus on endangered species involves working with partners to prevent species from being on the endangered species list in the first place and to recover those already listed. The President's budget provides over \$200 million in 2003 for such activities through various grant programs, including the Cooperative Endangered Species Conservation Fund, State and Tribal Wildlife Grant, Landowner Incentive Grant and Private Stewardship Grant programs. These programs emphasize working with and encouraging States and landowners to protect a variety of species and their habitat, thereby garnering matching funds and their support of these conservation efforts.

The Administration also proposes \$171 million in grant funding in 2003 under the recent Brownfields authorizing legislation. This fully funds, at the authorized level of \$50 million, the new grant program to establish State response programs for oversight of private clean-up activities. This also provides \$121 million in grants to States, tribes and municipalities for Brownfields clean-up activities. These grants will be used to characterize and assess the contamination of properties, capitalize revolving loan funds used for clean-up, and provide job training, among other activities.

Administration of Justice

The budget increases funding for counter-terrorism and homeland security measures by reducing grants and other programs that have accomplished their mission, failed to demonstrate a clear impact on crime, or have been extensively earmarked by Congress. Despite spending billions of dollars since 1994, virtually no evidence links the Department of Justice's grant programs to the Nation's falling crime rate, and most lack verifiable measures of performance. The President's proposal continues to support flexible grant funding for State and local law enforcement by merging Byrne Grants, Local Law Enforcement Block Grants, and the Community Oriented Policing Services Hiring Grants into a new \$800 million Justice Assistance

Grant Program. While Department of Justice grants are reduced by a net total of \$1.2 billion, this is more than offset by the budget's proposal for \$3.5 billion in the Federal Emergency Management Agency assistance to improve the terrorism preparedness and crisis response capabilities of State and local first responders, including police, fire, and rescue personnel.

Transportation

Grant outlays for transportation are estimated to be \$38.4 billion in 2003 to assist with transportation infrastructure and related programs, including highways, transit, airports and other areas.

Highways and Transit.—The budget requests \$22.1 billion in budgetary resources in 2003 for the Federal-aid highways program to maintain and improve surface transportation infrastructure, along with improvements in the physical condition and safety of the facilities.

Under the Transportation Equity Act for the 21st Century (TEA-21), highway spending is adjusted each year according to a formula in law that reflects the most recent data on highway-related receipts. In 2000, 2001, and 2002 highway spending was increased significantly by these annual adjustments. However, for 2003 this formula will produce a reduction in the amount of new commitments of highway spending, due in large part to a previous overestimate of actual receipts in 2001. Even so, in 2003 actual spending on highway construction, including the continuation of prior-year projects, will fall less than three percent from its all-time high in 2002. Highway spending in 2003 will be 40 percent higher than in 1998, the first year of TEA-21. These infrastructure programs help reduce congestion and expand travel options. The Department of Transportation also has several programs that regulate highway and pipeline safety to reduce accidents and fatalities.

The budget requests \$7.1 billion in budgetary resources in 2003 to assist State and local governments with mass transit programs.

Airports.—The budget requests \$3.4 billion in budgetary resources in 2003 for the Airport Improvement Program (AIP), which will enhance the Nation's airport system through increasing safety and security, reducing system delays and providing new capacity to meet anticipated demands. Of this amount, \$83 million is for the essential air service program.

Community and Regional Development

Community development.—Community Development Block Grants (CDBG) provide funds for various community development activities directed primarily at low- and moderate-income persons. This budget requests \$4.7 billion in budget authority for 2003 in CDBG grants for improving housing, public works and services, promoting economic development, and acquiring or clearing land. While it favors poorer communities, the current distribution of CDBG formula funds includes many grants to higher-income cities and counties. The budget proposes a legislative change to reduce

grants to the wealthiest one-percent of eligible communities. These savings allow for the funding of a \$16 million initiative to improve housing and economic conditions in the Colonias, which are communities within 150 miles of the U.S.-Mexican border that lack adequate infrastructure and other basic services. In addition, the CDBG formula program grows by \$95 million in 2003, giving communities an increase in their annual CDBG allocations. As 2000 Census data become available the Department of Housing and Urban Development will develop proposals for a new CDBG allocation formula and process, to allocate more to those who need these funds and will use them effectively.

The budget proposes to streamline the Department of Housing and Urban Development's efforts to promote community and economic development by eliminating two Community Planning and Development programs—the Rural Housing and Economic Development grants and Round II Empowerment Zones (EZs) grants. Since 1999, these three programs have received over \$430 million. Evaluations and other performance information provide no convincing evidence that these are effective programs. The savings from eliminating these programs will be reinvested in the CDBG program.

The budget supports approaches for increasing affordable housing. There is a \$100 million increase for the HOME block grant, a flexible program that localities

can tailor to their particular housing needs. This program will produce about 23,000 new affordable rental units in 2003 and rehabilitate another 23,000.

Area and regional development.—The budget provides flexible funding to meet the needs of rural areas through the Rural Community Advancement Program (RCAP). RCAP provides grants, loans, and loan guarantees to stimulate economic development and help build rural community facilities such as fire stations and medical centers, and water and wastewater systems. Under RCAP, States have increased flexibility within the three funding streams for Water and Wastewater, Community Facilities, and Business and Industry. Department of Agriculture State Directors have the authority to transfer up to 25 percent of the funding among any of these programs to tailor RCAP assistance to the specific rural economic development needs of individual States. The budget proposes \$2.8 billion in loans and grants for RCAP for 2003.

Other Functions

Discussions of these and other Federal aid programs can be found in the main budget volume in Section III, and elsewhere. As noted earlier, a detailed listing of budget authority and outlays for all grants to State and local governments is in Table 10–3 in this chapter.

HISTORICAL PERSPECTIVES

In recent decades, Federal aid to State and local governments has become a major factor in the financing of certain government functions. The rudiments of the present system date back to the Civil War. The Morrill Act, passed in 1862, established the land grant colleges and instituted certain federally-required standards for States that received the grants, as is characteristic of the present grant programs. Federal aid was later initiated for agriculture, highways, vocational education and rehabilitation, forestry, and public health. In the depression years, Federal aid was extended to meet income security and other social welfare needs. However, Federal grants did not become a significant factor in Federal Government expenditures until after World War II.

Table 10–2 displays trends in Federal grants to State and local governments since 1960. Section A shows Federal grants by function. Functions with a substantial amount of grants are shown separately. Grants for the national defense, energy, social security, and the veterans benefits and services functions are combined in the “other functions” line in the table.

Federal grants for transportation increased to \$3.0 billion, or 43 percent of all Federal grants, in 1960 after initiation of aid to States to build the Interstate Highway System in the late 1950s.

By 1970 there had been significant increases in the relative amounts for education, training, employment, social services, and health (largely Medicaid).

In the early and mid-1970s, major new grants were created for natural resources and environment (construction of sewage treatment plants), community and regional development (community development block grants), and general government (general revenue sharing).

Since the late 1970s changes in the relative amounts among functions reflect steady growth of grants for health (Medicaid) and income security. The functions with the largest amount of grants are health; income security; education, training, employment, and social services; and transportation, with combined estimated grant outlays of \$344.8 billion or 92 percent of total grant outlays in 2003.

The increase in total outlays for grants overall since 1990 has been driven by increases in grants for health, which more than tripled from \$43.9 billion in 1990 to an estimated \$172.0 billion in 2003. The income security; education, training, employment, and social services; and transportation functions also increased substantially, but at a slower rate than the increase for health.

Section B of the Table shows the distribution of grants divided into mandatory and discretionary spending.

Funding required for grant programs classified as mandatory occurs in authorizing legislation. Funding levels for mandatory programs can only be changed by changing eligibility criteria or benefit formulas established in law and are usually not limited by the

Table 10-2. TRENDS IN FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS
(Outlays; dollar amounts in billions)

	Actual										Estimate					
	1960	1965	1970	1975	1980	1985	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
A. Distribution of grants by function:																
Natural resources and environment	0.1	0.2	0.4	2.4	5.4	4.1	3.7	4.0	4.6	4.9	5.3	5.5	5.6	5.6	5.6	5.5
Agriculture	0.2	0.5	0.6	0.4	0.6	2.4	1.3	0.8	0.7	0.8	0.9	0.8	0.9	0.9	0.9	0.9
Transportation	3.0	4.1	4.6	5.9	13.0	17.0	19.2	25.8	32.2	36.7	38.7	38.4	35.6	34.9	35.2	36.4
Community and regional development	0.1	0.6	1.8	2.8	6.5	5.2	5.0	7.2	8.7	9.5	11.6	14.2	14.9	14.3	12.6	12.4
Education, training, employment, and social services	0.5	1.1	6.4	12.1	21.9	17.1	21.8	30.9	36.7	40.1	45.9	51.6	54.2	55.2	55.8	56.8
Health	0.2	0.6	3.8	8.8	15.8	24.5	43.9	93.6	124.8	139.3	155.6	172.0	185.2	200.6	217.9	237.7
Income security	2.6	3.5	5.8	9.4	18.5	27.9	36.8	58.4	68.7	76.1	80.0	82.8	84.4	84.9	85.7	86.0
Administration of justice .....	.....	.....	*	0.7	0.5	0.1	0.6	1.2	5.3	6.6	4.7	7.6	8.5	5.5	5.0	5.0
General government	0.2	0.2	0.5	7.1	8.6	6.8	2.3	2.3	2.1	2.4	2.6	2.2	3.4	2.2	2.3	2.2
Other	*	0.1	0.1	0.2	0.7	0.8	0.8	0.8	0.9	1.0	1.2	1.3	1.3	1.3	1.4	1.4
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	284.7	317.2	346.5	376.4	394.0	405.4	422.6	444.4
B. Distribution of Grants by BEA Category:																
Discretionary	N/A	2.9	10.2	21.0	53.3	55.5	63.3	94.0	116.7	131.1	143.7	155.4	156.8	154.5	153.7	154.8
Mandatory	N/A	8.0	13.9	28.8	38.1	50.4	72.0	131.0	168.0	186.2	202.8	221.0	237.1	250.9	268.9	289.5
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	284.7	317.2	346.5	376.4	394.0	405.4	422.6	444.4
C. Composition:																
Current dollars:																
Payments for individuals ¹	2.5	3.7	8.7	16.8	32.6	50.1	77.3	144.4	182.6	203.9	223.2	242.1	256.6	272.9	291.6	313.3
Physical capital ¹	3.3	5.0	7.1	10.9	22.6	24.9	27.2	39.6	48.7	53.4	56.8	57.2	55.5	53.7	54.0	54.2
Other grants	1.2	2.2	8.3	22.2	36.2	30.9	30.9	41.0	53.4	59.9	66.5	77.2	81.8	78.8	77.0	76.8
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	284.7	317.2	346.5	376.4	394.0	405.4	422.6	444.4
Percentage of total grants:																
Payments for individuals ¹	35.3%	34.1%	36.2%	33.6%	35.7%	47.3%	57.1%	64.2%	64.1%	64.3%	64.4%	64.3%	65.1%	67.3%	69.0%	70.5%
Physical capital ¹	47.3%	45.7%	29.3%	21.9%	24.7%	23.5%	20.1%	17.6%	17.1%	16.8%	16.4%	15.2%	14.1%	13.3%	12.8%	12.2%
Other grants	17.4%	20.2%	34.5%	44.5%	39.6%	29.2%	22.8%	18.2%	18.8%	18.9%	19.2%	20.5%	20.8%	19.4%	18.2%	17.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Constant (FY 1996) dollars:																
Payments for individuals ¹	11.3	15.9	31.7	45.4	60.2	70.7	90.8	147.4	169.9	185.7	199.8	211.9	219.6	228.2	238.2	249.9
Physical capital ¹	15.8	22.4	25.2	23.9	36.1	31.8	30.3	40.4	45.4	48.6	50.6	49.7	47.1	44.5	43.6	42.7
Other grants	8.3	12.8	36.1	67.2	72.2	44.5	36.8	42.0	46.8	51.0	55.3	62.7	64.9	60.9	58.0	56.5
Total	35.3	51.2	92.9	136.5	168.5	147.0	157.9	229.8	262.2	285.3	305.8	324.3	331.6	333.7	339.8	349.1
D. Total grants as a percent of:																
Federal outlays:																
Total	7.6%	9.2%	12.3%	15.0%	15.5%	11.2%	10.8%	14.8%	15.9%	17.0%	16.9%	17.7%	18.0%	17.8%	17.8%	18.0%
Domestic programs ²	18.0%	18.3%	23.2%	21.7%	22.2%	18.2%	17.1%	21.6%	22.0%	22.9%	22.2%	23.2%	23.4%	23.2%	23.1%	23.2%
State and local expenditures	19.2%	20.1%	24.1%	27.1%	30.4%	24.2%	21.0%	25.1%	24.4%	25.2%	N/A	N/A	N/A	N/A	N/A	N/A
Gross domestic product	1.4%	1.6%	2.4%	3.2%	3.3%	2.6%	2.4%	3.1%	2.9%	3.1%	3.3%	3.4%	3.4%	3.3%	3.3%	3.3%
E. As a share of total State and local gross investments:																
Federal capital grants	24.6%	25.5%	25.4%	25.9%	35.4%	30.2%	21.9%	25.8%	22.1%	23.0%	N/A	N/A	N/A	N/A	N/A	N/A
State and local own-source financing	75.4%	74.5%	74.6%	74.1%	64.6%	69.8%	78.1%	74.2%	77.9%	77.0%	N/A	N/A	N/A	N/A	N/A	N/A
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	N/A	N/A	N/A	N/A	N/A	N/A

N/A = Not available.

* 50 million or less.

¹ Grants that are both payments for individuals and capital investment are shown under capital investment.² Excludes national defense, international affairs, net interest, and undistributed offsetting receipts.

annual appropriations process. Outlays for mandatory grant programs are estimated to be \$221.0 billion in 2003. The three largest mandatory grant programs are Medicaid, with estimated outlays of \$160.1 billion in 2003, Temporary Assistance for Needy Families, \$19.4 billion in 2003, and Food Stamp grants for State administration and child nutrition programs, with combined outlays of \$14.6 billion in 2003.

The funding level for discretionary grant programs is determined annually through appropriations acts. Outlays for discretionary grant programs are estimated to be \$155.4 billion in 2003. Table 10-3 at the end of this chapter identifies discretionary and mandatory grant programs separately. For more information on the Budget Enforcement Act and these categories, see

Chapter 25 “Budget System and Concepts and Glossary” in this volume.

Section C of Table 10–2 shows the composition of grants divided into three major categories: payments for individuals, grants for physical capital, and other grants.² Grant outlays for payments for individuals, which are mainly entitlement programs in which the Federal Government and the States share the costs, have grown significantly as a percent of total grants. They increased from 57.1 percent of the total in 1990 to 64.3 percent of the total in 2001. While payments for individuals will comprise the same percent of grants in 2003 as 2001, they are estimated to increase to an estimated 70.5 percent of the total by 2007.

These grants are distributed through State or local governments to provide cash or in-kind benefits that constitute income transfers to individuals or families. The major grant in this category is Medicaid. Temporary Assistance for Needy Families, Food Stamps administration, child nutrition programs, and housing assistance are also large grants in this category.

Grants for physical capital assist States and localities with construction and other physical capital activities. The major capital grants are for highways, but there are also grants for airports, mass transit, sewage treatment plant construction, community development, and other facilities. Grants for physical capital were almost half of total grants in 1960, shortly after grants began for construction of the Interstate Highway System. The relative share of these outlays has declined, as payments for individuals have grown. In 2003, grants for physical capital are estimated to be 15.2 percent of total grants.

OTHER INFORMATION ON FEDERAL AID TO STATE AND LOCAL GOVERNMENTS

Additional information regarding aid to State and local governments can be found elsewhere in this budget and in other documents.

Major public physical capital investment programs providing Federal grants to State and local governments are identified in Chapter 7, “Federal Investment Spending and Capital Budgeting.”

Data for summary and detailed grants to State and local governments can be found in many sections of a separate document entitled *Historical Tables*. Section 12 of that document is devoted exclusively to grants to State and local governments. Additional information on grants can be found in Section 6 (Composition of Federal Government Outlays); Section 9 (Federal Government Outlays for Investment: Major Physical Capital, Research and Development, and Education and Training); Section 11 (Federal Government Payments for Individuals); and Section 15 (Total (Federal and State and Local) Government Finances).

In addition to these sources, a number of other sources of information are available that use slightly

The other grants are primarily for education, training, employment, and social services. These grants increased to 44.5 percent of total grants by 1975, and are projected to be 20.5 percent of total grants in 2003.

Section C of Table 10–2 also shows these three categories in constant dollars. In constant 1996 dollars, total grants increase from \$157.9 billion in 1990 to an estimated \$324.3 billion in 2003, an average increase of 5.7 percent per year. During this same period, grants for payments to individuals are estimated to increase an average of 6.7 percent per year; grants for physical capital an average of 3.9 percent per year, and other grants an average of 4.2 percent per year.

In contrast to these increases, outlays for total grants in constant 1996 dollars decreased during the 1980s, from \$168.5 billion in 1980 to \$157.9 billion in 1990.

Section D of this table shows grants as a percentage of Federal outlays, State and local expenditures, and gross domestic product. Grants have increased as a percentage of total Federal outlays from 10.8 percent in 1990 to an estimated 17.7 percent in 2003. Grants as a percentage of domestic spending are estimated to be 23.2 percent in 2003.

As a percentage of total State and local expenditures, grants have increased from 21.0 percent in 1990 to 25.2 percent in 2001.

Section E shows the relative contribution of physical capital grants in assisting States and localities with gross investment. After a slight increase to 25.8 percent in 1995, Federal capital grants have declined to 23.0 percent of State and local gross investment in 2001.

different concepts of grants, provide State-by-State information, provide information on how to apply for Federal aid, or display information about audits.

Government Finances, published annually by the Bureau of the Census in the Department of Commerce, provides data on public finances, including Federal aid to State and local governments.

The *Survey of Current Business*, published monthly by the Bureau of Economic Analysis in the Department of Commerce, provides data on the national income and product accounts (NIPA), a broad statistical concept encompassing the entire economy. These accounts include data on Federal grants to State and local governments. Data using the NIPA concepts appear in this volume in Chapter 17, “National Income and Product Accounts.”

The *Budget Information for States* (BIS) report provides estimates of State-by-State funding allocations for the largest formula grant programs for the past, present, and budget year. These programs comprise approximately 85 percent of total Federal aid to State

²Certain housing grants are classified in the budget as both payments for individuals and physical capital spending. In the text and tables in this section, these grants are included in the category for physical capital spending.

and local governments. The document is prepared by the Office of Management and Budget soon after the budget is released.

Federal Aid to States, a report prepared by the Bureau of the Census, shows Federal spending by State for grants for the most recently completed fiscal year.

The *Consolidated Federal Funds Report* is an annual document that shows the distribution of Federal spending by State and county areas and by local governmental jurisdictions. It is prepared by the Bureau of the Census.

The Federal Assistance Awards Data System (FAADS) provides computerized information about current grant funding. Data on all direct assistance awards are provided quarterly by the Bureau of the Census to the States and to the Congress.

The *Catalog of Federal Domestic Assistance* is a primary reference source for communities wishing to apply

for grants and other domestic assistance. The Catalog is prepared by the General Services Administration with data collected by the Office of Management and Budget and is available from the Government Printing Office. The basic edition of the Catalog is usually published in June and an update is generally prepared in December. It contains a detailed listing of grant and other assistance programs; discussions of eligibility criteria, application procedures, and estimated obligations; and related information.

The Federal Audit Clearinghouse maintains an online database (<http://harvester.census.gov/sac>) that provides access to summary information about audits conducted under OMB Circular A-133, "Audits to States, Local Governments, and Non-Profit Organizations." Information is available for each audited entity, including the amount of Federal money expended by program and whether there were audit findings.

DETAILED FEDERAL AID TABLE

Table 10-3, "Federal Grants to State and Local Governments-Budget Authority and Outlays," provides detailed budget authority and outlay data for grants. This

table displays discretionary and mandatory grant programs separately.

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2001 Actual	2002 Estimate	2003 Estimate	2001 Actual	2002 Estimate	2003 Estimate
NATIONAL DEFENSE						
Discretionary:						
Federal Emergency Management Agency:						
Emergency management planning and assistance	47	91	71	47	91	71
Total, discretionary	47	91	71	47	91	71
Total, national defense	47	91	71	47	91	71
ENERGY						
Discretionary:						
Department of Energy:						
Energy Programs:						
Energy conservation	195	275	361	177	250	350
Total, discretionary	195	275	361	177	250	350
Mandatory:						
Tennessee Valley Authority:						
Tennessee Valley Authority fund	315	329	338	315	329	338
Total, mandatory	315	329	338	315	329	338
Total, energy	510	604	699	492	579	688
NATURAL RESOURCES AND ENVIRONMENT						
Discretionary:						
Department of Agriculture:						
Natural Resources Conservation Service:						
Watershed rehabilitation program		2			1	
Resource conservation and development				1	1	
Emergency watershed protection	82	34	41	66	64	75
Forest Service:						
State and private forestry	236	221	133	131	215	160
Management of national forest lands for subsistence uses	6	5	5	6	5	5
Department of Commerce:						
National Oceanic and Atmospheric Administration:						
Operations, research, and facilities	5	5	5	3	3	3
Pacific coastal salmon recovery	110	157	110	35	290	110
Department of the Interior:						
Office of Surface Mining Reclamation and Enforcement:						
Regulation and technology	51	57	52	51	57	56
Abandoned mine reclamation fund	196	185	157	146	117	116
Bureau of Reclamation:						
Bureau of Reclamation loan subsidy	12	7		13	12	3
United States Fish and Wildlife Service:						
Commercial salmon fishery capacity reduction					5	
State and tribal wildlife grants	50	60	60		20	38
Federal aid in wildlife restoration	50			50		
Cooperative endangered species conservation fund	105	96	91	20	63	100
Wildlife conservation and appreciation fund	1			1		
Stewardship grants		10	10		2	5
Landowner incentive program		40	50		6	16
Miscellaneous permanent appropriations	3	3	3	2	3	2
National Park Service:						
Urban park and recreation fund	30	30		1	8	21
National recreation and preservation	1	1		1	1	
Land acquisition and State assistance	90	144	200	10	23	55
Historic preservation fund	94	74	67	55	127	89
Environmental Protection Agency:						
State and tribal assistance grants ¹	3,671	3,738	3,464	3,548	3,466	3,737
Hazardous substance superfund	171	171	175	141	170	170
Leaking underground storage tank trust fund	64	63	62	61	65	71
Total, discretionary ¹	5,028	5,103	4,685	4,342	4,724	4,832

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2001 Actual	2002 Estimate	2003 Estimate	2001 Actual	2002 Estimate	2003 Estimate
Federal Highway Administration:						
State infrastructure banks		-6		3	7	5
Appalachian development highway system		200		83	92	106
Highway-related safety grants					1	
Appalachian development highway system (Highway trust fund)	254			9	111	67
Federal-aid highways ¹	23	24	24	27,098	28,040	27,297
Miscellaneous appropriations	605	148		58	408	257
Miscellaneous highway trust funds	1,210	100		71	306	309
Federal Motor Carrier Safety Administration:						
National motor carrier safety program	160	191	173	110	180	183
Motor carrier safety		5	10		4	9
Border enforcement program			18			16
National Highway Traffic Safety Administration:						
Highway traffic safety grants	202	212	214	196	218	222
Federal Railroad Administration:						
Emergency railroad rehabilitation and repair				4		
Local rail freight assistance				1	1	
Alaska railroad rehabilitation	30	20		28	25	37
Railroad research and development	3	4	2	2	2	3
Conrail commuter transition assistance				2	1	
Federal Transit Administration:						
Research, training, and human resources				1	1	1
Job access and reverse commute grants	100	125	150	39	67	95
Interstate transfer grants-transit				3	3	2
Washington Metropolitan Area Transit Authority				116	54	36
Formula grants ¹	4,517	3,565	3,839	4,078	3,713	3,535
Capital investment grants ¹	2,695	2,991	3,036	1,902	1,771	2,366
Transit planning and research	156	101	105	102	132	139
Discretionary grants (Highway trust fund, mass transit account)				722	714	386
Research and Special Programs Administration:						
Pipeline safety	22	19	19	14	19	19
Total, discretionary¹	9,980	7,702	7,594	36,663	38,671	38,363
Mandatory:						
Department of Transportation:						
Federal Aviation Administration:						
Grants-in-aid for airports (Airport and airway trust fund) ¹	2,594	3,173	3,400			
Federal Highway Administration:						
Federal-aid highways ¹	32,632	34,822	30,855			
Research and Special Programs Administration:						
Emergency preparedness grants	17	13	13	10	15	13
Total, mandatory¹	35,243	38,008	34,268	10	15	13
Total, transportation¹	45,223	45,710	41,862	36,673	38,686	38,376
COMMUNITY AND REGIONAL DEVELOPMENT						
Discretionary:						
Department of Agriculture:						
Rural Development:						
Rural community advancement program	1,090	710	696	803	684	673
Rural Utilities Service:						
Distance learning and telemedicine program	27	49	31	10	16	27
Rural Business—Cooperative Service:						
Rural cooperative development grants	33	8	9	3	26	14
Forest Service:						
Southeast Alaska economic disaster fund	5			7	7	1
Department of Commerce:						
Economic Development Administration:						
Economic development assistance programs	443	353	335	356	479	450
Department of Housing and Urban Development:						
Public and Indian Housing Programs:						
Moving to work				3	3	
Community Planning and Development:						
Community development block grants ¹	5,112	7,000	4,732	4,939	5,235	5,878

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2001 Actual	2002 Estimate	2003 Estimate	2001 Actual	2002 Estimate	2003 Estimate
Urban development action grants				1	10	10
Community development loan guarantees subsidy	30	15	7	7	11	15
Brownfields redevelopment	25	25	25	4	26	31
Empowerment zones/enterprise communities	185	45		31	89	104
Office of Lead Hazard Control and Healthy Homes:						
Lead hazard reduction	100	110	126	86	95	101
Department of the Interior:						
Bureau of Indian Affairs:						
Operation of Indian programs	149	153	149	125	146	149
Indian guaranteed loan subsidy	5	6	5	4	6	5
Federal Emergency Management Agency:						
Emergency management planning and assistance ¹	267	499	3,629	217	380	1,904
Disaster relief ¹	3,055	5,498	1,546	2,734	4,122	4,567
National pre-disaster mitigation fund			300			75
Disaster assistance for unmet needs				46	54	19
National flood mitigation fund	20	20	20	13	21	23
Appalachian Regional Commission	70	64	59	86	105	87
Delta Regional Authority	19	9	9		1	9
Denali Commission	55	91	30	11	90	76
Total, discretionary ¹	10,690	14,655	11,708	9,486	11,606	14,218
Mandatory:						
Department of the Interior:						
Bureau of Indian Affairs:						
Indian direct loan subsidy		4		1	4	
Total, mandatory		4		1	4	
Total, community and regional development ¹	10,690	14,659	11,708	9,487	11,610	14,218
EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES						
Discretionary:						
Department of Commerce:						
National Telecommunications and Information Administration:						
Public telecommunications facilities, planning and construction	30	29	32	15	27	33
Information infrastructure grants	22	6		9	20	20
Department of Education:						
Office of Elementary and Secondary Education:						
Reading excellence	277	195		124	263	258
Indian education	113	117	117	76	110	116
Impact aid	987	1,136	1,133	1,021	1,146	1,116
Chicago litigation settlement				1	1	
Education reform	611			987	888	241
Education for the disadvantaged	9,102	11,650	13,325	8,619	9,353	11,783
School improvement programs ¹	4,432	6,959	6,501	2,721	4,269	5,992
Office of English Language Acquisition:						
English language acquisition	353	622	622	344	477	570
Office of Special Education and Rehabilitative Services:						
Special education	5,817	8,371	9,391	5,552	6,625	7,895
Rehabilitation services and disability research	137	181	207	118	236	198
American Printing House for the Blind	12	14	14	11	19	14
Office of Vocational and Adult Education:						
Vocational and adult education	1,777	1,893	1,863	1,651	1,756	1,843
Office of Postsecondary Education:						
Higher education	377	365	365	300	443	374
Office of Student Financial Assistance:						
Student financial assistance	55	67		43	63	54
Office of Educational Research and Improvement:						
Education research, statistics, and assessment	150			86	216	40
Department of Health and Human Services:						
Administration for Children and Families:						
Promoting safe and stable families	3	68	223	3	17	88
Children and families services programs	7,607	8,080	8,130	6,614	7,403	7,967
Administration on Aging:						
Aging services programs	1,104	1,201	1,342	949	1,137	1,295

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2001 Actual	2002 Estimate	2003 Estimate	2001 Actual	2002 Estimate	2003 Estimate
Payments to States for foster care and adoption assistance	6,401	6,622	6,609	5,710	6,098	6,422
Child care entitlement to States	2,565	2,710	2,710	2,336	2,529	2,730
Temporary assistance for needy families	16,689	16,689	17,008	18,583	18,334	19,354
Total, mandatory	43,229	44,648	47,050	44,184	45,675	47,830
Total, income security ¹	75,127	79,189	82,911	76,064	79,954	82,812
SOCIAL SECURITY						
Discretionary:						
Social Security Administration:						
Federal disability insurance trust fund	4	14	16		11	15
Total, discretionary	4	14	16		11	15
Total, social security	4	14	16		11	15
VETERANS BENEFITS AND SERVICES						
Discretionary:						
Department of Veterans Affairs:						
Veterans Health Administration:						
Medical care	328	367	406	328	367	406
Construction:						
Grants for construction of State extended care facilities	100	100	100	60	91	95
Grants for the construction of State veterans cemeteries	25	25	32	17	21	25
Total, discretionary	453	492	538	405	479	526
Total, veterans benefits and services	453	492	538	405	479	526
ADMINISTRATION OF JUSTICE						
Discretionary:						
Department of Health and Human Services:						
Administration for Children and Families:						
Violent crime reduction programs				84	25	4
Department of Housing and Urban Development:						
Fair Housing and Equal Opportunity:						
Fair housing activities	46	46	46	39	37	46
Department of Justice:						
Office of Justice Programs:						
Justice assistance ¹	580	1,025	443	290	643	1,041
State and local law enforcement assistance ¹	2,907	2,636	1,537	585	1,706	3,906
Juvenile justice programs	300	318	263	263	230	423
Community oriented policing services	1,040	1,051	1,382	1,356	1,057	1,015
Violent crime reduction programs, State and local law enforcement assistance				3,092		
Executive Office of the President:						
Emergency response fund (primarily mass transit) ¹	710					
Equal Employment Opportunity Commission:						
Salaries and expenses	30	30	30	30	30	30
Federal Drug Control Programs:						
High-intensity drug trafficking areas program ¹	171	226	206	136	182	218
State Justice Institute:						
State Justice Institute: salaries and expenses	7	3		7	2	
Total, discretionary ¹	5,791	5,335	3,907	5,882	3,912	6,683
Mandatory:						
Department of Justice:						
Legal Activities and U.S. Marshals:						
Assets forfeiture fund	228	203	215	200	214	190
Office of Justice Programs:						
Crime victims fund	484	558	592	437	450	668
Department of the Treasury:						
Departmental Offices:						
Treasury forfeiture fund	94	88	88	94	88	88

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2001 Actual	2002 Estimate	2003 Estimate	2001 Actual	2002 Estimate	2003 Estimate
Total, mandatory	806	849	895	731	752	946
Total, administration of justice ¹	6,597	6,184	4,802	6,613	4,664	7,629
GENERAL GOVERNMENT						
Discretionary:						
Department of the Interior:						
Bureau of Land Management:						
Payments in lieu of taxes	199	210	165	197	210	165
Insular Affairs:						
Trust Territory of the Pacific Islands				1	2	2
Department of Labor:						
Employment and Training Administration:						
Workers compensation programs		175			140	35
Department of the Treasury:						
Internal Revenue Service:						
Processing, assistance, and management	10	11	11	10	11	11
District of Columbia:						
District of Columbia Courts:						
Federal payment to the District of Columbia courts	105	112	159	95	112	154
Defender services in District of Columbia courts	34	34	32	28	34	32
Crime victims compensation fund	18				18	
Federal payment for family court act		24			21	3
District of Columbia Corrections:						
Payment to the District of Columbia corrections trustee, operations	134	30		144	69	
District of Columbia General and Special Payments:						
Federal support for economic development and management reforms in the District ...	49	31	1	22	56	1
Federal payment for emergency planning and security cost in the District of Columbia ¹		216	15		216	15
Total, discretionary ¹	549	843	383	497	889	418
Mandatory:						
Department of Agriculture:						
Forest Service:						
Forest Service permanent appropriations	322	393	398	200	393	398
Department of Energy:						
Energy Programs:						
Payments to States under Federal Power Act	3	3	3	3	3	3
Department of the Interior:						
Bureau of Land Management:						
Miscellaneous permanent payment accounts	13	114	115	9	108	115
Minerals Management Service:						
Mineral leasing and associated payments	1,045	666	670	1,045	666	670
United States Fish and Wildlife Service:						
National wildlife refuge fund	17	21	21	18	21	21
Insular Affairs:						
Assistance to territories	78	79	70	87	71	78
Payments to the United States territories, fiscal assistance	106	106	106	105	106	106
Department of the Treasury:						
Bureau of Alcohol, Tobacco and Firearms:						
Internal revenue collections for Puerto Rico	334	246	235	334	246	235
United States Customs Service:						
Refunds, transfers, and expenses of operation, Puerto Rico	90	105	107	90	105	107
Corps of Engineers—Civil Works:						
Permanent appropriations		8	8		8	8
Total, mandatory	2,008	1,741	1,733	1,891	1,727	1,741
Total, general government ¹	2,557	2,584	2,116	2,388	2,616	2,159
Total, Grants	334,697	363,653	375,392	317,250	346,462	376,419
Discretionary	112,009	124,735	122,410	131,067	143,651	155,427
Mandatory	222,688	238,918	252,982	186,183	202,811	220,992

¹ Includes funding for the Emergency Response Fund enacted in response to the events of September 11, 2001. For additional information on this funding, see the 2003 Budget volume.

11. FEDERAL EMPLOYMENT AND COMPENSATION

This section provides information on civilian and military employment, and personnel compensation and benefits in the Executive, Legislative, and Judicial branches. A comparison of Federal employment levels, State and local government employment, and the United States population appears in the Historical Tables.

Measuring Federal Civilian Employment

Civilian employment is measured on the basis of full-time equivalents (FTEs). One FTE is equal to one work year or 2,080 non-overtime hours. Put simply, one full-time employee counts as one FTE, and two half-time employees also count as one FTE.

Total Federal Employment Levels

The tables that follow show total Federal employment in all branches of Government, as well as

the U.S. Postal Service, Postal Rate Commission, and active duty uniformed military personnel. Table 11-1 provides Executive Branch FTE totals from 1999 through 2003. Table 11-2 displays total Federal employment as measured by actual positions filled, i.e., the total number of employees, whether full-time, part-time or intermittent, at the end of the fiscal year. Table 11-3 shows total Federal employment as measured on an FTE basis. Due to the terrorist attacks of September 11 2001, Federal employment levels are estimated to increase by over 68,000 FTEs by 2003. The largest increase (over 40,000 FTEs) is in the Department of Transportation and is primarily the result of converting commercial airline security personnel to Federal employees.

Personnel Compensation and Benefits

Table 11-4 displays personnel compensation and benefits (in millions of dollars) for all branches of Government, as well as for military personnel.

Direct compensation of the Federal work force includes base pay and premium pay, such as overtime. In addition, it includes other cash components, such as geographic pay differentials (i.e., locality pay, and special pay adjustments for law enforcement officers), recruitment and relocation bonuses, retention allowances, performance awards, and cost-of-living and overseas allowances. In the case of military personnel, compensation includes basic pay, special and incentive pays (including enlistment and reenlistment bonuses), and allowances for clothing, housing, and subsistence.

Related compensation in the form of personnel benefits for current employees consists of the cost to Government agencies (as an employer) primarily for health insurance, life insurance, Social Security (old age, survivors, disability, and health insurance) and contributions to the retirement funds to finance future retirement benefits. Compensation for former personnel includes outlays for retirement pay benefits, and the Government's share of the cost of health and life insurance.

In addition, the Administration proposed legislation to require agencies, beginning in FY 2003, to pay the full Government share of the accruing cost of retirement for current CSRS, CIA and Foreign Service employees, and the Coast Guard, Public Health Service and NOAA Commissioned Corps. The legislation also requires agencies to pay the full accruing cost of post-retirement health benefits for current civilian employees who are enrolled in the Federal Employees Health Benefits Program and the post-retirement health costs of Medicare eligible retirees (and their dependents/survivors) of the Uniformed Services (DoD, Coast Guard, Public Health Service, and NOAA Commissioned Corps).

Table 11-1. FEDERAL EMPLOYMENT IN THE EXECUTIVE BRANCH
(Civilian employment as measured by Full-Time Equivalents, in thousands)

Agency	Actual			Estimate		Change: 1999 to 2003	
	1999	2000	2001	2002	2003	FTE's	Percent ¹
Cabinet agencies:							
Agriculture	95.5	95.1	96.9	99.0	98.8	3.3	3.4%
Commerce	47.3	113.3	36.7	36.9	40.0	-7.3	-15.4%
Defense-military functions	681.0	660.3	649.9	634.7	627.4	-53.6	-7.9%
Education	4.5	4.6	4.6	4.7	4.6	0.1	1.8%
Energy	15.9	15.6	15.6	16.9	16.4	0.5	3.1%
Health and Human Services	58.9	60.5	61.8	65.1	65.7	6.7	11.4%
Housing and Urban Development	10.0	10.1	10.1	10.3	10.3	0.3	3.4%
Interior	67.0	67.3	68.7	69.7	68.8	1.8	2.7%
Justice	121.3	122.8	124.2	135.8	141.5	20.2	16.7%
Labor	16.3	16.3	16.5	17.4	17.2	0.9	5.3%
State	26.9	27.3	27.7	29.0	29.8	2.9	10.6%
Transportation	63.7	63.0	63.4	81.9	107.5	43.8	68.7%
Treasury	143.7	143.7	145.0	150.5	152.2	8.6	6.0%
Veterans Affairs	205.5	202.6	206.9	207.0	207.9	2.4	1.2%
Other agencies—excluding Postal Service:							
Agency for International Development	2.5	2.4	2.3	2.4	2.4	-0.1	-4.1%
Broadcasting Board of Governors	2.4	2.4	2.4	2.5	2.5	0.1	4.5%
Corps of Engineers—Civil Works	24.7	24.8	24.7	24.8	23.2	-1.6	-6.4%
Environmental Protection Agency	18.1	17.7	17.5	17.6	17.6	-0.5	-2.6%
EEOC	2.6	2.9	2.7	2.9	2.8	0.2	8.0%
FEMA	5.2	4.6	4.9	5.0	5.1	-0.1	-1.6%
FDIC/RTC	7.4	7.1	6.4	6.6	6.3	-1.1	-14.8%
General Services Administration	14.1	14.0	14.0	14.2	14.1	0.1	0.6%
NASA	18.5	18.4	18.7	19.0	19.1	0.6	3.1%
National Archives and Records Admin.	2.4	2.5	2.6	2.8	2.8	0.4	16.0%
National Labor Relations Board	1.8	1.9	2.0	2.0	2.0	0.1	7.1%
National Science Foundation	1.2	1.2	1.2	1.2	1.3	0.1	7.1%
Nuclear Regulatory Commission	2.8	2.8	2.8	2.9	2.9	0.1	1.9%
Office of Personnel Management	2.8	2.8	2.8	3.0	2.9	0.2	6.4%
Peace Corps	1.1	1.0	1.0	1.2	1.2	0.2	17.8%
Railroad Retirement Board	1.3	1.2	1.2	1.2	1.1	-0.2	-12.6%
Securities and Exchange Commission	2.8	2.8	2.9	3.0	3.0	0.2	7.9%
Small Business Administration	4.7	4.3	4.1	4.6	4.5	-0.2	-4.1%
Smithsonian Institution	5.1	5.0	4.9	5.5	5.6	0.5	10.3%
Social Security Administration	63.0	62.4	62.7	63.5	63.5	0.5	0.8%
Tennessee Valley Authority	13.5	13.2	13.2	13.1	13.2	-0.3	-2.0%
All other small agencies	23.1	16.4	14.7	15.8	15.9	2.1	15.1%
Total, Executive Branch civilian employment¹	1,778.4	1,814.3	1,737.8	1,773.6	1,801.1	22.7	1.3%
Subtotal, Defense	681.0	660.3	649.9	634.7	627.4	-53.6	-7.9%
Subtotal, Non-Defense	1,097.4	1,154.0	1,087.9	1,138.8	1,173.7	76.3	7.0%

¹ Totals and percentages were calculated on whole numbers prior to conversion to thousands and rounding.

Table 11-2. TOTAL FEDERAL EMPLOYMENT

(As measured by total positions filled)

Description	Actual as of September 30			Change: 1999 to 2001	
	1999	2000	2001	Positions	Percent
Executive branch civilian employment:					
All agencies except Postal Service and Postal Rate Commission:					
Full-time permanent	1,603,944	1,584,338	1,601,828	-2,116	-0.1%
Other than full-time permanent	216,353	199,643	196,009	-20,344	-9.4%
Subtotal	1,820,297	1,783,981	1,797,837	-22,460	-1.2%
Postal Service: ¹					
Full-time permanent	670,272	666,528	661,452	-8,820	-1.3%
Other than full-time permanent	196,121	194,249	186,418	-9,703	-4.9%
Subtotal	866,393	860,777	847,870	-18,523	-2.1%
Subtotal, Executive branch civilian employment	2,686,690	2,644,758	2,645,707	-40,983	-1.5%
Military personnel on active duty: ²					
Department of Defense	1,385,703	1,384,338	1,385,116	-587	0.0%
Department of Transportation (Coast Guard)	35,740	36,157	36,580	840	2.4%
Subtotal, military personnel	1,421,443	1,420,495	1,421,696	253	0.0%
Subtotal, Executive Branch	4,108,133	4,065,253	4,067,403	-40,730	-1.0%
Legislative branch:					
Full-time permanent	12,183	11,970	11,856	-327	-2.7%
Other than full-time permanent	18,170	19,187	18,583	413	2.3%
Subtotal, Legislative Branch	30,353	31,157	30,439	86	0.3%
Judicial Branch:					
Full-time permanent	28,875	28,938	30,478	1,603	5.6%
Other than full-time permanent	3,321	3,248	3,332	11	0.3%
Subtotal, Judicial Branch	32,196	32,186	33,810	1,614	5.0%
Grand total³	4,170,682	4,128,596	4,131,652	-39,030	-0.9%
ADDENDUM					
Executive branch civilian personnel (excluding Postal Service):					
DOD civilians-Military functions	665,679	651,247	647,048	-18,631	-2.8%
All other executive branch	1,154,618	1,132,734	1,150,789	-3,829	-0.3%
Total	1,820,297	1,783,981	1,797,837	-22,460	-1.2%

¹ Includes Postal Rate Commission.² Excludes reserve components.³ Includes Summer Aides, Stay-in-school, Junior Fellowship, Worker-Trainee Opportunity, and disadvantage youth programs.

Table 11-3. TOTAL FEDERAL EMPLOYMENT

(As measured by Full-Time Equivalents)

Description	2001 actual	Estimate		Change: 2001 to 2003	
		2002	2003	FTE's	Percent
Executive branch civilian personnel:					
All agencies except Postal Service and Defense	1,087,865	1,138,822	1,173,690	85,825	7.9%
Defense-Military functions (civilians)	649,891	634,733	627,430	-22,461	-3.5%
Subtotal, excluding Postal Service	1,737,756	1,773,555	1,801,120	63,364	3.6%
Postal Service ¹	830,516	826,000	820,872	-9,644	-1.2%
Subtotal, Executive Branch civilian personnel	2,568,272	2,599,555	2,621,992	53,720	2.1%
Executive branch uniformed personnel:²					
Department of Defense	1,387,400	1,385,599	1,397,249	9,849	0.7%
Department of Transportation (Coast Guard)	35,963	36,580	37,249	1,286	3.6%
Subtotal, uniformed military personnel	1,423,363	1,422,179	1,434,498	11,135	0.8%
Subtotal, Executive Branch	3,991,635	4,021,734	4,056,490	64,855	1.6%
Legislative Branch: ³	33,182	33,978	34,473	1,291	3.9%
Judicial branch: Total FTE	32,183	33,219	34,896	2,713	8.4%
Grand total	4,057,000	4,088,931	4,125,859	68,859	1.7%

¹ Includes Postal Rate Commission.² Military personnel on active duty. Excludes reserve components. Data shown for Department of Defense are average strengths, not FTEs.³ 2001 FTE data not available for the Senate (positions filled were used).

TABLE 11-4. PERSONNEL COMPENSATION AND BENEFITS
(In millions of dollars)

Description	2001 actual	Estimate		Change: 2001 to 2003	
		2002	2003	Dollars	Percent ⁴
Civilian personnel costs:					
Executive Branch (excluding Postal Service):					
Direct compensation:					
DOD—military functions	33,574	34,508	35,596	2,022	6.0%
All other executive branch	64,229	69,340	71,876	7,647	11.9%
Subtotal, direct compensation	97,803	103,848	107,472	9,669	9.9%
Personnel benefits:					
DOD—military functions	10,619	11,065	11,957	1,338	12.6%
All other executive branch	31,203	33,423	46,127	14,924	47.8%
Subtotal, personnel benefits	41,822	44,488	58,084	16,262	38.9%
Subtotal, executive branch	139,625	148,336	165,556	25,931	18.6%
Postal Service:					
Direct compensation	37,979	38,459	39,429	1,450	3.8%
Personnel benefits	11,629	13,041	13,304	1,675	14.4%
Subtotal	49,608	51,500	52,733	3,125	6.3%
Legislative Branch: ¹					
Direct compensation	1,420	1,590	1,691	271	19.1%
Personnel benefits	431	495	545	114	26.5%
Subtotal	1,851	2,085	2,236	385	20.8%
Judicial Branch:					
Direct compensation	2,037	2,347	2,534	497	24.4%
Personnel benefits	640	718	780	140	21.9%
Subtotal	2,677	3,065	3,314	637	23.8%
Total, civilian personnel costs	193,761	204,986	223,839	30,078	15.5%
Military personnel costs:					
DOD—Military Functions:					
Direct compensation	54,477	57,535	61,655	7,178	13.2%
Personnel benefits	19,415	21,024	29,526	10,111	52.1%
Subtotal	73,892	78,559	91,181	17,289	23.4%
All other executive branch, uniformed personnel:					
Direct compensation	1,405	1,561	1,707	302	21.5%
Personnel benefits	446	475	16,735	16,289	3,652.2%
Subtotal	1,851	2,036	18,442	16,591	896.3%
Total, military personnel costs ²	75,743	80,595	109,623	33,880	44.7%
Grand total, personnel costs ³	269,504	285,581	333,462	63,958	23.7%
ADDENDUM					
Former Civilian Personnel:					
Retired pay for former personnel	48,381	50,932	53,775	5,394	11.1%
Government payment for Annuitants:					
Employee health benefits	5,530	6,129	6,613	1,083	19.6%
Employee life insurance	32	34	34	2	6.3%
Total Former Civilian Personnel	53,943	57,095	60,422	6,479	12.0%
Former Military personnel:					
Retired pay for former personnel	34,876	36,295	37,111	2,235	6.4%
Military annuitants health benefits			5,777	5,777	

¹ Excludes members and officers of the Senate.

² Excludes reserve components.

³ Includes transfers from general revenues in addition to employing agency's contributions for the cost of employee benefits. The transfers amounted to \$9,548 million in 2001 and are estimated to be \$9,771 million in 2002 and \$37,400 million in 2003.

⁴ The 2003 increase reflects the Administration's legislative proposal to fully accrue employee pension and annuitant health benefits. For more information, please see Chapter 14, "Preview Report."

12. STRENGTHENING FEDERAL STATISTICS

Economic statistics are valuable tools that economists, policy makers, business leaders, and individual investors use to understand changes in our economy. The ability of our government, our citizens, and our businesses to make appropriate decisions about work, investments, taxes, and a host of other important issues depends critically on the relevance, accuracy, and timeliness of Federal statistics. Data on real Gross Domestic Product (GDP), the Consumer Price Index (CPI), and the trade deficit, for example, have a major impact on government spending, budget projections, and the allocation of Federal funds. They also are critical inputs to monetary, fiscal, trade, and regulatory policy. Economic data, such as measures of price change, have as well a significant influence on interest rates and cost-of-living adjustments that affect every American who runs a business, saves for retirement, or obtains a mortgage.

Recent events provide two dramatic examples of why relevant, accurate, and timely economic data are so important. The shocking terrorist attacks last September and the subsequent ramp-up of security across the whole spectrum of American life raised many questions about the immediate and longer-term impacts on the economy. An equally important issue, which existed even before September 11, was the uncertainty over whether the economy was in, or about to enter, a recession. During turning points in the economy such as an economic slowdown, the accuracy and timeliness of data are especially critical. It is during these periods that fiscal and monetary policy can be most useful in correcting the path of the economy, but appropriate action depends on accurate, timely data. Thus the budget proposes essential increases to strengthen and update these key indicators of our Nation's economic performance to keep pace with changes in our economy's complexity, growth, and structure.

Similarly, current, comparable data on the characteristics of the U.S. population are essential to monitor significant societal changes. Of great import in 2003 will be the continuing delivery of Census 2000 data products used to allocate locally each year nearly \$200 billion in Federal funds alone. The Census Bureau continues to streamline the complex decennial census process and to introduce key innovations, some of which directly address concerns about the quality of data historically provided once a decade via the census "long-form." The plan for the next decade is to completely re-engineer the 2010 Census in order to reduce operational risks, improve accuracy, provide more relevant data, and contain costs. This approach has three major components:

- a simplified 2010 Census and more timely data based on eliminating the decennial long form

through implementation of the American Community Survey (ACS);

- a central, continuously updated address universe and associated geographical products employing satellite and Global Positioning System technology for use in all decennial census and demographic survey programs; and
- a well-tested and planned 2010 Census design produced through systematic development well before mid-decade operational testing.

The American Community Survey is a revolutionary, structural initiative of the statistical system that will provide community profiles similar to those from the decennial census on a far more current basis. For geographic areas with populations greater than 65,000, these profiles will be available every year beginning in 2004. For smaller areas, beginning in 2005 the ACS will accumulate or average data over several years to obtain annual estimates similar in quality and reliability to those currently available only once each decade. Thus, every jurisdiction ultimately will have annual information that portrays change over time. (The official counts of the population will continue to come from the decennial census and the intercensal estimates program.)

Under the aegis of the congressionally-mandated Interagency Council on Statistical Policy (ICSP), the principal statistical agencies continue to extend their collaborative endeavors in other areas as well in order to improve the overall performance and efficiency of the Federal statistical system. For example, the ICSP continues to support FedStats (www.fedstats.gov), the "one-stop shopping" Internet site for Federal statistics that permits easy access via an initial point of entry to the wide array of statistical information available to the public from more than 100 Federal agencies. The FedStats team has updated its home page based on recommendations from a usability work group, and enhanced its MapStats section to provide an interactive map-based application to access a variety of data at the State, county, congressional district, and Federal judicial district levels as well as to offer thematic maps with population-based concepts for States and counties.

The statistical system is also working effectively to enhance the quality of data the agencies produce. For example, statistical agencies have developed proposed data sharing legislation that would permit limited sharing of confidential data among selected agencies solely for statistical purposes. Enactment of this legislation will create a framework for statistical agencies to compare and improve the quality of their data.

Despite these accomplishments, rapid changes in our economy and society, and funding levels that challenge statistical agencies to keep pace with them, can threat-

en the relevance, accuracy, and timeliness of our Nation's key statistics. Any growing inability of our statistical system to mirror accurately our economy and society, including the unprecedented growth of electronic commerce, could undermine core government activities, such as the accurate allocation of scarce Federal funds. Fortunately, the most serious shortcomings of our statistical infrastructure would be substantially mitigated by four programs supported in the Administration's budget coupled with a legislative initiative. In particular, these activities would:

- develop an integrated statistical base for analysis of the effects of E-business across our Nation's products and industries, including changes in the structure of investment, pricing, and distribution practices (Bureau of Economic Analysis and Bureau of the Census);
- support the tabulation, analysis, and dissemination of Census 2000 data in order to reap the benefits of Census 2000 investments (Bureau of the Census);
- support early planning for the 2010 Census predicated on a fundamental re-engineering of the census process (Bureau of the Census);
- continue implementation of the American Community Survey program to produce far more timely data for States and local areas that will be used for various purposes, including the distribution of nearly \$200 billion in Federal funds annually (Bureau of the Census); and
- provide new statutory authority for the limited sharing of data among designated Federal agencies solely for statistical purposes. The proposed changes would permit these statistical agencies to manage information in many important respects as if they were part of a single agency, thereby increasing the accuracy of statistical estimates and the efficiency of Federal data collection.

In addition, the statistical system is poised to play a significant role in the Nation's response to terrorism and demands to strengthen homeland security. Thus, the 2003 budget includes, for example:

- development of national data series based on administrative data from State and local units of government to estimate the incidence, prevalence, and consequences of terrorism including injuries, deaths, and other health consequences; to measure economic impacts including unemployment, workplace changes, and security expenses; and to develop information for other policy-relevant issues and responses (Bureau of Justice Statistics, National Center for Health Statistics, Bureau of Labor Statistics);
- support for national data on the incidence and consequences of cyber-related disruptions and attacks on the electronic infrastructure associated with both national and international access to networks and systems of records (Bureau of Justice Statistics, National Infrastructure Protection Center, Federal Trade Commission, Bureau of Economic Analysis); and
- initiatives to address the implications of the war on terrorism with respect to confidentiality of individual data reports, security of data systems, and contingency plans for continuing operations under emergency circumstances.

More broadly, the programs that provide essential statistical information for use by governments, businesses, researchers, and the public are carried out by some 70 agencies spread across every department and several independent agencies. Approximately 40 percent of the funding for these programs provides resources for ten agencies that have statistical activities as their principal mission. (Please see Table 12–1.) The remaining funding supports work in 60-plus agencies that carry out statistical activities in conjunction with other missions such as providing services or enforcing regulations. More comprehensive budget and program information about the Federal statistical system will be available in OMB's annual report, *Statistical Programs of the United States Government, Fiscal Year 2003*, when it is published this summer. The following highlights elaborate on the Administration's proposals to strengthen the programs of the principal Federal statistical agencies.

HIGHLIGHTS OF 2003 PROGRAM PROPOSALS FOR PRINCIPAL STATISTICAL AGENCIES

Bureau of Economic Analysis: Funding is requested to move forward with critical improvements to the Nation's economic accounts that will: (1) accelerate the release of BEA's major economic statistics, which will dramatically increase the usefulness of these data, particularly for government and business decision makers; (2) upgrade the computer processing systems for the economic accounts, which will increase the efficiency and reliability of these critical systems and ensure that BEA's data are accurate, complete, and released on schedule; and (3) incorporate into the economic accounts the new, internationally developed North American Industry Classification System (NAICS), which will require BEA to integrate source

data from statistical agencies that are converting to NAICS on variable time schedules.

Bureau of Justice Statistics: Funding is requested to maintain BJS's core statistical programs, including: (1) the National Crime Victimization Survey, the Nation's primary source of information on criminal victimization; (2) the Cybercrime Statistical Program, initiated in 2001 to measure changes in the incidence, magnitude, and consequences of electronic or cybercrime; (3) law enforcement data from over 3,000 agencies on the organization and administration of police and sheriffs' departments; (4) nationally representative prosecution data on resources, policies, and practices of local prosecutors; (5) court and sentencing data; and (6) data

on correctional populations and facilities from Federal, State, and local governments.

Bureau of Labor Statistics: Funding is requested to: (1) modernize the computing systems for monthly processing of the Producer Price Index (PPI) and U.S. Import and Export Price Indexes, improve index accuracy, and produce new data outputs such as experimental PPIs for goods and services that will provide the first economy-wide measures of changes in producer prices; (2) proceed with a significant change in the way the Consumer Price Index (CPI) is revised and updated by instituting a process for continuous improvement in place of the periodic major revisions that were undertaken about every ten years; and (3) continue to enhance the BLS information technology security program and replace its decade-old local area network (LAN) infrastructure with a more current and capable LAN system (through a central Department of Labor appropriation).

Bureau of the Census: Funding is requested for Census 2000, 2010 Census Planning, and the Census Bureau's economic and demographic programs. For Census 2000, funding is requested to: (1) complete dissemination of data products; (2) respond to concerns from local and tribal governments about the accuracy of the census counts; and (3) complete evaluations of census operations. For 2010 Census Planning, funding is requested to continue work to re-engineer the 2010 Census to reduce operational risks, improve accuracy, provide more relevant data, and contain costs by: (1) establishing an early design and testing infrastructure to allow complete testing of all major elements of the 2010 Census design; (2) fully implementing the American Community Survey to collect data historically collected on the decennial census "long form;" and (3) continuing to replace the MAF/TIGER system with one that uses Global Positioning System technology and satellite mapping imagery to update and improve address information. For the Census Bureau's economic and demographic programs, funding is requested to: (1) support the data collection phases of the 2002 Economic Censuses and Census of Governments; (2) improve measurement of services in the new economy, mainly by the introduction of a quarterly service industry survey; (3) gather new information on business investment in information technology and on changes occurring in supply chain relationships; (4) improve and accelerate the release of trade statistics; and (5) redesign samples based on Census 2000 data for ongoing Federal household surveys that gather data on topics such as crime, employment, and health.

Bureau of Transportation Statistics: Funding is requested to: (1) annualize the collection of freight flow data to keep pace with a rapidly changing industry; (2) improve the collection and analysis of aviation data, particularly data related to airline security and financial conditions; (3) enhance TranStats (the Intermodal Transportation Data Base) and expand the National Transportation Library, which provides access to the Nation's transportation research and planning lit-

erature via the Internet; and (4) work on the Safety Data Action Plan, a series of projects to improve the accuracy, comparability, and timeliness of transportation safety data.

Economic Research Service: Funding is requested to: (1) support the Economic Research Service's share of re-engineering the Agricultural Resource Management Survey (ARMS), USDA's primary vehicle for collection of information on a broad range of issues about agricultural resource use and costs and farm financial conditions, to improve the quality of key economic indicators of the farm sector derived from the survey, improve the coverage of commodities surveyed, provide ARMS data for key farm states in addition to the Nation as a whole, integrate ARMS with other USDA data collections, and improve the dissemination of ARMS data over the Internet; and (2) examine economic issues with respect to invasive crop pests and livestock diseases within the context of increasingly global agricultural markets.

Energy Information Administration: Funding is requested to: (1) continue updating and overhauling EIA's 20-year-old energy consumption surveys to base them on Census 2000 data; (2) complete the overhaul of electric power surveys and data systems to accommodate changes in the industry brought on by deregulation and restructuring; (3) continue improving data quality and accuracy in several key energy surveys (including petroleum, natural gas and electricity); (4) begin development of additional regional energy information; and (5) initiate a weekly survey of natural gas underground storage to replace one that the American Gas Association plans to discontinue.

National Agricultural Statistics Service: Funding is requested to: (1) conduct the 2002 Census of Agriculture, which includes mailing three million questionnaires, capturing and editing data, providing assistance to respondents, conducting analyses of census returns, and summarizing census results; (2) enhance computer security protection to ensure confidentiality for reported data and to prevent unauthorized access to market sensitive data prior to public release; (3) develop and implement e-Gov strategies, including capabilities for electronic data reporting and enhanced services to the public; (4) develop an annual integrated locality-based county estimates program; and (5) in cooperation with the Economic Research Service, expand the Agricultural Resource Management Survey (discussed above).

National Center for Education Statistics: Funding is requested to: (1) support the National Assessment of Educational Progress (NAEP) program, including administration of the State-level NAEP assessments that are an integral part of the accountability provisions included in the No Child Left Behind Act, (2) continue data collection, analysis, and reporting for a variety of surveys, including the Schools and Staffing Survey, the National Assessment of Adult Literacy, the National Household Education Survey, and the National Study of Faculty and Students; (3) enhance longitudinal surveys, including the Early Childhood Longitudinal

Study kindergarten and birth cohort data collections; and (4) continue work to enhance electronic data collection and dissemination.

National Center for Health Statistics: Funding is requested to: (1) continue a multi-year effort to retool and improve national health data systems, including the Vital Statistics System, in order to more fully reflect data needs and utilize state-of-the-art technologies;

and (2) provide information critical to monitoring the dynamics of health and health care, and provide the underpinnings for biomedical research, health policy, and public health practice through support of the National Health Interview Survey, the National Health and Nutrition Examination Survey, the National Vital Statistics System, and the National Health Care Survey.

TABLE 12-1. 2001-2003 BUDGET AUTHORITY FOR PRINCIPAL STATISTICAL AGENCIES ¹

(in millions of dollars)

	2001 actual	2002 estimate	2003 estimate
Bureau of Economic Analysis	\$50	\$59	\$70
Bureau of Justice Statistics	29	32	34
Bureau of Labor Statistics	464	489	511
Bureau of the Census	² 478	² 535	757
Periodic Censuses and Programs	² 292	² 336	522
Salaries and Expenses	186	199	235
Bureau of Transportation Statistics	31	32	35
Economic Research Service	69	70	³ 82
Energy Information Administration	79	82	83
National Agricultural Statistics Service ⁴	106	119	³ 149
National Center for Education Statistics	120	⁵ 197	191
Statistics	80	85	95
Assessment	36	⁵ 108	91
National Assessment Governing Board	4	4	5
National Center for Health Statistics	126	131	130
PHS Evaluation Funds	72	23	47
Budget Authority	54	108	83

¹The budget data for each fiscal year are adjusted to include the full share of accruing employee pensions and annuitants' health benefits. For more information, please see Chapter 14, "Preview Report," in this volume.

²Does not include an offset to the appropriation of unobligated balances available.

³Beginning in 2003, ERS and NASS, rather than a central USDA account, will be responsible for paying their own rent. Therefore, the 2003 level includes an additional \$2.8 million and \$5.9 million, respectively, for these activities.

⁴Includes funds for the periodic Census of Agriculture and Special Studies of \$15.0, \$25.4, and \$42.3 million in 2001, 2002, and 2003, respectively.

⁵Includes \$17.0 million in administrative contract costs not necessary in 2003, consistent with the biennial assessment plan authorized in the No Child Left Behind Act.

7. FEDERAL INVESTMENT SPENDING AND CAPITAL BUDGETING

Investment spending is spending that yields long-term benefits. Its purpose may be to improve the efficiency of internal Federal agency operations or to increase the Nation's overall stock of capital for economic growth. The spending can be direct Federal spending or grants to State and local governments. It can be for physical capital, which yields a stream of services over a period of years, or for research and development or education and training, which are intangible but also increase income in the future or provide other long-term benefits.

Most presentations in the Federal budget combine investment spending with spending for current use. This chapter focuses solely on Federal and federally financed investment. An Administration proposal for capital acquisition funds that is being developed is dis-

cussed in Chapter 1, "Budget and Performance Integration," in this volume.

In this chapter, investments are discussed in the following sections:

- a description of the size and composition of Federal investment spending;
- a presentation of trends in the stock of federally financed physical capital, research and development, and education;
- alternative capital budget and capital expenditure presentations; and
- projections of Federal physical capital outlays and recent assessments of public civilian capital needs, as required by the Federal Capital Investment Program Information Act of 1984.

Part I: DESCRIPTION OF FEDERAL INVESTMENT

For more than fifty years, the Federal budget has included a chapter on Federal investment—defined as those outlays that yield long-term benefits—separately from outlays for current use. In recent years the discussion of the composition of investment has displayed estimates of budget authority as well as outlays and extends these estimates four years beyond the budget year, to 2008.

The classification of spending between investment and current outlays is a matter of judgment. The budget has historically employed a relatively broad classification, encompassing physical investment, research, development, education, and training. The budget further classifies investments into those that are grants to State and local governments, such as grants for highways or education, and all other investments, called "direct Federal programs," in this analysis. This "direct Federal" category consists primarily of spending for assets owned by the Federal Government, such as defense weapons systems and general purpose office buildings, but also includes grants to private organizations and individuals for investment, such as capital grants to Amtrak or higher education loans directly to individuals.

Presentations for particular purposes could adopt different definitions of investment:

- To suit the purposes of a traditional balance sheet, investment might include only those physical assets owned by the Federal Government, excluding capital financed through grants and intangible assets such as research and education.
- Focusing on the role of investment in improving national productivity and enhancing economic growth would exclude items such as national de-

fense assets, the direct benefits of which enhance national security rather than economic growth.

- Concern with the efficiency of Federal operations would confine the coverage to investments that reduce costs or improve the effectiveness of internal Federal agency operations, such as computer systems.
- A "social investment" perspective might broaden the coverage of investment beyond what is included in this chapter to include programs such as childhood immunization, maternal health, certain nutrition programs, and substance abuse treatment, which are designed in part to prevent more costly health problems in future years.

The relatively broad definition of investment used in this section provides consistency over time—historical figures on investment outlays back to 1940 can be found in the separate *Historical Tables* volume. The detailed tables at the end of this section allow disaggregation of the data to focus on those investment outlays that best suit a particular purpose.

In addition to this basic issue of definition, there are two technical problems in the classification of investment data involving the treatment of grants to State and local governments and the classification of spending that could be shown in more than one category.

First, for some grants to State and local governments it is the recipient jurisdiction, not the Federal Government, that ultimately determines whether the money is used to finance investment or current purposes. This analysis classifies all of the outlays in the category where the recipient jurisdictions are expected to spend most of the money. Hence, the community development

block grants are classified as physical investment, although some may be spent for current purposes. General purpose fiscal assistance is classified as current spending, although some may be spent by recipient jurisdictions on physical investment.

Second, some spending could be classified in more than one category of investment. For example, outlays for construction of research facilities finance the acquisition of physical assets, but they also contribute to research and development. To avoid double counting, the outlays are classified in the category that is most commonly recognized as investment. Consequently outlays for the conduct of research and development do not include outlays for research facilities, because these outlays are included in the category for physical investment. Similarly, physical investment and research and development related to education and training are included in the categories of physical assets and the conduct of research and development.

When direct loans and loan guarantees are used to fund investment, the subsidy value is included as investment. The subsidies are classified according to their program purpose, such as construction or education and training. For more information about the treatment of Federal credit programs, refer to Chapter 24, "Budget System and Concepts and Glossary."

This section presents spending for gross investment, without adjusting for depreciation. A subsequent section discusses depreciation, shows investment both gross and net of depreciation, and displays net capital stocks.

Composition of Federal Investment Outlays

Major Federal Investment

The composition of major Federal investment outlays is summarized in Table 7-1. They include major public physical investment, the conduct of research and development, and the conduct of education and training. Defense and nondefense investment outlays were \$312.5 billion in 2002. They are estimated to increase to \$342.1 billion in 2003 and are projected to increase further to \$355.5 billion in 2004. Major Federal investment outlays will comprise an estimated 16 percent of total Federal outlays in 2004 and 3.1 percent of the Nation's gross domestic product (GDP). Greater detail on Federal investment is available in Tables 7-2 and 7-3 at the end of this Part. Those tables include both budget authority and outlays.

Physical investment.—Outlays for major public physical capital investment (hereafter referred to as physical investment outlays) are estimated to be \$163.7 billion in 2004. Physical investment outlays are for construction and rehabilitation, the purchase of major equipment, and the purchase or sale of land and structures. More than three-fifths of these outlays are for direct physical investment by the Federal Government, with the remainder being grants to State and local governments for physical investment.

Direct physical investment outlays by the Federal Government are primarily for national defense. Defense

outlays for physical investment are estimated to increase from \$70.0 billion in 2003 to \$75.1 billion in 2004. Almost all of these outlays, or an estimated \$68.1 billion in 2004, are for the procurement of weapons and other defense equipment, and the remainder is primarily for construction on military bases, family housing for military personnel, and Department of Energy defense facilities.

Outlays for direct physical investment for nondefense purposes are estimated to be \$29.9 billion in 2004. These outlays include \$16.8 billion for construction and rehabilitation. This amount includes funds for water, power, and natural resources projects of the Corps of Engineers, the Bureau of Reclamation within the Department of the Interior, and the Tennessee Valley Authority; construction and rehabilitation of veterans hospitals and Postal Service facilities; facilities for space and science programs, and Indian Health Service hospitals and clinics. Outlays for the acquisition of major equipment are estimated to be \$12.7 billion in 2004. The largest amounts are for the air traffic control system. For the purchase or sale of land and structures, disbursements are estimated to exceed collections by \$0.5 billion in 2004. These purchases are largely for buildings and land for parks and other recreation purposes.

Grants to State and local governments for physical investment are estimated to be \$58.6 billion in 2004. Almost two-thirds of these outlays, or \$39.0 billion, are to assist States and localities with transportation infrastructure, primarily highways. Other major grants for physical investment fund sewage treatment plants, community development, and public housing.

Conduct of research and development.—Outlays for the conduct of research and development are estimated to be \$112.1 billion in 2004. These outlays are devoted to increasing basic scientific knowledge and promoting research and development. They increase the Nation's security, improve the productivity of capital and labor for both public and private purposes, and enhance the quality of life. More than half of these outlays, an estimated \$62.9 billion, are for national defense. Physical investment for research and development facilities and equipment is included in the physical investment category.

Nondefense outlays for the conduct of research and development are estimated to be \$49.2 billion in 2004. These are largely for the National Aeronautics and Space Administration, the National Science Foundation, the National Institutes of Health, and research for nuclear and non-nuclear energy programs.

A more complete and detailed discussion of research and development funding appears in Chapter 8, "Research and Development Funding," in this volume.

Conduct of education and training.—Outlays for the conduct of education and training are estimated to be \$79.7 billion in 2004. These outlays add to the stock of human capital by developing a more skilled and productive labor force. Grants to State and local governments for this category are estimated to be \$48.3 billion

Table 7-1. COMPOSITION OF FEDERAL INVESTMENT OUTLAYS
(In billions of dollars)

	2002 Actual	Estimate	
		2003	2004
Federal Investment			
Major public physical capital investment:			
Direct Federal:			
National defense	68.3	70.0	75.1
Nondefense	29.5	31.3	29.9
Subtotal, direct major public physical capital investment	97.9	101.2	105.0
Grants to State and local governments	58.7	59.2	58.6
Subtotal, major public physical capital investment	156.5	160.5	163.7
Conduct of research and development:			
National defense	48.2	57.1	62.9
Nondefense	39.7	44.7	49.2
Subtotal, conduct of research and development	87.9	101.8	112.1
Conduct of education and training:			
Grants to State and local governments	39.2	46.2	48.3
Direct Federal	28.8	33.7	31.4
Subtotal, conduct of education and training	68.0	79.9	79.7
Major Federal investment outlays	312.5	342.1	355.5
MEMORANDUM			
Major Federal investment outlays:			
National defense	116.6	127.0	138.0
Nondefense	195.9	215.1	217.5
Total, major Federal investment outlays	312.5	342.1	355.5
Miscellaneous physical investments:			
Commodity inventories	0.7	-0.2	-0.2
Other physical investment (direct)	4.0	4.0	3.9
Total, miscellaneous physical investment	4.6	3.8	3.7
Total, Federal investment outlays, including miscellaneous physical investment	317.1	345.9	359.2

in 2004, three-fifths of the total. They include education programs for the disadvantaged and the disabled, vocational and adult education programs, training programs in the Department of Labor, and Head Start. Direct Federal education and training outlays are estimated to be \$31.4 billion in 2004. Programs in this category are primarily aid for higher education through student financial assistance, loan subsidies, the veterans GI bill, and health training programs.

This category does not include outlays for education and training of Federal civilian and military employees. Outlays for education and training that are for physical investment and for research and development are in the categories for physical investment and the conduct of research and development.

Miscellaneous Physical Investment Outlays

In addition to the categories of major Federal investment, several miscellaneous categories of investment outlays are shown at the bottom of Table 7-1. These items, all for physical investment, are generally unrelated to improving Government operations or enhancing economic activity.

Outlays for commodity inventories are for the purchase or sale of agricultural products pursuant to farm price support programs and the purchase and sale of other commodities such as oil and gas. Sales are estimated to exceed purchases by \$0.2 billion in 2004.

Outlays for other miscellaneous physical investment are estimated to be \$3.9 billion in 2004. This category includes primarily conservation programs. These are entirely direct Federal outlays.

Detailed Tables on Investment Spending

This section provides data on budget authority as well as outlays for major Federal investment. These estimates extend four years beyond the budget year to 2008. Table 7-2 displays budget authority (BA) and outlays (O) by major programs according to defense

and nondefense categories. The greatest level of detail appears in Table 7-3, which shows budget authority and outlays divided according to grants to State and local governments and direct Federal spending. Miscellaneous investment is not included in these tables because it is generally unrelated to improving Government operations or enhancing economic activity.

Table 7-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS

(in millions of dollars)

Description	2002 Actual	Estimate						
		2003	2004	2005	2006	2007	2008	
NATIONAL DEFENSE								
Major public physical investment:								
Construction and rehabilitation	BA	7,836	7,655	6,545	11,810	16,558	19,095	17,106
	O	5,688	6,532	7,012	7,055	10,410	13,887	16,562
Acquisition of major equipment	BA	62,901	71,603	74,589	78,758	85,877	96,197	105,404
	O	62,675	63,453	68,103	71,949	78,429	87,833	96,237
Purchase or sale of land and structures	BA	-20	-28	-29	-31	-32	-32	-32
	O	-21	-28	-29	-31	-32	-32	-32
Subtotal, major public physical investment	BA	70,717	79,230	81,105	90,537	102,403	115,260	122,478
	O	68,342	69,957	75,086	78,973	88,807	101,688	112,767
Conduct of research and development	BA	52,573	61,185	66,877	72,275	69,664	70,112	72,563
	O	48,238	57,061	62,898	68,217	66,899	67,906	70,546
Conduct of education and training (civilian)	BA	8	8	8	8	8	8	9
	O	8	8	2	7	9	9	9
Subtotal, national defense investment	BA	123,298	140,423	147,990	162,820	172,075	185,380	195,050
	O	116,588	127,026	137,986	147,197	155,715	169,603	183,322
NONDEFENSE								
Major public physical investment:								
Construction and rehabilitation:								
Highways	BA	33,672	30,557	29,615	30,442	31,518	32,422	33,334
	O	30,117	28,442	28,583	29,701	30,443	31,378	32,199
Mass transportation	BA	9,492	6,915	6,926	7,064	7,208	7,370	7,553
	O	7,341	6,851	7,093	6,918	6,809	6,749	7,398
Rail transportation	BA	21	21	1	1	1	1	1
	O	14	18	55	27	8	7	1
Air transportation	BA	3,187	3,428	3,418	3,418	3,419	3,419	3,420
	O	2,874	3,269	3,325	3,400	3,462	3,471	3,468
Community development block grants	BA	7,783	4,732	4,732	4,820	4,919	5,027	5,154
	O	5,429	6,650	6,129	5,281	4,645	4,777	4,925
Other community and regional development	BA	2,174	1,649	1,270	1,324	1,351	1,382	1,416
	O	1,647	1,740	1,682	1,629	1,529	1,499	1,484
Pollution control and abatement	BA	4,025	3,629	3,455	3,519	3,590	3,671	3,765
	O	3,783	4,033	3,663	3,640	3,595	3,646	3,732
Water resources	BA	4,134	2,967	2,861	2,908	2,969	3,039	3,118
	O	3,827	3,420	3,153	2,833	3,126	3,079	3,152
Housing assistance	BA	7,223	7,091	6,850	6,978	7,119	7,278	7,462
	O	7,746	7,737	8,249	8,098	8,588	8,533	7,680
Energy	BA	1,458	1,172	1,180	696	1,127	884	839
	O	1,460	1,173	1,182	710	1,149	905	868
Veterans hospitals and other health	BA	1,713	2,242	1,585	1,613	1,643	1,679	1,721
	O	1,831	1,834	2,166	2,271	2,297	2,335	2,390
Postal Service	BA	213	1,053	983	1,114	847	1,442	1,021
	O	365	574	836	909	934	1,060	1,163
GSA real property activities	BA	1,571	1,705	1,413	1,439	1,469	1,501	1,539
	O	1,046	1,709	1,477	1,409	2,435	2,663	3,279
Other programs	BA	8,290	6,964	5,992	6,302	6,385	6,540	6,707
	O	7,676	8,418	6,607	6,524	6,506	6,531	6,706
Subtotal, construction and rehabilitation	BA	84,956	74,125	70,281	71,638	73,565	75,655	77,050
	O	75,156	75,868	74,200	73,350	75,526	76,633	78,445
Acquisition of major equipment:								
Air transportation	BA	4,872	2,986	2,927	2,982	3,042	3,109	3,188
	O	2,638	4,365	3,465	3,144	2,937	3,227	3,301
Postal Service	BA	538	493	900	994	675	675	1,123

Table 7-2. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: DEFENSE AND NONDEFENSE PROGRAMS—Continued

(in millions of dollars)

Description	2002 Actual	Estimate						
		2003	2004	2005	2006	2007	2008	
Other	O	651	512	642	704	683	719	786
	BA	8,075	7,736	8,446	8,433	8,631	8,818	9,079
	O	8,054	8,086	8,639	8,741	9,014	9,252	9,512
Subtotal, acquisition of major equipment	BA	13,485	11,215	12,273	12,409	12,348	12,602	13,390
	O	11,343	12,963	12,746	12,589	12,634	13,198	13,599
Purchase or sale of land and structures	BA	628	497	352	19	340	338	339
	O	761	631	498	130	609	637	720
Other physical assets (grants)	BA	1,227	1,260	1,254	1,311	1,345	1,381	1,424
	O	928	1,038	1,122	1,175	1,196	1,214	1,247
Subtotal, major public physical investment	BA	100,296	87,097	84,160	85,377	87,598	89,976	92,203
	O	88,188	90,500	88,566	87,244	89,965	91,682	94,011
Conduct of research and development:								
General science, space and technology	BA	12,036	12,934	13,880	14,558	15,130	15,716	16,231
	O	10,922	12,220	13,352	14,106	14,687	15,266	15,797
Energy	BA	1,347	1,308	1,381	1,553	1,567	1,653	1,902
	O	1,197	1,466	1,495	1,511	1,588	1,643	1,728
Transportation	BA	1,835	1,804	1,857	1,814	1,844	1,863	1,869
	O	1,577	1,804	1,960	1,898	1,843	1,875	1,886
Health	BA	23,007	26,518	27,814	28,292	28,863	29,455	30,200
	O	20,069	22,825	25,975	27,127	27,807	28,417	29,074
Natural resources and environment	BA	2,053	2,191	2,187	2,225	2,271	2,323	2,382
	O	1,856	1,717	1,861	1,907	1,942	1,904	1,952
All other research and development	BA	4,396	4,274	4,221	4,437	4,543	4,676	4,805
	O	4,052	4,668	4,567	4,669	4,555	4,657	4,799
Subtotal, conduct of research and development	BA	44,674	49,029	51,340	52,879	54,218	55,686	57,389
	O	39,673	44,700	49,210	51,218	52,422	53,762	55,236
Conduct of education and training:								
Education, training, employment and social services:								
Elementary, secondary, and vocational education	BA	32,819	34,221	35,437	36,074	36,811	37,626	38,573
	O	25,601	31,877	34,341	35,201	36,088	36,874	37,722
Higher education	BA	20,145	22,587	22,238	20,727	20,584	20,741	21,148
	O	18,404	22,968	20,551	19,946	19,761	19,887	20,189
Research and general education aids	BA	2,400	2,391	2,505	2,550	2,601	2,659	2,728
	O	2,541	2,581	2,459	2,510	2,561	2,616	2,677
Training and employment	BA	5,421	4,985	5,695	5,804	5,923	6,056	6,207
	O	6,213	5,875	5,428	5,550	5,631	5,790	5,921
Social services	BA	9,940	10,048	10,089	10,285	10,499	10,729	11,000
	O	9,518	10,065	10,014	10,205	10,411	10,625	10,876
Subtotal, education, training, and social services	BA	70,725	74,232	75,964	75,440	76,418	77,811	79,656
	O	62,277	73,366	72,793	73,412	74,452	75,792	77,385
Veterans education, training, and rehabilitation	BA	2,619	2,716	2,999	3,388	3,512	3,621	3,737
	O	2,396	3,005	3,245	3,417	3,503	3,586	3,726
Health	BA	1,560	1,268	1,296	1,302	1,328	1,357	1,391
	O	1,388	1,358	1,315	1,291	1,291	1,316	1,337
Other education and training	BA	2,220	2,222	2,396	2,457	2,514	2,572	2,654
	O	1,966	2,163	2,345	2,445	2,472	2,545	2,645
Subtotal, conduct of education and training	BA	77,124	80,438	82,655	82,587	83,772	85,361	87,438
	O	68,027	79,892	79,698	80,565	81,718	83,239	85,093
Subtotal, nondefense investment	BA	222,094	216,564	218,155	220,843	225,588	231,023	237,030
	O	195,888	215,092	217,474	219,027	224,105	228,683	234,340
Total, Federal investment	BA	345,392	356,987	366,145	383,663	397,663	416,403	432,080
	O	312,476	342,118	355,460	366,224	379,820	398,286	417,662

Table 7-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS

(in millions of dollars)

Description	2002 Actual	Estimate						
		2003	2004	2005	2006	2007	2008	
GRANTS TO STATE AND LOCAL GOVERNMENTS								
Major public physical investments:								
Construction and rehabilitation:								
Transportation:								
Highways	BA	33,672	30,557	29,615	30,442	31,518	32,422	33,334
	O	30,115	28,438	28,582	29,701	30,443	31,378	32,199
Mass transportation	BA	9,492	6,915	6,926	7,064	7,208	7,370	7,553
	O	7,341	6,851	7,093	6,918	6,809	6,749	7,398
Rail transportation	BA							
	O	2		1				
Air transportation	BA	3,173	3,400	3,400	3,400	3,400	3,400	3,400
	O	2,860	3,244	3,299	3,383	3,447	3,456	3,453
Subtotal, transportation	BA	46,337	40,872	39,941	40,906	42,126	43,192	44,287
	O	40,318	38,533	38,975	40,002	40,699	41,583	43,050
Other construction and rehabilitation:								
Pollution control and abatement	BA	2,852	2,575	2,220	2,261	2,307	2,358	2,419
	O	2,538	2,891	2,409	2,373	2,300	2,295	2,329
Other natural resources and environment	BA	77	40	23	23	24	24	25
	O	61	78	73	31	26	16	17
Community development block grants	BA	7,783	4,732	4,732	4,820	4,919	5,027	5,154
	O	5,429	6,650	6,129	5,281	4,645	4,777	4,925
Other community and regional development	BA	1,668	1,219	866	913	931	952	976
	O	1,268	1,345	1,273	1,211	1,110	1,074	1,055
Housing assistance	BA	7,188	7,057	6,816	6,943	7,084	7,242	7,425
	O	7,720	7,704	8,216	8,063	8,557	8,502	7,647
Other construction	BA	225	216	218	222	226	230	235
	O	319	925	367	325	315	318	323
Subtotal, other construction and rehabilitation	BA	19,793	15,839	14,875	15,182	15,491	15,833	16,234
	O	17,335	19,593	18,467	17,284	16,953	16,982	16,296
Subtotal, construction and rehabilitation	BA	66,130	56,711	54,816	56,088	57,617	59,025	60,521
	O	57,653	58,126	57,442	57,286	57,652	58,565	59,346
Other physical assets	BA	1,345	1,337	1,291	1,348	1,383	1,420	1,464
	O	1,008	1,103	1,189	1,222	1,238	1,252	1,287
Subtotal, major public physical capital	BA	67,475	58,048	56,107	57,436	59,000	60,445	61,985
	O	58,661	59,229	58,631	58,508	58,890	59,817	60,633
Conduct of research and development:								
Agriculture	BA	259	256	275	281	285	292	300
	O	248	255	259	264	272	272	278
Other	BA	576	631	599	573	585	558	574
	O	306	377	496	510	525	535	545
Subtotal, conduct of research and development	BA	835	887	874	854	870	850	874
	O	554	632	755	774	797	807	823
Conduct of education and training:								
Elementary, secondary, and vocational education	BA	30,926	33,014	34,133	34,739	35,450	36,236	37,148
	O	23,459	30,308	32,940	33,665	34,455	35,193	36,000
Higher education	BA	449	382	382	389	397	406	417
	O	444	577	394	395	400	407	417
Research and general education aids	BA	634	637	651	664	677	692	711
	O	702	755	634	674	686	701	718
Training and employment	BA	3,827	3,459	4,139	4,218	4,305	4,401	4,511
	O	4,706	4,287	3,855	4,064	4,160	4,299	4,396
Social services	BA	9,567	9,697	9,725	9,914	10,122	10,345	10,607
	O	9,183	9,539	9,676	9,861	10,061	10,269	10,512
Agriculture	BA	450	418	422	430	439	448	460
	O	435	448	458	434	442	445	455
Other	BA	281	339	342	353	370	384	402
	O	267	282	321	326	337	349	364

Table 7-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	2002 Actual	Estimate						
		2003	2004	2005	2006	2007	2008	
Subtotal, conduct of education and training	BA	46,134	47,946	49,794	50,707	51,760	52,912	54,256
	O	39,196	46,196	48,278	49,419	50,541	51,663	52,862
Subtotal, grants for investment	BA	114,444	106,881	106,775	108,997	111,630	114,207	117,115
	O	98,411	106,057	107,664	108,701	110,228	112,287	114,318
DIRECT FEDERAL PROGRAMS								
Major public physical investment:								
Construction and rehabilitation:								
National defense:								
Military construction and family housing	BA	7,112	6,865	5,727	10,865	15,452	17,969	15,966
	O	4,981	5,874	6,222	6,131	9,331	12,752	15,410
Atomic energy defense activities and other	BA	724	790	818	945	1,106	1,126	1,140
	O	707	658	790	924	1,079	1,135	1,152
Subtotal, national defense	BA	7,836	7,655	6,545	11,810	16,558	19,095	17,106
	O	5,688	6,532	7,012	7,055	10,410	13,887	16,562
Nondefense:								
International affairs	BA	1,550	1,440	1,690	1,721	1,756	1,796	1,841
	O	910	1,179	1,284	1,534	1,621	1,668	1,725
General science, space, and technology	BA	2,384	2,098	2,423	2,453	2,507	2,574	2,639
	O	2,595	2,290	2,411	2,451	2,530	2,563	2,628
Water resources projects	BA	4,057	2,927	2,838	2,885	2,945	3,015	3,093
	O	3,767	3,343	3,081	2,803	3,101	3,064	3,136
Other natural resources and environment	BA	1,796	1,549	1,736	1,778	1,812	1,857	1,903
	O	1,790	1,754	1,879	1,856	1,843	1,879	1,945
Energy	BA	1,458	1,172	1,180	696	1,127	884	839
	O	1,460	1,173	1,182	710	1,149	905	868
Postal Service	BA	213	1,053	983	1,114	847	1,442	1,021
	O	365	574	836	909	934	1,060	1,163
Transportation	BA	312	282	268	273	232	237	243
	O	239	392	353	308	266	278	285
Housing assistance	BA	35	34	34	35	35	36	37
	O	26	33	33	35	31	31	33
Veterans hospitals and other health facilities	BA	1,613	2,142	1,483	1,509	1,537	1,571	1,610
	O	1,816	1,819	2,151	2,256	2,281	2,319	2,374
Federal Prison System	BA	675	245	-188				
	O	795	315	185	140	20		
GSA real property activities	BA	1,571	1,705	1,413	1,439	1,469	1,501	1,539
	O	1,046	1,709	1,477	1,409	2,435	2,663	3,279
Other construction	BA	3,162	2,767	1,605	1,647	1,681	1,717	1,764
	O	2,694	3,161	1,886	1,653	1,663	1,638	1,663
Subtotal, nondefense	BA	18,826	17,414	15,465	15,550	15,948	16,630	16,529
	O	17,503	17,742	16,758	16,064	17,874	18,068	19,099
Subtotal, construction and rehabilitation	BA	26,662	25,069	22,010	27,360	32,506	35,725	33,635
	O	23,191	24,274	23,770	23,119	28,284	31,955	35,661
Acquisition of major equipment:								
National defense:								
Department of Defense	BA	62,795	71,464	74,478	78,644	85,760	96,077	105,280
	O	62,572	63,337	67,982	71,821	78,298	87,698	96,098
Atomic energy defense activities	BA	106	139	111	114	117	120	124
	O	103	116	121	128	131	135	139
Subtotal, national defense	BA	62,901	71,603	74,589	78,758	85,877	96,197	105,404
	O	62,675	63,453	68,103	71,949	78,429	87,833	96,237
Nondefense:								
General science and basic research	BA	492	479	581	619	618	615	636
	O	490	528	528	561	607	621	623
Space flight, research, and supporting activities	BA	704	679	940	994	1,040	1,087	1,125
	O	653	651	833	991	1,057	1,108	1,155
Energy	BA	116	116	117	117	118	118	118
	O	116	116	117	117	118	118	118
Postal Service	BA	538	493	900	994	675	675	1,123
	O	651	512	642	704	683	719	786

Table 7-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	2002 Actual	Estimate					
		2003	2004	2005	2006	2007	2008
Air transportation	BA 4,872	2,986	2,927	2,982	3,042	3,109	3,188
	O 2,638	4,365	3,465	3,144	2,937	3,227	3,301
Water transportation (Coast Guard)	BA 428	511	565	576	587	600	615
	O 316	480	448	428	481	507	533
Other transportation (railroads)	BA 826	521	900	917	935	956	980
	O 1,067	595	900	917	935	956	980
Hospital and medical care for veterans	BA 665	642	410	418	426	436	447
	O 1,253	1,156	921	940	959	981	1,006
Department of Justice	BA 897	879	876	890	909	929	953
	O 752	818	865	896	873	893	914
Department of the Treasury	BA 636	600	656	516	526	537	551
	O 517	652	672	504	520	531	544
GSA general supply fund	BA 709	676	711	732	762	771	815
	O 657	676	711	732	762	771	815
Other	BA 2,484	2,556	2,653	2,617	2,672	2,730	2,799
	O 2,153	2,349	2,577	2,608	2,660	2,728	2,784
Subtotal, nondefense	BA 13,367	11,138	12,236	12,372	12,310	12,563	13,350
	O 11,263	12,898	12,679	12,542	12,592	13,160	13,559
Subtotal, acquisition of major equipment	BA 76,268	82,741	86,825	91,130	98,187	108,760	118,754
	O 73,938	76,351	80,782	84,491	91,021	100,993	109,796
Purchase or sale of land and structures:							
National defense	BA -20	-28	-29	-31	-32	-32	-32
	O -21	-28	-29	-31	-32	-32	-32
International affairs	BA	1	1	1	1	1	1
	O	1	1	1	1	1	1
Privatization of Elk Hills	BA .....	.....	.....	-323	.....	.....	.....
	O .....	.....	.....	-323	.....	.....	.....
Other	BA 628	496	352	342	340	338	339
	O 761	630	497	452	608	636	719
Subtotal, purchase or sale of land and structures	BA 608	469	323	-12	308	306	307
	O 740	603	469	99	577	605	688
Subtotal, major public physical investment	BA 103,538	108,279	109,158	118,478	131,001	144,791	152,696
	O 97,869	101,228	105,021	107,709	119,882	133,553	146,145
Conduct of research and development:							
National defense:							
Defense military	BA 49,190	57,383	62,604	67,832	65,089	65,377	67,720
	O 44,903	53,396	58,680	63,715	62,227	63,076	65,586
Atomic energy and other	BA 3,383	3,802	4,273	4,443	4,575	4,735	4,843
	O 3,335	3,665	4,218	4,502	4,672	4,830	4,960
Subtotal, national defense	BA 52,573	61,185	66,877	72,275	69,664	70,112	72,563
	O 48,238	57,061	62,898	68,217	66,899	67,906	70,546
Nondefense:							
International affairs	BA 279	297	306	312	319	324	335
	O 250	245	343	340	339	346	353
General science, space and technology:							
NASA	BA 6,312	7,023	7,550	8,104	8,545	8,988	9,329
	O 5,816	6,523	7,349	7,837	8,265	8,648	9,040
National Science Foundation	BA 3,275	3,427	3,709	3,784	3,861	3,945	4,047
	O 2,803	3,221	3,398	3,612	3,713	3,851	3,924
Department of Energy	BA 2,444	2,461	2,511	2,558	2,610	2,667	2,735
	O 2,298	2,461	2,511	2,551	2,601	2,656	2,720
Other general science, space and technology	BA 5	23	110	112	114	116	120
	O 5	15	94	106	108	111	113
Subtotal, general science, space and technology	BA 12,315	13,231	14,186	14,870	15,449	16,040	16,566
	O 11,172	12,465	13,695	14,446	15,026	15,612	16,150
Energy	BA 1,347	1,308	1,381	1,553	1,567	1,653	1,902
	O 1,197	1,466	1,495	1,511	1,588	1,643	1,728

Table 7-3. FEDERAL INVESTMENT BUDGET AUTHORITY AND OUTLAYS: GRANT AND DIRECT FEDERAL PROGRAMS—Continued

(in millions of dollars)

Description	2002 Actual	Estimate					
		2003	2004	2005	2006	2007	2008
Transportation:							
Department of Transportation	BA 626	471	533	544	558	573	588
O	O 502	502	559	531	497	517	530
NASA	BA 997	976	993	932	939	934	916
O	O 956	976	976	971	939	938	924
Subtotal, transportation	BA 2,970	2,755	2,907	3,029	3,064	3,160	3,406
O	O 2,655	2,944	3,030	3,013	3,024	3,098	3,182
Health:							
National Institutes of Health	BA 22,117	25,585	26,872	27,371	27,924	28,537	29,258
O	O 19,374	22,067	25,172	26,309	26,965	27,561	28,202
All other health	BA 695	661	678	690	704	720	739
O	O 612	644	658	664	676	691	706
Subtotal, health	BA 22,812	26,246	27,550	28,061	28,628	29,257	29,997
O	O 19,986	22,711	25,830	26,973	27,641	28,252	28,908
Agriculture	BA 1,327	1,297	1,293	1,455	1,502	1,569	1,606
O	O 1,260	1,361	1,330	1,355	1,374	1,432	1,494
Natural resources and environment	BA 1,836	1,976	2,000	2,035	2,077	2,124	2,178
O	O 1,755	1,616	1,761	1,804	1,837	1,796	1,842
National Institute of Standards and Technology	BA 422	360	318	323	330	338	345
O	O 396	426	455	402	352	358	364
Hospital and medical care for veterans	BA 1,124	1,186	1,230	1,252	1,278	1,306	1,340
O	O 1,107	1,176	1,222	1,353	1,271	1,299	1,330
All other research and development	BA 1,033	1,091	982	1,000	1,020	1,042	1,077
O	O 788	1,369	1,132	1,098	1,100	1,108	1,143
Subtotal, nondefense	BA 43,839	48,142	50,466	52,025	53,348	54,836	56,515
O	O 39,119	44,068	48,455	50,444	51,625	52,955	54,413
Subtotal, conduct of research and development	BA 96,412	109,327	117,343	124,300	123,012	124,948	129,078
O	O 87,357	101,129	111,353	118,661	118,524	120,861	124,959
Conduct of education and training:							
Elementary, secondary, and vocational education	BA 1,893	1,207	1,304	1,335	1,361	1,390	1,425
O	O 2,142	1,569	1,401	1,536	1,633	1,681	1,722
Higher education	BA 19,696	22,205	21,856	20,338	20,187	20,335	20,731
O	O 17,960	22,391	20,157	19,551	19,361	19,480	19,772
Research and general education aids	BA 1,766	1,754	1,854	1,886	1,924	1,967	2,017
O	O 1,839	1,826	1,825	1,836	1,875	1,915	1,959
Training and employment	BA 1,594	1,526	1,556	1,586	1,618	1,655	1,696
O	O 1,507	1,588	1,573	1,486	1,471	1,491	1,525
Health	BA 1,540	1,248	1,276	1,282	1,307	1,336	1,369
O	O 1,368	1,338	1,295	1,272	1,272	1,297	1,317
Veterans education, training, and rehabilitation	BA 2,619	2,716	2,999	3,388	3,512	3,621	3,737
O	O 2,396	3,005	3,245	3,417	3,503	3,586	3,726
General science and basic research	BA 887	938	914	931	950	971	996
O	O 666	867	901	905	922	941	958
National defense	BA 8	8	8	8	8	8	9
O	O 8	8	2	7	9	9	9
International affairs	BA 389	256	361	367	376	384	393
O	O 372	289	333	377	372	379	388
Other	BA 606	642	741	767	777	790	818
O	O 581	823	690	766	768	806	864
Subtotal, conduct of education and training	BA 30,998	32,500	32,869	31,888	32,020	32,457	33,191
O	O 28,839	33,704	31,422	31,153	31,186	31,585	32,240
Subtotal, direct Federal investment	BA 230,948	250,106	259,370	274,666	286,033	302,196	314,965
O	O 214,065	236,061	247,796	257,523	269,592	285,999	303,344
Total, Federal investment	BA 345,392	356,987	366,145	383,663	397,663	416,403	432,080
O	O 312,476	342,118	355,460	366,224	379,820	398,286	417,662

Part II: FEDERALLY FINANCED CAPITAL STOCKS

Federal investment spending creates a “stock” of capital that is available in the future for productive use. Each year, Federal investment outlays add to this stock of capital. At the same time, however, wear and tear and obsolescence reduce it. This section presents very rough measures over time of three different kinds of capital stocks financed by the Federal Government: public physical capital, research and development (R&D), and education.

Federal spending for physical assets adds to the Nation’s capital stock of tangible assets, such as roads, buildings, and aircraft carriers. These assets deliver a flow of services over their lifetime. The capital depreciates as the asset ages, wears out, is accidentally damaged, or becomes obsolete.

Federal spending for the conduct of research and development adds to an “intangible” asset, the Nation’s stock of knowledge. Spending for education adds to the stock of human capital by providing skills that help make people more productive. Although financed by the Federal Government, the research and development or education can be carried out by Federal or State government laboratories, universities and other nonprofit organizations, local governments, or private industry. Research and development covers a wide range of activities, from the investigation of subatomic particles to the exploration of outer space; it can be “basic” research without particular applications in mind, or it can have a highly specific practical use. Similarly, education includes a wide variety of programs, assisting people of all ages beginning with pre-school education and extending through graduate studies and adult education. Like physical assets, the capital stocks of R&D and education provide services over a number of years and depreciate as they become outdated.

For this analysis, physical and R&D capital stocks are estimated using the perpetual inventory method. Each year’s Federal outlays are treated as gross investment, adding to the capital stock; depreciation reduces the capital stock. Gross investment less depreciation is net investment. The estimates of the capital stock are equal to the sum of net investment in the current and prior years. A limitation of the perpetual inventory

method is that the original investment spending may not accurately measure the current value of the asset created, even after adjusting for inflation, because the value of existing capital changes over time due to changing market conditions. However, alternative methods for measuring asset value, such as direct surveys of current market worth or indirect estimation based on an expected rate of return, are especially difficult to apply to assets that do not have a private market, such as highways or weapons systems.

In contrast to physical and R&D stocks, the estimate of the education stock is based on the replacement cost method. Data on the total years of education of the U.S. population are combined with data on the current cost of education and the Federal share of education spending to yield the cost of replacing the Federal share of the Nation’s stock of education.

Additional detail about the methods used to estimate capital stocks appears in a methodological note at the end of this section. It should be stressed that these estimates are rough approximations, and provide a basis only for making broad generalizations. Errors may arise from uncertainty about the useful lives and depreciation rates of different types of assets, incomplete data for historical outlays, and imprecision in the deflators used to express costs in constant dollars.

The Stock of Physical Capital

This section presents data on stocks of physical capital assets and estimates of the depreciation of these assets.

Trends.—Table 7–4 shows the value of the net federally financed physical capital stock since 1960, in constant fiscal year 1996 dollars. The total stock grew at a 2.2 percent average annual rate from 1960 to 2002, with periods of faster growth during the late 1960s and the 1980s. The stock amounted to \$2,016 billion in 2002 and is estimated to increase to \$2,119 billion by 2004. In 2002, the national defense capital stock accounted for \$638 billion, or 32 percent of the total, and nondefense stocks for \$1,378 billion, or 68 percent of the total.

Table 7-4. NET STOCK OF FEDERALLY FINANCED PHYSICAL CAPITAL

(In billions of 1996 dollars)

Fiscal Year	Total	National Defense	Nondefense								
			Total Non-defense	Direct Federal Capital			Capital Financed by Federal Grants				
				Total	Water and Power	Other	Total	Transportation	Community and Regional	Natural Resources	Other
Five year intervals:											
1960	806	572	234	98	61	36	136	82	25	20	9
1965	892	554	338	128	78	51	209	146	30	21	12
1970	1,044	589	455	155	94	61	301	213	44	25	19
1975	1,091	521	570	176	109	67	394	261	71	39	23
1980	1,216	484	732	206	130	76	526	317	112	73	25
1985	1,422	569	853	234	143	90	619	368	135	92	24
1990	1,696	721	975	269	154	114	706	429	147	105	26
1995	1,832	712	1,119	311	164	146	809	496	156	115	43
Annual data:											
2000	1,922	635	1,286	351	167	183	936	574	170	121	70
2001	1,963	632	1,330	364	170	194	966	595	173	123	76
2002	2,016	638	1,378	378	172	206	1,001	619	176	124	81
2003 est.	2,068	643	1,426	392	173	219	1,033	640	180	126	88
2004 est.	2,119	651	1,468	404	174	230	1,064	661	183	127	93

Real stocks of defense and nondefense capital show very different trends. Nondefense stocks have grown consistently since 1970, increasing from \$455 billion in 1970 to \$1,378 billion in 2002. With the investments proposed in the budget, nondefense stocks are estimated to grow to \$1,468 billion in 2004. During the 1970s, the nondefense capital stock grew at an average annual rate of 4.9 percent. In the 1980s, however, the growth rate slowed to 2.9 percent annually, with growth continuing at about that rate since then.

Real national defense stocks began in 1970 at a relatively high level, and declined steadily throughout the decade as depreciation from investment in the Vietnam era exceeded new investment in military construction and weapons procurement. Starting in the early 1980s, a large defense buildup began to increase the stock of defense capital. By 1986, the defense stock exceeded its earlier Vietnam-era peak. In recent years, depreciation on the increased stocks, together with a slower pace of defense physical capital investment allowed by the collapse of the Soviet Union and the closure or realignment of unneeded military bases, reduced the stock from its previous levels. The increased defense investment in this budget would reverse this decline, increasing the stock from an estimated \$638 billion in 2002 to \$651 billion in 2004.

Another trend in the Federal physical capital stocks is the shift from direct Federal assets to grant-financed assets. In 1960, 42 percent of federally financed nondefense capital was owned by the Federal Government, and 58 percent was owned by State and local governments but financed by Federal grants. Expansion in

Federal grants for highways and other State and local capital, coupled with slower growth in direct Federal investment for water resources, for example, shifted the composition of the stock substantially. In 2002, 27 percent of the nondefense stock was owned by the Federal Government and 73 percent by State and local governments.

The growth in the stock of physical capital financed by grants has come in several areas. The growth in the stock for transportation is largely grants for highways, including the Interstate Highway System. The growth in community and regional development stocks occurred largely following the enactment of the community development block grant in the early 1970s. The value of this capital stock has grown only slowly in the past few years. The growth in the natural resources area occurred primarily because of construction grants for sewage treatment facilities. The value of this federally financed stock has increased about 30 percent since the mid-1980s.

Table 7-5 shows nondefense physical capital outlays both gross and net of depreciation since 1960. Total nondefense net investment has been consistently positive over the period covered by the table, indicating that new investment has exceeded depreciation on the existing stock. For some categories in the table, however, net investment has been negative in some years, indicating that new investment has not been sufficient to offset estimated depreciation. The net investment in this table is the change in the net nondefense physical capital stock displayed in Table 7-4.

Table 7-5. COMPOSITION OF GROSS AND NET FEDERAL AND FEDERALLY FINANCED NONDEFENSE PUBLIC PHYSICAL INVESTMENT

(In billions of 1996 dollars)

Fiscal Year	Total nondefense investment			Direct Federal investment					Investment financed by Federal grants						
	Gross	Depreciation	Net	Gross	Depreciation	Net	Composition of net investment		Gross	Depreciation	Net	Composition of net investment			
							Water and power	Other				Transportation (mainly highways)	Community and regional development	Natural resources and environment	Other
Five year intervals:															
1960	22.7	4.7	18.1	7.0	2.2	4.7	2.5	2.3	15.7	2.4	13.3	12.6	0.1	0.1	0.5
1965	32.5	6.9	25.6	10.1	3.0	7.1	3.3	3.8	22.3	3.8	18.5	15.5	2.1	0.4	0.5
1970	32.1	9.4	22.6	6.9	3.8	3.1	2.3	0.8	25.1	5.6	19.5	11.9	5.1	0.9	1.6
1975	32.9	11.6	21.3	9.0	4.3	4.8	3.6	1.2	23.8	7.4	16.5	7.0	4.3	4.5	0.7
1980	46.9	14.6	32.4	11.0	4.9	6.0	3.9	2.2	36.0	9.6	26.4	12.3	7.5	6.8	-0.2
1985	45.4	17.8	27.7	13.7	6.4	7.4	2.6	4.8	31.7	11.4	20.3	13.0	4.1	3.2	-0.1
1990	46.3	22.3	24.0	16.2	9.2	7.0	2.4	4.5	30.1	13.1	17.1	11.9	1.7	2.1	1.4
1995	59.9	26.3	33.5	19.5	11.4	8.2	1.8	6.3	40.3	15.0	25.4	15.2	2.8	2.0	5.4
Annual data:															
2000	71.0	30.9	40.2	25.7	13.5	12.2	1.6	10.6	45.4	17.4	28.0	18.1	2.7	1.6	5.7
2001	76.0	32.2	43.8	27.5	14.3	13.2	2.6	10.6	48.5	17.9	30.6	20.9	2.8	1.5	5.4
2002	82.0	33.7	48.2	29.3	15.2	14.1	1.9	12.2	52.7	18.5	34.1	24.0	3.0	1.3	5.8
2003 est.	82.8	35.5	47.3	30.6	16.3	14.3	1.1	13.2	52.1	19.2	33.0	21.2	4.0	1.6	6.1
2004 est.	79.4	37.0	42.3	28.9	17.2	11.6	0.8	10.8	50.5	19.8	30.7	20.4	3.3	1.2	5.8

The Stock of Research and Development Capital

This section presents data on the stock of research and development capital, taking into account adjustments for its depreciation.

Trends.—As shown in Table 7-6, the R&D capital stock financed by Federal outlays is estimated to be \$951 billion in 2002 in constant 1996 dollars. Roughly half is the stock of basic research knowledge; the remainder is the stock of applied research and development.

The nondefense stock accounted for about three-fifths of the total federally financed R&D stock in 2002. Although investment in defense R&D has exceeded that of nondefense R&D in every year since 1981, the nondefense R&D stock is actually the larger of the two, because of the different emphasis on basic research and applied research and development. Defense R&D spending is heavily concentrated in applied research and development, which depreciates much more quickly than basic research. The stock of applied research and development is assumed to depreciate at a ten percent geo-

metric rate, while basic research is assumed not to depreciate at all.

The defense R&D stock rose slowly during the 1970s, as gross outlays for R&D trended down in constant dollars and the stock created in the 1960s depreciated. Increased defense R&D spending from 1980 through 1990 led to a more rapid growth of the R&D stock. Subsequently, real defense R&D outlays tapered off, depreciation grew, and, as a result, the real net defense R&D stock stabilized at around \$400 billion. Renewed spending for defense R&D in this budget is projected to increase the stock to \$413 billion in 2004.

The growth of the nondefense R&D stock slowed from the 1970s to the 1980s, from an annual rate of 3.8 percent in the 1970s to a rate of 2.1 percent in the 1980s. Gross investment in real terms fell during much of the 1980s, and about three-fourths of new outlays went to replacing depreciated R&D. Since 1988, however, nondefense R&D outlays have been on an upward trend while depreciation has edged down. As a result, the net nondefense R&D capital stock has grown more rapidly.

Table 7-6. NET STOCK OF FEDERALLY FINANCED RESEARCH AND DEVELOPMENT ¹

(In billions of 1996 dollars)

Fiscal Year	National Defense			Nondefense			Total Federal		
	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development	Total	Basic Research	Applied Research and Development
Five year intervals:									
1970	247	15	233	204	63	140	451	78	373
1975	262	19	242	249	92	157	511	112	399
1980	265	24	242	295	125	170	560	148	412
1985	304	29	276	321	165	156	626	194	432
1990	381	34	347	362	217	146	744	251	493
1995	395	38	357	406	254	152	801	291	509
Annual data:									
2000	398	46	353	512	347	164	910	393	517
2001	396	48	349	531	365	167	927	412	515
2002	397	50	347	554	383	171	951	432	518
2003 est.	404	52	352	580	403	177	984	455	529
2004 est.	413	54	360	610	425	185	1,023	478	545

¹ Excludes stock of physical capital for research and development, which is included in Table 7-4.

The Stock of Education Capital

This section presents estimates of the stock of education capital financed by the Federal Government.

As shown in Table 7-7, the federally financed education stock is estimated at \$1,120 billion in 2002 in constant 1996 dollars, rising to \$1,248 billion in 2004.

The vast majority of the Nation's education stock is financed by State and local governments, and by students and their families themselves. This federally financed portion of the stock represents about 3 percent of the Nation's total education stock.¹ Nearly three-quarters is for elementary and secondary education, while the remaining one quarter is for higher education.

Table 7-7. NET STOCK OF FEDERALLY FINANCED EDUCATION CAPITAL

(In billions of 1996 dollars)

Fiscal Year	Total Education Stock	Elementary and Secondary Education	Higher Education
Five year intervals:			
1960	67	48	19
1965	93	67	26
1970	213	167	46
1975	307	247	60
1980	434	338	96
1985	535	399	137
1990	704	519	184
1995	802	582	220
Annual data:			
2000	1,040	759	281
2001	1,075	776	300
2002	1,120	803	317
2003 est.	1,187	848	339
2004 est.	1,248	891	358

Despite a slowdown in growth during the early 1980s, the federally financed education stock grew at an average annual rate of 5.3 percent from 1970 to 2002, and the expansion of the stock is projected to continue under this budget.

Note on Estimating Methods

This note provides further technical detail about the estimation of the capital stock series presented in Tables 7-4 through 7-7.

As stated previously, the capital stock estimates are very rough approximations. Sources of possible error include:

¹ For estimates of the total education stock, see table 3-4 in Chapter 3, "Stewardship."

Methodological issues.—The stocks of physical capital and research and development are estimated with the perpetual inventory method. A fundamental assumption of this method is that each dollar of investment spending adds a dollar to the value of the capital stock in the period in which the spending takes place, and adds a dollar, less depreciation and adjusted for inflation, to the stock in future years. In reality, the initial value of the asset created could be more or less than the investment spending. As an extreme example, in cases where a project is canceled before completion, the spending on the project may not result in the creation of any asset at all. Moreover, even if the initial asset value is equal to investment spending, the value could rise or fall in real terms over time due to changing market conditions.

The historical outlay series.—The historical outlay series for physical capital was based on budget records since 1940 and was extended back to 1915 using data from selected sources. There are no consistent outlay data on physical capital for this earlier period, and the estimates are approximations. In addition, the historical outlay series in the budget for physical capital extending back to 1940 may be incomplete. The historical outlay series for the conduct of research and development began in the early 1950s and required selected sources to be extended back to 1940. In addition, separate outlay data for basic research and applied R&D were not available for any years and had to be estimated from obligations and budget authority. For education, data for Federal outlays from the budget were combined with data for non-Federal spending from the institution or jurisdiction receiving Federal funds, which may introduce error because of differing fiscal years and confusion about whether the Federal Government was the original source of funding.

Price adjustments.—The prices for the components of the Federal stock of physical, R&D, and education capital have increased through time, but the rates of increase are not accurately known. Estimates of costs in fiscal year 1996 prices were made through the application of price measures from the National Income and Product Accounts (NIPAs), but these should be considered only approximations of the costs of these assets in 1996 prices.

Depreciation.—The useful lives of physical, R&D, and education capital, as well as the pattern by which they depreciate, are very uncertain. This is compounded by using depreciation rates for broad classes of assets, which do not apply uniformly to all the components of each group. As a result, the depreciation estimates should also be considered approximations. This limitation is especially important in capital financed by grants, where the specific asset financed with the grant is often subject to the discretion of the recipient jurisdiction.

Research continues on the best methods to estimate these capital stocks. The estimates presented in the text could change as better information becomes available on the underlying investment data and as im-

proved methods are developed for estimating the stocks based on those data.

Physical Capital Stocks

For many years, current and constant-cost data on the stock of most forms of public and private physical capital—e.g., roads, factories, and housing—have been estimated annually by the Bureau of Economic Analysis (BEA) in the Department of Commerce. With two recent comprehensive revisions of the NIPAs in January 1996 and October 1999, government investment has taken increased prominence. Government investment in physical capital is now reported separately from government consumption expenditures, and government consumption expenditures include depreciation as a measure of the services provided by the existing capital stock. In addition, as part of the most recent revisions, a new NIPA table explicitly links investment and capital stocks by reporting the net stock of government physical capital and decomposing the annual change in the stock into investment, depreciation, extraordinary changes such as disasters, and revaluation.²

The BEA data are not directly linked to the Federal budget, do not extend to the years covered by the budget, and do not separately identify the capital financed but not owned by the Federal Government. For these reasons, OMB prepares separate estimates for budgetary purposes, using techniques that roughly follow the BEA methods.

Method of estimation.—The estimates were developed from the OMB historical data base for physical capital outlays and grants to State and local governments for physical capital. These are the same major public physical capital outlays presented in Part I. This data base extends back to 1940 and was supplemented by rough estimates for 1915–1939.

The deflators used to convert historical outlays to constant 1996 dollars were based on chained NIPA price indexes for Federal, State, and local consumption of durables and gross investment. For 1915 through 1929, deflators were estimated from Census Bureau historical statistics on constant price public capital formation.

The resulting capital stocks were aggregated into nine categories and depreciated using geometric rates roughly following those used by BEA, which estimates depreciation using much more detailed categories.³ The geometric rates were 1.9 percent for water and power projects; 2.4 percent for other direct nondefense construction and rehabilitation; 20.3 percent for non-defense equipment; 14.0 percent for defense equipment; 2.1 percent for defense structures; 2.0 percent for transportation grants; 1.7 percent for community and regional development grants; 1.5 percent for natural re-

² BEA most recently presented its capital stocks in "Fixed Assets and Consumer Durable Goods for 1925–2001," *Survey of Current Business*, September 2002, pp. 23–37.

³ BEA presented its depreciation methods and rates in "Improved Estimates of Fixed Reproducible Tangible Wealth, 1929–95," *Survey of Current Business*, May 1997, pp. 69–76. Changes in depreciation methods introduced with BEA's October 1999 comprehensive revisions were detailed in "Fixed Assets and Consumer Durable Goods," *Survey of Current Business*, April 2000, pp. 17–30.

sources and environment grants; and 1.8 percent for other nondefense grants.

Research and Development Capital Stocks

Method of estimation.—The estimates were developed from a data base for the conduct of research and development largely consistent with the outlay data in Historical Tables. Although there is no consistent time series on basic and applied R&D for defense and nondefense outlays back to 1940, it was possible to estimate the data using obligations and budget authority. The data are for the conduct of R&D only and exclude outlays for physical capital for research and development, because those are included in the estimates of physical capital. Nominal outlays were deflated by the chained price index for gross domestic product (GDP) in fiscal year 1996 dollars to obtain estimates of constant dollar R&D spending.

The appropriate depreciation rate of intangible R&D capital is even more uncertain than that of physical capital. Empirical evidence is inconclusive. It was assumed that basic research capital does not depreciate and that applied research and development capital has a ten percent geometric depreciation rate. These are the same assumptions used in a study published by the Bureau of Labor Statistics estimating the R&D stock financed by private industry.⁴ More recent experimental work at BEA, extending estimates of tangible

capital stocks to R&D, used slightly different assumptions. This work assumed straight-line depreciation for all R&D over a useful life of 18 years, which is roughly equivalent to a geometric depreciation rate of 11 percent. The slightly higher depreciation rate and its extension to basic research would result in smaller stocks than the method used here.⁵

Education Capital Stocks

Method of estimation.—The estimates of the federally financed education capital stock in Table 7-7 were calculated by first estimating the Nation's total stock of education capital, based on the current replacement cost of the total years of education of the population, including opportunity costs. To derive the Federal share of this total stock, the Federal share of total educational expenditures was applied to the total amount. The percent in any year was estimated by averaging the prior years' share of Federal education outlays in total education costs. For more information, refer to the technical note in Chapter 3, "Stewardship."

The stock of capital estimated in Table 7-7 is based only on spending for education. Stocks created by other human capital investment outlays included in Table 7-1, such as job training and vocational rehabilitation, were not calculated because of the lack of historical data prior to 1962 and the absence of estimates of depreciation rates.

Part III: ALTERNATIVE CAPITAL BUDGET AND CAPITAL EXPENDITURE PRESENTATIONS

A capital budget would separate Federal expenditures into two categories: spending for investment and all other spending. In this sense, Part I of the present chapter provides a capital budget for the Federal Government, distinguishing outlays that yield long-term benefits from all others. But alternative capital budget presentations have also been suggested, and a capital budget process may take many different forms. This section is intended to show the implications of budgeting for capital separately or changing the basis for measuring capital investment in the budget. An Administration proposal being developed for capital acquisition funds is discussed in chapter 1 of this volume, "Budget and Performance Integration." It would neither budget for capital separately nor change the basis for measuring capital investment in the budget.

The Federal budget mainly finances investment for two quite different types of reasons. It invests in capital—such as office buildings, computers, and weapons systems—that primarily contributes to its ability to provide governmental services to the public in the future; some of these services, in turn, are designed to increase growth in the rest of the economy. And it invests in capital—such as highways, education, and research—that contributes more directly to the economic growth of the private sector. Most of the capital in the second

category, unlike the first, is not owned or controlled by the Federal Government. In the discussion that follows, the first is called "Federal capital" and the second is called "national capital." Table 7-8 compares total Federal investment as defined in Part I of this chapter with investment in Federal capital and in national capital. Some Federal investment is not classified as either Federal or national capital, and a relatively small part is included in both categories.

Capital budgets and other changes in Federal budgeting have been suggested from time to time for the Government's investment in both Federal and national capital. The proposals differ widely in coverage, depending on the rationale for the suggestion. Some would include all the investment shown in Table 7-1, or more, whereas others would be narrower in various ways. These proposals also differ in other respects, such as whether the basis for measuring capital investment in the budget is altered, whether investment would be financed by borrowing, and whether the non-investment budget would necessarily be balanced. Some of these proposals are discussed below and illustrated by alternative capital budget and other capital expenditure presentations, although the discussion does not address matters of implementation such as the effect on the Budget Enforcement Act.

⁴ See U.S. Department of Labor, Bureau of Labor Statistics, *The Impact of Research and Development on Productivity Growth*, Bulletin 2331, September 1989.

⁵ See "A Satellite Account for Research and Development," *Survey of Current Business*, November 1994, pp. 37-71.

Some of the considerations in this section also apply to the budgetary treatment of leases and to providing appropriations for the full cost of useful segments of capital projects before they are begun. The planning

process for capital assets, which is a different subject, is discussed in a separate publication, the *Capital Programming Guide*.⁶

Table 7-8. ALTERNATIVE DEFINITIONS OF INVESTMENT OUTLAYS, 2004

(In millions of dollars)

	Investment Outlays		
	All types of capital ¹	Federal capital	National capital
Construction and rehabilitation:			
Grants:			
Transportation	38,975		38,975
Natural resources and environment	2,482		2,482
Community and regional development	7,402		1,066
Housing assistance	8,216		
Other grants	367		283
Direct Federal:			
National defense	7,012	7,012	
General science, space, and technology	2,411	2,399	2,411
Natural resources and environment	4,960	3,772	4,471
Energy	1,182	1,182	1,182
Transportation	353	299	353
Veterans and other health facilities	2,151	2,151	2,151
Postal Service	836	836	836
GSA real property activities	1,477	1,477	
Other construction	3,388	3,050	1,229
Total construction and rehabilitation	81,212	22,178	55,439
Acquisition of major equipment (direct):			
National defense	68,103	68,103	
Postal Service	642	642	642
Air transportation	3,465	3,465	3,465
Other	8,572	7,385	4,823
Total major equipment	80,782	79,595	8,930
Purchase or sale of land and structures	469	469	
Other physical assets (grants)	1,189		67
Total physical investment	163,652	102,242	64,436
Research and development:			
Defense	62,898		1,365
Nondefense	49,210		48,722
Total research and development	112,108		50,087
Education and training	79,700		78,985
Total investment outlays	355,460	102,242	193,508

¹ Total outlays for "all types of capital" are equal to the total for "major Federal investment outlays" in Table 7-1. Some capital is not classified as either Federal or national capital, and a relatively small part is included in both categories.

Investment in Federal Capital

The goal of investment in Federal capital is to deliver the intended amount of Government services as efficiently and effectively as possible. The Congress allocates resources to Federal agencies to accomplish a wide variety of programmatic goals. Because these goals are diverse and most are not measured in dollars, they are difficult to compare with each other. Policy judgments must be made as to their relative importance.

Once amounts have been allocated for one of these goals, however, analysis may be able to assist in choos-

ing the most efficient and effective means of delivering service. This is the context in which decisions are made on the amount of investment in Federal capital. For example, budget proposals for the Department of Justice must consider whether to increase the number of FBI agents, the amount of justice assistance grants to State and local governments, or the number of Federal prisons. The optimal amount of investment in Federal capital to meet a goal derives from these decisions; the optimal amount of total investment to meet all of the Government's goals derives from these decisions,

⁶ Office of Management and Budget, *Capital Programming Guide* (July 1997).

goal by goal, and from the policy decisions about how much to allocate for each goal. There is no efficient target for total investment in Federal capital as such either for a single agency or for the Government as a whole.

The universe of Federal capital encompasses all federally owned capital assets. It excludes Federal grants to States for infrastructure, such as highways, and it excludes intangible investment, such as education and research. Investment in Federal capital in 2004 is estimated to be \$102.2 billion, or 29 percent of the total Federal investment outlays shown in Table 7-1. Of the investment in Federal capital, 73 percent is for defense and 27 percent for nondefense purposes.

A Capital Budget for Capital Assets

Discussion of a capital budget has often centered on Federal capital—buildings, other construction, equipment, and software that support the delivery of Federal services. This includes capital commonly available from the commercial sector, such as office buildings, computers, military family housing, veterans hospitals, and associated equipment; it also includes special purpose capital such as weapons systems, military bases, the space station, and dams. This definition excludes capital that the Federal Government has financed but does not own.

Some capital budget proposals would partition the unified budget into a capital budget, an operating budget, and a total budget. Table 7-9 illustrates such a capital budget for capital assets as defined above. It is accompanied by an operating budget and a total budget. The operating budget consists of all expenditures except those included in the capital budget, plus depreciation on the stock of assets of the type purchased through the capital budget. The capital budget consists of expenditures for capital assets and, on the income side of the account, depreciation. The total budget is the present unified budget, largely based on cash for its measure of transactions, which records all outlays and receipts of the Federal Government. It consolidates the operating and capital budgets by adding them together and netting out depreciation as an intragovernmental transaction. The operating budget has a smaller deficit than the unified budget by a modest amount, \$19 billion, because capital expenditures are larger than depreciation by \$19 billion. This reflects both the small Federal investment in new capital assets relative to the budget as a whole (\$102 billion out of \$2,229 billion) and the largely offsetting effect of depreciation on the existing stock (\$83 billion). The figures in Table 7-9 and the subsequent tables of this section are rough estimates, intended only to be illustrative and to provide a basis for broad generalizations.

Some proposals for a capital budget would exclude defense capital (other than military family housing). These exclusions—weapons systems, military bases, and so forth—would comprise three-fourths of the expenditures shown in the capital budget of Table 7-9. For 2004, this exclusion would make little difference

Table 7-9. CAPITAL, OPERATING, AND UNIFIED BUDGETS: FEDERAL CAPITAL, 2004¹

(In billions of dollars)

Operating Budget	
Receipts	1,922
Expenses:	
Depreciation	83
Other	2,127
Subtotal, expenses	2,210
Surplus or deficit (-)	-288
Capital Budget	
Income: depreciation	83
Capital expenditures	102
Surplus or deficit (-)	-19
Unified Budget	
Receipts	1,922
Outlays	2,229
Surplus or deficit (-)	-307

¹ Historical data to estimate the capital stocks and calculate depreciation are not readily available for Federal capital. Depreciation estimates were based on the assumption that outlays for Federal capital were a constant percentage of the larger categories in which such outlays were classified. They are also subject to the limitations explained in Part II of this chapter. Depreciation is measured in terms of current cost, not historical cost.

to the operating budget surplus. If defense capital was excluded, the operating budget would have a deficit that was \$11 billion less than the unified budget deficit instead of \$19 billion less as shown above for the complete coverage of Federal capital. Capital expenditures for defense in 2004 are estimated to be \$8 billion more than depreciation, whereas capital expenditures for nondefense purposes (plus military family housing) are estimated to be \$11 billion more.

Budget Discipline and a Capital Budget

Many proposals for a capital budget, though not all, would effectively dispense with the unified budget and make expenditure decisions on capital asset acquisitions in terms of the operating budget instead. When an agency proposed to purchase a capital asset, the operating budget would include only the estimated depreciation.

For example, suppose that an agency proposed to buy a \$50 million building at the beginning of the year that already existed; and suppose the building had an estimated life of 25 years with depreciation calculated by the straightline method. Operating expense in the budget year would increase by \$2 million, or only 4 percent of the asset cost. The same amount of depreciation would be recorded as an increase in operating expense for each year of the asset's life.⁷ In many cases, however, such as constructing an aircraft carrier or rebuilding a dam, an asset is constructed or manufac-

⁷ The amount of depreciation typically recorded as an expense in the budget year for purchasing an asset that already exists is overstated by this illustration. Most assets are purchased after the beginning of the year, in which case less than a full year's depreciation would normally be recorded.

tured to order. In these cases, no depreciation would be recorded until the work was completed and the asset put into service. This could be several years after the initial expenditure, in which case the budget would record no expense at all in the budget year or several years thereafter.

Recording the annual depreciation in the operating budget each year would provide little control over the decision about whether to invest in the first place. Most Federal investments are sunk costs and as a practical matter cannot be recovered by selling or renting the asset. At the same time, there is a significant risk that the need for a capital asset may change over a period of years, because either the need is not permanent, it is initially misjudged, or other needs become more important. Since the cost is set, however, control cannot be exercised later on by comparing the annual benefit of the asset services with depreciation and interest and then selling the asset if its annual services are not worth this expense. Control can only be exercised up front when the Government commits itself to the full sunk cost. By spreading the real cost of the project over time, however, use of the operating budget for expenditure decisions would make the budgetary cost of the capital asset appear very cheap when decisions were being made that compared it to alternative expenditures—as noted above, it could even be zero if the asset was made to order. As a result, the Government would have an incentive to purchase capital assets with little regard for need, and also with little regard for the least-cost method of acquisition.

A budget is a financial plan for allocating resources—deciding how much the Federal Government should spend in total, program by program, and for the parts of each program. The budgetary system provides a process for proposing policies, making decisions, implementing them, and reporting the results. The budget needs to measure costs accurately so that decision makers can compare the cost of a program with its benefit, the cost of one program with another, and the cost of alternative methods of reaching a specified goal. These costs need to be fully included in the budget up front, when the spending decision is made, so that executive and congressional decision makers have the information and the incentive to take the total costs into account for setting priorities.

The present budget provides policymakers the necessary information regarding investment. It records investment on a cash basis, and it requires Congress to vote budget authority before an agency can obligate the Government to make a cash outlay. By these means, it causes the total cost to be compared up front in a rough and ready way with the total expected future net benefits. Since the budget measures only cost, the benefits with which these costs are compared, based on policy makers' judgment, must be presented in supplementary materials. Such a comparison of total costs with benefits is consistent with the formal method of cost-benefit analysis of capital projects in government, in which the full cost of a capital asset as the cash

is paid out is compared with the full stream of future benefits (all in terms of present values).⁸

This comparison is also consistent with common business practice, in which most capital budgeting decisions are made by comparing cash flows. The cash outflow for the full purchase price is compared with expected future net cash inflows, either through a relatively sophisticated technique of discounted cash flows—such as net present value or internal rate of return—or through cruder methods such as payback periods.⁹ Regardless of the specific technique adopted, it usually requires comparing future returns with the entire cost of the asset up front—not spread over time through annual depreciation.¹⁰

Practice Outside the Federal Government

The proponents of making investment decisions on the basis of an operating budget with depreciation have sometimes claimed that this is the common practice outside the Federal Government. However, while the practice of others may differ from the Federal budget and the terms “capital budget” and “capital budgeting” are often used, these terms do not normally mean that capital asset acquisitions are decided on the basis of annual depreciation cost. The use of these terms in business and State government also does not mean that businesses and States finance all their investment by borrowing. Nor does it mean that under a capital budget the extent of borrowing by the Federal Government to finance investment would be limited by the same forces that constrain business and State borrowing for investment.

Private business firms call their investment decision making process “capital budgeting,” and they record the resulting planned expenditures in a “capital budget.” However, decisions are normally based on up-front comparisons of the cash outflows needed to make the investment with the resulting net cash inflows expected in the future, as explained above, and the capital budget records the period-by-period cash outflows proposed for capital projects.¹¹ This supports the business's goal of deciding upon and controlling the use of its resources to earn income.

The cash-based focus of business budgeting for capital is in contrast to business financial statements—the in-

⁸For example, see Edward M. Gramlich, *A Guide to Benefit-Cost Analysis* (2nd ed.; Englewood Cliffs: Prentice Hall, 1990), chap. 6; or Joseph E. Stiglitz, *Economics of the Public Sector* (3rd ed.; New York: Norton, 1999), chap. 11. This theory is applied in formal OMB instructions to Federal agencies in OMB Circular No. A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs* (October 29, 1992).

⁹For a full textbook analysis of capital budgeting techniques in business, see Harold Bierman, Jr., and Seymour Smidt, *The Capital Budgeting Decision* (8th ed.; Saddle River, N.J.: Prentice-Hall, 1993). Shorter analyses from the standpoints of corporate finance and cost accounting may be found, for example, in Richard A. Brealey and Stewart C. Myers, *Principles of Corporate Finance* (5th ed.; New York: McGraw-Hill, 1996), chap. 2, 5, and 6; Charles T. Horngren et al., *Cost Accounting* (9th ed.; Upper Saddle River, N.J.: Prentice-Hall, 1997), chap. 22 and 23; Jerold L. Zimmerman, *Accounting for Decision Making and Control* (Chicago: Irwin, 1995), chap. 3; and Surendra S. Singhvi, “Capital-Investment Budgeting Process” and “Capital-Expenditure Evaluation Methods,” chap. 19 and 20 in Robert Rachlin, ed., *Handbook of Budgeting* (4th ed.; New York: Wiley, 1999).

¹⁰Two surveys of business practice conducted several years ago found that such techniques are predominant. See Thomas Klammer et al., “Capital Budgeting Practices—A Survey of Corporate Use,” *Journal of Management and Accounting Research*, vol. 3 (Fall 1991), pp. 113–30; and Glenn H. Petry and James Sprow, “The Theory and Practice of Finance in the 1990s,” *The Quarterly Review of Economics and Finance*, vol. 33 (Winter 1993), pp. 359–82. Petry and Sprow also found that discounted cash flow techniques are recommended by the most widely used textbooks in managerial finance.

¹¹A business capital budget is depicted in Glenn A. Welsch et al., *Budgeting: Profit Planning and Control* (5th ed.; Englewood Cliffs: Prentice Hall, 1988), pp. 396–99.

come statement and balance sheet—which use accrual accounting for a different purpose, namely, to record how well the business is meeting its objective of earning profit and accumulating wealth for its owners. For this purpose, the income statement shows the profit in a year from earning revenue net of the expenses incurred. These expenses include depreciation, which is an allocation of the costs of capital assets over their estimated useful lives. With similar objectives in mind, the Federal Accounting Standards Advisory Board has adopted the use of depreciation on property, plant, and equipment owned by the Federal Government as a measure of expense in financial statements and cost accounting for Federal agencies.¹²

Businesses finance investment from net income, cash on hand, and other sources as well as borrowing. When they borrow to finance investment, they are constrained in ways the Federal government is not. The amount that a business borrows is limited by its own profit motive and the market's assessment of its capacity to repay. The greater a business's indebtedness, other things equal, the more risky is any additional borrowing and the higher is the cost of funds it must pay. Since the profit motive ensures that a business will not want to borrow unless the expected return is at least as high as the cost of funds, the amount of investment that a business will want to finance is limited; it will borrow only for projects where the expected return is as high or higher than the cost of funds. Furthermore, if the risk is great enough, a business may not be able to find a lender.

No such constraint limits the Federal Government—either in the total amount of its borrowing for investment, or in its choice of which assets to buy—because of its sovereign power to tax and the wide economic base that it taxes. It can tax to pay for investment; and, if it borrows, its power to tax ensures that the credit market will judge U.S. Treasury securities free from any risk of default even if it borrows “excessively” or for projects that do not seem worthwhile. The only constraint is policy decisions about the budget.

Most *States* also have a “capital budget,” but the operating budget is not like the operating budget envisaged by proponents of making Federal investment decisions on the basis of depreciation. State capital budgets differ widely in many respects but generally relate some of the State's purchases of capital assets to borrowing and other earmarked means of financing. For the debt-financed portion of investment, the interest and repayment of principal are usually recorded as expenditures in the operating budget. For the portion of investment purchased in the capital budget but financed by Federal

grants or State taxes, which may be substantial, State operating budgets do not record any amount. No State operating budget is charged for depreciation.¹³

States did not traditionally record depreciation expense in the financial accounting statements for governmental funds. They recorded depreciation expense only in their proprietary (commercial-type) funds and in those trust funds where net income, expense, or capital maintenance was measured.¹⁴ Under new financial accounting standards, however, depreciation on most capital assets is recognized as an expense in government-wide financial statements. This requirement is now being phased-in and will be effective for all state governments for fiscal years beginning after June 2003.¹⁵

State borrowing to finance investment, like business borrowing, is subject to limitations that do not apply to Federal borrowing. Like business borrowing, it is constrained by the credit market's assessment of the State's capacity to repay, which is reflected in the credit ratings of its bonds. Rating agencies place significant weight on the amount of debt outstanding compared to the economic output generated by the State. Furthermore, borrowing is usually designated for specified investments, and it is almost always subject to constitutional limits or referendum requirements.

Other *developed nations* tend to show a more systematic breakdown between investment and operating expenditures within their budgets than does the United States, even while they record capital expenditures on a cash basis within the same budget totals. The French budget, for example, has traditionally been divided into separate titles of which some are for current expenditures and others for capital expenditures. A study of European countries several years ago found only four at that time which had a real difference between a current budget and a capital budget (Greece, Ireland, Luxembourg, and Portugal).¹⁶

In addition, three developed countries have recently adopted accrual budgets that include the use of depreciation in place of capital expenditures. These countries, however, require appropriations for the full cost or current cash disbursements as an additional control under some or all circumstances. New Zealand, the first country to shift to an accrual budget, requires the equivalent of appropriations for the full cost up front before a department can make net additions to its capital

¹²Statement of Federal Financial Accounting Standards (SFFAS) No. 6, Accounting for Property, Plant, and Equipment, pp. 5–14 and 34–35; and the proposed SFFAS No. 23, Eliminating the Category National Defense Property, Plant, and Equipment. (The Federal Accounting Standards Advisory Board was established by the Office of Management and Budget, Department of Treasury, and General Accounting Office to develop accounting standards and concepts for the Federal government. The American Institute of Certified Public Accountants has designated it as the body to establish generally accepted accounting principles (GAAP) for Federal government entities.) Depreciation is not used as a measure of expense for physical property financed by the Federal Government but owned by State and local governments, or for investment that the Federal Government finances in human capital and research and development.

¹³The characteristics of State capital budgets were examined in a survey of State budget officers for all 50 States in 1986. See Lawrence W. Hush and Kathleen Peroff, “The Variety of State Capital Budgets: A Survey,” Public Budgeting and Finance (Summer 1988), pp. 67–79. More detailed results are available in an unpublished OMB document, “State Capital Budgets” (July 7, 1987). Two GAO reports examined State capital budgets and reached similar conclusions on the issues in question. See Budget Issues: Capital Budgeting Practices in the States, GAO/AFMD–86–63FS (July 1986), and Budget Issues: State Practices for Financing Capital Projects, GAO/AFMD–89–64 (July 1989). For further information about state capital budgeting, see National Association of State Budget Officers, Capital Budgeting in the States (November 1999).

¹⁴Governmental Accounting Standards Board (GASB), Codification of Governmental Accounting and Financial Reporting Standards as of June 30, 2000, sections 1100.107 and 1400.114–1400.118.

¹⁵Governmental Accounting Standards Board, Statement No. 34, Basic Financial Statements—and Management's Discussion and Analysis—for State and Local Governments (June 1999), paragraphs 18–29 and 44–45. For discussion of the basis for conclusions of these new standards, see paragraphs 330–43. Infrastructure assets must be reported on the balance sheet but do not have to be depreciated if they are part of a network and the State or locality can document that they are being preserved.

¹⁶M. Peter van der Hoek, “Fund Accounting and Capital Budgeting: European Experience,” Public Budgeting and Financial Management, vol. 8 (Spring 1996), pp. 39–40.

assets or before the government can acquire certain capital assets such as state highways. It also requires Cabinet approval for purchases above a threshold amount. Australia, which adopted an accrual budget as of its 1999–2000 budget, requires an appropriation for departments that do not have adequate reserves to purchase assets. The United Kingdom budgeted on an accrual basis starting with its 2001–02 fiscal year. However, Parliamentary approval is needed for both the “resource budget,” which includes depreciation, and the departmental cash requirement, which includes the cash payments made for capital assets.

Canada publishes its budget on a modified accrual basis and plans to shift to full accruals, including the depreciation of capital assets. However, it uses the term “budget” differently from the United States. The “budget” sets forth the overall fiscal framework, while the “estimates” comprise the detailed departmental appropriations. The estimates are prepared on a modified cash basis, which records many transactions differently from the budget. The estimates record investment on a cash basis and do not make use of depreciation. This is a major control over resource allocation that would remain when a full accrual budget is adopted.

A country with an accrual budget may calculate its measure of fiscal position on other bases as well. The Australian budget has several measures of fiscal position. The primary fiscal measure, the fiscal balance, is close to a cash basis and includes the purchase of property, plant, and equipment rather than depreciation.¹⁷

On the other hand, some countries—including Sweden, Denmark, Finland, and the Netherlands—formerly had separate capital budgets but abandoned them a number of years ago.¹⁸ The Netherlands and Sweden, though, are either planning to adopt accruals for their budget generally or are actively considering whether to do so.

Many *developing countries* operate a dual budget system comprising a regular or recurrent budget and a capital or development budget. The World Bank staff has concluded that:

“The dual budget may well be the single most important culprit in the failure to link planning, policy and budgeting, and poor budgetary outcomes. The dual budget is misconceived because it is based on a false premise that capital expenditure by government is more productive than current expenditure. Separating develop-

ment and recurrent budgets usually leads to the development budget having a lower hurdle for entry. The result is that everyone seeks to redefine their expenditure as capital so it can be included in the development budget. Budget realities are left to the recurrent budget to deal with, and there is no pretension that expenditure proposals relate to policy priorities.”¹⁹

Conclusions

The General Accounting Office issued a report in 1993 that criticized budgeting for capital in terms of depreciation. This report affirmed the concerns regarding capital budgeting expressed here. Although the GAO’s criticisms were in the context of what is termed “national capital” in this chapter, they apply equally to “Federal capital.”

“Depreciation is not a practical alternative for the Congress and the administration to use in making decisions on the appropriate level of spending intended to enhance the nation’s long-term economic growth for several reasons. Currently, the law requires agencies to have budget authority before they can obligate or spend funds. Unless the full amount of budget authority is appropriated up front, the ability to control decisions when total resources are committed to a particular use is reduced. Appropriating only annual depreciation, which is only a fraction of the total cost of an investment, raises this control issue.”²⁰

After further study of the role of depreciation in budgeting for national capital, GAO reiterated that conclusion in another study in 1995.²¹ “The greatest disadvantage . . . was that depreciation would result in a loss of budgetary control under an obligation-based budgeting system.”²² Although that study also focused primarily on what is termed “national capital” in this chapter, its analysis applies equally to “Federal capital.” In 1996 GAO expressly extended its conclusions to Federal capital as well. “If depreciation were recorded in the federal budget in place of cash requirements for capital spending, this would undermine Congress’ ability to control expenditures because only a small fraction of an asset’s cost would be included in the year when a decision was made to acquire it.”²³

Investment in National Capital

A Target for National Investment

The Federal Government’s investment in national capital has a much broader and more varied form than its investment in Federal capital. The Government’s

¹⁷The practices and plans of New Zealand, Australia, United Kingdom, and Canada are discussed in GAO, *Accrual Budgeting: Experiences of Other Nations and Implications for the United States*, GAO/AIMD-00-57 (February 2000).

¹⁸Denmark had accrual budgets generally, not just for capital assets, but abandoned that practice a number of years ago. Sweden had separate capital and operating budgets from 1937 to 1981, together with a total consolidated budget from 1956 onwards. One reason for abandoning the capital budget was that borrowing was no longer based on the distinction between current and capital budgets. See GAO, *Budget Issues: Budgeting Practices in West Germany, France, Sweden, and Great Britain*, GAO/AFMD-87-SFS (November 1986); and, for a more extensive discussion of the reasons to abandon a capital budget, see Sweden, Ministry of Finance, *Proposal for a Reform of the Swedish Budget System: A Summary of the Report of the Budget Commission Published by the Ministry of Finance* (Stockholm, 1974), chapter 10. The Netherlands distinguished between a current account and a capital budget between 1927 and 1976. See Aad Bac, “Government Budgeting and Accounting Reform in the Netherlands,” in *OECD Journal on Budgeting*, vol. 2, Supplement 1, page 278.

¹⁹The World Bank, *Public Expenditure Management Handbook* (Washington, D.C.: The World Bank, 1998), Box 3.11, page 53.

²⁰GAO, *Budget Issues: Incorporating an Investment Component in the Federal Budget*, GAO/AIMD-94-40 (November 1993), p. 11. GAO had made the same recommendation in earlier reports but with less extensive analysis.

²¹GAO, *Budget Issues: The Role of Depreciation in Budgeting for Certain Federal Investments*, GAO/AIMD-95-34 (February 1995), pp. 1 and 19–20.

²²Ibid., p. 17. Also see pp. 1–2 and 16–19.

²³GAO, *Budget Issues: Budgeting for Federal Capital*, GAO/AIMD-97-5 (November 1996), p. 28. Also see p. 4.

goal is to support and accelerate sustainable economic growth for the private sector and in some instances for specific regions or groups of people. The Government's investment concerns for the Nation are two-fold:

- *The effect of its own investment in national capital on the output and income that the economy can produce.*
- *The effect of Federal taxation, borrowing, and other policies on private investment.*

In its 1993 report, *Incorporating an Investment Component in the Federal Budget*, the General Accounting Office (GAO) recommended establishing an investment component within the unified budget—but not a separate capital budget or the use of depreciation—for this type of investment.²⁴ GAO defined this investment as “federal spending, either direct or through grants, that is directly intended to enhance the private sector’s long-term productivity.”²⁵ To increase investment—both public and private—GAO recommended establishing targets for the level of Federal investment.²⁶ Such a target for investment in national capital would focus attention on policies for growth, encourage a conscious decision about the overall level of growth-enhancing investment, and make it easier to set spending priorities in terms of policy goals for aggregate formation of national capital. GAO reiterated its recommendation in another report in 1995.²⁷

Table 7-10. UNIFIED BUDGET WITH NATIONAL INVESTMENT COMPONENT, 2004¹

(In billions of dollars)

Receipts	1,922
Outlays:	
National investment	194
Other	2,036
Subtotal, outlays	2,229
Surplus or deficit (-)	-307

¹The details of this table do not add to the totals in every case due to rounding.

Table 7-10 illustrates the unified budget reorganized as GAO recommended to have a separate component for investment in national capital. This component is roughly estimated to be \$194 billion in 2004. It includes infrastructure outlays financed by Federal grants to State and local governments, such as highways and sewer projects, as well as direct Federal purchases of infrastructure, such as electric power generation equipment. It also includes intangible investment for non-defense research and development, for basic research financed through defense, and for education and training. Much of this expenditure consists of grants and credit assistance to State and local governments, non-profit organizations, or individuals. Only 11 percent of national investment consists of assets to be owned by the Federal Government. Military investment and some

²⁴Incorporating an Investment Component in the Federal Budget, pp. 1-2, 9-10, and 15.

²⁵Ibid., pp. 1 and 5.

²⁶Ibid., pp. 2 and 13-16.

²⁷The Role of Depreciation in Budgeting for Certain Federal Investments, pp. 2 and 19-20.

other capital assets as defined previously are excluded, because that investment does not primarily enhance the economic growth of the private sector.

A Capital Budget for National Investment

Table 7-11 roughly illustrates what a capital budget and operating budget would look like under this definition of investment—although it must be emphasized that this was **not** GAO’s recommendation. Some components of a capital budget would make spending decisions within the framework of such a capital budget and operating budget. But the limitations that apply to the use of depreciation in deciding on investment decisions for Federal capital apply even more strongly in deciding on investment decisions for national capital. Most national capital is neither owned nor controlled by the Federal Government. Such investments are sunk costs completely and can be controlled only by decisions made up front when the Government commits itself to the expenditure.²⁸

Table 7-11. CAPITAL, OPERATING, AND UNIFIED BUDGETS: NATIONAL CAPITAL, 2004^{1 2}

(In billions of dollars)

Operating Budget	
Receipts	1,884
Expenses:	
Depreciation ³	84
Other	2,036
Subtotal, expenses	2,120
Surplus or deficit (-)	-235
Capital Budget	
Income:	
Depreciation ³	84
Earmarked tax receipts ⁴	38
Subtotal, income	121
Capital expenditures	194
Surplus or deficit (-)	-72
Unified Budget	
Receipts	1,922
Outlays	2,229
Subtotal, outlays	2,229
Surplus or deficit (-)	-307

¹For the purpose of this illustrative table only, education and training outlays are arbitrarily depreciated over 30 years by the straight-line method. This differs from the treatment of education and training elsewhere in this chapter and in Chapter 3. All depreciation estimates are subject to the limitations explained in Part II of this chapter. Depreciation is measured in terms of current cost, not historical cost.

²The details of this table do not add to the totals in every case due to rounding.

³Excludes depreciation on capital financed by earmarked tax receipts allocated to the capital budget.

⁴Consists of tax receipts of the highway and airport and airways trust funds, less trust fund outlays for operating expenditures. These are user charges earmarked for financing capital expenditures.

In addition to these basic limitations, the definition of investment is more malleable for national capital than Federal capital. Many programs promise long-term intangible benefits to the Nation, and depreciation rates are much more difficult to determine for intangible investment such as research and education than they are for physical investment such as highways and office buildings. These and other definitional questions are

²⁸GAO’s conclusions about the loss of budgetary control that were quoted at the end of the section on Federal capital came from studies that predominantly considered “national capital.”

hard to resolve. The answers could significantly affect budget decisions, because they would determine whether the budget would record all or only a small part of the cost of a decision when policy makers were comparing the budgetary cost of a project with their judgment of its benefits. The process of reaching an answer with a capital budget would open the door to manipulation, because there would be an incentive to make the operating expenses and deficit look smaller by classifying outlays as investment and using low depreciation rates. This would “justify” more spending by the program or the Government overall.²⁹

A Capital Budget and the Analysis of Saving and Investment

Data from the Federal budget may be classified in many different ways, including analyses of the Government’s direct effects on saving and investment. As Parts I and II of this chapter have shown, the unified budget provides data that can be used to calculate Federal investment outlays and federally financed capital stocks. However, the budget totals themselves do not make this distinction. In particular, the budget surplus or deficit does not measure the Government’s contribution to the nation’s net saving (i.e., saving net of depreciation). A capital budget, it is sometimes contended, is needed for this purpose.

This purpose, however, is fulfilled by the Federal subsector of the national income and product accounts (NIPA) for Government purchases of structures, equipment, and software. The NIPA Federal subsector measures the impact of Federal current receipts, current expenditures, and the current surplus or deficit on the national economy. It is part of an integrated set of measures of aggregate U.S. economic activity that is prepared by the Bureau of Economic Analysis in the Department of Commerce to measure gross domestic product (GDP), the income generated in its production, and many other variables used in macroeconomic analysis. The NIPA Federal subsector for recent periods is published monthly in the *Survey of Current Business* with separate releases for historical data. Estimates for the President’s proposed budget through the budget year are normally published in a chapter of the budget documents. The NIPA translation of the budget, rather than the budget itself, is ordinarily used by economists to analyze the effect of Government fiscal policy on the aggregate economy.³⁰

The NIPA Federal subsector distinguishes between government purchases of goods and services for con-

sumption and investment.³¹ It is a current account or an operating account for the Federal Government and accordingly shows current receipts and current expenditures. The account excludes expenditures for structures, equipment, and software owned by the Federal Government; it includes depreciation on the federally owned stock of structures, equipment, and software as a proxy for the services of capital assets consumed in production and thus as part of the Federal Government’s current expenditures. It applies this treatment to a comprehensive definition of federally owned structures, equipment, and software, both defense and nondefense, similar to the definition of Federal capital in this chapter.³²

The NIPA “current surplus or deficit” of the Federal Government thus measures the Government’s direct contribution to the Nation’s net saving (given the definition of investment that is employed). The Federal Government current account surplus was reduced by small amounts several years in the past decade by including depreciation rather than gross investment, because depreciation of federally owned structures, equipment, and software was more than gross investment. During 2002–04, however, gross investment is more than depreciation by growing amounts. The 2004 Federal current account surplus is estimated to be increased \$9.5 billion by using depreciation.³³ A capital budget is not needed to capture this effect.

Borrowing to Finance a Capital Budget

A further issue traditionally raised by a capital budget is the financing of capital expenditures. Some have argued that the Government ought to balance the operating budget and borrow to finance the capital budget—capital expenditures less depreciation. The rationale is that if the Government borrows for net investment and the rate of return exceeds the interest rate, the additional debt does not add a burden onto future generations. Instead, the burden of paying interest on the debt and repaying its principal is spread over the generations that will benefit from the investment. The additional debt is “justified” by the additional assets.³⁴

³¹This distinction is also made in the national accounts of most other countries and in the System of National Accounts (SNA), which is guidance prepared by the United Nations and other international organizations. Definitions of investment vary. For example, the SNA does not include the purchase of military equipment as investment.

³²The treatment of investment (except for the recent recognition of software) in the NIPA Federal subsector is explained in *Survey of Current Business*, “Preview of the Comprehensive Revision of the National Income and Product Accounts: Recognition of Government Investment and Incorporation of a New Methodology for Calculating Depreciation” (September 1995), pp. 33–39. As is the case of private sector investment, government investment does not include expenditures on research and development or on education and training. Government purchases of structures, equipment, and software remain a part of gross domestic product (GDP) as a separate component. The NIPA State and local government account is defined in the same way and includes depreciation on structures, equipment, and software owned by State and local governments that were financed by Federal grants as well as by their own resources. Depreciation is not displayed as a separate line item in the summary tables of the government account: depreciation on general government capital assets is included as part of government “consumption expenditures”; and depreciation on the capital assets of government enterprises is subtracted in calculating the “current surplus of government enterprises.”

³³See actuals and estimates for 2002–04 in Table 17–2 of chapter 17 of this volume, “National Income and Product Accounts.”

³⁴As this argument has traditionally been framed, it might appear as though it did not apply when the Government has a surplus. When the Government has a surplus, as in 1998–2001, additional expenditure is generally financed by repaying less debt rather than borrowing more. However, the argument about borrowing for investment is fundamentally about the proper target for Federal debt and whether that target should be higher if the Government has net investment. If the Government has deficits financed by selling debt, should it borrow more than otherwise because of its net investment? Or if the Government has surpluses used to repay debt, should it repay less than otherwise because of

²⁹These problems are also pointed out in GAO, *Incorporating an Investment Component in the Federal Budget*, pp. 11–12. They are discussed more extensively with respect to highway grants, research and development, and human capital in GAO, *The Role of Depreciation in Budgeting for Certain Federal Investments*, pp. 11–14. GAO found no government that budgets for the depreciation of human capital or research and development (except that New Zealand budgets for the depreciation of research and development if it results in a product that is intended to be used or marketed).

³⁰See chapter 17 of this volume, “National Income and Product Accounts,” for the NIPA current account of the Federal Government based on the budget actuals and estimates for 2002–04, and for a discussion of the NIPA Federal subsector and its relationship to the budget. The Federal subsector is part of the NIPA government sector, the other subsector being all state and local governments treated as a consolidated entity.

This argument about financing capital expenditures is at best a justification to borrow to finance net investment, after depreciation is subtracted from gross outlays, not to borrow to finance gross investment. To the extent that capital is used up during the year, there are no additional assets to justify additional debt. If the Government borrows to finance gross investment, the additional debt exceeds the additional capital assets. The Government is thus adding onto the amount of future debt service without providing the additional capital that would produce the additional income needed to service that debt.

This justification, furthermore, requires that depreciation be measured in terms of the current replacement cost, not the historical cost. Current cost depreciation is needed in order to measure all activities in the budget on a consistent basis, since other outlays and receipts are automatically measured in the prices of the current year. Current cost depreciation is also needed to obtain a valid measure of net investment. Net investment is the change in the capital stock. To measure it correctly, the addition to the capital stock from new purchases and the subtraction from depreciation on existing assets must both be measured in the prices of the same year. When prices change, historical cost depreciation does not measure the extent to which the capital stock is used up each year.

As a broad generalization, Tables 7–9 and 7–11 suggest that this rationale would currently justify some

borrowing under the two capital budgets roughly illustrated in this chapter, but for Federal capital the borrowing justified in this way would not be great. For Federal capital, Table 7–9 indicates that gross investment is more than current cost depreciation—the capital budget deficit is \$19 billion. The rationale of borrowing to finance net investment would justify the Federal Government borrowing this amount (\$19 billion) and no more to finance its investment in Federal capital. For national capital, Table 7–11 indicates that gross investment is more than current cost depreciation (plus the excise taxes earmarked to finance capital expenditures for highways and airports and airways³⁵)—the capital budget deficit is \$72 billion. The rationale of borrowing to finance net investment would justify the Federal Government borrowing this amount (\$72 billion) and no more to finance its investment in national capital.³⁶

Even with depreciation calculated at current cost, the rationale for borrowing to finance net investment is not persuasive. The Federal Government, unlike a business or household, is responsible not only for its own affairs but also for the general welfare of the Nation. To maintain and accelerate national economic growth and development, the Government needs to encourage private investment as well as its own investment. A high level of net national saving is needed to meet the demographic and other challenges expected in the decades ahead.³⁷

Part IV: SUPPLEMENTAL PHYSICAL CAPITAL INFORMATION

The Federal Capital Investment Program Information Act of 1984 (Title II of Public Law 98–501; hereafter referred to as the Act) requires that the budget include projections of Federal physical capital spending and information regarding recent assessments of public civilian physical capital needs. This section is submitted to fulfill that requirement.

This part is organized in two major sections. The first section projects Federal outlays for public physical capital and the second section presents information regarding public civilian physical capital needs.

Projections of Federal Outlays For Public Physical Capital

Federal public physical capital spending is defined here to be the same as the “major public physical capital investment” category in Part I of this chapter. It

covers spending for construction and rehabilitation, acquisition of major equipment, and other physical assets. This section excludes outlays for human capital, such as the conduct of education and training, and outlays for the conduct of research and development.

The projections are done generally on a current services basis, which means they are generally based on 2003 enacted appropriations and adjusted for inflation in later years. The current services concept is discussed in Chapter 15, “Current Services Estimates.”

Federal public physical capital spending was \$156.5 billion in 2002 and is projected to increase to \$191.5 billion by 2012 on a current services basis. The largest components are for national defense and for roadways and bridges, which together accounted for more than three-fifths of Federal public physical capital spending in 2002.

its net investment? For the present analysis, “borrowing more” is equivalent to “repaying less debt.”

³⁵The capital budget deficit would be about \$23 billion larger if current cost depreciation were used instead of earmarked excise taxes for investment in highways and airports and airways.

³⁶This discussion abstracts from non-budgetary transactions that affect Federal borrowing requirements, such as changes in the Treasury operating cash balance and the net financing disbursements of the direct loan and guaranteed loan financing accounts. See chapter 13 of this volume, “Federal Borrowing and Debt,” and the explanation of Table 13–2.

³⁷GAO considered deficit financing of investment but did not recommend it. See Incorporating an Investment Component in the Federal Budget, pp. 12–13.

Table 7–12 shows projected current services outlays for Federal physical capital by the major categories specified in the Act. Total Federal outlays for transportation-related physical capital were \$44.1 billion in 2002, and current services outlays are estimated to increase to \$51.7 billion by 2012. Outlays for nondefense housing and buildings were \$16.5 billion in 2002 and are estimated to be \$20.7 billion in 2012. Physical cap-

ital outlays for other nondefense categories were \$27.6 billion in 2002 and are projected to be \$32.0 billion by 2012. For national defense, this spending was \$68.3 billion in 2002 and is estimated on a current services basis to be \$87.1 billion in 2012.

Table 7–13 shows current services projections on a constant dollar basis, using fiscal year 1996 as the base year.

Table 7–12. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING

(In billions of dollars)

	2002 Actual	Estimate									
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Nondefense:											
Transportation-related categories:											
Roadways and bridges	30.1	28.5	28.6	29.7	30.4	31.3	32.1	32.8	33.0	33.3	34.2
Airports and airway facilities	5.5	7.6	7.6	7.3	7.3	7.7	7.8	7.9	8.1	8.2	8.4
Mass transportation systems	7.3	6.9	7.1	6.9	6.8	6.8	7.4	7.6	7.6	7.7	7.9
Railroads	1.1	0.6	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2
Subtotal, transportation	44.1	43.6	44.4	45.0	45.6	46.9	48.5	49.5	49.8	50.5	51.7
Housing and buildings categories:											
Federally assisted housing	9.1	9.3	8.7	8.6	9.1	9.1	8.4	8.6	8.8	9.0	8.7
Hospitals	2.4	2.4	2.4	2.5	2.5	2.6	2.7	2.7	2.8	2.9	3.0
Public buildings ¹	5.0	6.4	6.2	6.3	7.6	7.8	8.6	8.7	8.8	8.8	8.9
Subtotal, housing and buildings	16.5	18.0	17.4	17.4	19.2	19.5	19.6	20.0	20.3	20.7	20.7
Other nondefense categories:											
Wastewater treatment and related facilities	3.0	3.3	3.3	3.4	3.4	3.6	3.6	3.7	3.7	3.7	3.8
Water resources projects	3.8	3.6	4.0	3.8	4.1	4.1	4.2	4.3	4.5	4.6	4.7
Space and communications facilities	4.8	4.5	4.9	5.1	5.1	5.3	5.5	5.7	5.9	5.9	5.9
Energy programs	1.6	1.3	1.3	1.2	1.3	1.3	1.0	0.9	0.9	0.9	1.0
Community development programs	6.1	7.5	7.1	6.4	5.8	5.9	6.1	6.2	6.2	6.3	6.4
Other nondefense	8.3	9.0	8.7	8.0	8.9	9.1	9.3	9.5	9.7	10.0	10.2
Subtotal, other nondefense	27.6	29.0	29.2	27.9	28.7	29.3	29.8	30.4	31.0	31.4	32.0
Subtotal, nondefense	88.2	90.6	91.0	90.3	93.5	95.7	97.9	99.8	101.1	102.6	104.4
National defense	68.3	70.0	74.3	77.6	78.8	80.9	82.6	82.3	84.0	85.5	87.1
Total	156.5	160.6	165.3	167.9	172.2	176.6	180.5	182.1	185.1	188.1	191.5

¹ Excludes outlays for public buildings that are included in other categories in this table.

Table 7-13. CURRENT SERVICES OUTLAY PROJECTIONS FOR FEDERAL PHYSICAL CAPITAL SPENDING

(In billions of constant 1996 dollars)

	2002 Actual	Estimate				
		2003	2004	2005	2006	2007
Nondefense:						
Transportation-related categories:						
Roadways and bridges	27.1	25.1	24.6	25.0	25.0	25.2
Airports and airway facilities	5.2	7.1	7.0	6.6	6.4	6.6
Mass transportation systems	6.6	6.0	6.1	5.8	5.6	5.4
Railroads	1.1	0.6	1.1	1.1	1.0	1.0
Subtotal, transportation	40.0	38.9	38.8	38.5	38.1	38.3
Housing and buildings categories:						
Federally assisted housing	8.3	8.3	7.6	7.3	7.5	7.4
Hospitals	2.4	2.3	2.3	2.4	2.4	2.4
Public buildings ¹	4.9	6.2	5.9	5.9	7.0	7.1
Subtotal, housing and buildings	15.6	16.8	15.8	15.6	16.9	16.9
Other nondefense categories:						
Wastewater treatment and related facilities	2.7	2.9	2.8	2.8	2.8	2.9
Water resources projects	3.8	3.5	3.8	3.6	3.9	3.8
Space and communications facilities	4.7	4.4	4.7	4.8	4.8	4.9
Energy programs	1.6	1.3	1.2	1.1	1.2	1.2
Community development programs	5.5	6.6	6.1	5.4	4.8	4.8
Other nondefense	8.1	8.6	8.2	7.4	8.1	8.2
Subtotal, other nondefense	26.4	27.2	27.0	25.3	25.6	25.7
Subtotal, nondefense	82.0	82.9	81.5	79.3	80.6	80.8
National defense	70.7	71.5	74.8	77.0	76.9	77.7
Total	152.7	154.4	156.4	156.3	157.5	158.5

¹ Excludes outlays for public buildings that are included in other categories in this table.

Public Civilian Capital Needs Assessments

The Act requires information regarding the state of major Federal infrastructure programs, including highways and bridges, airports and airway facilities, mass transit, railroads, federally assisted housing, hospitals, water resources projects, and space and communications investments. Funding levels, long-term projections, policy issues, needs assessments, and critiques, are required for each category.

Capital needs assessments change little from year to year, in part due to the long-term nature of the facilities themselves, and in part due to the consistency of the analytical techniques used to develop the assessments and the comparatively steady but slow changes in underlying demographics. As a result, the practice has arisen in reports in previous years to refer to earlier discussions, where the relevant information had been carefully presented and changes had been minimal.

The needs assessment material in reports of earlier years is incorporated this year largely by reference to earlier editions and by reference to other needs assessments. The needs analyses, their major components, and their critical evaluations have been fully covered in past Supplements, such as the 1990 Supplement to Special Analysis D.

It should be noted that the needs assessment data referenced here have not been determined on the basis of cost-benefit analysis. Rather, the data reflect the level of investment necessary to meet a predefined standard (such as maintenance of existing highway conditions). The estimates do not address whether the benefits of each investment would actually be greater than its cost or whether there are more cost-effective alternatives to capital investment, such as initiatives to reduce demand or use existing assets more efficiently. Before investing in physical capital, it is necessary to compare the cost of each project with its estimated benefits, within the overall constraints on Federal spending.

Significant Factors Affecting Infrastructure Needs Assessments

Highways

1. Projected annual average growth in travel to the year 2020	2.08 percent
2. Annual Federal, state, and local cost to maintain 2000 conditions and performance on highways	\$68.6 billion (2000 dollars)
3. Annual Federal, state, and local cost to maintain 2000 conditions and performance on bridges	\$7.3 billion (2000 dollars)

Airports and Airway Facilities

1. Airports in the National Plan of Integrated Airport Systems with scheduled passenger traffic	546
2. Air traffic control towers	659
3. Airport development eligible under airport improvement program for period 2001–2005	\$46.2 billion (2001 dollars)

Mass Transportation Systems

1. Yearly cost to maintain condition and performance of rail facilities over a period of 20 years	\$9.7 billion (2000 dollars)
2. Yearly cost to replace and maintain the urban, rural, and special services bus fleet and facilities	\$5.2 billion (2000 dollars)

Wastewater Treatment

1. Total remaining needs of sewage treatment facilities	\$128 billion (1996 dollars)
2. Estimated level of remaining need not covered by State and local receipts and spending for clean water infrastructure assuming 3 percent annual growth	\$21 billion (2001 dollars)
3. Total Federal expenditures under the Clean Water Act of 1972 through 2001	\$80 billion
4. The population served by centralized treatment facilities: percentage that benefits from at least secondary sewage treatment systems	99 percent
5. States and territories served by State Revolving Funds	51

Housing

1. Total unsubsidized very low income renter households with worst case needs (4.9 million*)	
A. In severely substandard units	0.5 million
B. With a rent burden greater than 50 percent	4.6 million

*The total is less than the sum because some renter families have both problems.

Indian Health Service (IHS) Health Care Facilities

1. IHS hospital occupancy rates (2002)	37.3 percent
2. Average length of stay, IHS hospitals (days) (2002)	3.9
3. Hospital admissions (2002)	60,311
4. Outpatient visits (2002)	8,159,116
5. Eligible population (2002)	1,568,510

Department of Veterans Affairs (VA) Hospitals (2003)

1. Medical Centers	163
2. Outpatient clinics	848
3. Domiciliaries	43
4. Vet centers	206
5. Nursing homes	137

Water Resources

Water resources projects include navigation (deepwater ports and inland waterways); flood and storm damage protection; irrigation; hydro-power; municipal and industrial water supply; recreation; fish and wildlife mitigation, enhancement, and restoration; and soil conservation.

Potential water resources investment needs typically consist of the set of projects that pass both a benefit-cost test for economic feasibility and a test for environmental acceptability. In the case of fish and wildlife mitigation or restoration projects, the set of eligible projects includes those that pass a cost-effectiveness test.

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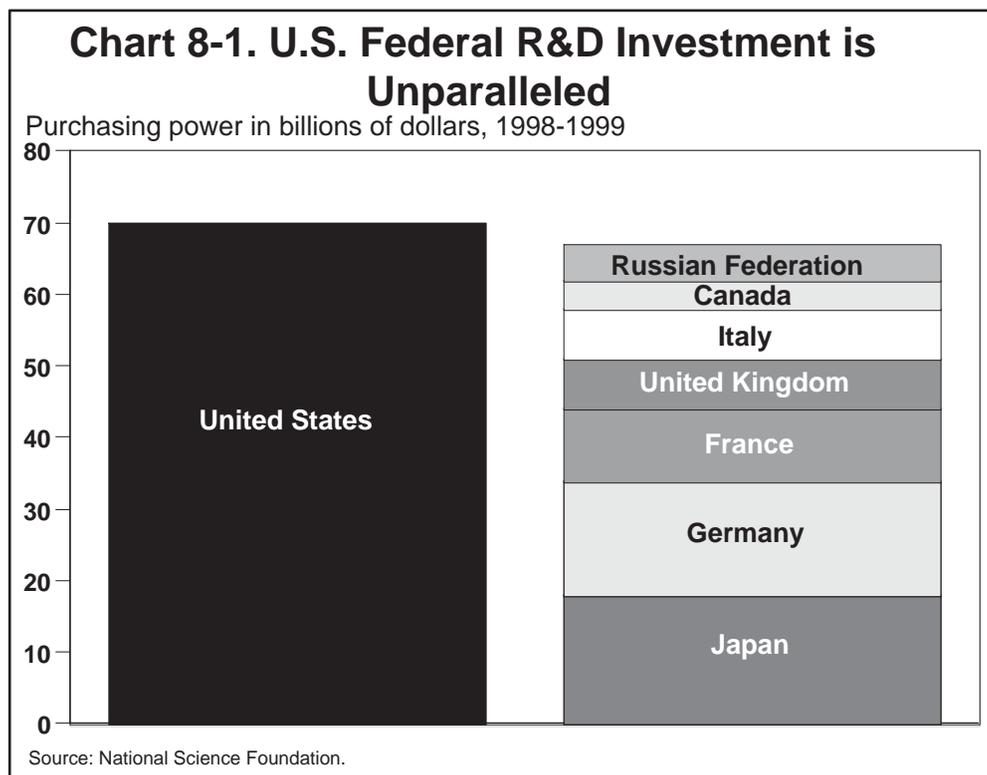
8. RESEARCH AND DEVELOPMENT

I. Introduction

Author Jean-Paul Kauffmann has observed, “The economy depends about as much on economists as the weather does on weather forecasters.” The same cannot be said of those who perform scientific and technological research. Scientific discovery and technological innovation generate countless advancements in our understanding of the world around us. They improve the quality of life. Science and technology have generated much of the nation’s economic growth over the last 50 years. These advances have been possible only

through both public and private investment in research and development (R&D).

The R&D investment of the United States is unparalleled. Not only does the U.S. continue to lead the world in government-supported R&D spending, but U.S. federal R&D expenditures exceed those of the rest of the G-8 countries’ governments combined, as the most recent data indicate in the accompanying figure.



The nation’s investments in innovation and discovery are also vital to strengthening our capabilities to combat terrorism and defend our country. The President’s 2004 Budget focuses on winning the war against terrorism, while moderating the growth in overall spending. These priorities have affected the way R&D is being funded and directed, as well as the way the results of R&D are being used. Within the federal government’s research portfolio, agencies are directing many of their programs to assist in the defense effort, some

of which are being transferred to the Department of Homeland Security (DHS). Investments today in R&D will translate into tomorrow’s capabilities for detecting threats to our security, defending ourselves against them, and responding to emergencies should they arise.

The 2004 Budget provides the highest level of federal funding for R&D in history, but the focus should not be on how much we are spending, but rather on what we are getting for our investment. We must redouble our efforts to meet the President’s charge to improve

the management, performance, and results of the federal government. By strengthening effective programs and addressing lower performers through reforms or shifting funds to higher performers, we will increase the productivity of the federal R&D portfolio and transcend the all-too-common focus on year-to-year marginal increases or decreases. Additionally, while it can be difficult to assess the outcomes of some research programs—many of which may not have a measurable effect for decades—agencies can establish meaningful program goals and measure annual progress and performance in appropriate ways. Toward that end, the Administration is continuing to implement and improve investment criteria for R&D programs across the government. Finally, the government will coordinate inter-related and complementary R&D efforts among agencies, combining programs where appropriate to improve effectiveness and eliminate redundancy, to leverage these resources to the greatest effect.

The federal government has multiple roles in achieving these goals. The government should be strong in its support of basic research, which by definition is directed toward greater understanding of fundamental phenomena without specific applications in mind. Basic research is the source of tomorrow's discoveries and new capabilities, and this long-term research will fuel

further gains in economic productivity, quality of life, and national security. The government should also support applied research, which is defined as research meant to address specific needs, and development, which applies scientific knowledge and technology to specific needs. Together, this R&D is critical to the missions of the federal agencies, particularly in priority areas that private sources are not motivated to support. If the private sector cannot profit from the development of a particular technology, federal funding may be appropriate if the technology in question addresses a national priority or otherwise provides broad societal benefits. Finally, the federal government should help stimulate private investment and provide the proper incentives for private sources to continue to fuel the discovery and innovation of tomorrow. The Administration proposes to do this, for instance, by permanently extending the Research and Experimentation tax credit.

This chapter discusses how the Administration will improve the performance of R&D programs through new investment principles and other means that encourage and reinforce quality research. The chapter also highlights the priority areas proposed for R&D agencies and the coordinated efforts among them. The chapter concludes with details of R&D funding across the federal government.

II. Improving Performance of R&D Programs

R&D is critically important for keeping our nation economically competitive. It will help solve the challenges we face in health, defense, energy, and the environment. As a result, and consistent with the Government Performance and Results Act, every federal R&D dollar must be invested as effectively as possible.

R&D Investment Criteria

The Administration is improving the effectiveness of the federal government's investments in R&D by applying transparent investment criteria and considering the expected results of program funding recommendations. R&D—especially basic research—requires special consideration in the context of performance assessment. Rocket pioneer Werner von Braun once explained, "Basic research is what I'm doing when I don't know what I'm doing." Research often leads scientists and engineers down unpredictable pathways with unpredictable results. This poses a difficult problem for determining research priorities in a budget. Adopting ideas first laid out by the National Academy of Sciences, the Administration is improving methods for how to set priorities based on expected results, including applying specific criteria that programs or projects must meet to be started or continued, clear milestones for gauging progress, and improved metrics for assessing results.

As announced in the President's Management Agenda, the investment criteria were first applied in 2001 to selected R&D programs at the Department of Energy (DOE). Through the lessons learned from that DOE pilot, this year the criteria were broadened in scope to cover other types of R&D programs at DOE and other agencies.

To accommodate the scope of a wide range of R&D activities ranging from basic research to development and demonstration programs, a new framework was devised for the criteria to address three fundamental aspects of R&D:

- *Relevance*—Programs must be able to articulate why investments are important, relevant, and appropriate;
- *Quality*—Programs must justify how funds will be allocated to ensure quality; and
- *Performance*—Programs must be able to monitor and document how well the investments are performing.

In addition, R&D projects and programs relevant to industry are expected to meet additional criteria to determine the appropriateness of the public investment, enable comparisons of proposed and demonstrated benefits, and provide meaningful decision points for completing or transitioning the activity to the private sector.

Broader Application of the R&D Investment Criteria. This was the first year of implementation of the investment criteria for most R&D agencies. The National Aeronautics and Space Administration is recasting its strategic plans and budget to tie directly to the R&D criteria. To reflect the criteria, the National Science Foundation is changing the way it characterizes its budget, as well as the guidelines it uses to evaluate its research. The National Institutes of Health have dramatically, revised their research performance goals to be both clearer and more ambitious. Several agencies' R&D programs were assessed using a Program Assessment Rating Tool (PART) that was based on the R&D criteria (see the Performance and Management Assessments volume of the budget for more details). The R&D agencies have more work to do to integrate the R&D criteria more meaningfully into their management processes and budget decisions.

The Administration has been studying management strategies for R&D that some agencies use to promote particularly effective programs. The Office of Management and Budget (OMB) and the Office of Science and Technology Policy (OSTP) are continuing to assess the strengths and weaknesses of R&D programs across agencies, in order to identify and apply good R&D management practices throughout the government. For example, some agencies have a more deliberate project-prioritization process, while other agencies have more experience estimating the returns of R&D and assessing the impact of prior investments. Assessing and implementing new approaches is an iterative process, involving the research agencies and the science and technology community.

As the investment criteria are implemented more broadly and more deeply, one theme that occurs again and again is the importance of coordination and partnerships. First, partnerships are relevant to the question of the proper federal role. These include partnerships with industry (such as DOE's coal and FreedomCAR R&D initiatives), partnerships with other countries (such as for the International Thermonuclear Experimental Reactor initiative for fusion energy), and partnerships with university researchers. In a different sense, partnerships and coordination across agencies can make the use of research resources more efficient and effective. The themes of coordination and partnerships will be pursued more explicitly in further implementation of the investment criteria.

Year Two in DOE Implementation of the Criteria. DOE used the criteria to evaluate 80 applied research projects and programs, and the results of these evaluations guided the budget's allocation of funds among programs. In some cases, the evaluation resulted in shifting funding from activities supporting technologies that are near commercialization, such as clean coal demonstration projects, to long-term, high-risk R&D, such as research on revolutionary new ways to store large amounts of hydrogen in a small space, which will help advance the introduction of fuel cell vehicles.

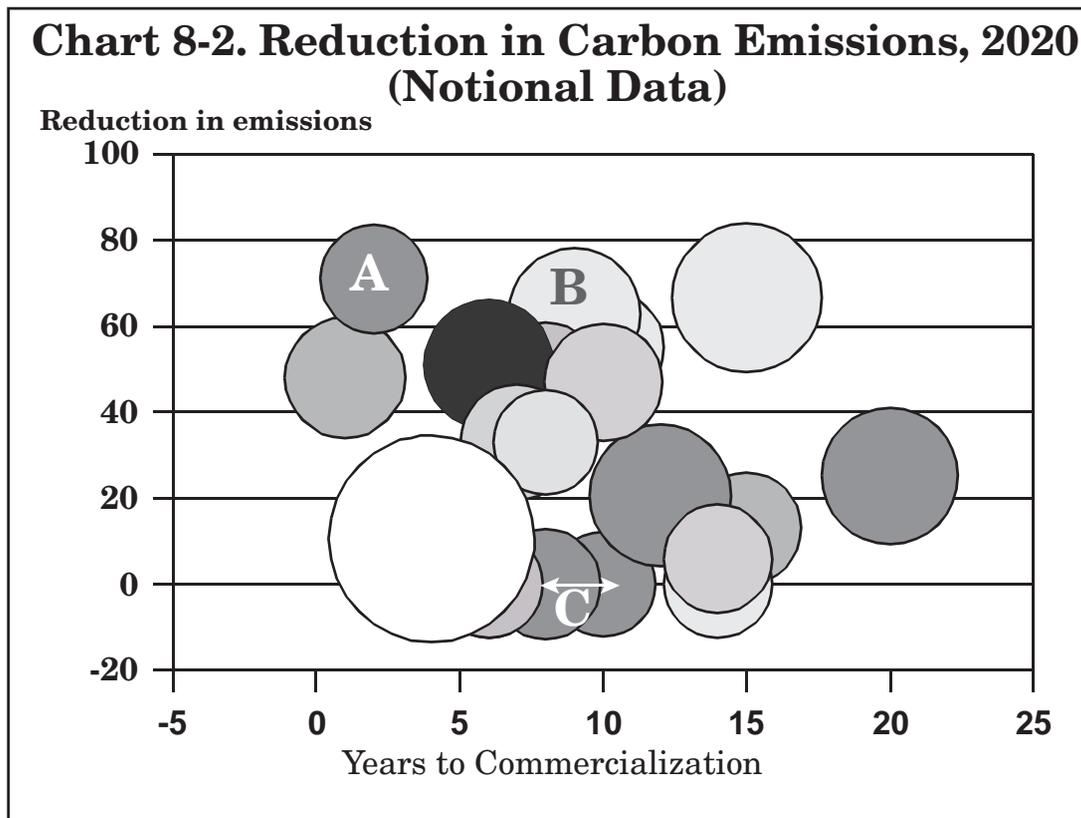
Application of the criteria in DOE programs also led to recommendations to terminate or redirect funding from some activities, either because the case for federal participation was weak or other higher-priority research activities could use these funds more effectively. For example, the budget proposes to significantly reduce funding for the Advanced Petroleum-Based Fuel program, which was determined to supplant private investments that would otherwise be made to achieve the clean air requirements of EPA's regulation.

DOE has started to use the results of the R&D investment criteria to help analyze its portfolio of investments on the basis of the potential public benefits.

For example, the accompanying "bubble chart" illustrates notionally how programs might be compared on their potential ability to reduce future carbon emissions. The chart compares program benefits (left axis) with the years until the technology is expected to be in the marketplace (bottom axis) and the anticipated budget cost (bubble size, where each bubble represents a different program). This approach would help to ana-

lyze whether investments are balanced across time and type of benefits, as well as sensitive to alternative future scenarios (for example, high or low oil prices).

The justification for federal R&D spending is generally greatest where public benefits are the largest, and motivation for private industry to do the research is lowest. For instance, short research horizons in the private sector may postpone or preclude longer-term research with large public benefits.



In this example, two programs (marked “A” and “B”) are expected to deliver about the same benefit, but program “A” will likely enter the market first. However, program “A,” given its near-term nature, may not need federal support to achieve the benefits and might be better left to the private sector.

Analyses like this can be used for many aspects of programs, including cost sharing and federal role. For example, the programs labeled “C” in the chart are not expected to deliver significant carbon-emissions reductions, but may score well on some other type of benefit, such as energy-security benefits.

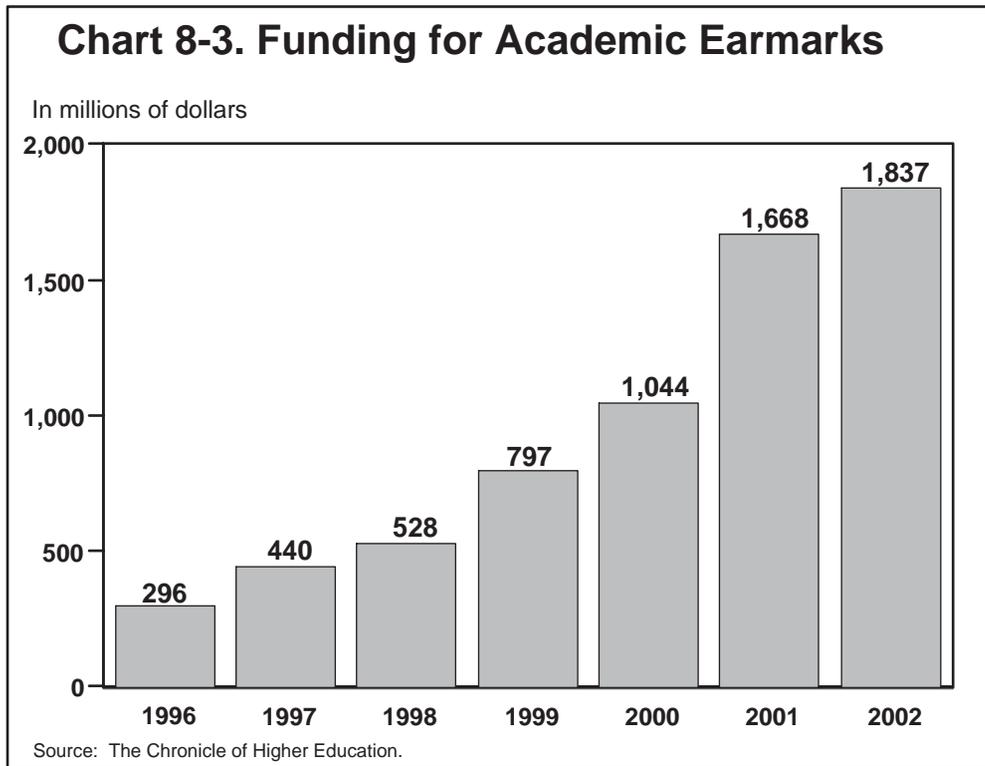
Attempts to analyze such data for the Department’s applied R&D programs have illustrated the need for consistent methods of analysis, including ways to present benefits estimates that make comparisons meaningful. DOE is working to improve the consistency and quality of its data.

OMB will continue to work with the R&D agencies and others to integrate the R&D criteria more meaningfully into the budget formulation process in the coming

year. Based on lessons learned and other feedback from experts and stakeholders, the Administration will continue to improve the R&D investment criteria and their implementation, towards more effective management of R&D programs and better-informed budget allocation decisions across the R&D agencies.

Research Earmarks

The Administration supports awarding research funds based on merit review through a competitive process. Such a system ensures that the best research is supported. Research earmarks—in general the assignment of money during the legislative process for use only by a specific organization or project—are counter to a merit-based competitive selection process. The use of earmarks signals to potential investigators that there is an alternative to creating quality research proposals for merit-based consideration, including the use of political influence or by appealing to parochial interests.



Moreover, the practice of earmarking funds directly to colleges and universities for specific research projects has expanded dramatically in recent years. Despite broad-based support for merit review, earmarks for specific projects at colleges and universities have yet again broken prior records. According to *The Chronicle of Higher Education*, academic earmarks have steadily increased from a level of \$296 million in 1996 to over \$1.8 billion in 2002. These funds represent an increasing share of the total federal funding to colleges and universities, which increasingly displaces competitive research, awarded by merit. For example, in 1996, academic earmarks accounted for 2.5 percent of all federal funding to colleges and universities. By 2001, the earmarked share of federal academic funding had increased to a high of 9.4 percent.

Some argue that earmarks help spread the research money to states that would receive less research funding through other means. However, *The Chronicle of Higher Education* reports that this is not the main role they play. In 1999, for example, only a small share of academic earmark funding went to the states with the smallest shares of federal research funds. Meanwhile, earmarks help some rich institutions become richer. In 1999, 13 of the 25 institutions receiving the most earmarks were also members of the top 100 for total research funds.

Some proponents of earmarking assert that earmarks provide a means of funding unique projects that would not be recognized by the conventional peer-review process. On the contrary, a number of agencies have procedures and programs to reward out-of-the-box thinking in the research they award. For example, within the Department of Defense (DOD), the Defense Advanced Research Projects Agency seeks out high risk, high payoff scientific proposals, and program managers at the National Science Foundation (NSF) set aside a share of funding for higher-risk projects in which they see high potential.

Many earmarks have little to do with an agency's mission. For example, the Congress earmarked DOD's 2003 budget to fund research on a wide range of diseases, including breast cancer, ovarian cancer, prostate cancer, diabetes, leukemia, and polio recovery. Funding at DOD for increases to medical research projects over two-thirds of a billion dollars in this year alone. While research on these diseases is very important, it is generally not unique to the U.S. military and can be better carried out and coordinated within civil medical research agencies, without disruption to the military mission.

The Administration will continue to work with academic organizations, colleges and universities, and the Congress to discourage the practice of research earmarks and to achieve our common objectives.

III. PRIORITIES FOR FEDERAL RESEARCH AND DEVELOPMENT

The 2004 Budget requests record levels for federal R&D (\$122.7 billion, a seven-percent increase, as shown in Table 8–2). This request for federal R&D funding is over 60 percent greater than the request of just five years ago. The 2004 Budget includes an emphasis on basic research, increasing basic research funding across the agencies by \$1.2 billion (or 5 percent) over the already impressive levels requested for 2003.

In a 1995 report from the National Academy of Sciences, the scientific community proposed a “Federal Science and Technology” (FS&T) budget to highlight the creation of new knowledge and technologies more

consistently and accurately than the traditional R&D data collection. Also, because the FS&T budget emphasizes research, funding for defense development, testing, and evaluation is absent. FS&T is readily tracked through the budget and appropriations process, so the effects of budget decisions are clear more immediately. As shown in Table 8–3, the 2004 Budget requests \$58.9 billion for FS&T (a two-percent increase over the 2003 request). The resulting FS&T budget is less than half of the total federal spending on R&D, though FS&T also includes some funding that is not R&D.

Fueling Our Future. Hydrogen-powered fuel cell vehicles have the potential to provide energy diversity, fuel economy, and environmental benefits. Since hydrogen can be manufactured from a number of domestic fossil (natural gas and coal), nuclear, and renewable resources, it offers the potential for eventual “freedom” from the nation’s near-exclusive reliance on petroleum for transportation. The budget’s FreedomCAR (Cooperative Automotive Research) and FreedomFuel research initiatives will address the difficult technical and cost challenges faced in commercialization of fuel cell vehicles. The budget proposes to spend over \$1.5 billion on FreedomCAR and FreedomFuel over the next five years, including more than doubling DOE’s spending on hydrogen research and development in 2004. This funding will accelerate achieving the national energy security and environmental benefits from widespread use of hydrogen vehicles.

The President’s Budget strengthens the nation’s investment in the physical sciences. Research in the physical sciences not only leads to a better understanding of the universe but also spurs progress in a host of areas including microelectronics, information technologies, communications, defense technologies, energy, agriculture, and the environment. Physical sciences research provides education and training opportunities vital for a technologically advanced society. Modern health science uses sophisticated approaches that are increasingly reliant on the physical sciences and associated analytical tools. For instance, the development of magnetic resonance imaging (MRI), among the 20th century’s greatest advances in medical diagnosis, depended heavily on advanced concepts from physics. Only with renewed support of research and equipment for fields such as physics, chemistry, and materials science will the nation be able to take full advantage of recent major investments in the health sciences and spur progress in other areas.

To these ends, the 2004 Budget provides NSF with a 13-percent increase in physical science investments. In addition, DOE’s Office of Science will almost double its investment in new nanoscale science research centers while maximizing the operation of the Department’s existing suite of national scientific user facilities. Two new NASA space telescope programs, the Laser Interferometer Space Antenna (LISA) and Constellation-X, will address fundamental questions about the nature of gravity and high-energy physics in space. The changing nature of science has opened significant opportunities for fundamental discovery at the intersec-

tion of physics and astronomy that require the Administration to set priorities and increase interagency coordination. This year, under the auspices of the National Science and Technology Council (NSTC), these and other agencies will work with OSTP to develop a plan for coordination in this area.

Over the past year, OSTP and OMB have worked with the federal agencies and the science community to identify top priorities for federal R&D. Some are in areas critical to the nation, such as information technologies. Some are in emerging fields, such as nanotechnology, that will provide new breakthroughs across many fields. Others, such as anti-terrorism R&D, address newly recognized needs. The discussion below identifies four multi-agency priority areas, followed by highlights of agency-specific R&D priorities.

Multi-Agency R&D Priorities

The 2004 Budget targets investments in important research that benefits from improved coordination across multiple agencies. Two of these multi-agency initiatives—nanotechnology and information technology R&D—have separate coordination offices to ensure coordinated strategic planning and implementation. The Administration is in the process of forming new organizations and strengthening interagency coordination for two other priority areas—combating terrorism and climate change R&D. The Administration will continue to analyze other areas of critical need that could benefit in the future from improved focus and coordination among agencies.

Combating Terrorism R&D: The nation's advantage in scientific R&D is being harnessed to help prevent future terrorist activities, minimize our nation's vulnerability to terrorist acts, and respond and recover if an attack should occur. Combating terrorism R&D applications span a wide range, including:

- providing tactical warning and assessment of a biological attack;
- developing gear for first responders;
- enabling the most effective use of the wealth of information collected by the intelligence community;
- developing means to assess the efficacy of proposed protective measures;
- determining the vulnerabilities in the nation's critical infrastructure; and
- preventing the importing of a nuclear weapon or special nuclear material.

Research is focused on areas with the potential to dramatically enhance our capabilities for detecting the presence of, and responding to, nuclear, biological, chemical, radiological, and conventional explosive threats in air, sea, rail, and road transport, both within and beyond our borders. Other priority areas include advances in information technology to identify anomalies that might indicate terrorist intent on the part of individuals or groups of individuals, and the development of better biometric techniques for verifying or determining terrorist identity.

The NSTC's Committee on Homeland and National Security will work with the Office of Homeland Security, the National Security Council, and the new Department of Homeland Security to identify priorities for and facilitate planning among federal departments and agencies involved in homeland or national security R&D. The coordinated federal effort will emphasize: strategies to combat weapons of mass destruction; radiological and nuclear countermeasures; biological agent detection, diagnostics, therapeutics, and forensics; information analysis; social, behavioral, and educational aspects of combating terrorism; border entry/exit technologies; and linkages to other countries' information systems to permit tracking of large-scale health phenomena.

Networking and Information Technology R&D: The budget provides \$2.2 billion (a six-percent increase) for the multi-agency Networking and Information Technology Research and Development Program (NITRD). By coordinating key advanced information technology research efforts, the NITRD agencies leverage resources to make broader advances in computing and networking than a single agency could attain. For example, the NITRD agencies develop and deploy computing platforms and software that perform over a trillion computing operations per second, to support advanced federal research in the biomedical sciences, earth and space sciences, physics, materials science and engineering, and related scientific fields. Accomplishments include: development of end-to-end optical fiber networking, providing vast improvements in bandwidth

and network security for research and commercial applications; new technologies enabling cluster, or "grid," computing, providing for the first time access to high-performance computation for scientific researchers nationwide; technologies for network security protection such as intrusion detection and risk and vulnerability analyses; and technologies for archiving, managing, and using large-scale information repositories, or "digital libraries." In 2004, research emphases include network "trust" (security, reliability, and privacy); high-assurance software and systems; micro- and embedded sensor technologies; revolutionary architectures to reduce the cost, size, and power requirements of high end computing platforms; and social and economic impacts of information technology.

Due to its impact on a wide range of federal agency missions ranging from national security and defense to basic science, high end computing—or supercomputing—capability is becoming increasingly critical. Through the course of 2003, agencies involved in developing or using high end computing will be engaged in planning activities to guide future investments in this area, coordinated through the NSTC. The activities will include the development of an interagency R&D roadmap for high-end computing core technologies, a federal high-end computing capacity and accessibility improvement plan, and a discussion of issues (along with recommendations where applicable) relating to federal procurement of high-end computing systems. The knowledge gained from this process will be used to guide future investments in this area. Research and software to support high end computing will provide a foundation for future federal R&D by improving the effectiveness of core technologies on which next-generation high-end computing systems will rely.

Nanotechnology R&D: The budget provides \$792 million for the multi-agency National Nanotechnology Initiative (NNI), a seven-percent increase over 2003. The initiative focuses on long-term research on the manipulation of matter down to the atomic and molecular levels, giving us unprecedented building blocks for new classes of devices as small as molecules and machines as small as human cells. This research could lead to continued improvement in electronics for information technology; higher-performance, lower-maintenance materials for defense, transportation, space, and environmental applications; revolutionary advances in energy conversion and storage technologies; and accelerated biotechnical applications in medicine, healthcare, and agriculture. In 2004, the initiative will continue to focus on fundamental nanoscale research through investments in investigator-led activities, centers and networks of excellence, as well as the supporting infrastructure. Priority areas include:

- research to enable efficient nanoscale manufacturing; novel instrumentation for nanoscale measurements;
- nano-biological systems for medical advances and new products;

- innovative nanotechnology solutions for detection of and protection from biological-chemical-radio-logical-explosive agents;
- the education and training of a new generation of workers for future industries; and
- partnerships and other policies to enhance industrial participation in the nanotechnology revolution.

The convergence of nanotechnology with information technology, modern biology and social sciences will rein-vigorate discoveries and innovation in many areas of the economy.

A recent report of the National Research Council (NRC) underscored the importance of nanoscale science and engineering research and praised the NNI for its role in coordinating interagency nanotechnology funding. In response to the recommendations in the report, an external advisory board will provide advice aimed at strengthening the NNI. The President's Council of Advisors for Science and Technology (PCAST), with expertise relevant to nanotechnology or the management of large-scale, multidisciplinary R&D programs, will conduct this external review. PCAST will be tasked with articulating a strategic plan for the program, defining specific grand challenges to guide the program and identifying metrics for measuring progress toward those grand challenges. PCAST will undertake this effort immediately, and it will advise the federal nanotechnology R&D effort on a continuing basis.

Climate Change R&D: In February 2002 President Bush announced the formation of a new management structure, the Climate Change Science Program (CCSP), to coordinate and oversee ongoing work in the US Global Change Research Program (USGCRP) and the Climate Change Research Initiative (CCRI), launched by the President in June 2001. The CCSP includes participation from 13 federal agencies with a combined budget of approximately \$1.7 billion for climate change research.

The CCRI component of the program focuses on reducing significant uncertainties in climate science, improving global climate observing systems, and developing resources to support policymaking and resource management. To meet these goals, the 2004 Budget includes \$182 million for government-wide CCRI activities, an increase of \$142 million, which support the following three priority areas: (1) key climate change science efforts in ongoing USGCRP activities; (2) climate quality observations, monitoring, and data management; and (3) climate modeling and other tools to inform decision-makers.

The budget also continues significant funding for climate change technology R&D, which is coordinated through the Climate Change Technology Program (CCTP) as part of the President's National Climate Change Technology Initiative (NCCTI). The CCTP is creating an inventory of climate change technology R&D and will recommend priority programs to help meet the President's near-term goal of an 18-percent reduction in energy intensity by 2012, as well as to

help address the long-term climate change challenge. One priority program and a key component of the President's initiative is the NCCTI Competitive Solicitation program, which competitively awards funds based on a technology's potential to reduce, avoid, or sequester emissions of greenhouse gases. The budget provides \$40 million for this innovative program.

Education R&D: The Administration continues to support research that enables the successful development and implementation of research-based programs and practices called for in the No Child Left Behind Act of 2002, including: (1) comparative trials of pre-school curricula, research on developing the English literacy or Spanish speaking students, research on effective mathematics education, and research on social and character development; and, (2) efforts to address fundamental gaps in research knowledge in reading comprehension, cognition and learning in the classroom, teacher quality, knowledge utilization, and proficiency in algebra. This education R&D agenda builds upon the ongoing efforts of the Interagency Education Research Initiative (IERI) being carried out in partnership by the National Science Foundation (\$25 million in 2004), the Department of Education (\$20 million in 2004), and the National Institute of Child Health and Human Development (\$5 million in 2004), as well as the research programs of the individual agencies.

The President's goal of improving the quality of math and science education in Grades K-12 continues to be pursued through the Math and Science Partnerships (MSP) Initiative, which supports school districts to form partnerships with institutions of higher education, allowing scientists and engineers to be part of the solution in improving student math and science achievement. The budget provides \$200 million for this initiative at the National Science Foundation and \$12.5 million at the Department of Education.

Agency R&D Highlights

Each federal agency conducts R&D in the context of that agency's unique mission, structure, and statutory requirements. Below are highlights of key programs in selected agencies in the 2004 Budget. Table 8-3 shows the FS&T budget. As shown in Table 8-2, these programs and those of other agencies are part of the larger federal R&D portfolio.

National Institutes of Health (NIH): The 2004 Budget provides \$27.9 billion for NIH.

- The Administration has demonstrated its strong commitment to biomedical research by completing a five-year doubling of the NIH budget.
- NIH continues to play a key role in addressing pressing health research issues, such as access to state-of-the-art instrumentation and biomedical technologies; development of specialized animal and non-animal research models; and emphasis on "smart" network-connected technologies, computer-aided drug design, gene and molecular ther-

apy development, and bioengineering approaches to decreased health care costs.

- In addition, the NIH budget continues support for biodefense research by providing \$1.6 billion for NIH to accelerate clinical trials; target the development of new therapeutic and vaccine products for agents of bioterrorism; and establish regional Centers of Excellence in Biodefense and Emerging Infectious Diseases.

National Aeronautics and Space Administration (NASA): The 2004 Budget provides \$9.2 billion for FS&T programs at NASA, a five-percent increase over the 2003 request.

- The 2004 Budget restructures NASA's programs to fit into a new agency vision and mission that emphasize R&D that only NASA can do, which includes reducing or terminating programs that are low priority or are not central to the agency's mission.
- The budget provides \$90 million (\$2 billion over five years) for the development of the Jupiter Icy Moons Orbiter, the first nuclear-electric space mission. This mission is important in the ongoing search for life beyond Earth, and it will also help prove new power and propulsion technologies for future NASA missions.
- NASA will begin a Human Research Initiative (\$37 million), which will provide the research and experience to understand and address health and logistical challenges posed by the hazardous environment of space.
- The budget provides \$1.1 billion for investments in future launch systems.
- The budget initiates the next generation of Earth Observing System satellites that are a significant part of the Climate Change Science Program.
- A PART assessment found the Mars Exploration Program to be effective, but the program should improve its long-term measures of program results.

National Science Foundation (NSF): To further promote research and education across the fields of science and engineering, the 2004 Budget provides \$5.5 billion for NSF (a nine-percent increase over the 2003 request).

- The budget provides a 13-percent increase (or a \$100 million boost) for NSF programs that emphasize the physical sciences, such as awards for individual researchers and centers in physics, chemistry, and astrophysics research. This represents a 35-percent increase (\$219 million) over funding levels of five years ago.
- The budget provides: \$656 million for NSF's lead role in NITRD, focusing on long-term computer science research and applications; \$221 million for NSF's lead role in the National Nanotechnology Initiative; and \$213 million for climate change research.

- To enhance science infrastructure capabilities, the 2004 Budget continues construction of the international Atacama Large Millimeter Array telescope in Chile, the EarthScope projects for investigating features and processes beneath the North American continent, and IceCube, a South Pole facility for detecting neutrinos.
- The budget provides \$200 million for the President's Math and Science Partnership program, to improve the quality of math and science education in Grades K-12. The budget also aims to further attract the most promising U.S. students into graduate level science and engineering by increasing graduate stipends to \$30,000 annually, compared with \$18,000 in 2001.
- PART assessments were conducted on two NSF programs, Tools and Geosciences, which were found to be effective and moderately effective, respectively.

Department of Energy (DOE): The 2004 Budget provides \$5.2 billion for FS&T at DOE, a three-percent increase from 2003.

- DOE will begin a major new initiative to accelerate the worldwide availability and affordability of hydrogen-powered fuel cell vehicles. The new FreedomFuel initiative will focus on research to advance hydrogen production, storage, and infrastructure. It complements the FreedomCAR program announced last year, which is aimed at developing viable hydrogen fuel cell vehicle technology.
- The 2004 Budget provides \$3.3 billion for the Office of Science, including funding to ensure its continuing leadership in physical science research and its unique research in genomics, climate change, and supercomputing.
- The budget dedicates \$320.5 million to the President's Coal Research Initiative on clean coal technologies, including \$62 million for carbon sequestration research on ways to economically dispose of greenhouse gases or otherwise isolate them from the environment.
- DOE will continue its emphasis on R&D to improve energy efficiency and reliability in buildings, industry, and the federal government (\$549 million) and on R&D to reduce the cost of renewable energy technologies, such as wind, solar, geothermal, and biomass (\$444 million in 2004, a nine-percent increase).
- The budget provides \$10 million for Generation IV Nuclear Energy Systems Initiative and \$63 million for the Advanced Fuel Cycle Initiative to develop innovative, next-generation nuclear reactor and fuel cycle technologies that are sustainable, proliferation-resistant, and economical.
- This year, DOE assessed all of its major basic science programs using the PART and evaluated 80 individual applied research projects and programs through the R&D investment criteria. The Department will work to improve its measures of

performance and how it estimates the benefits of its R&D.

Department of Defense (DOD): DOD funds a wide range of R&D to ensure that our military forces have the tools to protect the nation's security. DOD's 2004 budget includes \$5.0 billion that appears in the FS&T budget.

- The 2004 Budget funds "Science and Technology" programs to explore and develop technical options for new defense systems and to avoid being surprised by new technologies in the hands of adversaries. Areas of emphasis include computing and communications, sensors, nanotechnology, and hypersonic propulsion systems. DOD's S&T includes the basic and applied research counted in FS&T, plus advanced technology development.
- The Missile Defense Agency continues to develop technologies for intercepting ballistic missiles in multiple phases of flight. The budget provides funding for missile defense R&D, which includes new efforts for high-speed, boost-phase interceptors, sea-based radars, directed energy technology and advanced battle management systems.
- The Army continues development efforts in support of the Future Combat System as a major part of its transformation to a lighter, more mobile, and more effective fighting force.
- Development continues on the Joint Strike Fighter, the next generation affordable multi-role fighter aircraft, which will use innovative technologies to keep costs low.
- R&D to address terrorist and other unconventional threats continues to be a high priority. Systems and technologies under development to address defense against chemical or biological agents include: improved detectors of chemical and biological threats; troop protective gear for use under chemical and biological attack that is both more effective and more comfortable; and vaccines to protect against biological agents.

Department of Agriculture (USDA): The 2004 Budget provides \$1.8 billion, a one-half percent increase, for FS&T at the Department of Agriculture.

- The budget includes increases above the 2003 Budget for in-house research for high priority needs as follows: counter-terrorism and emerging and exotic diseases (\$8 million increase), genomics (\$8 million increase), and cybersecurity (\$2 million increase).
- The 2004 Budget includes \$5 million in funding for new priority Forest Service research on biobased products, bioenergy, Sudden Oak Death (SOD), and to accelerate research on rapid management response for invasive species.
- A portion of funding associated with the Plum Island Animal Disease Center (PIADC) is included in the budget for the Department of Homeland Security.

Department of the Interior (DOI): Within the Department of the Interior, the 2004 Budget provides \$896 million for the United States Geological Survey (USGS), a three-percent increase.

- The budget provides an increase of \$4.1 million to support site specific research to focus eradication efforts against established invasive species, and to initiate development of an invasive species national early detection network.
- An additional \$3 million will enhance the ability of scientists, state and local governments, and citizens to integrate and apply geospatial data and remote sensing imagery.
- \$200 million for water quality and quantity information includes support for 7,200 streamgages, with data available on the web for 80 percent of the streamgages, and continues study on 42 sites for the National Water Quality Assessment program.
- \$5 million will support data integration to inform decisions related to: using water and mineral resources; planning for transportation and utility infrastructure; and reducing the costs of geologic hazards throughout the nation.
- A PART assessment of the National Mapping Program found that the program has a clear purpose and is designed to have a unique impact, but the program is not optimally designed. USGS is working to address these concerns through program evaluation, workforce planning and future business practices.

Department of Commerce (DOC): The 2004 Budget provides \$851 million for FS&T at the Department of Commerce.

- For the National Institute of Standards and Technology (NIST), the budget provides \$457 million for research and physical improvements at NIST's Measurement and Standards Laboratories. The budget also supports NIST facilities, including equipment for the Advanced Measurement Laboratory in Maryland and renovations of facilities in Boulder, Colorado.
- The 2004 Budget terminates the Advanced Technology Program (ATP), requesting \$27 million for administrative and termination costs. ATP is intended to fund the development and dissemination of high-risk technologies through cost-shared grants to companies. The Administration believes that other federal R&D programs have a clearer federal role and are of higher priority. Large shares of ATP funding have gone to major corporations, and projects often have been similar to those being carried out by firms not receiving such subsidies. The Administration previously proposed legislative reforms to ATP to help address these concerns, but these have not been enacted.
- For the National Oceanic and Atmospheric Administration (NOAA) the 2004 Budget provides \$367 million, an increase of \$76 million (26 percent),

to improve understanding of climate change, weather, air quality, and ocean processes.

- Within this funding level, the budget provides \$57 million for the National Sea Grant College Program. The recently passed Sea Grant reauthorization takes initial steps to increase the focus on competition within this program. The Administration will continue to work with NOAA to further increase the percentage of funding awarded through merit-based competition.

Department of Veterans Affairs (VA): The 2004 Budget provides \$822 million for FS&T at the Department of Veterans Affairs, an increase of 3.4 percent. In addition, the Department receives significant funding from other governmental agencies and private entities to support VA-conducted research, which brings the total VA R&D to \$1.8 billion.

- The 2004 Budget funds clinical, epidemiological, and behavioral studies across a broad spectrum of medical research disciplines.
- Among the agency's top research priorities are improving the translation of research results into patient care, special populations (those afflicted with spinal cord injury, visual and hearing impairments, and serious mental illness), geriatrics, diseases of the brain (e.g., Alzheimer's and Parkinson's disease), treatment of chronic progressive multiple sclerosis, and chronic disease management.

Environmental Protection Agency (EPA): The budget provides \$776 million for FS&T for the Environmental Protection Agency to ensure that its efforts to safeguard human health and the environment are based upon the best available scientific and technical information.

- EPA has appointed an Agency Science Advisor to improve environmental science integration and coordination at EPA.
- The President's Budget provides \$6.5 million to improve the validity of existing and proposed chemical testing programs through computational toxicology research, which integrates modern computing with advances in genomics to develop alternatives to traditional animal testing approaches.
- In support of the President's Management Agenda, the Agency will use the R&D Investment Criteria to improve R&D program management and effectiveness and demonstrate performance.
- EPA will continue to improve its risk assessment capabilities, methodologies, and management.

Department of Transportation (DOT): The 2004 Budget provides \$606 million for FS&T at the Department of Transportation, an increase of 11 percent.

- The Federal Highway Administration (\$404 million in 2004) supports research, technology, and education to improve the quality and safety of the nation's transportation infrastructure, such as increasing the quality and longevity of roadways,

identifying safety improvements, and promoting congestion mitigation through the use of Intelligent Transportation Systems.

- The budget of the National Highway Traffic Safety Administration provides \$95 million (an increase from 2003 of \$14 million) for R&D in crash worthiness, crash avoidance, and data analysis to help reduce highway fatalities and injuries. The budget also includes funding for a crash causation survey.
- In 2004, R&D at the Federal Motor Carrier Safety Administration focuses on issues including driver safety performance, commercial vehicle safety performance, carrier compliance and safety, and other studies toward the goal of achieving a substantial reduction in crashes and fatalities.
- The 2004 Budget provides \$100 million for the Federal Aviation Administration to maintain its focus on safety and environmental research to develop the most effective technologies to prevent aviation-related accidents and reduce noise pollution.
- The Transportation Security Administration and the Coast Guard, which have each contributed to DOT's R&D portfolio in the past, have been transferred to DHS.

Department of Education: The 2004 Budget provides \$373 million for FS&T at the Department of Education, a decrease of \$68 million from the 2003 request.

- The President fulfills his promise to reform education research with the recent creation of the Institute of Education Sciences (IES), through the Education Sciences Reform Act.
- Within IES, the 2004 research portfolio of the National Center for Education Research will support comparative trials of curricula in preschool, mathematics, and English instruction for language minority students, as well as continuing efforts to study reading comprehension and cognition as it relates to student learning.
- The National Institute for Disability and Rehabilitation Research (NIDRR) (\$110 million in 2004) conducts research, demonstration projects and training, and related activities that increase the opportunities for people with disabilities to lead independent lives. Consistent with the President's New Freedom Initiative, NIDRR's activities enhance community integration and employment outcomes. In 2004, NIDRR will continue priority research in areas such as accessibility of telecommunications systems and mental illness.
- The Office of Special Education Programs (OSEP) supports special education research projects, demonstrations, and outreach to provide new knowledge in the field of special education and early intervention, and to translate scientifically valid information into applied educational strategies. These activities promote improved education outcomes for students with disabilities. In 2004, OSEP is planning new research in areas such as teacher quality, assessment and accountability.

Department of Homeland Security (DHS): While funding for the new Department of Homeland Security is not currently included in the FS&T budget, the 2004 Budget requests \$1.0 billion for DHS R&D.

- The Department will house a Science and Technology (S&T) Directorate, which will assess the Department's long-term needs, help develop a policy and strategic plan for identifying priorities and goals and will support the conduct of R&D for developing countermeasures to chemical, biological, radiological and nuclear weapons and other terrorist threats. The 2004 request for direct activities of the S&T Directorate is \$803 million.
- DHS will harness the expertise, energy and ingenuity of the private sector, academia, and government labs to develop and produce advanced technologies, systems, and procedures needed for homeland security.
- The creation of DHS consolidates a large share of homeland-security related R&D into one agency, which will ensure consistent strategic direction; DHS will coordinate with other agencies to avoid wasteful duplication. For example, the Department will carefully plan and coordinate R&D to increase the effectiveness of threat detection, destruction, and mitigation activities, and provide new related capabilities where none existed previously.

Stimulating Private Investment

Along with direct spending on R&D, the federal government has sought to stimulate private R&D investment through tax preferences. Current law provides a 20-percent tax credit for private research and experimentation expenditures above a certain base amount. The credit, which expired in 1999, was retroactively reinstated for five years, to 2004, in the Tax Relief Extension Act of 1999. The budget proposes to make the Research and Experimentation (R&E) tax credit permanent. The proposed extension will cost nearly \$23 billion over the period from 2004 to 2008, and \$68 billion through 2013. In addition, a permanent tax provision lets companies deduct, up front, the costs of certain kinds of research and experimentation, rather than capitalize these costs. Finally, equipment used for research benefits from relatively rapid cost recovery. Table 8-1 shows a forecast of the costs of the tax credit.

Table 8-1. PERMANENT EXTENSION OF THE RESEARCH AND EXPERIMENTATION TAX CREDIT

(Budget authority, dollar amounts in millions)

	2004	2005	2006	2007	2008	2004-2008
Current Law	4,990	2,910	1,240	520	170	9,830
Proposed Extension	1,005	3,278	5,187	6,291	7,129	22,890
Total	5,995	6,188	6,427	6,811	7,299	32,720

IV. FEDERAL R&D DATA

Federal R&D Funding

R&D is the collection of efforts directed towards gaining fuller knowledge or understanding and applying knowledge toward the production of useful materials, devices, and methods. R&D investments can be characterized as basic research, applied research, development, R&D equipment, or R&D facilities, and OMB has used those or similar categories in its collection of R&D data since 1949.

Basic research is defined as systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications towards processes or products in mind.

Applied research is systematic study to gain knowledge or understanding necessary to determine the means by which a recognized and specific need may be met.

Development is systematic application of knowledge or understanding, directed toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.

Research and development equipment includes acquisition or design and production of movable equipment, such as spectrometers, microscopes, detectors, and other instruments.

Research and development facilities include the acquisition, design, and construction of, or major repairs or alterations to, all physical facilities for use in R&D activities. Facilities include land, buildings, and fixed capital equipment, regardless of whether the facilities are to be used by the Government or by a private organization, and regardless of where title to the property may rest. This category includes such fixed facilities as reactors, wind tunnels, and particle accelerators.

There are over twenty federal agencies that fund R&D in the U.S. The nature of the R&D that these agencies fund depends on the mission of each agency and on the role of R&D in accomplishing it. Table 8-2

shows agency-by-agency spending on basic and applied research, development, and R&D equipment and facilities.

Table 8-2. FEDERAL RESEARCH AND DEVELOPMENT SPENDING

(Budget authority, dollar amounts in millions)

	2002 Estimate	2003 Proposed	2004 Proposed	Dollar Change: 2003 to 2004	Percent Change: 2003 to 2004
By Agency					
Defense	49,409	57,498	62,753	5,255	9%
Health and Human Services	23,497	27,466	28,031	565	2%
National Aeronautics and Space Administration	9,611	10,071	11,009	938	9%
Energy	8,056	8,076	8,535	459	6%
National Science Foundation	3,557	3,692	4,062	370	10%
Agriculture	2,112	1,911	1,943	32	2%
Veterans Affairs	1,126	1,188	1,232	44	4%
Commerce	1,376	1,304	1,190	-114	-9%
Homeland Security	266	761	1,001	240	32%
Transportation	774	627	693	66	11%
Interior	623	575	633	58	10%
Environmental Protection Agency	416	627	556	-71	-11%
Other	1,206	1,206	1,100	-106	-9%
Total	102,029	115,002	122,738	7,736	7%
Basic Research					
Defense	1,334	1,417	1,309	-108	-8%
Health and Human Services	13,000	14,304	14,983	679	5%
National Aeronautics and Space Administration	1,911	2,268	2,535	267	12%
Energy	2,536	2,522	2,571	49	2%
National Science Foundation	3,090	3,228	3,505	277	9%
Agriculture	797	823	819	-4	0%
Veterans Affairs	465	509	495	-14	-3%
Commerce	362	359	412	53	15%
Homeland Security	32	47	47	0	0%
Transportation	17	16	37	21	131%
Interior	41	39	38	-1	-3%
Environmental Protection Agency	63	100	101	1	1%
Other	201	213	218	5	2%
Subtotal	23,849	25,845	27,070	1,225	5%
Applied Research					
Defense	4,081	4,289	3,670	-619	-14%
Health and Human Services	10,038	12,152	12,820	668	5%
National Aeronautics and Space Administration	2,810	3,101	2,947	-154	-5%
Energy	2,458	2,538	2,901	363	14%
National Science Foundation	185	199	204	5	3%
Agriculture	875	821	847	26	3%
Veterans Affairs	638	653	712	59	9%
Commerce	715	660	592	-68	-10%
Homeland Security	78	64	126	62	97%
Transportation	502	376	411	35	9%
Interior	522	481	537	56	12%
Environmental Protection Agency	262	355	356	1	0%
Other	610	645	661	16	2%
Subtotal	23,774	26,334	26,784	450	2%
Development					
Defense	43,775	51,677	57,625	5,948	12%
Health and Human Services	104	139	124	-15	-11%
National Aeronautics and Space Administration	2,588	2,630	3,061	431	16%
Energy	1,990	2,007	2,088	81	4%
National Science Foundation	0	0	0	0	N/A
Agriculture	132	134	137	3	2%
Veterans Affairs	23	26	25	-1	-4%
Commerce	145	78	43	-35	-45%
Homeland Security	93	537	663	126	23%
Transportation	244	216	226	10	5%
Interior	60	55	58	3	5%
Environmental Protection Agency	91	172	99	-73	-42%

Table 8-2. FEDERAL RESEARCH AND DEVELOPMENT SPENDING—Continued

(Budget authority, dollar amounts in millions)

	2002 Estimate	2003 Proposed	2004 Proposed	Dollar Change: 2003 to 2004	Percent Change: 2003 to 2004
Other	379	334	214	-120	-36%
Subtotal	49,624	58,005	64,363	6,358	11%
Facilities and Equipment					
Defense	219	115	149	34	30%
Health and Human Services	355	871	104	-767	-88%
National Aeronautics and Space Administration	2,302	2,072	2,466	394	19%
Energy	1,072	1,009	975	-34	-3%
National Science Foundation	282	265	353	88	33%
Agriculture	308	133	140	7	5%
Veterans Affairs	0	0	0	0	N/A
Commerce	154	207	143	-64	-31%
Homeland Security	63	113	165	52	N/A
Transportation	11	19	19	0	0%
Interior	0	0	0	0	N/A
Environmental Protection Agency	0	0	0	0	N/A
Other	16	14	7	-7	-50%
Subtotal	4,782	4,818	4,521	-297	-6%

Federal Science and Technology Budget

Table 8-3 contains the FS&T budget, which accounts for nearly all of federal basic research, over 80 percent of federal applied research, and about half of civilian development. The FS&T budget highlights the creation of new knowledge and technologies more consistently

and accurately than the traditional R&D data collection. Also, because the FS&T budget emphasizes research, funding for defense development, testing, and evaluation is absent. FS&T is readily tracked through the budget and appropriations process, so the effects of budget decisions are clearer more immediately.

Table 8-3. FEDERAL SCIENCE AND TECHNOLOGY BUDGET

(Budget authority, dollar amounts in millions)

	2002 Estimate	2003 Proposed	2004 Proposed	Dollar Change: 2003 to 2004	Percent Change: 2003 to 2004
By Agency					
National Institutes of Health	23,279	27,344	27,893	549	2%
NASA	7,868	8,701	9,164	463	5%
Space Science	2,902	3,414	4,007	593	17%
Earth Science	1,592	1,628	1,552	-76	-5%
Biological & Physical Research	824	842	973	131	16%
Aeronautics Technology ¹	997	947	959	12	1%
Crosscutting Technologies ¹	1,553	1,869	1,673	-196	-11%
National Science Foundation	4,823	5,028	5,481	453	9%
Energy²	5,194	5,065	5,211	146	3%
Science Programs	3,232	3,256	3,311	55	2%
Renewable Energy	385	407	444	37	9%
Nuclear Energy ³	362	327	388	61	19%
Energy Conservation ⁴	631	596	549	-47	-8%
Fossil Energy ⁵	583	479	519	40	8%
Defense	5,415	5,706	4,979	-727	-13%
Basic Research	1,334	1,417	1,309	-108	-8%
Applied Research	4,081	4,289	3,670	-619	-14%
Agriculture	1,862	1,834	1,843	9	0%
CSREES Research & Education ⁶	551	560	526	-34	-6%
Economic Research Service	67	73	77	4	N/A
Agricultural Research Service ⁷	1,003	958	987	29	3%
Forest Service ⁸	241	243	253	10	4%
Interior (USGS)	914	867	896	29	3%
Commerce	926	841	851	10	1%
NOAA (Oceanic & Atmospheric Research) ⁹	356	291	367	76	26%
NIST ¹⁰	570	550	484	-66	-12%
Veterans Affairs¹¹	756	794	822	28	4%
Environmental Protection Agency¹²	788	825	776	-49	-6%
Transportation	693	548	606	58	11%

Table 8-3. FEDERAL SCIENCE AND TECHNOLOGY BUDGET—Continued
(Budget authority, dollar amounts in millions)

	2002 Estimate	2003 Proposed	2004 Proposed	Dollar Change: 2003 to 2004	Percent Change: 2003 to 2004
Highway research ¹³	448	421	506	85	20%
Aviation research ¹⁴	245	127	100	-27	-21%
Education	310	363	373	10	3%
Special Education Research and Innovation	78	78	78	0	0%
NIDRR ¹⁵	110	110	110	0	0%
Research, Development, and Dissemination ¹⁶	122	175	185	10	6%
Total	52,828	57,916	58,894	978	2%

¹ Aeronautics Technology and Crosscutting Technologies replace what had been listed as Aerospace Technology.

² All years reflect levels before transfer of funds to Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs.

³ All years reflect transfer of oversight responsibility for the Idaho National Engineering and Environmental Laboratory.

⁴ Excludes weatherization and state grant programs.

⁵ Enacted and requested levels exclude balances transferred from the Clean Coal Technology program: \$34 million in 2002 and \$40 million in 2003.

⁶ Excludes receipts for Native American Endowment, \$7 million in 2002, and \$7 million in 2003, and \$9 million in 2004.

⁷ Excludes buildings and facilities. Excludes portion of Plum Island Animal Disease Center, now included in DHS.

⁸ Forest and Rangeland Research.

⁹ The 2003 level does not include the Sea Grant program.

¹⁰ Excludes Manufacturing Extension Program.

¹¹ Medical Research.

¹² Science and Technology plus superfund transfer. Includes combating-terrorism supplemental funding, primarily for drinking water vulnerability assessments. The 2003 superfund transfer includes funding for building decontamination research.

¹³ Includes R&D funding for the Federal Highway Administration, the Federal Motor Carrier Safety Administration, and the National Highway Traffic Safety Administration.

¹⁴ Federal Aviation Administration Research, Engineering, and Development. Starting with 2003 request, excludes funding for aviation security research, now funded through DHS's Transportation Security Administration.

¹⁵ National Institute on Disability and Rehabilitation Research.

¹⁶ Does not include funding for Regional Educational Labs.

Interagency R&D Efforts

Nanotechnology Initiative, and the Climate Change Science Program.

Table 8-4 shows agency spending for Networking and Information Technology R&D, the National

Table 8-4. AGENCY DETAIL OF SELECTED INTERAGENCY R&D EFFORTS
(Budget authority, dollar amounts in millions)

	2002 Estimate	2003 Proposed	2004 Proposed	Dollar Change: 2003 to 2004	Percent Change: 2003 to 2004
Networking and Information Technology R&D					
National Science Foundation	662	678	724	46	7%
Defense	439	442	461	19	4%
Health and Human Services ¹	347	374	441	67	18%
Energy	306	310	317	7	2%
NASA	181	213	195	-18	-8%
Commerce	36	38	39	1	3%
Environmental Protection Agency	2	2	2	0	0%
Total	1,973	2,057	2,179	122	6%
National Nanotechnology Initiative					
National Science Foundation	204	221	247	26	12%
Energy	89	133	197	64	48%
Defense	180	202	176	-26	-13%
National Institutes of Health	59	65	70	5	8%
Commerce (NIST)	77	78	53	-25	-32%
NASA	35	33	31	-2	-6%
Agriculture	0	1	10	9	900%
Environmental Protection Agency	6	6	5	-1	-17%
Homeland Security (TSA) ²	2	2	2	0	0%
Justice	1	1	1	0	0%
Total	653	742	792	50	7%
Climate Change Science Program					
NASA	1,090	1,112	1,068	-44	-4%
National Science Foundation	189	203	213	10	5%
Commerce (NOAA)	100	118	136	18	15%
Energy	117	129	133	4	3%
Agriculture	55	66	73	7	11%
National Institutes of Health	56	59	61	2	3%
Interior (USGS)	26	26	26	0	0%
Environmental Protection Agency	21	22	22	0	0%

Table 8-4. AGENCY DETAIL OF SELECTED INTERAGENCY R&D EFFORTS—Continued

(Budget authority, dollar amounts in millions)

	2002 Estimate	2003 Proposed	2004 Proposed	Dollar Change: 2003 to 2004	Percent Change: 2003 to 2004
Smithsonian	6	6	6	0	0%
U.S. Agency for International Development	6	6	6	0	0%
Transportation	0	0	4	4	N/A
State	0	0	1	1	N/A
Total	1,666	1,747	1,749	2	0%
Subtotal, CCRI (included in CCSP total)	0	40	182	142	355%

¹ Includes funds from offsetting collections for the Agency for Healthcare Research and Quality: \$21 million in 2002, \$15 million in 2003, and \$55 million in 2004.

² Activities of the Transportation Security Administration, formerly within DOT.

Allocation of Research Funding

Federal funds appropriated to Executive Branch agencies may be used in different ways, ranging from grants awarded to university researchers to supporting research at federal laboratories. The Administration supports the competitive, merit review process for funding research in most cases. However, there are appropriate roles for other modes of allocating research funding in some circumstances, such as funding research at specific facilities that have unique capabilities.

In order to better understand and characterize the methods agencies use to allocate their research funding, agencies reported how research funds are allocated by the following five categories:

Research performed at congressional direction consists of intramural and extramural research programs where funded activities are awarded to a single performer or collection of performers with limited or no competitive selection or with competitive selection but outside of the agency's primary mission, based on direction from the Congress in law, in report language, or by other direction.

Inherently unique research is intramural and extramural research programs where funded activities are awarded to a single performer or team of performers without competitive selection. The award may be based on the provision of unique capabilities, concern for timeliness, or prior record of performance (e.g., facility operations support for a unique facility, such as an electron-positron linear collider; research grants for rapid-response studies to address an emergency).

Merit-reviewed research with limited competitive selection is intramural and extramural research programs where funded activities are competitively award-

ed from a pool of qualified applicants that are limited to organizations that were created to largely serve federal missions and continue to receive most of their annual research revenue from federal sources. The limited competition may be for reasons of stewardship, agency mission constraints, or retention of unique technical capabilities (e.g., funding set aside for researchers at laboratories or centers of DOD, NASA, EPA, NOAA, and NIH; Federally-Funded Research and Development Centers; formula funds for USDA).

Merit-reviewed research with competitive selection and internal (program) evaluation is intramural and extramural research programs where funded activities are competitively awarded following review for scientific or technical merit. The review is conducted by the program manager or other qualified individuals from within the agency program, without additional independent evaluation (e.g., merit-reviewed research at DOD).

Merit-reviewed research with competitive selection and external (peer) evaluation is intramural and extramural research programs where funded activities are competitively awarded following review by a set of external scientific or technical reviewers (often called peers) for merit. The review is conducted by appropriately qualified scientists, engineers, or other technically-qualified individuals who are apart from the people or groups making the award decisions, and serves to inform the program manager or other qualified individual who makes the award (e.g., NSF's single-investigator research; NASA's research and analysis funds).

Table 8-5 lists how federal R&D agencies report allocating research funding among these categories.

Table 8-5. ALLOCATION OF FEDERAL RESEARCH FUNDING, 2002 and 2003
(Percent of Agency Research)

	Research Performed at Congressional Direction*		Inherently Unique Research		Merit-Reviewed Research with Limited Competitive Selection		Merit-Reviewed Research, Competitive Selection and Internal Evaluation		Merit-Reviewed Research, Competitive Selection and External Evaluation	
	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003
By Agency.										
Health and Human Services	1%	N/A	1%	1%	18%	17%	1%	1%	80%	81%
Defense	10%	N/A	8%	8%	19%	21%	60%	67%	3%	3%
National Aeronautics and Space Administration	6%	N/A	3%	1%	5%	6%	39%	37%	46%	55%
Energy	5%	N/A	21%	21%	51%	55%	7%	7%	16%	17%
National Science Foundation	0%	N/A	0%	0%	5%	5%	7%	6%	88%	89%
Agriculture	4%	N/A	50%	51%	36%	39%	0%	0%	9%	10%
Veterans Affairs	0%	N/A	0%	0%	0%	0%	33%	33%	67%	67%
Commerce	4%	N/A	42%	49%	15%	15%	22%	22%	17%	14%
Interior	7%	N/A	33%	32%	34%	39%	24%	27%	2%	2%
Environmental Protection Agency	5%	N/A	7%	9%	54%	45%	15%	15%	19%	31%
Transportation	16%	N/A	14%	24%	0%	0%	69%	76%	0%	0%
Education	0%	N/A	0%	0%	0%	0%	0%	0%	100%	100%
Homeland Security	15%	N/A	5%	41%	75%	55%	5%	4%	0%	0%
Smithsonian Institution	0%	N/A	100%	100%	0%	0%	0%	0%	0%	0%
Other	81%	N/A	1%	7%	3%	15%	14%	72%	1%	5%
Percent of Agency Research	4%	N/A	7%	7%	20%	20%	15%	15%	54%	58%
Research Funding (dollars in millions)	1,977	N/A	3,553	3,548	9,313	10,235	7,064	7,541	25,717	29,772

* 2003 levels for this category are generally not available yet, so percentages shown for 2003 have been modified to add to 100 percent without this category.

9. CREDIT AND INSURANCE

Federal credit programs offer direct loans and loan guarantees for a wide range of activities, primarily housing, education, business and rural development, and exports. At the end of 2002, there were \$251 billion in Federal direct loans outstanding and \$1,145 billion in loan guarantees. Through its insurance programs, the Federal Government insures bank, thrift, and credit union deposits, guarantees private defined-benefit pensions, and insures against other risks such as natural disasters, all up to certain limits.

The Federal Government also enhances credit availability for targeted sectors indirectly through Government-Sponsored Enterprises (GSEs)—privately owned companies and cooperatives that operate under Federal charters. GSEs provide direct loans and increase liquidity by guaranteeing and securitizing loans. Some GSEs have become major players in the financial market. In 2002, the face value of GSE lending totaled \$3.6 trillion. In return for serving social purposes, GSEs enjoy many privileges, which differ across GSEs. In general, GSEs can borrow from Treasury in amounts ranging up to \$4 billion at Treasury's discretion, GSEs' corporate earnings are exempt from state and local income taxation, GSE securities are exempt from SEC registration, and banks and thrifts are allowed to hold GSE securities in unlimited amounts and use them to collateralize public deposits. These privileges leave many people with the impression that their securities are risk-free. GSEs, however, are not part of the Federal Government, and their securities are not federally guaranteed. By law, the GSEs' securities carry a disclaimer of any U.S. obligation.

The role and risk of these diverse programs critically depend on the state of financial markets. In recent

years, financial markets have been changing fast because of rapid technological advances and active deregulation. The Federal Government, therefore, needs to monitor financial market developments closely and to adapt the extent and nature of credit and insurance programs to changing environments.

The rest of this chapter is organized as follows.

- The first section analyzes the role of Federal credit and insurance programs. Federal programs play useful roles when market imperfections prevent the private market from efficiently providing credit and insurance. Financial evolution has partly corrected many imperfections and generally weakened the justification for Federal intervention. The role of Federal programs, however, may still be critical in some areas.
- The second section identifies four key criteria for evaluating Federal programs: objectives, economic justification, availability of alternative means, and efficiency. Recognizing that improving efficiency is a continual concern, this section pays particular attention to it, including discussion of asset management.
- The third section reviews Federal credit programs and GSEs in four sectors: housing, education, business and community development, and exports. This section discusses program objectives, recent developments, and future plans for each program.
- The final section describes Federal deposit insurance, pension guarantees, disaster insurance, and insurance against terrorism and other security-related risks in a context similar to that for credit programs.

I. FEDERAL PROGRAMS IN CHANGING FINANCIAL MARKETS

The Federal Role

The roles of Federal credit and insurance programs can be broadly classified into two categories: helping disadvantaged groups and correcting market failures. Subsidized Federal credit programs redistribute resources from the general taxpayer to disadvantaged regions or segments of the population. Since disadvantaged groups can be assisted through other means, such as direct subsidies, the value of a credit or insurance program critically depends on the extent to which it corrects market failures.

In most cases, private lending and insurance businesses efficiently meet societal demands by allocating resources to the most productive uses, and Federal intervention is unnecessary or can even be distortionary. However, Federal intervention may im-

prove the market outcome in some situations. The market imperfections that justify some Federal involvement are the following.

- **Information opaqueness** interferes with the optimal allocation of capital. In most cases, financial intermediaries efficiently gather and process information needed to evaluate the creditworthiness of borrowers. However, there may be little objective information about some groups of borrowers such as start-up businesses, start-up farmers, and students, who have limited incomes and credit histories. Because it is difficult for those borrowers to prove their creditworthiness to a large number of lenders, they must rely on the subjective judgments of a few lenders. In this situation, many creditworthy borrowers may fail to obtain credit.

Even for borrowers who are approved for credit, insufficient competition can result in higher interest rates. Government intervention, such as loan guarantees, enables these groups of borrowers to obtain credit more easily and cheaply and provides an opportunity for the lender to become more comfortable with that group of borrowers. Similarly, the private sector efficiently insures against various risks. Insurance companies estimate expected loss based on probabilities of loss-generating events and charge adequate premiums. Private insurers, however, are reluctant to insure against an event for which they cannot reasonably estimate the probability and the magnitude of loss. Without these estimates, they cannot properly set the premium. Terrorism emerged as one of these cases after the September 11 attacks. The loss from terrorism is highly unpredictable and can turn out to be enormous. In this case, Government intervention limiting uncertainties for the private sector is necessary to ensure the provision of insurance, until the private sector understands the particular risk better.

- **Externalities** cause either underinvestment or overinvestment in some sectors. Decisions at the individual level are not socially optimal when individuals do not capture the full benefit (positive externalities) or bear the full cost (negative externalities) of their activities. Examples of positive and negative externalities are education and pollution. The general public benefits from high productivity and good citizenship of a well-educated person and suffers from pollution. Without Government intervention, people will invest less than the socially optimal amount in activities that generate positive externalities and more in activities that generate negative externalities. The Federal Government can encourage those activities that produce positive externalities or reduce negative externalities by offering subsidized credit or other rewards such as tax benefits, while discouraging activities producing negative externalities by imposing taxes or other penalties.
- **Resource constraints** sometimes limit the private sector's ability to offer certain products. Deposit insurance is one example. Since the performance of banks is often affected by common factors such as macroeconomic conditions, bank failures tend to be clustered in bad economic times. Furthermore, if depositors come to doubt the soundness of the banking system as a whole upon observing a large number of failures, they may rush to withdraw deposits, forcing even sound banks into liquidation. To prevent these undesirable withdrawals, which would harm the whole economy, deposit insurance needs to be backed by a sufficient fund to resolve a very large number of failures. It may be difficult for private insurers to secure such a large fund. Some catastrophic events can also threaten the solvency of private

insurers. For some events involving a very large loss concentrated in a short time period, therefore, Government insurance commanding more resources can be more credible and effective.

- Imperfect competition justifies some Government intervention. Competition is imperfect in some markets because of barriers to entry, economies of scale, and foreign government intervention. For example, legal barriers to entry or geographic isolation can cause imperfect competition in some rural areas. If the lack of competition forces some rural residents to pay excessively high interest on loans, Government lending programs aiming to increase the availability of credit and lower the borrowing cost for those rural residents may improve economic efficiency.

Changing Financial Markets

Financial markets have undergone fundamental changes that continue to alter their long-term trend. The main forces behind these changes are financial services deregulation and technological advances, which promoted competition and economic efficiency. Deregulation has promoted consolidation by removing legal barriers to business combinations. By increasing the availability of information and lowering transaction costs, technological advances have significantly contributed to enhancing liquidity, refining risk management tools, and spurring globalization. Interacting with these developments, however, have been some unsettling events, such as the ballooning and then plunging stock market, recession, and accounting scandals.

Financial services deregulation has promoted competition by removing geographic and industry barriers. The Riegle-Neal Interstate Banking and Branching Act of 1997 completed the demolition of geographic barriers in banking that had been going on at the state level for two decades. The Financial Services Modernization Act of 1999 repealed the provisions of the Glass-Steagall Act and the Bank Holding Company Act that restricted the affiliation between banks, securities firms, and insurance companies. The Act allows financial holding companies to engage in various financial activities, including traditional banking, securities underwriting, insurance underwriting, asset securitization, and financial advising. As a result, competition has become nationwide and across all financial products.

Advances in communication and information processing technology have made the evaluation of borrowers' creditworthiness more accurate and lowered the cost of financial transactions. Lenders now have easy access to large databases, powerful computers, and sophisticated analytical models. Thus, many lenders use credit scoring models that evaluate creditworthiness based on various borrower characteristics derived from extensive credit bureau data. As a result, lending decisions have become generally more accurate and objective. Powerful computing and communication devices have also lowered the cost of financial transactions by

producing new transaction methods such as electronic fund transfers, Internet banking, and Internet brokerage. The development of reliable screening methods and efficient transaction methods have resulted in intense competition for creditworthy borrowers and narrowed lending margins. Financial institutions are more willing to compete for customers with unique characteristics, customers in distant areas, and customers offering small business volume. A notable example of increased competition is the credit card business, where offering lower rates to lower-risk customers has become much more common in recent years.

Consolidation among financial institutions, especially banks, has been very active due to deregulation and increased competition. Because of active consolidation, the number of banks has sharply decreased, and the market share of large banks has increased. At the end of calendar 2001, there were about 8,100 commercial banks, which represented a decrease by about 4,300 or 35 percent from the end of calendar 1990. The top 10 and 100 banks respectively controlled 40 and 73 percent of banking assets at the end of calendar 2001, compared with 21 and 51 percent at the end of calendar 1990. Consolidation across traditional industry boundaries has produced financial holding companies that control multiple types of financial institutions. The pace of consolidation, however, slowed in recent years due to slumping stock markets.

Direct capital market access by borrowers has become easier. Advances in communication and information processing technology enabled many companies (less-established medium-sized companies, as well as large well-known ones) to validate their financial information at low costs and to borrow directly in capital markets, instead of relying on banks. In particular, growth of commercial paper (short-term financing instruments issued by corporations) substantially outpaced growth of bank business loans in the 1990s. This long-term trend, however, has been seriously interrupted by the last recession and recent accounting scandals that caused some instability in financial markets. In recent periods, the volume of commercial paper issued by nonfinancial companies dropped below \$160 billion, which was less than one half of the peak level reached in 2000. Some borrowers with relatively low credit ratings were denied access, and even borrowers with higher credit ratings had to reduce their reliance on commercial paper because of investors' increased concern about the riskiness of short-term financing. Heavy reliance on short-term financing can quickly worsen financial distress by causing refinancing difficulty.

Nonbank financial institutions have increased their market share, partly thanks to advanced communications and information processing technology that helped to level the playing field. Finance companies are a major nonbank lender. Over the last decade, both consumer loans and business loans have been growing at finance companies faster than at commercial banks. In the 1990s, venture capital firms emerged as a major

financing source for small, start-up firms that had relied heavily on banks. During the last stock-market boom, the growth of venture capital firms was rather phenomenal. Between calendar 1995 and calendar 2000, their new investments, which were mostly in small firms' equity, jumped 18-fold, to over \$100 billion. Venture capital investments, however, plunged, as the stock market slumped. During the first three quarters of calendar 2002, venture capital firms invested only about \$17 billion.

Internet-based financial intermediaries provide financial services more cheaply and widely. The Internet lowers the cost of financial transactions and reduces the importance of physical location. Internet brokers slashed the commission on stock trading, facilitating small investors' participation in the stock market. Internet-only banks, which emerged recently, bid up deposit interest rates. Furthermore, their services are nationwide. The Electronic Signatures in Global and National Commerce Act of 2000, which eliminates legal barriers to the use of electronic technology to sign contracts, should accelerate the growth of transactions over the Internet.

Securitization (pooling a certain type of asset and selling shares of the asset pool to investors) is a financial process accelerated by technological advances. Increased transparency of asset quality created demand for securitized assets. Securitization has enhanced liquidity in financial markets by enabling lenders to raise funds without borrowing or issuing equity. It also helps financial institutions to reduce risk exposure to a particular line of business. Commonly securitized assets include credit card loans, automobile loans, and residential mortgages, whose quality can be more objectively analyzed. In recent years, financial institutions began securitizing to a limited extent many other assets such as commercial mortgages and small business loans, the riskiness of which is more difficult to evaluate.

Financial derivatives, such as options, swaps, and futures, have improved investors' ability to manage risk. Financial institutions and many nonfinancial companies are increasingly using these relatively new instruments to manage various types of risk such as price risk, interest rate risk, credit risk, and even catastrophe-related risk. Price risk can be easily managed through standard derivative contracts such as options and futures. The interest rate swap is an effective tool to reduce a firm's exposure to interest rate movements. Interest rate swaps are widely used by financial institutions that have many fixed-interest rate assets, such as mortgage lenders. Credit derivatives, which can be used as insurance against loan default, gained more popularity in recent periods, as default by some large corporations such as Enron and WorldCom heightened investors' concern about default risk. After the September 11 attacks, catastrophe bonds drew considerable attention as a potential means to manage a large risk. Through the bonds, the potential large loss from a catastrophe can be spread among a large number of inves-

tors, instead of a few insurance companies. The size of the catastrophe bond market, however, is still very small.

Globalization is another important consequence of the reduced importance of geographic proximity and knowledge of local markets. Both commercial and investment banking institutions headquartered in Europe and Japan are actively competing in the U.S. market, and many U.S. financial institutions have branches worldwide. With international competition, even very large financial institutions have little ability to influence the market.

Slumping stock markets, the last recession, and recent accounting scandals caused financing difficulties for some businesses. Stock market declines raised the cost of equity financing for most corporations and substantially reduced the supply of venture capital for small, start-up businesses. The last recession increased the delinquency rate of business loans. The delinquency rate kept increasing because, as usual, loan delinquencies followed the economic downturn with a lag. The increased delinquency rate made it more difficult for some businesses to obtain loans by making banks more cautious. Recent accounting scandals involving large companies such as Enron and WorldCom caused investors to become unusually jittery about the reliability of financial reports and default risk. The stock market reacted negatively, further increasing the cost of equity financing. Bond financing also became more difficult and expensive for companies with low credit ratings, despite low interest rates in other sectors of the economy. The financing difficulties, however, were largely confined to risky or less-established businesses. Well-established companies with high credit ratings benefitted from the lowest interest rates in decades, which could offset the effect of a high equity-financing cost. Consumers and home buyers kept having easy access to credit, partly thanks to the continued strength of the housing market. The delinquency rates of consumer and real estate loans remained at low levels, suggesting that credit conditions in those sectors may continue to be favorable in the foreseeable future.

Implications for Federal Programs

Financial evolution has been increasing the private market's capacity to serve the populations traditionally targeted by Federal programs. This long-term trend will continue in the future, but can be interrupted temporarily. In general, financial evolution has weakened the role of Federal credit and insurance programs. To improve the effectiveness of credit and insurance programs, therefore, the Federal Government may focus on narrower target populations that still have difficulty in obtaining credit from private lenders and on more specific objectives that have been less affected by financial evolution. The Federal Government, however, may take more active roles during the periods in which financial instability temporarily interrupts the smooth functioning of the private market.

Information about borrowers is more widely available and easier to process, thanks to technological advances. As a result, creditworthy borrowers are less likely to be turned down, while borrowers that are not creditworthy are less likely to be approved for credit. The Federal role of improving credit allocation, therefore, is generally not as strong as before. The benefit from financial evolution, however, can be uneven across groups and over time. Credit scoring, for example, is still difficult to apply to some groups with unique characteristics that are difficult to standardize. In times of economic downturn or financial instability, lenders can be overly cautious, turning away some creditworthy borrowers. The Federal Government may need to target those underserved groups better, while reducing general involvement.

Externalities have not been significantly affected by financial evolution. The private market fundamentally relies on decisions at the individual level. Thus, it is inherently difficult for the private market to correct problems related to externalities.

Resource constraints have been alleviated. Securitization and financial derivatives facilitate fund raising and risk sharing. By securitizing loans and writing derivatives contracts, a lender can make a large amount of risky loans, while limiting its risk exposure. An insurer can distribute the risk of a natural or man-made catastrophe among a large number of investors through catastrophe-related derivatives, although the extent of risk sharing in this way is still limited because of the small size of the market for those products.

Imperfect competition is much less likely in general. Developments that contributed to increasing competition are financial deregulation, direct capital market access by borrowers, stronger presence of nonbank financial institutions, emergence of Internet-based financial institutions, and globalization. Consolidation has a potential negative effect on competition, especially in markets that were traditionally served by small institutions. Large financial institutions with global operations may want to focus more on large customers and business lines that utilize economies of scale and scope more fully. Given that the Nation still has many banks and other financial institutions, the negative effect, if any, should be insignificant overall. It is possible, however, that some communities in remote rural areas and inner city areas have been adversely affected by consolidation.

Uncertainties about the Federal Government's liability have increased in some areas. Consolidation has increased bank size. Thus, the failure of even a single large bank can seriously drain the federal deposit insurance fund. As a result of deregulation, banks engage in more activities. While diversification across business lines may generally improve the safety of banks, new businesses introduce new risks. For example, one concern raised recently is that the motive to obtain underwriting business from borrowing firms may have been affecting lending decisions, undermining loan quality at some large banking organizations. Globalization also

has both an upside and a downside. A financial institution with a worldwide operation may overcome difficulties in the U.S. market more easily, but it is more heavily exposed to economic turmoil in other countries, especially those that are less-developed or politically unstable. The large size of some GSEs is also a potential problem. Financial trouble of a large GSE could cause strong repercussions in financial markets, affecting federally insured entities and economic activity. Overall, the financial market evolves to be more efficient and safer. Financial evolution, however, is often

accompanied by new risks. Thus, Federal agencies need to be vigilant to identify and manage new risks.

The stock market plunge and the slow economic recovery have increased the risk and uncertainty for the pension benefit guaranty program by impairing the financial health of many pension funds and firms offering pension benefits. New and amended insurance programs for security-related risks also make the Federal Government's liability more uncertain. Security-related events such as terrorism and war are highly uncertain in terms of both the frequency of occurrence and the magnitude of potential loss.

II. A CROSS-CUTTING ASSESSMENT

To assess Federal programs systematically policymakers and program managers need to consider the following questions. (1) Are the programs' objectives still worthwhile? (2) Is the program economically justified? (3) Is the credit or insurance program the best way to achieve the goals? (4) Is the program operating efficiently and effectively? If the answer to any of the first three questions is "No," the program should be eliminated or phased out. For programs that pass the three tests, the focus should be on improving efficiency and effectiveness.

Objectives

The first step in reassessing Federal credit and insurance programs is to identify clearly the objective of each program, such as an increase in homeownership, an increase in college graduates, an increase in jobs, or an increase in exports. The objective must be clear and worthwhile to justify a program. For some programs, the objective might be unclear or of low importance. In some other cases, an initially worthwhile objective might have become obsolete. Programs lacking a clear, worthwhile objective should be either refocused or discontinued.

Economic Justifications

For a credit or insurance program to be economically justified, the program's benefits must exceed its costs. The main benefit measure should be the improvement in intended outcomes (for example, an increase in homeownership) net of what would have occurred in the absence of the program (for example, the portion of the increase owing to economic growth and financial evolution). Financial evolution may have significantly affected the net benefit from some programs. Suppose, for example, that financial evolution made information about borrowers transparent in some sectors where information opacity had been a major problem. Then the benefit would be substantially smaller for the Federal programs that were mainly intended to increase credit availability in those sectors by alleviating the information problem. Only a small portion of the increased credit availability may be attributable to those Federal programs.

Many Federal credit and insurance programs involve subsidy costs, and all of them incur administrative costs. A subsidy cost occurs when the beneficiaries of a program do not pay enough to cover the cost to the Federal Government (e.g., they pay below-cost interest rates and below-cost fees). The administrative costs include the costs of loan origination, servicing, and monitoring. The benefit of a program can be smaller than the combined cost of subsidy and administration either because it is inherently costly to pursue the program's goal or because the program is inefficiently managed (failure to maximize the benefit and minimize the cost). The program should be discontinued in the first case and restructured in the second case.

Alternatives

Even a program that is economically justified should be discontinued if there is a better way to achieve the same goals. The Federal Government has other means to achieve social and economic goals, such as providing direct subsidies, offering tax benefits, and encouraging private institutions to provide the intended services.

In general, direct subsidies are more efficient than credit programs for fulfilling social objectives such as helping low-income people, as opposed to economic objectives such as improving credit allocation. Direct subsidies are less likely to interfere with the efficient allocation of resources. Suppose that the Government makes a subsidized loan to be used for a specific project. Then the borrower will undertake the project if its return is greater than the subsidized rate. Thus, the subsidized loan can induce the borrower to undertake a normally unprofitable project, resulting in a social loss. On the other hand, a direct subsidy is a simple income transfer, which is less likely to cause a social loss.

To a certain extent, the Federal Government can also correct market failures by helping the private market to improve efficiency, instead of directly offering credit or insurance. For example, policies encouraging the standardization of information (e.g., standardization of loan origination documents) may improve the private lenders' ability to serve those sectors where information is inadequate. Standardization helps to improve the quality of information by facilitating information proc-

essing. With reduced opaqueness, loan sales should be easier, and the secondary market should develop more quickly. Then the lending market would be more liquid and competitive. A more specific example is the development of floodplain maps by the National Flood Insurance Program. Before the development of the maps, private insurance companies had little information on flood risks by geographic area. The lack of information was a main reason why private companies were unwilling to insure against flood risk.

Improving Efficiency

Some programs may be well-justified based on the three criteria above. However, few programs are perfectly designed or managed. It is almost impossible to take all relevant factors into consideration when a program is created. In addition, financial evolution can lower the efficiency of initially well-designed and well managed programs. Thus, improving efficiency is a continual concern. Although the ways to improve efficiency vary across programs, there are some general categories and principles that apply to most programs.

Pricing (setting appropriate lending terms or insurance premiums) is a critical part of credit and insurance programs. To maximize efficiency, program managers need to set the subsidy rate at an optimal level and calculate the subsidy rate accurately. If a program's subsidy is too small, the intended population may benefit little and may even be discouraged from using the program. On the other hand, an excessive subsidy will transfer too much resources to a small group of the population. In either case, program efficiency can be seriously undermined. Miscalculation of the subsidy rate would also result in resource misallocation. If program managers fail to accurately estimate the default and prepayment probabilities for a credit program and the loss probability for an insurance program, the actual subsidy may substantially deviate from the intended subsidy. For a given amount of the budget, the program size (total amount of loans or number of beneficiaries) is determined by the estimated subsidy rate. Thus, an estimated subsidy smaller than the actual subsidy would increase the program size beyond the level intended by policymakers, while an estimated subsidy larger than the actual subsidy would unduly prevent the program from helping more people.

To set the subsidy rate at the optimal level, policymakers and program managers should carefully weigh the benefit of improving economic efficiency in the targeted sector against the risk of misallocating resources. To improve the accuracy of subsidy estimation, program managers need to utilize fully both historical experience and advanced analytical tools. Private sector participation may also help the pricing of complicated programs. Federal agencies can make risk-sharing arrangements with private firms that may have better pricing expertise and derive information from the private firms' pricing.

Targeting the right population is also an important element of program efficiency. The net benefit will

increase if program managers more successfully identify the populations that would most benefit from credit and insurance programs. The ideal target populations include borrowers who have worthwhile projects but have difficulty in obtaining private credit (e.g., beginning farmers, new businesses, new exporters), populations underserved by the private market (e.g., low-income, minority), underserved neighborhoods (e.g., rural, inner city), and legislatively targeted populations (e.g., students, veterans). In addition to making credit available, program managers need to inform potential borrowers of the credit availability and provide high-quality customer services, so that ignorance or inconvenience does not deter the targeted populations from accessing the program.

In conducting outreach, program managers may also consider the state of the financial market. The target population can expand when the private market fails to function smoothly due to temporary interruptions, such as economic downturns and asset-price declines. Interruptions can reduce credit availability in the private market, as evidenced by declines in commercial paper and venture capital investment in recent periods. Reduced credit availability can mean that more credit-worthy borrowers have difficulty in obtaining credit in the private market. On those occasions, Federal credit programs can also play a more useful role.

While conducting outreach, program managers should avoid overreaching (assisting those who have easy access to private credit or insurance). Excessive government intervention wastes taxpayers' money and distorts economic outcomes. To avoid overreaching, program managers need to define eligibility clearly and carefully screen applicants based on eligibility. The eligibility screening is especially important for programs offering a large subsidy because the large subsidy can attract many customers who can easily obtain credit or insurance in the private sector. In addition, plans to expand the scale or the scope of a program should be carried out cautiously; they should be convincingly supported by careful cost-benefit analyses.

Risk management needs to be effective to limit the cost of credit and insurance programs. Careful screening of borrowers' creditworthiness would reduce the default risk. Although the goal of most credit programs is not to lend to the most creditworthy borrowers, it is important to identify relatively more creditworthy borrowers even among those who might be denied credit by private lenders. Other key elements of risk management include monitoring existing borrowers and collecting defaulted loans.

One way to improve screening, monitoring, and collecting is to use advanced analytical tools such as credit scoring and to maintain useful data bases. Using state-of-the-art tools is especially important for programs that compete with the private sector for the same group of customers. Private financial institutions are quick to adopt new technology. Falling behind, Federal programs could be left with riskier customers. In cases where the private sector has a clear advantage in per-

forming some risk management functions, delegating those functions is an effective strategy. For example, if banks are better at screening some groups of borrowers because of their extensive experience with those borrowers, Federal agencies may delegate the screening of those borrowers to banks. To realize the potential benefit from delegation, Federal agencies need to monitor the performance of private partners closely. More importantly, the partnership should be structured such that the profit motives of private-sector partners are preserved. Risk-sharing arrangements and performance-based contracts would help to preserve the profit motive.

Cost control is a concern for all types of organizations. For Federal credit and insurance programs, key elements include delivery and servicing costs, in addition to the general administration cost. There are many ways for Federal agencies to minimize costs. They may streamline the delivery system, computerize loan servicing, and eliminate redundant servicing facilities. Inter-agency cooperation can also result in a substantial cost saving. When several Federal agencies serve similar purposes, those agencies may share databases, facilities, and expertise. Outsourcing some functions to the private sector is always a possibility because the private sector is generally more efficient.

For Federal programs involving private-sector partners, cost efficiency critically depends on whether contract terms with private-sector partners are adequate. To utilize the private sector's expertise, it is necessary to offer reasonable profit opportunities to private-sector partners. However, contract terms allowing excessive profits would result in serious inefficiency. Profit margins for private-sector partners should be carefully examined and set at an appropriate level. Preferably, Federal agencies may use competitive bidding when it is practical.

Initiative plays an important role in a rapidly changing environment. Information technology and financial markets have been changing rapidly. To achieve the maximum efficiency, program managers need to watch closely and adapt their programs quickly to new developments. Tardy responses to changes in information technology may mean missed opportunities for improving risk management and reducing costs. Financial market developments also have important implications. For example, many loans guaranteed by the Government are securitized. Securitization may reduce the lenders' incentives to screen and monitor borrowers if they believe that guaranteeing agencies do not properly track the performance of securitized loans. To prevent this adverse effect, the Government needs well-organized databases and modern monitoring systems. Private lenders are more willing to serve many customers to whom they did not want to lend in the past. Thus, some Federal credit programs may need to focus more narrowly on customers who are still underserved by private lenders. Without the agencies' initiative, needed adjustments might be substantially delayed because in-

dividual agencies conducting daily businesses are best positioned to detect changes in market conditions.

Federal Loan Portfolio Management: Improving Performance and Efficiency

At the end of 2002, the Federal Government held loan assets valued at \$251 billion. Of this figure, \$220 billion were direct loans, and \$31 billion were guaranteed loans acquired by the Federal Government after default. In addition, the Federal government holds liabilities on a \$1,145 billion loan guarantee portfolio. While the Government sets aside resources for the future costs of these activities, better management of the portfolio can allow more accurate estimates of credit program subsidy costs, lower the risk exposure of the Federal government, and produce more reliable financial reporting. More efficient management can also free up existing agency resources to better serve program target populations and work more effectively with borrowers and lenders. The size of the Government's portfolio means that even small changes in management practices can have substantial qualitative and quantitative effects in a time of scarce resources.

Over the next year, OMB will work with agencies to identify ways of improving loan portfolio management across the four basic credit functions: program development, loan origination, servicing or lender monitoring during repayment, and liquidation. These improvements will build on principles from:

- the President's Management Agenda, which includes improved asset management (including physical assets) as a component of successful financial management,
- OMB Circular A-129, which outlines policies governing the four basic credit functions, and
- the Debt Collection Improvement Act of 1996, which authorized a variety of techniques, including loan asset sales and Treasury tax refund offset and cross-servicing, to improve management of loans in default by increasing the chance of recovery.

While some agencies have adopted techniques to improve efficiency and performance, such as competitive servicing contracts and lender monitoring, the evolution of private-sector best practices has far outpaced the Government's. In many cases, agencies perform one of the basic credit functions well—usually loan origination—but have poor systems in place for tracking loan performance. Other agencies may track borrowers reasonably well during repayment, but have no risk management system in place to identify and closely monitor borrowers in danger of defaulting.

Implementing changes cannot happen in isolation, however; changes made in one function can significantly affect performance in another. Analyzing these effects may inform agencies' resource decisions through the basic functions, such as whether or not to improve internal accounting systems or to outsource loan servicing and liquidation. Equally important is the fact that this analysis may improve program performance by reduc-

ing the default rate, allowing the agency to stretch its subsidy dollars over more borrowers.

Any changes to program management will be made in light of the programs' justifications to ensure that the Government neither crowds out the private sector

nor expands the target population beyond that intended. However, the main focus of OMB efforts will be on efficient stewardship of taxpayer dollars and more effective credit assistance to those borrowers who need it.

III. CREDIT IN FOUR SECTORS

Housing Credit Programs and GSEs

The Federal Government makes direct loans, provides loan guarantees, and enhances liquidity in the housing market to promote homeownership among low- and moderate-income people and to help finance rental housing for low-income people. While direct loans are largely limited to low-income borrowers, loan guarantees are offered to a much larger segment of the population, including moderate-income borrowers. Increased liquidity achieved through GSEs benefits virtually all borrowers in the housing market, although it helps low and moderate-income borrowers more.

Federal Housing Administration

In June 2002, the President issued America's Homeownership Challenge to increase first-time minority homeowners by 5.5 million through 2010. HUD's Federal Housing Administration (FHA) will help to achieve this goal through its insurance funds, mainly the Mutual Mortgage Insurance Fund. FHA mortgage insurance provides access to homeownership for people who lack the financial resources or credit history to qualify for a conventional home mortgage. In 2002, FHA insured \$136 billion in mortgages for over 1.2 million households, 21 percent more households than in 2001. Most of these were people buying their first homes many of whom were minorities. The dollar volume of mortgages exceeded the 2001 volume by 27 percent, partially driven by the rapid increase in house prices and low interest rates.

For fiscal year 2004, FHA is proposing a new mortgage product. This product will be geared toward families with poor credit records who are currently being served at a higher cost in the subprime market or not served at all. Borrowers could reduce their annual mortgage insurance premiums once they have established a history of regular payments thereby demonstrating their creditworthiness. This innovative product is consistent with FHA's traditional pioneering role in reducing the cost of homeownership and protecting buyers from predatory practices.

To better manage its risks, FHA requires its lenders to evaluate each potential foreclosure and use loss mitigation tools where appropriate. Last year, incentive payments for over 68 thousand loss mitigation actions were made, up from 53 thousand in fiscal year 2001. Loss mitigation helps to avoid costly foreclosures, enables many distressed borrowers to retain their homes, and reduces FHA's claim expenses. FHA also is reducing its losses through more aggressive management of

its property oversight and disposition program and is testing a new joint venture approach to this task.

The Budget expands HUD's support for new homeowners by increasing funds for pre- and post-purchase counseling services through a network of counseling agencies. With this increase, over 950 thousand homeowners will receive counseling in 2004.

The President's Management Agenda sets out several critical tasks for FHA to combat fraud and improve risk management. In 2003, FHA will issue a final rule that will prevent the predatory practice of property flipping, in which a lender and an appraiser conspire to sell a home at a falsely inflated price, thereby victimizing the borrower and exposing FHA to excessive losses. HUD also will strengthen its Credit Watch initiative—a lender monitoring program that rates lenders and underwriters by the performance of their loans and allows FHA to sever relationships with those showing poor performance. Credit Watch is critical to protect the FHA Mutual Mortgage Insurance Fund from unexpected losses due to mismanagement and fraud.

VA Housing Program

The VA assists veterans, members of the Selected Reserve, and active duty personnel to purchase homes as a recognition of their service to the Nation. The program substitutes the Federal guarantee for the borrower's down payment. In 2002, VA provided \$37 billion in guarantees to assist 294,800 borrowers. Both the volume of guarantees and the number of borrowers increased substantially from 2001 as lower interest rates increased loan originations and refinancings in the housing market.

Since the main purpose of this program is to help veterans, lending terms are more favorable than loans without a VA guarantee. In particular, VA guarantees zero down payment loans. As a result, the default rate is somewhat higher than the national average. The subsidy rate has remained relatively stable during the past couple of years and continues to be less than one percent.

In order to help veterans retain their homes and avoid the expense and damage to their credit resulting from foreclosure, VA plans aggressive intervention to reduce the likelihood of foreclosures when loans are referred to VA after missing three payments. VA was successful in 43 percent of its 2002 interventions, and its goal is to maintain at least a 41 percent success rate in 2004. Future military base closures, however, may negatively affect the default rate in the VA guar-

anteed housing program. Guaranteed loans issued to active duty military and military reservists are vulnerable to the impact of base closures on the neighboring community. VA is continuing its efforts to reduce administrative costs through restructuring and consolidations.

Rural Housing Service

The U.S. Department of Agriculture's (USDA's) Rural Housing Service (RHS) offers direct and guaranteed loans and grants to help very low- to moderate-income rural residents buy and maintain adequate, affordable housing. The single family guaranteed loan program guarantees up to 90 percent of a private loan for low to moderate-income rural residents. The program's emphasis is on reducing the number of rural residents living in substandard housing. In 2002, \$2.4 billion of guarantees went to 29,218 households, of which 33 percent went to low-income borrowers (with income 80 percent or less than median area income).

In 2002, RHS approved separate risk categories for the guarantee refinancing (refis) and guarantees of new loans. As part of that change, RHS also reduced the guarantee fee to 0.5 percent for the refis. This change reflected the lower risk on refis as compared to an unseasoned borrower receiving a new loan. It is also consistent with the rate HUD and VA charge on their refis of similar loans. For 2003, RHS will also lower the guarantee fee on new loans to 1.5 percent from 2 percent, partly undoing the 1-percentage-point increase that was implemented in 2001. Recent data revealed that the full 1-percentage-point increase was inconsistent with the housing market condition and too costly for the target borrower, low and moderate income families. The high fee resulted in less assistance going to rural areas for guaranteed single family housing loans than what had been authorized. The new rate is more in line with the housing industry, including HUD and VA, and will result in more rural Americans realizing the dream of homeownership.

In the single family housing guaranteed loan program, lender monitoring and external audits have helped to identify program weaknesses, train servicers, and identify troubled lenders. RHS's guaranteed loan program is also moving toward automated underwriting. In 2003, RHS continued to enhance an Internet-based system that will, with future planned improvements, provide the capacity to accept electronic loan originations from their participating lenders. Utilizing electronic loan origination technology will add significant benefits to loan processing efficiency, consistency and timeliness for RHS, the lenders, and customers. RHS is currently working with HUD to determine if RHS can utilize or modify the TOTAL scorecard being developed by HUD. RHS continues to operate under the "best practice" for asset disposition for its guaranteed loan program. For single family guarantees, the lender is paid the loss claim, including costs incurred for up to three months after the default. After the loss claim is paid, RHS has no involvement in the

loan, and it becomes the sole responsibility of the lender to dispose of the property. RHS is currently in the process of centralizing and automating the loss claim process to improve consistency and efficiency.

RHS programs differ from other Federal housing loan guarantee programs. RHS programs are means-tested and more accessible to low-income, rural residents. In addition, the RHS direct loan program offers deeper assistance to very-low-income homeowners by reducing the interest rate down to 1 percent for such borrowers. The program helps the "on the cusp" borrower obtain a mortgage, and requires graduation to private credit as the borrower's income increases over time. The interest rate depends on the borrower's income. Each loan is reviewed annually to determine the interest rate that should be charged on the loan in that year based on the borrower's actual annual income. The program cost is balanced between interest subsidy and defaults. For 2004, RHS expects to provide \$1.4 billion in loans with a subsidy cost of 9.27 percent.

RHS also offers multifamily housing loans. Direct loans are offered to private developers to construct and rehabilitate multi-family rental housing for very-low to low-income residents, elderly households, or handicapped individuals. These loans to developers are very heavily subsidized; the interest rate is between 1 and 2 percent. A subset of these loans is the farm labor housing direct loans, which are similarly subsidized and provide rental units for farm workers, the majority of whom are minorities. RHS rental assistance grants supplement both of these loan programs in the form of project based rent subsidies for very low-income rural households (for continuation of this assistance plus new commitments, the cost will be \$740 million in 2004). RHS will address management issues in its multifamily housing portfolio in 2004 by restricting the \$71 million loan level to repair and rehabilitation of its existing portfolio (17,400 projects, 446,000 units). They will also conduct a study on how to fund new construction in a more cost efficient manner with a continued emphasis on the preservation of existing units. Farm labor housing will have a program level of \$59 million and will provide for new construction as well as repair/rehabilitation. RHS also offers guaranteed multifamily housing loans with a loan level of \$100 million a year.

Fannie Mae and Freddie Mac

Fannie Mae and Freddie Mac (the "Enterprises") are Federally-chartered, shareholder owned corporations that were created by Congress to achieve public purposes. Specifically, the Enterprises are required to establish a secondary market for residential mortgages below a certain size and to assist the secondary mortgage market by increasing the liquidity of mortgage investments. The Enterprises also are required to purchase mortgages that serve low-and moderate-income families and families living in communities undeserved by the mortgage markets. To assist the Enterprises in achieving their public purpose, Congress granted Fannie Mae and Freddie Mac certain benefits that are

not available to fully private corporations, including an exemption from State and local taxes. The Secretary of the Treasury also has authority to purchase up to \$2.25 billion of each Enterprises' debt securities.

The Enterprises carry out their public mission by providing financing for mortgages. The Enterprises create mortgage-backed securities (MBS) from pools of loans provided by lenders. The lenders can then choose to hold these securities themselves or to sell them into the market. The Enterprises earn profits for their stockholders by charging fees for their guarantees against potential credit losses on these securities.

The Enterprises also earn profits by purchasing mortgages and other mortgage-backed assets (including MBS that they have issued) and funding the purchases through the issuance of debt. The mortgage asset portfolios of the two Enterprises have grown in the past year by 11 percent. Each Enterprise also markets technology and services to support the mortgage lending process, another source of earnings.

The bulk of the Enterprises' profits reflect the rewards they earn for taking and managing risks. These risks mainly fall into two categories: Credit risk and Interest rate risk.

Credit risk arises from the Enterprises' guarantee against losses when mortgages they have purchased default, whether the mortgages support investor-owned MBS or whether they are held in the Enterprises' portfolios as individual loans or as MBS. The Enterprises manage credit risk by establishing underwriting guidelines for the mortgages they purchase, using automated underwriting tools, and manage loan performance through servicing and loss mitigation activities. The Enterprises also share credit risk with private mortgage insurers on pools of mortgages and on individual mortgages with low down payments. They also share risk with other third-party guarantors and, in some cases, with lenders.

Interest rate risk arises from the mortgages and other assets that the Enterprises hold in their portfolios. This risk results from changes in market interest rates that might reduce the spread between the return that the Enterprises earn on their holdings and the interest they pay on borrowings used to finance them. Mismatches between the duration of assets and liabilities and the potential for changes in prepayment speeds give rise to interest rate risk. The Enterprises limit interest rate risk by various means, including matching the projected duration of their assets and liabilities, and purchasing options that effectively allow them to alter the speed with which they retire their fixed-rate liabilities.

- The Enterprises must manage the interest rate risk on MBS they hold in portfolio just as they manage the risks on individual loans. As of September 2002, the two Enterprises held a combined \$797 billion of their own previously issued MBS, accounting for 62 percent of their combined mortgage asset portfolios.

- Although holding substantially more securities rather than individual loans could facilitate the sale of portfolio assets should the Enterprises choose to liquidate these assets, some have proposed limiting the size of the Enterprises' retained portfolios for both MBS and individual loans. These proposals are based partly on a desire to minimize the Enterprises' exposure to possible losses that could result from substantial interest rate risk.

The inherent risks of the Enterprises' business are constantly monitored by the market and by their Federal safety and soundness regulator, established in October 1992, the Office of Federal Housing Enterprise Oversight (OFHEO).

Increased voluntary disclosures, which the Enterprises initiated in the first quarter of 2001, have helped investors better assess the level of each Enterprise's risk exposure. Both Enterprises now disclose measures of their interest rate risk on a monthly basis and issue credit risk disclosures on a quarterly basis. They also obtain and disclose an annual rating of their financial condition from a nationally recognized agency. In July 2002, Fannie Mae and Freddie Mac announced that they would voluntarily register their common stock with the SEC under provisions of Section 12(g) of the Exchange Act, 15 U.S.C. 781 (g). As part of this voluntary step, OFHEO will promulgate a regulation that will require the Enterprises to comply with SEC requirements. Taken together, these steps will subject the Enterprises to the same periodic disclosures that the SEC requires of other publicly traded companies.

OFHEO's new capital requirements will enhance its regulatory oversight and reinforce market discipline. OFHEO began quarterly publication of a risk-based capital requirement for the Enterprises in the second quarter of FY 2002, and this requirement became fully enforceable in the fourth quarter. Both Enterprises held more than the required capital in that quarter. Fannie Mae's capital was \$27.278 billion while its risk based requirement was \$21.440 billion. Freddie Mac's capital was \$23.101 billion while its risk based requirement was \$4.919 billion. Besides ensuring that the Enterprises maintain a level of capital commensurate with their risk, the risk-based capital requirement also can enhance market discipline. The Enterprises and the marketplace may use the quarterly changes in this measure as another indication of their overall risk exposure and their ability to manage it.

Who benefits from Enterprise risk-taking? Because they receive substantial advantages from the Federal Government, such as conditional access to up to \$2.25 billion of US Treasury borrowing and exemption from State and local income taxes, some perceive the Enterprises as having Government support—despite the fact that the Government explicitly does not guarantee their securities. As a result, they are able to fund their operations at lower cost than would other private firms with similar financial characteristics. In a report published in May 2001, the Congressional

Budget Office (CBO) estimated this funding advantage for the year 2000 to be a \$10.6 billion annual subsidy. Of this amount, CBO estimated that borrowers received \$6.7 billion of the subsidy, while the Enterprises retained about \$3.9 billion, or 37 percent of the subsidy, for their shareholders or other stakeholders. Subsequently, through September 2002, the Enterprises have increased their combined debt-funded retained portfolios by 29 percent and their off-balance sheet MBS by 34 percent.

To help ensure that the Enterprises' subsidy contributes to the maximum extent possible to underserved housing needs, the Congress in 1992 mandated that the Department of Housing and Urban Development (HUD) establish annual "housing goals." The housing goals define percentages of the Enterprises' annual purchases that must serve very-low, low-, and moderate-income borrowers and borrowers living in communities that are underserved by the private market. Underserved communities include high-minority and low-income census tracts, which traditionally have had more difficulty than other areas in obtaining mortgage credit. Congress has directed that, in setting the level of the housing goals, HUD must consider, among other factors, the extent to which the Enterprises "lead the mortgage finance industry" in service to these categories of potential borrowers.

The President has set a goal for the Nation of adding 5.5 million new minority homebuyers by 2010. To help meet this goal, together the Enterprises have pledged to purchase \$1 trillion in mortgages made to minority families, and both Enterprises are implementing initiatives designed to remove barriers to and increase opportunities for homeownership by minorities. Numerous studies by HUD and other researchers have shown that Fannie Mae and Freddie Mac generally have trailed the rest of the private mortgage market in funding mortgage loans for low-income and minority families. For example, during the 1997–1999 period, HUD estimates that while the home loans acquired by these Enterprises represented 36 percent of all new home buyer purchases, they represented only 15 percent of homes purchased by first-time minority families. On the other hand, FHA loans, the traditional entry point to the home finance market for many minority homebuyers and first-time homebuyers, were only 16 percent of the overall market, but totaled 37 percent of the first-time minority market.

In 2001, both Fannie Mae and Freddie Mac achieved all of their HUD-established housing goals. Fannie Mae financed over \$87 billion in loans to nearly 680,000 minority families. Fannie Mae also financed over \$132 billion in loans to over 1,500,000 low- and moderate-income families. Freddie Mac purchased \$132 billion in single-family mortgages funding homes for 1.5 million low- and moderate-income families. Additionally, Freddie Mac's purchases of almost \$12 billion in multi-family mortgages financed 300,000 units of rental housing affordable to low- and moderate-income families.

Freddie Mac also financed \$54 billion in mortgages funding homes for more than 400,000 minority families.

HUD is also looking at new ways to encourage improved performance from the Enterprises. HUD's current rule established the Enterprises' housing goals for 2001–2003. In accordance with its rulemaking responsibilities, HUD is re-examining these housing goals to determine appropriate performance levels for the years 2004–2006. At the same time, HUD is looking at ways to create new housing goals incentives that will have the effect of increasing minority homeownership, thereby further ensuring that the benefits each Enterprise derives from its Congressional charter are used to increase minority homeownership opportunities.

Federal Home Loan Bank System

The Federal Home Loan Bank System, consisting of 12 banks (FHLBs) serving their districts, was established in 1932 to provide liquidity to home mortgage lenders. The FHLBs carry out this mission by issuing debt and using the proceeds to make advances (secured loans) to their members. Member institutions, which include thrifts, commercial banks, and credit unions, secure advances primarily with residential mortgages and other housing-related assets. To assist the FHLBs in achieving their public purpose, Congress granted certain benefits that are not available to fully private corporations, including a \$4 billion conditional line of credit with the U.S. Treasury and exemption from State and local taxes.

The FHLBs experienced moderate growth in the past year, while their profitability declined slightly. Outstanding advances reached \$490.7 billion in September 2002, a 5.1 percent increase over the \$466.8 billion outstanding a year earlier. As of September 30, 2002, about 69 percent of advances had a remaining maturity of greater than one year—up from 64 percent one year earlier. Mortgage loans outstanding were \$47.1 billion, up from \$22.6 billion one year earlier. Mortgage loans accounted for approximately 6.2 percent of total FHLBs' assets. In 2002, the FHLBs issued \$4.6 trillion in debt securities, most of which represented the rollover of overnight or short-term debt. While the majority of the debt issued by the System is overnight or short-term, 79 percent of debt outstanding had an original maturity of one year or longer. Total debt outstanding was about \$688 billion at the end of 2002. The FHLBs reported net income of \$1.9 billion for the year ending September 30, 2002, down from \$2.1 billion in the previous 12 months.

Traditionally, the FHLBs have been exposed to little credit risk. All advances to member institutions are collateralized, and the FHLBs can call for additional or substitute collateral during the life of an advance. As long as FHLBs adhere to conservative collateral policies (high-quality collaterals and a high ratio of collateral value to the loan amount), their exposure to credit risk will continue to be minimal in the future. The benefit of using collateral, however, comes at the cost of increasing the potential liability of the Federal De-

posit Insurance Corporation (FDIC). Since the FHLBs' collateralized claim is senior to the FDIC's claim, the FDIC has less to recover in cases where a member institution with large FHLB advances fails. Thus, FHLB advances, like secured loans from other creditors, could indirectly increase the Federal Government's exposure to credit risk. As is the case with other financial intermediaries, FHLBs are potentially exposed to interest rate risk, which should be carefully managed.

The System's new investment activities, including mortgage purchase programs, involve more risk while offering new alternative ways of doing mortgage business. In one of these programs, the Mortgage Partnership Finance Program, the FHLBs finance mortgage loans and assume the interest-rate and prepayment risk, while the member banks and thrifts originate and service the loans and assume a portion of the credit risk. All assets held by an FHLB under these mortgage purchase programs are required, pursuant to the terms of the program, to be credit enhanced to at least the level of an investment-grade security. In addition, an FHLB must hold risk-based capital against mortgage assets that have credit risk equivalent to an instrument rated lower than double A.

To control the System's risk exposure, the Federal Housing Finance Board (the FHLBs' regulator) has established regulations and policies that the FHLBs must follow to evaluate and manage their credit and interest-rate risk. FHLBs must file periodic compliance reports, and the Finance Board conducts an annual on-site examination of each FHLB. Each FHLB's board of directors must establish risk-management policies that comport with Finance Board guidelines. Each FHLB is also required to adopt and implement a capital plan consistent with provisions of the Gramm Leach Bliley Act and Finance Board regulations. In 2002, the Finance Board approved the capital plan of each FHLB. These plans call for implementation over the next several years.

Education Credit Programs and GSEs

The Federal Government guarantees loans through intermediary agencies and makes direct loans to students to encourage post-secondary education. The Student Loan Marketing Association (Sallie Mae), a GSE, securitizes guaranteed student loans.

Student Loans

The Department of Education helps to finance student loans through two major programs: the Federal Family Education Loan (FFEL) program and the William D. Ford Federal Direct Student Loan (Direct Loan) program. Eligible institutions of higher education may participate in one or both programs. Loans are available to students regardless of income. However, borrowers with low family incomes are eligible for additional interest subsidies. For these loans, the Federal Government subsidizes interest costs while borrowers

In 2002, the Administration encouraged all Government Sponsored Enterprises, including the FHLBs, to voluntarily register their equity securities with the Securities and Exchange Commission (SEC). This voluntary registration is part of the Administration's efforts to have GSEs undergo the same scrutiny process as other corporate enterprises. Unlike Fannie Mae and Freddie Mac, which have committed to participating in the disclosure process, the FHLBs have not yet decided to register their stock with the SEC.

The FHLBs' evolving member composition and investment activities raise questions about the degree to which the System continues to promote the public policy objective of providing liquidity to home mortgage lenders. As a result of opening membership to commercial banks and credit unions, for example, many member institutions now have very limited involvement in mortgage lending. In addition, like other GSEs, the FHLBs issue debt securities at close to U.S. Treasury rates and invest the proceeds in higher-yielding securities. Through September 2002, the FHLBs' investments other than advances rose to \$215 billion, compared with \$194 billion a year earlier. As a percentage of total assets, those investments remained at 28 percent. While these investments may enable the FHLBs to provide benefits to member institutions, they do not necessarily result in lower costs to home buyers. According to a report by the Congressional Budget Office (CBO), member advances can be used to fund other loans besides mortgages. While the CBO report found, through competitive pressures, that "members may be forced to pass most of the benefit through to their own customers," the report concluded that of the \$3 billion annual subsidy that the FHLBs received from their funding advantage and other benefits in 2000, only \$0.3 billion was passed on to mortgage borrowers in the form of lower interest rates.

are in school, during a six-month grace period after graduation, and during certain deferment periods.

In 2004, more than 6 million borrowers will receive over 12 million loans totaling \$67 billion. Of this amount, nearly \$48 billion is for new loans, and the remainder reflects the consolidation of existing loans. Loan levels have risen dramatically over the past 10 years as a result of rising educational costs, higher loan limits, and an increase in eligible borrowers.

The FFEL program provides loans through an administrative structure involving over 3,500 lenders, 36 State and private guaranty agencies, roughly 50 participants in the secondary market, and approximately 6,000 participating schools. Under FFEL, banks and other eligible lenders loan private capital to students and parents, guaranty agencies insure the loans, and the Federal Government reinsures the loans against borrower default. In 2004, FFEL lenders will disburse

nearly 9 million loans totaling almost \$47 billion in principal. Lenders bear two percent of the default risk, and the Federal Government is responsible for the remainder. The Department also makes administrative payments to guaranty agencies and pays interest subsidies to lenders.

The William D. Ford Direct Student Loan program was authorized by the Student Loan Reform Act of 1993. Under the Direct Loans program, the Federal Government provides loan capital directly to roughly 1200 schools, which then disburse loan funds to students. In 2004, the Direct Loan program will generate more than 3.5 million loans with a total value of nearly \$20 billion. The program offers a variety of flexible repayment plans including income-contingent repayment, under which annual repayment amounts vary based on the income of the borrower and payments can be made over 25 years with any residual balances forgiven.

Recently, historically low interest rates have significantly affected the Federal costs and receipts associated with these programs, as well as borrowers' decisions to consolidate their student loans. In FFEL, for example, low interest rates have decreased the Federal interest subsidies paid to lenders on behalf of low-income borrowers while they are in school or during grace or deferment periods. In Direct Loans, the steep decline in short-term interest rates has decreased borrowers' loan repayments, resulting in lower Federal receipts.

In recent years, low interest rates have also contributed to a dramatic increase in fixed-rate Consolidation Loans, which allow borrowers to combine one or more FFEL, Direct Loan, or other Federal student loans. When interest rates are low, borrowers have a strong incentive to consolidate their existing loans to lock in at a low fixed rate. In 1995, Consolidation Loans totaled \$3.6 billion, accounting for roughly 13 percent of overall student loan volume. By 2002, these loans grew more than six fold to nearly \$22.7 billion, making up approximately 56 percent of total student loan volume. This high rate of growth should slow if, as projected, interest rates increase from current levels. Consolidation Loans are projected to be \$24.4 billion in 2003 and to decrease to \$19.1 billion in 2004.

For Fiscal Year 2004, the Administration is once again proposing to address the shortage of qualified, skilled math, science, and special education teachers

in elementary and secondary schools by expanding loan forgiveness. This proposal builds upon the teacher loan forgiveness program authorized in the 1998 Higher Education Amendments, which provided up to \$5,000 of loan forgiveness to teachers of any subject who teach for five consecutive years in schools serving low-income populations. The Administration is proposing to increase loan forgiveness to \$17,500 for highly qualified teachers who teach math, science, or special education for five years in high-need schools. Such schools would include those with a high concentration of low-income students and those in which there is a large proportion of out-of-field math, science, and special education teachers.

Sallie Mae

The Student Loan Marketing Association (Sallie Mae) was chartered by Congress in 1972 as a for-profit, shareholder-owned, Government-sponsored enterprise (GSE). Sallie Mae was privatized in 1997 pursuant to the authority granted by the Student Loan Marketing Association Reorganization Act of 1996. The GSE is a wholly owned subsidiary of SLM Corporation and must wind down and be liquidated by September 30, 2008. In January 2002, the GSE's board of directors announced that it expects to complete dissolution of the GSE by September 30, 2006. The Omnibus Consolidated and Emergency Supplemental Appropriations Act of 1999 allows the SLM Corporation to affiliate with a financial institution upon the approval of the Secretary of the Treasury. Any affiliation will require the holding company to dissolve the GSE within two years of the affiliation date (unless such period is extended by the Department of the Treasury).

Sallie Mae makes funds available for student loans by providing liquidity to lenders participating in the FFEL program. Sallie Mae purchases guaranteed student loans from eligible lenders and makes warehousing advances (secured loans to lenders). Generally, under the privatization legislation, the GSE cannot engage in any new business activities or acquire any additional program assets other than purchasing student loans. The GSE can continue to make warehousing advances under contractual commitments existing on August 7, 1997. Sallie Mae currently holds approximately 42 percent of all outstanding guaranteed student loans.

Business and Rural Development Credit Programs and GSEs

The Federal Government guarantees small business loans to promote entrepreneurship. The Government also offers direct loans and loan guarantees to farmers who may have difficulty obtaining credit elsewhere and to rural communities that need to develop and maintain infrastructure. Two GSEs, the Farm Credit System and the Federal Agricultural Mortgage Corporation, increase liquidity in the agricultural lending market.

Small Business Administration

The Small Business Administration (SBA), created in 1953, helps entrepreneurs start, sustain, and grow small businesses. As a "gap lender" SBA works to supplement market lending and provide access to credit where private lenders are reluctant to do so without a Government guarantee.

The 2004 Budget requests \$226 million for SBA to leverage more than \$20 billion in financing for small

businesses. The 7(a) General Business Loan program will support \$9.3 billion in guaranteed loans, while the 504 Certified Development Company program will support \$4.5 billion in guaranteed loans. SBA will supplement the capital of Small Business Investment Companies (SBICs), which provide equity capital and long-term loans to small businesses, with \$7 billion in participating securities and guaranteed debentures. In addition, SBA expects to provide \$20 million in microloans, along with \$15 million in technical assistance to increase the likelihood of success of these very small business borrowers.

To continue to serve the needs of small businesses, SBA will focus program management in three areas: (1) targeting economic assistance to the neediest small businesses, (2) improving risk management, and (3) operating more efficiently.

While SBA can guarantee loans up to \$1 million, the greatest need for Government assistance is for loans below \$150,000. Loans below \$150,000 are usually for very small or start-up businesses. Lenders, however, are generally reluctant to make these loans due to high administrative costs and low financial returns. The SBA guarantee will encourage banks to increase the number of loans they make that are below \$150,000.

To more effectively target economic assistance to small businesses, SBA will address the findings of a Program Assessment Rating Tool (PART), which was used to evaluate the 504 loan program. The PART found that the 504 program duplicates the 7(a) program in that both provide long-term financing for fixed assets (land, buildings, and large equipment). Additionally, the PART revealed that the 504 program does not have long-term, measurable public policy objectives that flow from an agency strategic plan. Finally, the PART found that the 504 program needs to increase the availability of intermediaries so that borrowers can more readily determine which of SBA's programs (7(a) or 504) better meets their needs.

To address these findings, the 2004 Budget proposes to increase program evaluations to determine the factors that affect both demand and performance in the 504 and 7(a) programs. The proposed evaluations would also compare the cost of 504, 7(a), and private sector loans. Further, SBA will solicit the public's views as it prepares to develop a regulation regarding long-term programmatic goals and increasing borrower choice for 504 and 7(a) loans.

Improving management by measuring and mitigating risks in SBA's \$50 billion business loan portfolio is one of the agency's greatest challenges. As the agency delegates more responsibility to the private sector to administer SBA guaranteed loans, oversight functions become increasingly important. SBA established the Office of Lender Oversight, which is responsible for evaluating individual SBA lenders. This office will employ a variety of analytical techniques to ensure sound financial management by SBA and its lending partners, including overall financial performance analysis, industry concentration analysis, peer lending performance

comparisons, portfolio performance analysis, and selected credit reviews. The oversight program will also encompass on-site safety and soundness examinations and off-site monitoring of Small Business Lending Companies (SBLCs) and compliance reviews of SBA lenders. In addition, the office will develop incentives for lenders to minimize defaults and to adopt measurable performance measures.

SBA has also been developing a Loan Monitoring System (LMS), which will further support lender oversight by improving SBA's data collection and processing capabilities, providing a direct and better interface with lenders, and helping to increase lender accountability.

Improving risk management also means improving SBA's ability to more accurately estimate the cost of subsidizing small business loans. This has been a source of some controversy for the Section 7(a) program in recent years. During the period of strong economic growth over the last few years, initial subsidy estimates appeared to significantly overstate actual experience for various loan cohorts. However, during the recent economic downturn, actual defaults have increased and are now more closely aligned with original projections. For the Section 7(a) program, SBA projected an estimate of \$757 million in defaults for loans made in fiscal year 2002, which was only 2.3 percent higher than the actual amount of defaults, which was \$740 million. For the Section 504 program, SBA underestimated fiscal year 2002 defaults by 8 percent. Although the agency projected \$100 million in defaults for loans made in fiscal year 2002, actual defaults reached \$108 million. Such swings in subsidy estimates are not surprising as statistical forecasts are not precise but rather represent the best estimates that can be made with available data.

The Administration has also made two technical improvements that enhance the Section 7(a) credit subsidy estimate. First, SBA has improved the quality of the data. Second, SBA has made significant progress in improving the accuracy of the subsidy estimate in the 7(a) program through the development of an econometric model. This new model incorporates predictive economic variables. As a result, the new model is more accurate in capturing yearly fluctuations in program performance than the straight averaging method applied in prior years. The difference can be substantial. Applying the econometric model to fiscal year 2003 produces a subsidy rate of 1.04 percent, rather than the 1.76 percent included in the fiscal year 2003 Budget that was delivered using the previous model.

Further, SBA is improving oversight and accounting practices in the ongoing sale of more than \$5 billion in direct loans from SBA's portfolio. The agency is reassessing the accounting of prior sales to more accurately reflect the impact of asset sales on the overall cost of SBA's direct loans. SBA is committed to resolving accounting discrepancies prior to conducting any further asset sales. SBA also sells 7(a) guaranteed loans through a master reserve fund (MRF), which serves as the agency's vehicle for managing loans sold in the

secondary market. To properly manage any risk associated with this fund, SBA will budget and account for the Government's liability in accordance with the Federal Credit Reform Act. Specifically, SBA will reflect in the 2004 Budget the estimated liability of MRF financial activity. In the future SBA will refine these estimates and develop financial reports to measure portfolio risk.

To operate more efficiently, SBA will automate loan origination activities in the disaster loan program with a paperless loan application. As a result, loan-processing costs, times, and errors will decrease, while Government responsiveness to the needs of disaster victims will increase. While still in the design stage, SBA expects to begin full implementation of the paperless disaster loan application in 2004. Additionally, because loan-servicing functions can often be better performed by the private sector, SBA is subjecting performance of these activities to competition. The agency will, therefore, focus its resources on core programs such as providing access to capital, technical assistance, and Federal contracting opportunities.

USDA Rural Infrastructure and Business Development Programs

USDA provides grants, loans, and loan guarantees to communities for constructing facilities such as health-care clinics, day-care centers, and water and wastewater systems. Direct loans are available at lower interest rates for the poorest communities. These programs have very low default rates. The cost associated with them is due primarily to subsidized interest rates that are below the prevailing Treasury rates.

The program level for the Water and Waste (W&W) loan and grant program in the 2004 President's Budget is \$1.5 billion. These funds are available to communities of 10,000 or less residents. The program finances drinking water, sewer, solid waste disposal, and storm drainage facilities through direct or guaranteed loans and grants. In order to qualify, applicant communities must be unable to finance their needs through their own resources or with credit from commercial lenders. Priority is given to loans serving smaller communities that have greater financial need, based on their median household income, poverty levels, and size of service population as determined by the USDA's field office staff. The community typically receives a combination of loans and grants depending on how much they can afford. The grant is usually for 35–45% of the project cost (it can be up to 75%). Loans are for 40 years with interest rates based on a three-tiered structure (poverty, intermediate, and market) depending on community income. The community facility programs are targeted to rural communities with fewer than 20,000 residents and have a program level of \$477 million in 2004. USDA also provides grants, direct loans, and loan guarantees to assist rural businesses, including cooperatives, to increase employment and diversify the rural economy. In 2004, USDA proposes to provide \$602

million in loan guarantees to rural businesses (these loans serve communities of 50,000 or less).

These community programs are all part of the Rural Community Advancement Program (RCAP). Under RCAP, States have increased flexibility within the three funding streams for Water and Wastewater, Community Facilities, and Business and Industry (B&I). USDA also provides loans through the Intermediary Relending Program (IRP), which provides loan funds at a 1 percent interest rate to an intermediary such as a State or local government agency that, in turn, provides funds for economic and community development projects in rural areas. In 2003, USDA expects to retain or create 53,494 new jobs through the B&I guarantee and the IRP loan programs.

Electric and Telecommunications Loans

USDA's rural electric and telecommunications program makes new loans to maintain existing infrastructure and to modernize electric and telephone service in rural America. Historically, the Federal risk associated with the \$40 billion loan portfolio in electric and telephone loans has been small, although several large defaults have occurred in the electric program. In 1997, \$667 million worth of largely nuclear power construction loans was written off, but this case was unusual. The large nuclear generation loans have proven to be the most risky electric loans. USDA has not approved a nuclear power generation loan for over 20 years.

The subsidy rates for most of the electric and telecommunication programs are negative. The subsidy rates have decreased largely due to the low interest rates that are projected in the Budget and used to discount future loan repayments. The default rates for both programs are very low, less than one percent. With increased deregulation, however, there is the possibility of increased defaults in the electric program because competition resulting from deregulation may erode the ability of some borrowers to repay. So far there has not been any significant effect on rural cooperatives due to deregulation. As information on the impact of deregulation increases, this risk will be factored into the default rates. In addition, recent problems in the telecommunications industry have not had a significant impact on rural telecommunications cooperatives. The number of electric loans has been increasing due to large increases in loan level appropriated over the last several years. The average size for electric loans has also been increasing. The number and the size of telecommunications loans have remained steady.

Providing funding and services to needy areas is of concern to USDA. Many rural cooperatives provide service to areas where there are high poverty rates. Based on findings of the PART analysis, the 2004 Budget proposes to increase funding (increases of \$120 million for electric loans and \$70 million for telecommunications loans) to those electric and telecommunications loans which are targeted to severely depressed areas. USDA will target electric loan funds to areas of high poverty. These changes will increase the availability

of utility service in needy areas, improving the quality of life and helping to retain and attract businesses. In addition, to ensure the program's focus on rural areas, the Budget proposes to require recertification of rural status for each electric and telecommunications borrower on the first loan request received in or after FY 2004 and on the first loan request received after each subsequent Census.

USDA's Rural Utilities Service (RUS) proposes to make \$2.6 billion in direct and guaranteed loans in 2004 to rural electric cooperatives, public bodies, non-profit associations, and other utilities in rural areas for generating, transmitting, and distributing electricity. This funding request includes provision for guaranteeing \$100 million in electric loans made by private banks. The demand for loans to rural electric cooperatives has been increasing and is expected to increase further as borrowers replace many of the 40-year-old electric plants. With the \$2.6 billion in loans, RUS borrowers are expected to upgrade 225 rural electric systems, which will benefit over 3.4 million customers and create or preserve approximately 50,000 jobs.

USDA's RUS proposes to make \$495 million in direct loans in 2004 to companies providing telecommunications in rural areas. The uses of the telecommunication loans are changing from bringing service to new customers to upgrading existing service with new technology. With the \$495 million in loans, RUS borrowers are expected to fund over 50 telecommunication systems for advanced telecommunications services. This funding will provide broadband and high-speed Internet access and benefit over 300 thousand rural customers.

The Rural Telephone Bank (RTB), which provides financing for rural telecommunications systems, is in the process of privatization. The 2004 Budget does not propose funding to support new loans. There is significant member and borrower support for statutorily authorized privatization. The RTB is financially able to privatize by the end of 2004, and this provides enough time to finish a privatization study and prepare for privatization. The RTB is provided full salaries and expenses to service existing loans, to finish a privatization study, and prepare for privatization by the end of 2004.

The Distance Learning and Telemedicine program provides grants and loans to improve distance learning and telemedicine services in rural areas and encourage students, teachers, medical professionals, and rural residents to use telecommunications, computer networks, and related advanced technologies. With the \$25 million in grants and \$50 million in loans, RUS borrowers are expected to provide distance learning facilities to 300 schools, libraries, and rural education centers and also provide telemedicine equipment to 150 rural health care providers, benefiting millions of residents in rural America.

There were various legislative actions that impacted RUS. This includes the Local TV Act that provides authorization for RUS to provide loans to bring local television to rural customers. Funding was provided in the 2002 appropriations and in the 2002 Farm Bill. The

2002 Farm Bill also authorized a broadband loan program and provided funding through 2007. This program will help bring high speed Internet access to rural areas. The 2004 Budget proposes converting the mandatory broadband funding into discretionary funding.

Loans to Farm Operators

Farm Service Agency (FSA) assists low-income family farmers in starting and maintaining viable farming operations. Emphasis is placed upon aiding beginning and socially disadvantaged farmers. FSA offers operating loans and ownership loans, both of which may be either direct or guaranteed loans. Operating loans provide credit to farmers and ranchers for annual production expenses and purchases of livestock, machinery, and equipment. Farm ownership loans assist producers in acquiring and developing their farming or ranching operations. As a condition of eligibility for direct loans, borrowers must be unable to obtain private credit at reasonable rates and terms. As FSA is the "lender of last resort," default rates on FSA direct loans are generally higher than those on private-sector loans. However, in recent years the loss rate has decreased to 4.8 percent in 2002, compared with 5.4 percent in 1999.

FSA guaranteed farm loans are made to more credit-worthy borrowers who have access to private credit markets. Because the private loan originators must retain 10 percent of the risk, they exercise care in examining the repayment ability of borrowers. As a result, losses on guaranteed farm loans have been low. As for direct loans, the default rate on guaranteed loans declined in recent years; it was percent 0.6 percent in 2002, as compared with 0.9 percent in 1999.

The 2002 Farm Bill changed some of the requirements for managing inventory property. Property acquired through foreclosure on direct loans must now be sold at auction within 165, rather than 105 days of acquisition. The new rule allows more time to advertise and encourage participation from beginning farmers.

The subsidy rates for these programs have been fluctuating over the past several years. These fluctuations are mainly due to the interest component of the subsidy rate. The default rates for these programs tend to be below ten percent. As shown above, both the direct and guaranteed loans have experienced a decreasing default rate.

In fiscal year 2002, FSA provided loans and loan guarantees to approximately 30,000 family farmers totaling \$3.5 billion. The number of loans provided by these programs have fluctuated over the past several years. The average size for farm loans has been increasing. The majority of assistance provided in the operating loan program is to existing FSA farm borrowers. In the farm ownership program, new customers receive the bulk of the benefits furnished.

In the last few years, the demand for FSA direct and guaranteed loans have been high due to crop/livestock price decreases and some regional production problems. In 2004, USDA's FSA proposes to make \$3.5

billion in direct and guaranteed loans through discretionary programs.

USDA's Loan Sale Initiative

In 2004, USDA's Rural Development along with the Farm Service Agency will conduct a review and develop a pilot loan asset sale. The sale should include both performing and non-performing loans with a loan mix that results in the greatest budgetary savings for the Federal government. Although the exact mix of loans has not been determined a placeholder has been included in the 2004 Budget to reflect the sale.

The Farm Credit System and Farmer Mac

The Farm Credit System (FCS or System) and the Federal Agricultural Mortgage Corporation (Farmer Mac) are Government-Sponsored Enterprises (GSEs) that enhance credit availability for the agricultural sector. The FCS provides production, equipment, and mortgage lending to farmers and ranchers, aquatic producers, their cooperatives, and related businesses, while Farmer Mac provides a secondary market for agricultural real estate and rural housing mortgages. Both GSEs face a business risk because their borrowers are generally dependent on a single economic sector, agriculture. The downturn in the agricultural sector in the 1980s caused severe financial difficulties within the FCS.

Legislation in 1987 provided temporary Federal assistance to the FCS and created Farmer Mac. The Nation's agricultural sector and, in turn, its lenders continue to exhibit stability in their income and balance sheets. Unfortunately, this is due, in part, to ad-hoc Government emergency assistance payments that have been provided from 1998 through 2001. The current economic malaise that began in 2001 may not have a significant effect on the agricultural economy because the farm economic cycle doesn't quite coincide with the general economic cycle. Commodity prices remained relatively low in 2002, and drought conditions were widespread. Long-term forecasts are for gradual recovery in commodity prices. Farm income levels, including Government payments, have enabled most borrowers to maintain low debt-to-asset ratios and lenders to keep loan delinquencies well below problem thresholds. However, such aggregate facts may mask the problems of certain sectors within the farm economy as is evident in the rice and cotton sectors where prices are down 50 and 44 percent, respectively, this year when compared to their respective ten year price averages. Farmland values increased moderately in 2001 (up 4.5 percent) due to a combination of Government payments and urban influences. Projections for 2002 see a minimal rise of 1.0 percent in farmland values.

Commercial banks continued their long standing hold on the predominant market share of all farm debt registering a 40.5 percent share in 2001. The FCS trailed with a significant share of 28.3 percent. The United States Department of Agriculture (USDA) direct farm loan programs market share was 3.8 percent, though that percentage would more than double if adjusted

for its guaranteed loans issued through private institutional lenders. USDA expects that both commercial banks and the FCS have maintained their market share in 2002.

The Farm Credit System

The financial condition of the System's banks and associations during 2002 continued a 14-year trend of improving financial health and performance. Improved asset quality and strong income generation enabled FCS to post record capital levels: on September 30, 2002, capital stood at \$15.2 billion—an increase of 8.9 percent for the year. Not included in the \$15.2 billion is restricted capital totaling \$1.8 billion held by the Farm Credit System Insurance Corporation (FCSIC). Loan volume has increased since 1995 to \$87.9 billion in September 2002, which easily surpasses the high of \$81.9 billion in the early 1980s. The rate of asset growth seen in the years 2001 and 2000 has been significant, 7.2 percent and 6.0 percent respectively. The rate of capital accumulation, however, has been greater, resulting in total capital equaling 15.3 percent of total assets at yearend 2000 and 15.8 percent at yearend 2001. Non-performing assets increased slightly to 1.4 percent of the portfolio in September 2002 after remaining steadfast at 1.2 percent in both December 2001 and December 2000. Competitive pressures have narrowed the FCS's net interest margin from 3.03 percent in 1995 to 2.82 percent in 2001. The net interest margin has remained relatively stable at about the 2001 level during 2002. However, the net interest margin is expected to increase in the near-term, given the lower interest rate environment seen through 2002. Substantial consolidation continues in the structure of the FCS. In January 1995, there were nine banks and 232 associations; by October 2002, the numbers reduced to seven banks and 103 associations. From October 2001 to October 2002, the number of associations fell by 12 because of mergers and acquisitions.

The 1987 legislation established FCSIC to ensure timely payment of interest and principal on FCS obligations. FCSIC's net assets, largely comprised of premiums paid by FCS institutions, supplements the System's capital and supports the joint and several liability of all System banks for FCS obligations. On September 30, 2002, FCSIC's net assets totaling \$1.6 billion were slightly below (1.94 percent) the statutory minimum of 2.0 percent of outstanding debt. The Insurance Corporation resumed premium collection from System institutions in 2002 and will quadruple its premium rate in 2003 to ensure the Insurance Fund grows in concert with the expansion in the System's outstanding debt necessitated by strong growth in its loan portfolio.

Improvement in the FCS's financial condition is also reflected in the examinations of FCS member institutions by the Farm Credit Administration (FCA), its Federal regulator. Each of the System institutions is rated under the FCA Financial Institution Rating System (FIRS) for capital, asset quality, management, earnings, liquidity, and sensitivity. At the beginning of 1995, 197

institutions carried the best FIRS ratings of 1 or 2, 36 were rated 3, one institution was rated 4, and no institutions received the lowest rating of 5. In September 2002, in contrast, all but one of the 111 institutions were given ratings of 1 or 2, the remaining one, a relatively small association, was rated 3. As of September 30, 2002, there were no FCS institutions under an enforcement action.

The System had \$87.9 billion in gross loans outstanding as of September 30, 2002. Total loans outstanding have grown by \$7.8 billion, or 9.8 percent, over the year ended September 30, 2002, and by \$24.9 billion, or 39.5 percent, over the past five years. The volume of lending secured by farmland increased 47.6 percent, while farm-operating loans have increased 41.6 percent since 1997. Total members served increased about 3 percent during the past year. Agricultural producers represented by far the largest borrower group, with \$68.1 billion including loans to rural homeowners and leases, or more than three-quarters of the total dollar amount of loans outstanding. As required by law, all borrowers are also stockholder of System institutions. The System has more than 444,000 stockholders; about 84 percent of these are farmers with voting stock. Over half of the System's total loan volume outstanding (51.0 percent) is in long-term real estate loans, over one-quarter (26.5 percent) is in short- and intermediate-term loans to agricultural producers, and 19.1 percent is to cooperatives. International loans (export financing) represent 3.4 percent of the System's loan portfolio.

International Credit Programs

Seven Federal agencies, the Department of Agriculture (USDA), the Department of Defense, the Department of State, the Department of the Treasury, the Agency for International Development (USAID), the Export-Import Bank, and the Overseas Private Investment Corporation (OPIC), provide direct loans, loan guarantees, and insurance to a variety of foreign private and sovereign borrowers. These programs are intended to level the playing field for U.S. exporters, deliver robust support for U.S. manufactured goods, stabilize international financial markets, and promote sustainable development.

Leveling the Playing Field

Federal export credit programs counter subsidies that foreign governments, largely in Europe and Japan, provide their exporters, usually through export credit agencies (ECAs). The U.S. Government has worked since the 1970's to constrain official credit support through a multilateral agreement in the Organization for Economic Cooperation and Development (OECD). This agreement has significantly constrained direct interest rate subsidies and tied-aid grants. Further negotiations resulted in a multilateral agreement that standardized the fees for sovereign lending across all ECAs beginning in April 1999. Fees for non-sovereign lending, however,

The System, while continuing to record strong earnings and capital growth, remains exposed to numerous risks, including concentration risk, changes in Government assistance payments, the volatility of exports and crop prices, and lower non-farm earnings of farm households associated with weakness in the general economy.

Farmer Mac

Farmer Mac was established in 1987 to facilitate a secondary market for farm real estate and rural housing loans. Since the Agricultural Credit Act of 1987, there have been several amendments to Farmer Mac's chartering statute. Perhaps the most significant amending legislation for Farmer Mac was the Farm Credit System Reform Act of 1996 that transformed Farmer Mac from a guarantor of securities backed by loan pools into a direct purchaser of mortgages, enabling it to form pools to securitize. The 1996 Act increased Farmer Mac's ability to achieve its statutory mission. Since the passage of the 1996 Act, Farmer Mac's program activities and business have steadily increased.

Farmer Mac continues to meet statutory minimum core capital requirements. Additionally, Farmer Mac was first required to be in compliance with FCA's risk-based capital rule and stress test on May 23, 2002. This rule and stress test determine the minimum level of regulatory capital necessary to enable Farmer Mac to maintain positive capital during stressful credit and interest rate risk conditions. Farmer Mac is in compliance with the regulatory capital requirements of the risk-based capital rule and stress test.

continue to vary widely across ECAs and markets, thereby providing implicit subsidies.

The Export-Import Bank attempts to strategically "level the playing field" and to fill gaps in the availability of private export credit. The Export-Import Bank provides export credits, in the form of direct loans or loan guarantees, to U.S. exporters who meet basic eligibility criteria and who request the Bank's assistance. USDA's "GSM" programs similarly help to level the playing field. Like programs of other agricultural exporting nations, GSM programs guarantee payment from countries and entities that want to import U.S. agricultural products but cannot easily obtain credit. The U.S. has been negotiating in the OECD the terms of agricultural export financing, the outcome of which could affect the GSM programs.

Stabilizing International Financial Markets

In today's global economy, the health and prosperity of the American economy depend importantly on the stability of the global financial system and the economic health of our major trading partners. The United States can contribute to orderly exchange arrangements and a stable system of exchange rates by providing resources on a multilateral basis through the IMF (discussed in other sections of the Budget), and through

financial support provided by the Exchange Stabilization Fund (ESF).

The ESF may provide “bridge loans” to other countries in times of short-term liquidity problems and financial crises. In the past, “bridge loans” from ESF provided dollars to a country over a short period before the disbursement of an IMF loan to the country. Also, a package of up to \$20 billion of medium-term ESF financial support was made available to Mexico during its crisis in 1995. Such support was essential in helping to stabilize Mexican and global financial markets. Mexico paid back its borrowings under this package ahead of schedule in 1997, and the United States earned almost \$600 million in interest. There was zero subsidy cost for the United States as defined under credit reform, as the medium-term credit carried interest rates reflecting an appropriate country risk premium.

The United States also expressed a willingness to provide ESF support in response to the financial crises affecting some countries such as South Korea in 1997 and Brazil in 1998. It did not prove necessary to provide an ESF credit facility for Korea, but the United States agreed to guarantee through the ESF up to \$5 billion of a \$13.2 billion Bank for International Settlements credit facility for Brazil. Such support helped to provide the international confidence needed by these countries to begin the stabilization process.

Using Credit to Promote Sustainable Development

Credit is an important tool in U.S. bilateral assistance to promote sustainable development. In 2002, all of USAID’s credit programs were consolidated to create the unified Development Credit Authority (DCA), which allows USAID to use a variety of credit tools to support its development activities abroad. This unit encompasses newer DCA activities, such as municipal bond guarantees for local governments in developing countries, as well as USAID’s traditional microenterprise and urban environmental credit programs. DCA provides non-sovereign loans and loan guarantees in targeted cases where credit serves more effectively than traditional grant mechanisms to achieve sustainable development. DCA is intended to mobilize host country private capital to finance sustainable development in line with USAID’s strategic objectives. Through the use of partial loan guarantees and risk sharing with the private sector, DCA stimulates private-sector lending for financially viable development projects, thereby leveraging host-country capital and strengthening subnational capital markets in the developing world. While there is clear demand for DCA’s facilities in some emerging economies, the utilization rate for these facilities is still very low.

OPIC also supports a mix of development, employment, and export goals by promoting U.S. direct investment in developing countries. OPIC pursues these goals through political risk insurance, direct loans, and guarantee products, which provide finance, as well as associated skills and technology transfers. These programs

are intended to create more efficient financial markets, eventually encouraging the private sector to supplant OPIC finance in developing countries. OPIC has also created a number of investment funds that provide equity to local companies with strong development potential.

Ongoing Coordination

International credit programs are coordinated through two groups to ensure consistency in policy design and credit implementation. The Trade Promotion Coordinating Committee (TPCC) works within the Administration to develop a National Export Strategy to make the delivery of trade promotion support more effective and convenient for U.S. exporters.

The Interagency Country Risk Assessment System (ICRAS) standardizes the way in which agencies budget for the risk of international lending. The cost of lending by the agencies is governed by ratings and ICRAS default estimates. The methodology establishes assumptions about default risks in international lending using averages of international bond market data. The strength of this method is its link to the market.

For 2004, OMB used the 2003 methodology, updated for current market data. The 2003 methodology was a significant revision which uses more sophisticated financial analyses and comprehensive market data, and better isolates the expected cost of default implicit in interest rates charged by private investors to sovereign borrowers. All else equal, this change expands the level of international lending an agency can support with a given appropriation. For example, the Export-Import Bank will be able to generally provide higher lending levels using lower appropriations in 2004.

Adapting to Changing Market Conditions

Overall, officially supported finance and transfers account for a tiny fraction of international capital flows. Furthermore, the private sector is continuously adapting its size and role in emerging markets finance to changing market conditions. In response, the Administration is working to adapt international lending at Export-Import Bank and OPIC to dynamic private sector finance. The Export-Import Bank, for example, is developing a sharper focus on lending that would otherwise not occur without Federal assistance. Measures under development include reducing risks, collecting fees from program users, and improving the focus on exporters who truly cannot access private export finance.

OPIC in the past has focused relatively narrowly on providing financing and insurance services to large U.S. companies investing abroad. As a result, OPIC did not devote significant resources to its mission of promoting development through mobilizing private capital. OPIC is developing and implementing policy changes that reflect the mandate to revitalize its core development mission.

These changes at the Export-Import Bank and at OPIC will place more emphasis on correcting market imperfections as the private sector’s ability to bear

emerging market risks becomes larger, more sophisticated, and more efficient.

Due to sufficient carry-over resources, the Budget does not request subsidy appropriations for the Export-Import Bank. The carry-over balance will support a projected increase over the Bank's level of lending in 2003. The Budget provides \$24 million for OPIC credit subsidy in 2004.

IV. INSURANCE PROGRAMS

Deposit Insurance

Federal deposit insurance was established in the depression of the 1930s, which prompted the need to protect small depositors and prevent bank failures from causing widespread disruption in financial markets. Before the establishment of Federal deposit insurance, failures of some depository institutions often caused depositors to lose confidence in the banking system as a whole and rush to withdraw deposits from other institutions. Such sudden withdrawals would seriously disrupt the economy.

The Federal Deposit Insurance Corporation (FDIC) insures the deposits in banks and savings associations (thrifts) through separate insurance funds, the Bank Insurance Fund (BIF) and the Savings Association Insurance Fund (SAIF). Deposits of credit unions are insured through the National Credit Union Administration (NCUA). Deposits are currently insured up to \$100,000 per account. The FDIC insures a combined \$3.3 trillion of deposits at almost 8,000 commercial banks and 1,500 savings institutions. The NCUA insures almost 10,000 credit unions with \$432 billion in insured shares.

Current Industry and Insurance Fund Conditions

The 1980s and early 1990s were a turbulent period for the banking industry, with over 1,400 bank failures and 1,100 thrift failures. The Federal Government responded with the Financial Institutions Reform, Recovery and Enforcement Act of 1989 and the Federal Deposit Insurance Corporation Improvement Act of 1991, which were largely designed to improve the safety and soundness of the banking system. These reforms, combined with more favorable economic conditions, helped to restore the health of depository institutions and the deposit insurance system.

One SAIF member and 8 BIF members with a combined \$2.5 billion dollars in assets failed during 2002. Since 1997, assets associated with BIF failures have averaged \$778 million per year. During 2002, 14 Federally insured credit unions with \$57 million in assets failed (including assisted mergers). The FDIC currently classifies 148 institutions with \$42 billion in assets as "problem institutions," compared to 94 institutions with \$18 billion in assets a year ago. By comparison, at the height of the banking crisis in 1989, failed assets rose to over \$150 billion.

Performance Assessment

For FY 2004, The Administration used the Performance Assessment Rating Tool (PART) to rate Export-Import Bank's long term guarantee program and OPIC's finance program. The PART revealed that both of these programs were well-managed, but need to strengthen their performance measures. The Administration will work with these Agencies to develop and implement more effective performance measures.

Bank earnings increased in fiscal year 2002. The industry net income totaled \$87 billion, an increase of 19 percent from fiscal year 2001. The largest factor in the earnings increase is higher net interest income, which has more than offset a rise in loan loss provisions. Thrift earnings also increased in fiscal year 2002. Net income was \$3 billion higher than a year ago. Despite these favorable conditions, the banking industry faces numerous challenges ahead. Specific areas of concern for FDIC-insured institutions include (1) continuing credit losses at large banks on loans to large, corporate borrowers, (2) concentrations of credit risk among smaller institutions headquartered in formerly fast-growing metro areas, and (3) subprime lenders, which continue to figure prominently among failed and troubled institutions.

In the first calendar year quarter of 2002, the reserve ratio (ratio of insurance reserves to insured deposits) of BIF fell to 1.23-percent, below the 1.25-percent statutory target. The ratio, however, recovered in subsequent quarters. As of September 30, 2002, BIF had estimated reserves of \$31 billion, or 1.25 percent of insured deposits. The SAIF reserve ratio, by contrast, remained comfortably above 1.25-percent throughout the year. As of September 30, 2002, SAIF had reserves of \$12 billion, or 1.39 percent of insured deposits. Through June 30, 2003, the FDIC will continue to maintain deposit insurance premiums in a range from zero for the healthiest institutions to 27 cents per \$100 of assessable deposits for the riskiest institutions. In May, the FDIC will set assessment rates for July through December of this year. Due to the strong financial condition of the industry and the insurance funds, 91 percent of commercial banks and 90 percent of thrifts did not pay insurance premiums in 2002.

The National Credit Union Share Insurance Fund (NCUSIF) also remains strong with assets of nearly \$6 billion. Each insured credit union is required to deposit and maintain an amount equal to 1 percent of its member share accounts in the fund. Premiums were waived during 2002 because sufficient investment income was generated. For the first time in six years, the NCUA Board did not approve a dividend for calendar year 2001, as the Fund's equity ratio did not exceed 1.30 percent. As the equity ratio did not exceed

1.30 percent in 2002, the Fund will not restore dividends this year.

As a result of consolidation, fewer large banks control an increasingly substantial share of banking assets. Thus, the failure of even one of these large institutions could strain the insurance fund. Banks are increasingly using sophisticated financial instruments such as asset-backed securities and financial derivatives, which could have unforeseen effects on risk levels. Whether or not these new instruments add to risk, they do complicate the work of regulators who must gauge each institution's financial health and the potential for deposit insurance losses that a troubled institution may represent.

Federal Deposit Insurance Reform

While the deposit insurance system is in good condition, the Administration proposes to make improvements in the operation and fairness of the deposit insurance system for banks and thrifts. The 2004 Budget proposes to merge the BIF and the SAIF, which offer an identical product. A single merged fund would be stronger and better diversified than either fund alone. A merged fund would prevent the possibility that institutions posing similar risks would again pay significantly different premiums for the same product. Under the current system, the FDIC is required to maintain

a designated reserve ratio (DRR, the ratio of insurance fund reserves to total insured deposits) of 1.25 percent. If insurance fund reserves falls below the DRR, the FDIC must charge either sufficient premiums to restore the reserve ratio to 1.25 percent within one year, or no less than 23 basis points if the reserve ratio remains below 1.25 percent for more than one year. The Administration's proposal would give the FDIC authority to adjust the DRR periodically within prescribed upper and lower bounds and greater discretion in determining how quickly it restores the DRR to target levels. This flexibility would help reduce potential pro-cyclical effects by stabilizing industry costs over time and avoiding sharp premium increases when the economy may be under stress. Finally, the FDIC has been prohibited since 1996 from charging premiums to "well-capitalized" and well-run institutions as long as insurance fund reserves equal or exceed 1.25 percent of insured deposits. Therefore, only nine percent of banks and ten percent of thrifts pay insurance premiums, allowing a large number of financial institutions to rapidly increase their insured deposits without any contribution to the insurance fund. The Administration proposal would repeal this prohibition to ensure that institutions with rapidly increasing insured deposits or greater risks appropriately compensate the insurance fund.

Pension Guarantees

The Pension Benefit Guaranty Corporation (PBGC) insures most defined-benefit pension plans sponsored by private employers. PBGC pays the benefits guaranteed by law when a company with an underfunded pension plan becomes insolvent. PBGC's exposure to claims relates to the underfunding of pension plans, that is, to any amount by which vested future benefits exceed plan assets. In the near term, its loss exposure results from financially distressed firms with underfunded plans. In the longer term, additional loss exposure results from the possibilities that currently healthy firms become distressed in the future and that currently well-funded plans become underfunded due to inadequate contributions or poor investment results.

The number of plans insured by PBGC has been declining as small companies with defined-benefit plans terminate them and shift to defined-contribution pension arrangements such as 401(k) accounts. The number of plans with 1,000 or more participants increased slightly during the 1980's but started to decline in the 1990's. The increase in the number of participants in PBGC-insured plans—from 38 million in 1985 to almost 44 million in calendar 2002—is attributable to aging of the participant population, which includes retirees, separated vested workers, and beneficiaries of deceased workers and retirees, in addition to active workers. The number of active workers in PBGC-covered plans fell from almost 27 million in calendar 1985 to fewer than 23 million in calendar 2000, a decrease of 15 percent. If the trend continues, active workers may constitute

less than half of PBGC-insured participants in calendar 2003.

PBGC's single-employer program returned to a deficit position in 2002 for the first time in seven years, as a result of record losses on plan terminations in 2001 and 2002. LTV, a steel company, terminated its plan with underfunding of nearly \$2 billion, which then was PBGC's largest claim ever. Other large underfunded terminations during the fiscal year included Reliance Insurance Company, RTI, Anchor Glass Container Corporation, and Polaroid Corporation. Additionally, in December 2002, an even larger pension plan than LTV terminated. Bethlehem Steel's plan covers 95,000 workers and retirees and is underfunded by about \$4.3 billion, of which PBGC is liable for about \$3.7 billion.

PBGC's "snapshot" current measure of financial position (deficit or surplus) includes the financial effects only of pension plans that have already terminated and of seriously underfunded large plans for which termination is considered "probable." Additional risk and exposure may remain for the future because of economic uncertainties and significant underfunding in pension plans. Some of the companies with the most underfunded plans are in troubled industries (like airlines or the old-line steel companies), or already are in Chapter 11 bankruptcy proceedings. Because pension underfunding and risk are concentrated in a relatively small number of plans and industries, the number and size of claims is often volatile from year to year. As a result

of this volatility, budget estimates are based on an average of recent claims experience.

PBGC monitors troubled companies with underfunded plans and acts, in bankruptcies, to protect its beneficiaries and the future of the program. Such protections include, where necessary, initiating plan termination. Under its Early Warning Program, PBGC negotiates settlements with companies that improve pension security and reduce PBGC's future exposure to risk. Working with the rest of the Administration, PBGC is identifying options to address structural weaknesses that exacerbate pension underfunding and potential losses to PBGC, workers and retirees, in the event of plan termination.

In 2002, overall investment returns in PBGC's single-employer program were 2.1 percent, with negative returns in its trust funds, which hold mostly equities, and positive returns in the revolving funds, which are invested in U.S. Government securities. Single-employer premium revenues decreased slightly from \$821 million to \$787 million.

PBGC's multiemployer program, which guarantees pension benefits of certain unionized plans offered by several employers in an industry, remained financially

strong, however. The program had a gain in 2002 as a result of reduced liability for future loans to such plans.

PBGC continues to speed up issuance of benefit determinations so that when a participant retires, PBGC can put him or her into pay status with a final (rather than estimated) benefit amount, thereby providing the participant certainty and avoiding the complexities and costs associated with benefit adjustments. The average calculation time for benefit determinations issued in 2002 was 3.3 years, down from 4.9 years in 2000. Improved automated benefit calculation programs are reducing the cost of determining the final benefits and helping to speed the process. This automation will help PBGC administer benefits for the 89,000 participants taken into trusteeship in 2001 and the 187,000 new participants in 2002, the largest increase in PBGC's history. PBGC is working to send first benefit checks more speedily. In 2002, 95 percent of pensioners got their first benefit checks within three months of completing their applications. PBGC also has established a pilot project that enables participants in certain plans to estimate their benefits online at PBGC's website.

Disaster Insurance

Flood Insurance

The Federal Government provides flood insurance through the National Flood Insurance Program (NFIP), which is administered by the Department of Homeland Security (DHS) (the program was formerly administered by the Federal Emergency Management Agency). Flood insurance is available to homeowners and businesses in communities that have adopted and enforced appropriate flood plain management measures. Coverage is limited to buildings and their contents. By 2004, the program is projected to have approximately 4.7 million policies from more than 19,000 communities with \$699 billion of insurance in force.

Prior to the creation of the program in 1968, many factors made it cost prohibitive for private insurance companies alone to make affordable flood insurance available. In response, the NFIP was established to make insurance coverage widely available. The NFIP requires building standards and other mitigation efforts to reduce losses, and operates a flood hazard mapping program to quantify the geographic risk of flooding. These efforts have made substantial progress.

The number of policies in the program has grown significantly over time. The number of enrolled policies grew from 2.4 to 4.3 million between 1990 and 2001, and by about 42,000 policies in 2002. DHS is using three strategies to increase the number of flood insurance policies in force: lender compliance, program simplification, and expanded marketing. DHS is educating financial regulators about the mandatory flood insurance requirement for properties with mortgages from federally regulated lenders. The NFIP also has a multi-pronged strategy for reducing future flood damage. The

NFIP offers mitigation insurance to allow flood victims to rebuild to code, thereby reducing future flood damage costs. Further, DHS adjusts premium rates to encourage community and State mitigation activities beyond those required by the NFIP.

Despite these efforts, the program faces financial challenges. The program's financing account, which is a cash fund, has sometimes had expenses greater than its revenue, preventing it from building sufficient long-term reserves. This is mostly because a large portion of the policyholders pay subsidized premiums. DHS charges subsidized premiums for properties built before a community adopted the NFIP building standards. Properties built subsequently are charged actuarially fair rates. The creators of the NFIP assumed that eventually the NFIP would become self-sustaining as older properties left the program. The share of subsidized properties in the program has fallen, but remains substantial; it was 70 percent in 1978 and is 29 percent today.

Until the mid-1980s, Congress appropriated funds periodically to support subsidized premiums. However, the program has not received appropriations since 1986. During the 1990s, FEMA relied on Treasury borrowing to help finance its loss expenses (the NFIP may borrow up to \$1.5 billion). As of October 31, 2002, the NFIP had repaid all of its outstanding debt.

The NFIP was evaluated on its effectiveness and efficiency this year using the Program Assessment Rating Tool (PART). The PART revealed that the program has clear purpose and is well designed, with the exception of the fact that it is not actuarially sound. The program also received high marks for strategic planning, dem-

onstrating that it has both well-defined long-term and annual goals.

Although the program is generally well run, it receives some criticism about the low participation rate and the inclusion of subsidized properties, especially those that are repetitively flooded. Currently, less than half of the eligible properties in identified flood plains participate in this program. In comparison, the participation rate for private wind and hurricane insurance is nearly 90 percent in at-risk areas. Given that flood damage causes roughly \$6 billion in property damage annually, DHS will have to evaluate its incentive structure to attract more participation in the program, while not encouraging misuse of the program. The Budget also proposes a \$300 million predisaster mitigation grant program to be funded within DHS, some of which will be targeted to buyouts of repetitively flooded properties.

Crop Insurance

Subsidized Federal crop insurance administered by USDA's Risk Management Agency (RMA) assists farmers in managing yield shortfalls due to bad weather or other natural disasters. Private companies are reluctant to offer multi-peril crop insurance without Government reinsurance because of the difficulty of limiting risk exposure; insurance companies are exposed to large losses because losses tend to occur across a wide geographic area. For example, a drought usually affects many farms at the same time. In 2002, much of the agriculture region across the US suffered from severe drought conditions. As a result, the amount of claim payments made under the crop insurance program increased significantly. This suggests that the Federal Government plays an important role in mitigating the risks faced by the agricultural community. RMA continues to create new products for commodities that are not offered coverage under the current crop insurance program so that the Government can reduce the need for ad-hoc disaster assistance payments to the agriculture community in bad years.

The USDA crop insurance program is a cooperative effort between the Federal Government and the private insurance industry. Private insurance companies sell and service crop insurance policies. The Federal Government reimburses private companies for the administrative expenses associated with providing crop insurance and reinsures the private companies for excess insurance losses on all policies. The Federal Government also subsidizes premiums for farmers. In crop year 2002, 216 million acres were insured, with an estimated \$2.9 billion in total premium income, including \$1.7 billion in premium subsidy.

Included in the 2004 Budget is a proposal to amend the Federal Crop Insurance Act by limiting the reimbursement rate the private insurance companies receive for administrative costs to 20 percent of the premiums sold. This rate has not changed since set at 24.5 percent in 1998, even though the 2000 Agriculture Risk Protection Act significantly increased the level and volume

of insurance coverage by farmers. While, the total premiums received by each company grew correspondingly, the costs of selling and servicing these policies have grown much less (due to economies of scale). This would argue that the current rate exceeds a reasonable amount for the companies' costs related to selling and servicing these policies. A reimbursement rate of 20 percent would be more reasonable and is expected to save \$68 million in 2004.

There are various types of insurance programs. The most basic type of coverage is Catastrophic Crop Insurance (CAT), which compensates the farmer for losses up to 50 percent of the individual's average yield at 55 percent of the expected market price. The CAT premium is entirely subsidized, and farmers pay only a small administrative fee. Commercial insurance companies deliver the product to the producer in all states. Additional coverage is available to producers who wish to insure crops above the basic coverage. Premium rates for additional coverage depend on the level of coverage selected and vary from crop to crop and county to county. The additional levels of insurance coverage are more attractive to farmers due to availability of optional units, other policy provisions not available with CAT coverage, and the ability to obtain a level of protection that permits them to use crop insurance as loan collateral and to achieve greater financial security. Private companies sell and adjust the catastrophic portion of the crop insurance program, and also provide higher levels of coverage, which are also federally subsidized. Approximately XX percent of eligible acres participated in one or more crop insurance programs in 2002.

Revenue insurance programs protect against loss of revenue stemming from low prices, poor yields, or a combination of both. The plans available are Revenue Coverage (CRC), Revenue Assurance (RA), and the Income Protection (IP) plan. These three plans have many similar features and some very distinctive features. All provide a guaranteed revenue by combining coverage on both yield and price variability. CRC and RA also provide protection against crop price changes. These programs extend traditional multi-peril crop insurance protection by adding price variability to production history. Indemnities are due when any combination of yield and price result in revenue that is less than the revenue guarantee. Revenue protection for all products is provided. The price component common to CRC, RA, and IP uses the commodity futures market for price discovery. These programs all seek to help ensure a certain level of annual income and are offered through private insurance companies. For 1999, a Group Risk Income Protection plan was developed by the private sector to provide protection against decline in county revenue, based on futures market prices and National Agricultural Statistics Service county average yields, as adjusted by Federal Crop Insurance Corporation (FCIC). FCIC is also piloting an Adjusted Gross Revenue (AGR) program, which is designed to insure a portion of producers' gross revenue based on their Schedule F Farm and Income Tax reports.

USDA continues to expand revenue coverage. RMA plans to roll out Round IV of the Dairy Options Pilot Program (DOPP) during 2002, which includes reaching producers in a total of 300 counties in 40 states. RMA's partners in the program are registered commodities brokers who are authorized by the Commodity Futures Trading Commission to buy put options on behalf of DOPP participants on the Chicago Mercantile Exchange. In September 2001, RMA published an interim

rule that allows RMA to reimburse developers of private crop insurance products for their research and development costs and maintenance costs. In November 2001, two livestock pilot programs were approved—the Livestock Gross Margin and Livestock Risk Protection. The pilot livestock programs will cover swine in the State of Iowa and will be made available beginning in 2002.

Insurance Against Security-Related Risks

The Federal Government newly offers terrorism risk insurance and Airline War Risk Insurance on a temporary basis, and has expanded the vaccine compensation program. After the September 11 attacks, private insurers became reluctant to insure against security-related risks such as terrorism and war. Those events are so uncertain in terms of both the frequency of occurrence and the magnitude of potential loss that private insurers can hardly estimate the expected loss. Furthermore, terrorism can produce a really large loss that can wipe out private insurers' capital. These uncertainties make the private sector reluctant to provide security-related insurance. Thus, it is necessary for the Federal Government to insure against security-related risks, at least until the private sector learns enough to be comfortable about estimating those risks, to ensure the smooth functioning of the economy.

Terrorism Risk Insurance

On November 26, 2002, President Bush signed into law the Terrorism Risk Insurance Act of 2002. Since the September 11, 2001 terrorist attacks, the economy has been harmed by the withdrawal of many insurance companies from the marketplace for terrorism risk insurance. Their withdrawal in the face of great uncertainty as to their risk exposure to future terrorist attacks led to the cancellation of construction projects, increased business costs for the insurance that was available, and substantial shifting of risk from reinsurers to primary insurers, and from insurers to policyholders (e.g., investors, businesses, and property owners). Ultimately, these costs are borne by American workers and communities through fewer construction projects and lower economic activity.

The new law establishes a temporary Federal program that provides for a system of shared public and private compensation for insured commercial property and casualty losses arising from acts of terrorism. The program is administered by the Treasury Department and will sunset on December 31, 2005.

Under the new law, insurance companies included under the program must make available to their policyholders coverage for losses from acts of terrorism under the program. The law also requires insurance companies to disclose to policyholders the premium charged for terrorism risk insurance and the Federal share of compensation provided under the law.

In the event of a future terrorist attack on private businesses and others covered by this program, insurance companies will cover insured losses up to each company's deductible as specified in the law. Insured losses above that amount in a given year would be shared between the insurance company and the Treasury, with Treasury covering 90 percent of the losses above the company's deductible. However, neither the Treasury nor any insurer would be liable for any amount exceeding the statutory annual cap of \$100 billion in aggregate insured losses. The law also provides authority for the Treasury to recoup Federal payments via surcharges on policyholders.

Airline War Risk Insurance

After the September 11 attacks, private insurers cancelled third party liability war risk coverage for airlines and dramatically increased the cost of other war risk insurance. In response, the Department of Transportation (DOT) provided a short-term reimbursement to airlines for the increased cost of aviation hull and passenger liability war risk insurance under the authority provided in P.L. 107-42. Under Presidential Determination No. 01-29, the President delegated the authority to extend aviation insurance to the Secretary of Transportation. Due to the extended disruption in the marketplace, DOT also offered airlines third-party liability war risk insurance coverage at subsidized rates to replace coverage initially withdrawn by private insurers. For the last year, DOT has continued to provide this insurance coverage in 60-day increments.

On November 26, the President signed the Homeland Security Act of 2002 which included the Airline War Risk Insurance Legislation. This law extends the term of third party war risk coverage and expands the scope of coverage to include war risk hull, passenger, crew, and property liability insurance. Under the law, the Secretary of Transportation shall extend insurance policies until August 31, 2003, but may extend until December 31, 2003. At this time DOT is preparing policies that extend insurance coverage until August 31st 2003. In addition, the law states that the total premium for the three types of insurance shall not exceed twice the premium rate charged for the third party liability insurance as of June 19, 2002.

Currently 73 air carriers are insured by DOT. Coverage for individual carriers ranges from \$80 million to \$4 billion per carrier with the median insurance

coverage at approximately \$1.8 billion per occurrence. Premiums collected by the Government are deposited into the Aviation Insurance Revolving Fund. In 2002, the fund collected approximately \$75 million in premiums for insurance provided by DOT and paid out \$56 million in one time premium assistance reimbursements for coverage purchased from private insurers. In 2003, it is anticipated that up to \$123 million in premiums may be collected by DOT for the provision of insurance. In 2004, the authorization for the war risk insurance program expires. Any claims by the airlines that exceed the balance in the aviation insurance revolving fund would be paid by the Federal Government.

Vaccine Injury Compensation

The National Vaccine Injury Compensation Program began in 1988 to encourage childhood vaccination by providing streamlined compensation for injuries resulting from vaccination. This program is jointly administered by the Department of Health and Human Services

(HHS), the U.S. Court of Federal Claims, and the Department of Justice (DOJ). Vaccine-related victims file claims against HHS in the U.S. Court of Federal Claims. Then DOJ represents HHS in the court to ensure fair compensation. Compensation is paid out of the Vaccine Trust Fund, financed through per-dose assessments on vaccines.

To better prepare the Nation for potential biological attacks, the Homeland Security Act of 2002 expands the coverage of the National Vaccine Injury Compensation Program by broadening the interpretation of key terms, such as “vaccine” and “vaccine-related injury or death.” The Act also provides medical liability protection to some private parties, such as doctors, drug manufacturers, and hospitals, when those entities, acting on behalf of the U.S. Public Health Service, are liable for the administration of the smallpox vaccine and other countermeasures. This protection is effective only during such period as declared by the Secretary of HHS.

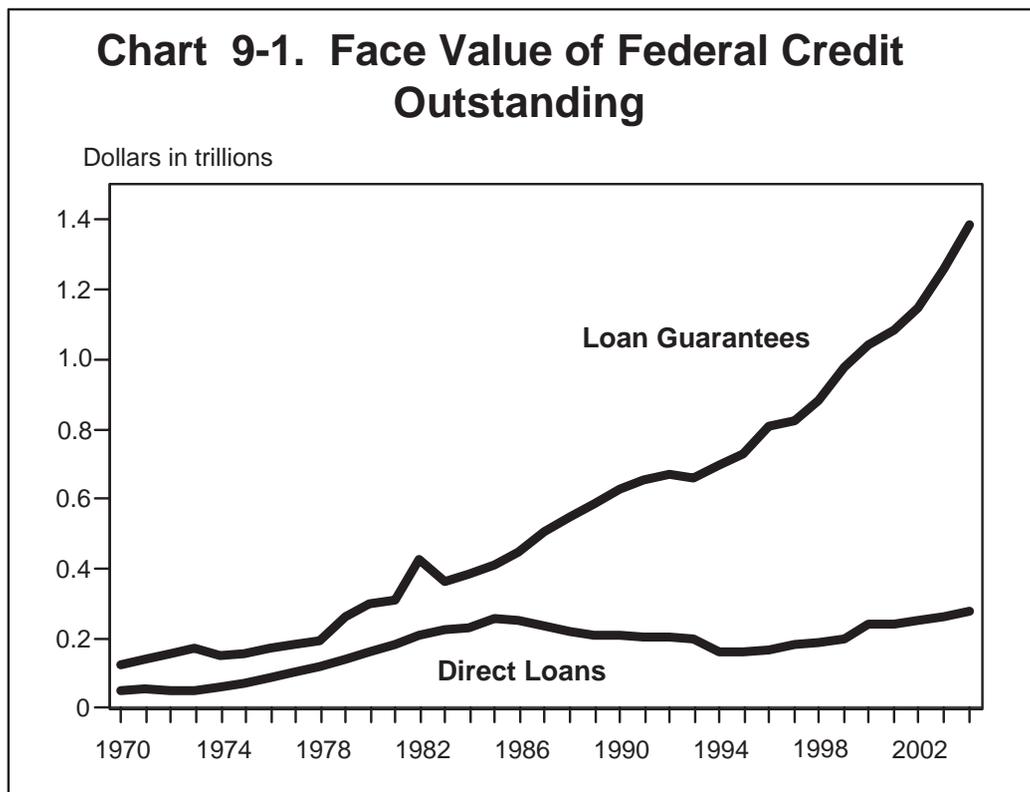


Table 9-1. ESTIMATED FUTURE COST OF OUTSTANDING FEDERAL CREDIT PROGRAMS
(In billions of dollars)

Program	Outstanding 2001	Estimated Future Costs of 2001 Outstanding ¹	Outstanding 2002	Estimated Future Costs of 2002 Outstanding ¹
Direct Loans:²				
Federal student loan programs	90	11	99	14
Farm Service Agency (excl. CCC), Rural development, Rural housing	46	10	45	11
Rural Utilities Service and Rural telephone bank	31	2	32	2
Housing and Urban Development	12	2	12	2
Agency for International Development	10	4	9	7
P. L. 480	11	2	11	2
Export-Import Bank	12	4	12	4
Commodity Credit Corporation	4	3	5	3
Federal Communications Commission spectrum auction	6	.....	5	.....
Disaster assistance	4	1	4	.....
Other direct loan programs	13	.....	14	.....
Total Direct Loans	239	39	248	45
Guaranteed Loans:²				
FHA-mutual mortgage insurance	459	1	467	3
Veterans housing	237	5	265	6
Federal family education loan program	159	14	182	12
FHA-general and special risk	99	8	96	7
Small business	37	3	41	1
Export-Import Bank	31	4	31	5
International assistance	19	2	19	2
Farm Service Agency and Rural housing	22	.....	23	.....
Commodity Credit Corporation	5	.....	5	1
Other guaranteed loan programs	16	2	16	2
Total Guaranteed Loans	1,084	39	1,145	39
Total Federal Credit	1,323	78	1,393	84

¹ Direct loan future costs are the financing account allowance for subsidy cost and the liquidating account allowance for estimated uncollectible principal and interest. Loan guarantee future costs are estimated liabilities for loan guarantees.

² Excludes loans and guarantees by deposit insurance agencies and programs not included under credit reform, such as CCC commodity price supports. Defaulted guaranteed loans which become loans receivable are accounted for as direct loans.

Table 9-2. FACE VALUE OF GOVERNMENT-SPONSORED ENTERPRISE LENDING¹

(In billions of dollars)

	Outstanding	
	2001	2002
Government Sponsored Enterprises:		
Fannie Mae	1,460	1,689
Freddie Mac	1,101	1,254
Federal Home Loan Banks ²	477	524
Sallie Mae ³ .....	.....	.....
Farm Credit System	75	83
Total	3,113	3,550

¹ Net of purchases of federally guaranteed loans.

² The lending by the Federal Home Loans Banks measures their advances to member thrift and other financial institutions. In addition, their investment in private financial instruments at the end of 2002 was \$215 billion, including federally guaranteed securities, GSE securities, and money market instruments.

³ The face value and Federal costs of Federal Family Education Loans in the Student Loan Marketing Association's portfolio are included in the totals for that program under guaranteed loans in table 9-1.

Table 9-3. REESTIMATES OF CREDIT SUBSIDIES ON LOANS DISBURSED BETWEEN 1992-2002 ¹

(Budget authority and outlays, in millions of dollars)

Program	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Direct Loans:										
Agriculture:										
Agriculture credit insurance fund	-72	28	2	-31	23	.....	331	-656	921	10
Farm storage facility loans .....	.....	.....	.....	.....	.....	.....	.....	.....	-1	-7
Apple loans .....	.....	.....	.....	.....	.....	.....	.....	.....	-2	1
Emergency boll weevil loan .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Agricultural conservation	-1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Distance learning and telemedicine .....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Rural electrification and telecommunications loans	*	61	-37	84	.....	-39	.....	-17	-42	.....
Rural telephone bank	1	.....	.....	10	.....	-9	.....	-1	.....	-3
Rural housing insurance fund	2	152	46	-73	.....	71	.....	19	-29	-440
Rural economic development loans .....	.....	.....	.....	1	.....	-1	*	.....	-1	.....
Rural development loan program .....	.....	1	.....	.....	.....	-6	.....	.....	-1	.....
Rural community advancement program ² .....	.....	.....	.....	8	.....	5	.....	37	3	.....
P.L. 480 .....	.....	.....	-37	-1	.....	.....	.....	-23	65	-348
P.L. 480 Title I food for progress credits .....	.....	84	-38	.....	.....	.....	.....	.....	.....	-112
Commerce:										
Fisheries finance .....	.....	.....	.....	.....	.....	.....	.....	-19	-1	-3
Defense:										
Military housing improvement fund .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Education:										
Federal direct student loan program: ³										
Volume reestimate .....	.....	.....	.....	.....	.....	22	.....	-6	.....	43
Other technical reestimate .....	.....	.....	3	-83	172	-383	-2,158	560	.....	3,678
College housing and academic facilities loans .....	.....	.....	.....	.....	.....	.....	.....	-1	.....	.....
Homeland Security:										
Disaster assistance .....	.....	.....	.....	.....	.....	.....	47	36	-7	-6
Interior:										
Bureau of Reclamation loans .....	.....	.....	.....	.....	.....	.....	3	3	-9	-14
Bureau of Indian Affairs direct loans .....	.....	.....	.....	.....	.....	1	5	-1	-1	1
Transportation:										
High priority corridor loans .....	.....	.....	.....	.....	-3	.....	.....	.....	.....	.....
Alameda corridor loan .....	.....	.....	.....	.....	.....	.....	-58	.....	.....	-50
Transportation infrastructure finance and innovation .....	.....	.....	.....	.....	.....	.....	.....	18	.....	18
Railroad rehabilitation and improvement program .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	-5
Treasury:										
Community development financial institutions fund .....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Veterans Affairs:										
Veterans housing benefit program fund	-39	30	76	-72	465	-111	-52	-107	-697	17
Native American veteran housing .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	-4
Vocational Rehabilitation Loans .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*
Environmental Protection Agency:										
Abatement, control and compliance .....	.....	.....	.....	.....	.....	.....	.....	3	-1	1
General Services Administration:										
Columbia hospital for women ⁵ .....	.....	.....	.....	.....	.....	.....	.....	.....	-6	.....
International Assistance Programs:										
Foreign military financing .....	.....	.....	.....	13	4	1	152	-166	119	-397
U.S. Agency for International Development:										
Micro and small enterprise development .....	.....	.....	.....	.....	.....	.....	.....	.....	*	.....
Overseas Private Investment Corporation:										
OPIC direct loans .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	-4
Debt reduction .....	.....	.....	.....	.....	.....	.....	36	-4	.....	.....
Small Business Administration:										
Business loans .....	.....	.....	.....	.....	.....	.....	.....	1	-2	1
Disaster loans .....	.....	.....	.....	.....	-193	246	-398	-282	-14	266
Other Independent Agencies:										
Export-Import Bank direct loans	-28	-16	37	.....	.....	.....	-177	157	117	-640
Federal Communications Commission spectrum auction .....	.....	.....	.....	.....	4,592	980	-1,501	-804	92	346
Loan Guarantees:										
Agriculture:										
Agriculture credit insurance fund	5	14	12	-51	96	.....	-31	205	40	-36
Agriculture resource conservation demonstration project .....	.....	.....	.....	.....	.....	.....	.....	2	.....	1
Commodity Credit Corporation export guarantees	3	103	-426	343	.....	.....	.....	-1,410	.....	-13

Table 9-3. REESTIMATES OF CREDIT SUBSIDIES ON LOANS DISBURSED BETWEEN 1992-2002¹—Continued

(Budget authority and outlays, in millions of dollars)

Program	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Rural development insurance fund	49			-3						
Rural housing insurance fund	2	10	7	-10		109		152	-56	
Rural community advancement program ²				-10		41		63	17	
Commerce:										
Fisheries finance					-2			-3	-1	3
Emergency steel guaranteed loans										50
Emergency oil and gas guaranteed loans								*	*	*
Defense:										
Military housing improvement fund										-1
Education:										
Federal family education loan program: ³										
Volume reestimate			535	99		-13	-60	-42		277
Other technical reestimate	97	421	60			-140	667	-3,484		-2,483
Health and Human Services:										
Health center loan guarantees							3		*	*
Health education assistance loans										
Housing and Urban Development:										
Indian housing loan guarantee								-6	*	-1
Title VI Indian guarantees										-1
FHA-mutual mortgage insurance				-340		3,789		2,413	-1,308	1,100
FHA-general and special risk	-175		-110	-25	743	79		-217	-403	77
Interior:										
Bureau of Indian Affairs guaranteed loans				31				-14	-1	-3
Transportation:										
Maritime guaranteed loans (title XI)						-71	30	-15	187	27
Minority business resource center									1	
Treasury:										
Air transportation stabilization program ⁴										113
Veterans Affairs:										
Veterans housing benefit fund program	-447	167	334	-706	38	492	229	-770	-163	-183
International Assistance Programs:										
U.S. Agency for International Development:										
Development credit authority									-1	
Micro and small enterprise development										
Urban and environmental credit	-2	-1	-7		-14				-4	-16
Assistance to the new independent states of the former Soviet Union ⁵									-34	
Overseas Private Investment Corporation:										
OPIC guaranteed loans									5	78
Small Business Administration:										
Business loans			257	-16	-279	-545	-235	-528	-226	304
Other Independent Agencies:										
Export-Import Bank guarantees	-11	-59	13				-191	-1,520	-417	-2,042
Total	-616	995	727	-832	5,642	4,518	-3,641	-6,427	-1,860	-398

* Less than \$500 thousand.

¹ Excludes interest on reestimates. Additional information on credit reform subsidy rates is contained in the Federal Credit Supplement.² Includes rural water and waste disposal, rural community facilities, and rural business and industry programs.³ Volume reestimates in mandatory loan guarantee programs represent a change in volume of loans disbursed in the prior years. These estimates are the result of guarantee programs where data from loan issuers on actual disbursements of loans are not received until after the close of the fiscal year.⁴ Numbers shown for 2003 include estimates for loan guarantees that have received either conditional or final approval. This presentation should not be construed as prejudging the outcome of the Air Transportation Stabilization Board's deliberations. The Board does not anticipate making any new loan guarantees in 2004.⁵ Closing reestimate executed in fiscal year 2002.

Table 9-4. DIRECT LOAN SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS, 2002-2004

(In millions of dollars)

Agency and Program	2002 Actual			2003 Proposed			2004 Proposed		
	Subsidy rate ¹	Subsidy budget authority	New loan levels	Subsidy rate ¹	Subsidy budget authority	New loan levels	Subsidy rate ¹	Subsidy budget authority	New loan levels
Agriculture:									
Agricultural credit insurance fund	6.78	60	885	13.97	112	802	14.20	121	852
Farm storage facility loans	2.40	3	125	1.36	2	147			117
Rural community advancement program	6.60	98	1,485	10.08	110	1,091	2.53	33	1,305
Rural electrification and telecommunications loans	-0.57	-26	4,569	-0.66	-20	3,016	-1.58	-48	3,035
Rural telephone bank	2.14	4	175	1.38			-4.32		
Distance learning, telemedicine, and broadband program	-0.07		95	4.73	39	825	3.66	9	246
Farm labor	47.31	22	47	49.02	18	36	42.73	18	42
Rural housing insurance fund	16.48	204	1,238	20.86	224	1,074	11.11	166	1,494
Rural development loan fund	43.21	13	31	48.26	20	40	43.27	17	40
Rural economic development loans	24.16	4	15	21.36	3	15	18.61	3	15
Public law 480 title I	81.73	126	155	75.11	99	132	78.90	104	132
Commerce:									
Fisheries finance	-6.45	-8	124	-2.86	-3	105	-3.33	-1	30
Defense—Military:									
Family housing improvement fund				21.36	44	206	39.95	88	221
Education:									
College housing and academic facilities loans			44			268			227
Federal direct student loan program	-3.95	-835	21,164	-3.23	-690	21,339	-5.22	-1,049	20,954
Homeland Security:									
Disaster assistance loans	1.62		25	-4.10	-1	25	-2.02	-1	25
Housing and Urban Development:									
FHA-mutual mortgage insurance			250			50			50
FHA-general and special risk			50			50			50
Interior:									
Bureau of Reclamation loans	26.92	7	26						
State:									
Repatriation loans	80.00	1	1	80.00	1	1	70.75	1	1
Transportation:									
Federal-aid highways	2.79	16	573	4.40	104	2,362	5.58	127	2,277
Railroad rehabilitation and improvement program			102						
Treasury:									
Community development financial institutions fund	38.44	3	8	36.94	2	5	34.37	2	5
Veterans Affairs:									
Vocational rehabilitation and education loans			3			3			4
Housing	0.85	9	1,056	1.80	6	334	10.80	31	287
International Assistance Programs:									
Foreign military financing loans						3,800			
Debt restructuring		66			73			292	
Overseas Private Investment Corporation	10.60	5	47	11.00	8	73	11.00	4	40
Small Business Administration:									
Disaster loans	17.19	217	1,262	16.14	118	731	11.72	79	760
Business loans	6.78	1	16	13.05	4	27	9.55	2	20
Export-Import Bank of the United States:									
Export-Import Bank loans	16.22	48	296	17.32	31	179	5.90	19	322
Federal Communications Commission:									
Spectrum auction	15.00		1						
Total	N/A	38	33,868	N/A	304	36,736	N/A	17	32,551

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.
N/A = Not applicable.

Table 9-5. LOAN GUARANTEE SUBSIDY RATES, BUDGET AUTHORITY, AND LOAN LEVELS, 2002-2004
(In millions of dollars)

Agency and Program	2002 Actual			2003 Proposed			2004 Proposed		
	Subsidy rate ¹	Subsidy budget authority	New loan levels	Subsidy rate ¹	Subsidy budget authority	New loan levels	Subsidy rate ¹	Subsidy budget authority	New loan levels
Agriculture:									
Agricultural credit insurance fund	3.98	128	3,220	3.23	97	3,000	3.23	86	2,666
Commodity Credit Corporation export loans	6.80	222	3,266	6.96	294	4,225	7.14	297	4,155
Rural community advancement program	2.90	31	1,070	2.95	39	1,321	3.04	27	887
Rural electrification and telecommunications loans				0.08		100	0.06		100
Local television loan guarantees	7.75			8.25	88	1,067	8.46		
Rural housing insurance fund	1.43	36	2,519	1.25	23	1,915	1.63	46	2,825
Rural business investment				20.00	56	280			
Commerce:									
Emergency oil and gas guaranteed loans	42.03	1	2						
Emergency steel guaranteed loans	12.36	5	42						
Defense—Military:									
Procurement of ammunition, Army				3.34	1	39			
Family housing improvement fund				5.07	7	138	5.40	14	259
Education:									
Federal family education loan program	8.96	4,312	48,102	12.00	6,401	53,327	11.85	6,272	52,064
Health and Human Services:									
Health education assistance loans	12.43	21	165	12.43	20	160	12.19	18	150
Health resources and services	8.71		1	5.88	1	17	5.88	1	17
Housing and Urban Development:									
Indian housing loan guarantee fund	2.47	6	234	2.43	5	197	2.73	1	27
Native Hawaiian housing loan guarantee fund	2.47	1	40	2.43	1	40	2.73	1	35
Public housing capital fund							7.66	131	1,715
Native American housing	11.07	6	53	11.07	2	17	10.56	1	8
Community development loan guarantees	2.30	14	609	2.30	6	275			
FHA-mutual mortgage insurance	-2.07	-2,880	165,000	-2.53	-3,226	165,000	-2.39	-3,378	185,000
FHA-general and special risk	-1.53	-352	23,000	-1.05	-249	24,000	-1.05	-262	25,000
Interior:									
Indian guaranteed loans	6.00	4	75	6.91	5	72	6.13	5	84
Transportation:									
Minority business resource center program	2.70		18	2.69	1	18	2.53	1	18
Federal-aid highways				4.35	9	200	4.77	10	200
Maritime guaranteed loans (title XI)	6.22	14	225	6.21		338			
Treasury:									
Air transportation stabilization ²	40.11	172	429	26.94	386	1,433			
Veterans Affairs:									
Housing	0.51	194	38,038	0.87	306	35,271	0.78	275	35,248
International Assistance Programs:									
Microenterprise and small enterprise development	3.93	1	25						
Development credit authority	6.42	19	289	6.44	18	280	3.11	21	675
Overseas Private Investment Corporation	2.60	21	809	1.71	11	645	2.61	20	765
Small Business Administration:									
Business loans	0.86	132	15,266	0.45	85	18,983	0.46	95	20,802
Export-Import Bank of the United States:									
Export-Import Bank loans	7.05	693	9,824	5.52	625	11,321	3.08	441	14,320
Presidio Trust:									
Presidio Trust				0.14		200	0.14		
Total	N/A	2,801	312,321	N/A	5,012	323,879	N/A	4,123	347,020
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS									
GNMA:									
Guarantees of mortgage-backed securities	-0.33	-363	200,000	-0.33	-396	200,000	-0.27	-405	200,000

¹ Additional information on credit subsidy rates is contained in the Federal Credit Supplement.

² Numbers shown for 2003 include estimates for loan guarantees that have received either conditional or final approval. This presentation should not be construed as prejudging the outcome of the Air Transportation Stabilization Board's deliberations. The Board does not anticipate making any new loan guarantees in 2004.

N/A = Not applicable.

Table 9-6. SUMMARY OF FEDERAL DIRECT LOANS AND LOAN GUARANTEES

(In billions of dollars)

	Actual								Estimate	
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Direct Loans:										
Obligations	30.9	23.4	33.6	28.8	38.4	37.1	39.1	43.7	46.2	42.0
Disbursements	22.0	23.6	32.2	28.7	37.7	35.5	37.1	39.6	38.4	38.0
New subsidy budget authority	*	*	*	-0.8	1.6	-0.4	0.3	*	0.3	*
Reestimated subsidy budget authority ¹ .....	.....	.....	.....	7.3	1.0	-4.4	-1.8	0.5	2.4	.....
Total subsidy budget authority ²	2.6	1.8	2.4	6.5	2.6	-4.8	-1.5	0.5	2.7	*
Loan Guarantees: ³										
Commitments	138.5	175.4	172.3	218.4	252.4	192.6	256.4	303.7	322.9	339.7
Lender disbursements	117.9	143.9	144.7	199.5	224.7	180.8	212.9	271.4	271.5	278.0
New subsidy budget authority	*	*	*	3.3	*	3.6	2.3	2.9	4.9	4.1
Reestimated subsidy budget authority ¹ .....	.....	.....	.....	-0.7	4.3	0.3	-7.1	-2.4	-2.7	.....
Total subsidy budget authority ²	4.6	4.0	3.6	2.6	4.3	3.9	-4.8	0.5	2.2	4.1

* Less than \$50 million.

¹ Includes interest on reestimate.² Prior to 1998 new and reestimated subsidy budget authority were not reported separately.³ GNMA secondary guarantees of loans that are guaranteed by FHA, VA and RHS are excluded from the totals to avoid double-counting.

Table 9-7. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS

Agency and Program	In millions of dollars			As a percentage of outstanding loans †		
	2002 actual	2003 estimate	2004 estimate	2002 actual	2003 estimate	2004 estimate
DIRECT LOAN WRITEOFFS						
Agriculture:						
Agricultural credit insurance fund	174	242	238	2.03	3.00	3.22
Farm storage facility loans program		1	1		0.64	0.46
Rural electrification and telecommunications loans		119	109		0.38	0.33
Rural development insurance fund		1	1		0.03	0.03
Rural housing insurance fund	223	205	186	0.81	0.76	0.70
Rural development loan fund	2	1	1	0.51	0.24	0.22
P.L.480	8	34		0.07	0.33	
Commerce:						
Economic development revolving fund	1	1	1	3.33	3.84	4.54
Education:						
Student financial assistance	20	22	23	5.68	7.28	8.74
Homeland Security:						
Disaster assistance	27			17.53		
Housing and Urban Development:						
Revolving fund (liquidating programs)	1	1	1	5.55	5.88	6.25
FHA—Mutual mortgage insurance		4	9		33.33	52.94
Guarantees of mortgage-backed securities	1	1	2	0.94	1.00	2.08
Interior:						
Indian direct loans	2	2	2	3.63	3.92	4.25
Assistance to American Samoa			1			7.69
Payments to the United States territories			1			12.50
Labor:						
Pension benefit guaranty corporation	5	6	14			
State:						
Repatriation loans	1	1		25.00	25.00	
Transportation:						
Minority business resource center	1			50.00		
Railroad rehabilitation and improvement			2			0.59
Veterans Affairs:						
Veterans housing benefit program	5	1	1	0.27	0.06	0.07
International Assistance Programs:						
Foreign military financing		177			3.75	
Military debt reduction	17	2	31	170.00	12.50	206.66
Debt reduction (AID)	6	20		4.08	19.04	
Economic assistance loans	14	8		0.15	0.09	
Overseas Private Investment Corporation	1	1	1	0.93	0.64	0.53
Small Business Administration:						
Disaster loans	101	44	42	2.77	1.26	1.34
Business loans	13	16	15	3.19	4.62	4.95
Other Independent Agencies:						
Export-Import Bank	94	675	49	0.81	6.23	0.49
Debt reduction (ExIm Bank)	11		237	7.85		117.91
Tennessee Valley Authority fund	1	1	1	2.08	2.08	1.88
Total, direct loan writeoffs	729	1,586	969	0.33	0.70	0.40
GUARANTEED LOAN TERMINATIONS FOR DEFAULT						
Agriculture:						
Agricultural credit insurance fund	70	71	77	0.72	0.71	0.73
Commodity Credit Corporation export loans	334	325	318	6.90	6.88	6.86
Rural community advancement program	51	55	60	1.28	1.23	1.16
Rural electrification and telecommunications loans	41	20	19	7.24	3.49	3.11
Rural development insurance fund	7	6	5	7.86	8.33	8.77
Rural housing insurance fund	81	99	102	0.61	0.71	0.71
Rural business investment program			1			0.96

Table 9-7. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS—Continued

Agency and Program	In millions of dollars			As a percentage of outstanding loans ¹		
	2002 actual	2003 estimate	2004 estimate	2002 actual	2003 estimate	2004 estimate
Commerce:						
Emergency oil and gas guaranteed loans		1	1		25.00	50.00
Emergency steel guaranteed loans	92	11	1	112.19	23.91	2.94
Fisheries finance			1			2.22
Education:						
Federal family education loan program	3,415	4,554	5,462	2.00	2.38	2.63
Health and Human Services:						
Health education assistance loans	37	51	52	1.66	2.22	2.20
Housing and Urban Development:						
Indian housing loan guarantees	1	2	2	1.61	3.50	3.33
Title VI Indian Federal guarantees program		1	1		1.42	1.28
FHA—Mutual mortgage insurance	5,529	3,640	3,793	1.19	0.73	0.68
FHA—General and special risk	1,485	2,055	1,990	1.52	2.00	1.71
Interior:						
Indian guaranteed loans	2	1	1	0.92	0.40	0.35
Transportation:						
Maritime guaranteed loans (Title XI)	365	35	35	8.18	0.81	0.80
Treasury:						
Air transportation stabilization guaranteed loans ²		495	105		55.12	8.52
Veterans Affairs:						
Veterans housing benefit program	1,557	2,922	2,982	0.62	1.05	0.98
International Assistance Programs:						
Foreign military financing		3	10		0.08	0.30
Micro and small enterprise development		2	1		5.26	2.08
Urban and environmental credit program	47	21	37	2.24	1.03	1.93
Development credit authority		1	1		0.90	0.43
Overseas Private Investment Corporation	162	46	45	4.69	1.25	1.14
Small Business Administration:						
Business loans	933	695	708	2.40	1.65	1.62
Pollution control equipment		1	1		10.00	16.66
Other Independent Agencies:						
Export-Import Bank	432	351	395	1.40	1.11	1.19
Total, guaranteed loan terminations for default	14,641	15,464	16,206	0.86	0.86	0.83
Total, direct loan writeoffs and guaranteed loan terminations	15,370	17,050	17,175	0.80	0.84	0.78
ADDENDUM: WRITEOFFS OF DEFAULTED GUARANTEED LOANS THAT RESULT IN LOANS RECEIVABLE						
Agriculture:						
Agricultural credit insurance fund	2	1	1	18.18	10.00	10.00
Education:						
Federal family education loan program	513	487	479	2.66	2.49	2.31
Health and Human Services:						
Health education assistance loans	24	24	24	2.74	2.72	2.72
Housing and Urban Development:						
FHA—Mutual mortgage insurance	5			55.55		
FHA—General and special risk	339	357	263	12.45	12.13	8.07
Interior:						
Indian guaranteed loans			2			5.00
Treasury:						
Air transportation stabilization guaranteed loans ²			462			154.00
Veterans Affairs:						
Veterans housing benefit program	49	96	112	5.53	7.60	7.53

Table 9-7. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS—Continued

Agency and Program	In millions of dollars			As a percentage of outstanding loans ¹		
	2002 actual	2003 estimate	2004 estimate	2002 actual	2003 estimate	2004 estimate
International Assistance Programs:						
Urban and environmental credit program .....	.....	40	.....	.....	9.54	.....
Small Business Administration:						
Business loans	111	85	83	7.39	4.79	4.14
Total, writeoffs of loans receivable	1,043	1,090	1,426	3.41	3.40	4.18

¹ Average of loans outstanding for the year.

² Numbers shown for 2003 and 2004 include estimates for loan guarantees that have received either conditional or final approval. This presentation should not be construed as prejudging the outcome of the Air Transportation Stabilization Board's deliberations. The Board does not anticipate making any new loan guarantees in 2004.

Table 9-8. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS ¹

(In millions of dollars)

Agency and Program	2002 Actual	Proposed	
		2003	2004
DIRECT LOAN OBLIGATIONS			
Agriculture:			
Agricultural credit insurance fund	885	802	852
Distance learning, telemedicine, and broadband	380	825	246
Rural electrification and telecommunications	4,569	3,016	3,035
Rural telephone bank	175	.....	.....
Rural water and waste disposal direct loans	817	814	1,055
Rural housing insurance fund	1,295	1,110	1,536
Rural community facility direct loans	234	250	250
Rural economic development	15	15	15
Rural development loan fund	31	40	40
P.L. 480 direct credit	168	132	132
Commerce:			
Fisheries finance	124	105	30
Education:			
Historically black college and university capital financing	296	268	227
Homeland Security:			
Disaster assistance	25	25	25
Housing and Urban Development:			
FHA-general and special risk	50	50	50
FHA-mutual mortgage insurance	250	50	50
Interior:			
Bureau of Reclamation	26	.....	.....
State:			
Repatriation loans	1	1	1
Transportation:			
Transportation infrastructure finance and innovation program direct loans	2,200	2,200	2,200
Transportation infrastructure finance and innovation program lines of credit	100	200	200
Treasury:			
Community development financial institutions fund	11	11	11
Veterans Affairs:			
Vocational rehabilitation and education	3	3	4
International Assistance Programs:			
Foreign military financing .....	.....	3,800	.....
Small Business Administration:			
Business	16	27	20
Total, limitations on direct loan obligations	11,671	13,744	9,979
LOAN GUARANTEE COMMITMENTS			
Agriculture:			
Agricultural credit insurance fund	2,755	3,000	2,666
Rural electrification and telecommunications guaranteed loans .....	.....	100	100
Rural water and waste water disposal guaranteed loans	75	75	75
Rural housing insurance fund	2,724	2,850	2,825
Rural community facility guaranteed loans	210	210	210
Rural business investment program .....	.....	280	.....
Rural business and industry guaranteed loans	704	733	602
Defense—Military:			
Arms initiative .....	.....	45	.....
Health and Human Services:			
Health education assistance loans	165	160	150
Housing and Urban Development:			
Indian housing loan guarantee fund	234	197	27
Title VI Indian Federal guarantees	53	17	8
Native Hawaiian housing loan guarantee fund	40	40	35
Public housing reform initiative .....	.....	.....	1,715
Community development loan guarantees	609	275	.....
FHA-general and special risk	23,000	24,000	25,000
FHA-mutual mortgage insurance	165,000	165,000	185,000

Table 9-8. APPROPRIATIONS ACTS LIMITATIONS ON CREDIT LOAN LEVELS¹—Continued
(In millions of dollars)

Agency and Program	2002 Actual	Proposed	
		2003	2004
Interior:			
Indian loan guarantees	75	72	84
Transportation:			
Minority business resource center	18	18	18
Transportation infrastructure finance and innovation program loan guarantees	100	200	200
Maritime guaranteed loans (title XI)	563	.....	.....
Treasury:			
Air transportation stabilization	10,000	.....	.....
International Assistance Programs:			
Development credit authority	536	.....	700
Small Business Administration:			
Business	15,266	18,983	20,802
Total, limitations on loan guarantee commitments	222,127	216,255	240,217
ADDENDUM: SECONDARY GUARANTEED LOAN COMMITMENT LIMITATIONS			
Housing and Urban Development:			
Guarantees of mortgage-backed securities	200,000	200,000	200,000
Total, limitations on secondary guaranteed loan commitments	200,000	200,000	200,000

¹ Data represents loan level limitations enacted or proposed to be enacted in appropriation acts. For information on actual and estimated loan levels supportable by new subsidy budget authority requested, see Tables 9-4 and 9-5.

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-680	-608	-577
Outstandings	3,783	3,175	2,598
Farm storage facility direct loan financing account:			
Obligations	65	147	118
Loan disbursements	66	95	95
Change in outstandings	44	65	53
Outstandings	122	187	240
Apple loans direct loan financing account:			
Obligations			
Loan disbursements	1		
Change in outstandings	-2	-3	-3
Outstandings	9	6	3
Agricultural credit insurance fund direct loan financing account:			
Obligations	1,008	977	902
Loan disbursements	962	928	857
Change in outstandings	247	19	-158
Outstandings	4,560	4,579	4,421
Emergency boll weevil direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings		-1	-1
Outstandings	10	9	8
Commodity Credit Corporation fund:			
Obligations	10,131	8,652	8,934
Loan disbursements	10,131	8,652	8,934
Change in outstandings	1,934	390	-306
Outstandings	1,934	2,324	2,018
Rural Utilities Service			
Rural communication development fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			-1
Outstandings	5	5	4
Distance learning, telemedicine, and broadband direct loan financing account:			
Obligations	95	825	246
Loan disbursements	45	24	25
Change in outstandings	33	22	22
Outstandings	49	71	93
Rural development insurance fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-260	-172	-162
Outstandings	2,808	2,636	2,474
Rural electrification and telecommunications direct loan financing account:			
Obligations	4,569	3,016	3,035
Loan disbursements	2,409	2,971	2,724
Change in outstandings	2,140	2,719	2,394
Outstandings	11,212	13,931	16,325
Rural telephone bank direct loan financing account:			
Obligations	175		
Loan disbursements	71	157	136
Change in outstandings	57	141	117
Outstandings	395	536	653

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Rural water and waste disposal direct loans financing account:			
Obligations	1,158	829	1,055
Loan disbursements	643	864	889
Change in outstandings	513	712	707
Outstandings	5,061	5,773	6,480
Rural electrification and telecommunications liquidating account:			
Obligations			
Loan disbursements	5	12	12
Change in outstandings	-1,597	-1,575	-1,446
Outstandings	19,412	17,837	16,391
Rural telephone bank liquidating account:			
Obligations			
Loan disbursements	1	6	5
Change in outstandings	-115	-84	-73
Outstandings	680	596	523
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1,188	-1,002	-866
Outstandings	14,995	13,993	13,127
Rural housing insurance fund direct loan financing account:			
Obligations	1,289	1,150	1,536
Loan disbursements	1,175	1,203	1,408
Change in outstandings	391	381	548
Outstandings	12,088	12,469	13,017
Rural community facility direct loans financing account:			
Obligations	399	261	250
Loan disbursements	202	293	267
Change in outstandings	149	258	226
Outstandings	1,137	1,395	1,621
Rural Business—Cooperative Service			
Rural economic development direct loan financing account:			
Obligations	15	15	15
Loan disbursements	17	15	15
Change in outstandings	9	1	1
Outstandings	82	83	84
Rural development loan fund direct loan financing account:			
Obligations	31	40	40
Loan disbursements	34	43	43
Change in outstandings	25	32	31
Outstandings	338	370	401
Rural business and industry direct loans financing account:			
Obligations			
Loan disbursements	44	4	2
Change in outstandings	39	-2	-2
Outstandings	121	119	117
Rural development loan fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-5	-4	-4
Outstandings	61	57	53
Foreign Agricultural Service			
Expenses, Public Law 480, foreign assistance programs, Agriculture liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-311	-368	-287
Outstandings	7,908	7,540	7,253

Table 9–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
P.L. 480 direct credit financing account:			
Obligations	98	132	132
Loan disbursements	122	127	132
Change in outstandings	158	49	51
Outstandings	2,334	2,383	2,434
P.L. 480 title I food for progress credits, financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-56	-56	-56
Outstandings	409	353	297
Debt reduction—financing account:			
Obligations	8	3	
Loan disbursements	8	3	
Change in outstandings	104	-5	-10
Outstandings	236	231	221
Department of Commerce			
Economic Development Administration			
Economic development revolving fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-5	-4	-4
Outstandings	28	24	20
National Oceanic and Atmospheric Administration			
Fisheries finance direct loan financing account:			
Obligations	124	105	30
Loan disbursements	13	117	87
Change in outstandings	-22	105	77
Outstandings	139	244	321
Department of Defense—Military			
Family Housing			
Family housing improvement direct loan financing account:			
Obligations		206	221
Loan disbursements	92	17	32
Change in outstandings	92	17	32
Outstandings	92	109	141
Department of Education			
Office of Postsecondary Education			
College housing and academic facilities loans liquidating account:			
Obligations			
Loan disbursements	1		
Change in outstandings	-40	-28	-27
Outstandings	385	357	330
College housing and academic facilities loans financing account:			
Obligations			
Loan disbursements			
Change in outstandings		-1	
Outstandings	25	24	24
Historically black college and university capital financing direct loan financing account:			
Obligations	44	40	227
Loan disbursements	40	21	41
Change in outstandings	38	20	40
Outstandings	69	89	129
Federal Student Aid			
Student financial assistance:			
Obligations			
Loan disbursements			
Change in outstandings	-63	-37	-41
Outstandings	321	284	243

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Federal direct student loan program financing account:			
Obligations	20,918	21,339	20,954
Loan disbursements	19,463	19,871	19,499
Change in outstandings	9,526	13,771	11,895
Outstandings	80,071	93,842	105,737
Department of Energy			
Power Marketing Administration			
Bonneville Power Administration fund:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	2	2	2
Department of Health and Human Services			
Health Resources and Services Administration			
Medical facilities guarantee and loan fund:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-1	-1
Outstandings	8	7	6
Department of Homeland Security			
Emergency Preparedness and Response			
Disaster assistance direct loan financing account:			
Obligations	25	25	25
Loan disbursements	11	19	25
Change in outstandings	-22	16	16
Outstandings	143	159	175
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Obligations			
Loan disbursements			
Change in outstandings	-71	-75	-84
Outstandings	1,209	1,134	1,050
Community Planning and Development			
Revolving fund (liquidating programs):			
Obligations			
Loan disbursements			
Change in outstandings	-1	-1	-2
Outstandings	18	17	15
Community development loan guarantees liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-2		
Outstandings	6	6	6
Housing Programs			
Flexible subsidy fund:			
Obligations			
Loan disbursements	9		
Change in outstandings	10	-4	-4
Outstandings	658	654	650
FHA-mutual mortgage and cooperative housing insurance funds liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-2	
Outstandings	2		

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
FHA-general and special risk insurance funds liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-12	-10	-7
Outstandings	26	16	9
FHA-general and special risk direct loan financing account:			
Obligations	1	1	50
Loan disbursements		1	4
Change in outstandings			
Outstandings	2	2	2
Housing for the elderly or handicapped fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-158	-221	-221
Outstandings	7,647	7,426	7,205
FHA-mutual mortgage insurance direct loan financing account:			
Obligations		50	50
Loan disbursements		50	50
Change in outstandings	-1	22	-9
Outstandings		22	13
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Obligations			
Loan disbursements	38	37	35
Change in outstandings	-8	-4	-4
Outstandings	102	98	94
Department of the Interior			
Bureau of Reclamation			
Bureau of Reclamation loan liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-2	-2	-3
Outstandings	48	46	43
Water and related resources:			
Obligations			
Loan disbursements			
Change in outstandings			-1
Outstandings	2	2	1
Bureau of Reclamation direct loan financing account:			
Obligations	26		
Loan disbursements	24	25	
Change in outstandings	23	22	-4
Outstandings	183	205	201
National Park Service			
Construction and major maintenance:			
Obligations			
Loan disbursements			
Change in outstandings		-1	
Outstandings	5	4	4
Bureau of Indian Affairs			
Revolving fund for loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-1	-1
Outstandings	34	33	32
Indian direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-3	-3	-4
Outstandings	20	17	13

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Insular Affairs			
Payments to the United States territories, fiscal assistance:			
Obligations			
Loan disbursements			
Change in outstandings	-2	-1	-3
Outstandings	11	10	7
Assistance to American Samoa direct loan financing account:			
Obligations			
Loan disbursements	3	1	1
Change in outstandings	2		-1
Outstandings	14	14	13
Department of Labor			
Pension Benefit Guaranty Corporation			
Pension benefit guaranty corporation fund:			
Obligations			
Loan disbursements	5	6	14
Change in outstandings			
Outstandings			
Department of State			
Administration of Foreign Affairs			
Repatriation loans financing account:			
Obligations	1	1	1
Loan disbursements	1	1	1
Change in outstandings			
Outstandings	4	4	4
Department of Transportation			
Office of the Secretary			
Minority business resource center direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-5		
Outstandings			
Federal Highway Administration			
Transportation infrastructure finance and innovation program direct loan financing account:			
Obligations	573	2,162	2,200
Loan disbursements	51	495	928
Change in outstandings	51	495	928
Outstandings	351	846	1,774
Transportation infrastructure finance and innovation program line of credit financing account:			
Obligations		200	200
Loan disbursements		5	25
Change in outstandings		5	25
Outstandings		5	30
Right-of-way revolving fund liquidating account:			
Obligations			
Loan disbursements	3	7	7
Change in outstandings	-11	-3	-3
Outstandings	98	95	92
Federal Railroad Administration			
Amtrak corridor improvement loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	-3	
Outstandings	3		
Alameda corridor direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-1	33	34
Outstandings	502	535	569

Table 9–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Railroad rehabilitation and improvement liquidating account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-9	-4	-4
Outstandings	40	36	32
Railroad rehabilitation and improvement direct loan financing account:			
Obligations	102	204	198
Loan disbursements	101	205	198
<i>Change in outstandings</i>	101	105	188
Outstandings	105	210	398
Department of the Treasury			
Departmental Offices			
Community development financial institutions fund direct loan financing account:			
Obligations	11	11	11
Loan disbursements	18	10	10
<i>Change in outstandings</i>	17	9	9
Outstandings	41	50	59
Department of Veterans Affairs			
Benefits Programs			
Housing liquidating account:			
Obligations			
Loan disbursements	7		
<i>Change in outstandings</i>	21	-30	-27
Outstandings	149	119	92
Housing direct loan financing account:			
Obligations	1,051	311	284
Loan disbursements	1,051	311	284
<i>Change in outstandings</i>	-181	-384	79
Outstandings	1,601	1,217	1,296
Native American and transitional housing direct loan financing account:			
Obligations	6	13	13
Loan disbursements	6	13	13
<i>Change in outstandings</i>	-1	12	11
Outstandings	18	30	41
Vocational rehabilitation and education direct loan financing account:			
Obligations	3	3	4
Loan disbursements	3	3	4
<i>Change in outstandings</i>			
Outstandings	1	1	1
Environmental Protection Agency			
Environmental Protection Agency			
Abatement, control, and compliance direct loan financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-4	-5	-5
Outstandings	38	33	28
General Services Administration			
Real Property Activities			
Columbia Hospital for Women direct loan financing account:			
Obligations			
Loan disbursements			
<i>Change in outstandings</i>	-13		
Outstandings			

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Obligations			
Loan disbursements	21	7	7
Change in outstandings	-412	-550	-279
Outstandings	3,355	2,805	2,526
Foreign military financing direct loan financing account:			
Obligations		3,800	
Loan disbursements	337	56	
Change in outstandings	-96	-419	-462
Outstandings	1,847	1,428	966
Military debt reduction financing account:			
Obligations		31	
Loan disbursements		31	
Change in outstandings	-17	29	-31
Outstandings	2	31	
Agency for International Development			
Economic assistance loans liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-605	-581	-493
Outstandings	8,768	8,187	7,694
Debt reduction financing account:			
Obligations	7	8	
Loan disbursements	7	8	
Change in outstandings	-56	-27	-15
Outstandings	119	92	77
Private sector revolving fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings		-1	
Outstandings	1		
Microenterprise and small enterprise development credit direct loan financing account:			
Obligations			
Loan disbursements			
Change in outstandings	-1		
Outstandings			
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings			
Outstandings	1	1	1
Overseas Private Investment Corporation direct loan financing account:			
Obligations	47	73	40
Loan disbursements	73	40	40
Change in outstandings	63	33	31
Outstandings	138	171	202
Small Business Administration			
Small Business Administration			
Business direct loan financing account:			
Obligations	16	27	20
Loan disbursements	25	18	19
Change in outstandings	12	3	2
Outstandings	119	122	124

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Disaster direct loan financing account:			
Obligations	1,272	795	760
Loan disbursements	1,306	829	691
Change in outstandings	356	-433	-184
Outstandings	3,644	3,211	3,027
Disaster loan fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-148	-89	-10
Outstandings	100	11	1
Business loan fund liquidating account:			
Obligations			
Loan disbursements	7	11	10
Change in outstandings	-86	-50	-42
Outstandings	251	201	159
Other Independent Agencies			
Export-Import Bank of the United States			
Export-Import Bank of the United States liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-331	-962	-212
Outstandings	3,821	2,859	2,647
Debt reduction financing account:			
Obligations		186	
Loan disbursements		186	
Change in outstandings	-11	185	-238
Outstandings	135	320	82
Export-Import Bank direct loan financing account:			
Obligations	296	447	322
Loan disbursements	920	627	395
Change in outstandings	-16	-175	-501
Outstandings	7,574	7,399	6,898
Farm Credit System Financial Assistance Corporation			
Financial Assistance Corporation assistance fund liquidating account:			
Obligations			
Loan disbursements			
Change in outstandings	-86	-112	-29
Outstandings	782	670	641
Federal Communications Commission			
Spectrum auction direct loan financing account:			
Obligations	1		
Loan disbursements	1		
Change in outstandings	-300	-67	-92
Outstandings	5,293	5,226	5,134
FSLIC Resolution			
FSLIC resolution fund:			
Obligations			
Loan disbursements			
Change in outstandings	-3		
Outstandings			
National Credit Union Administration			
Central liquidity facility:			
Obligations	101	105	109
Loan disbursements			
Change in outstandings			
Outstandings			

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Community development credit union revolving loan fund:			
Obligations	12	13	14
Loan disbursements	3	4	5
Change in outstandings	-2	1	1
Outstandings	8	9	10
Tennessee Valley Authority			
Tennessee Valley Authority fund:			
Obligations	10	19	20
Loan disbursements	10	19	20
Change in outstandings	-5	5	4
Outstandings	46	51	55
Subtotal, direct loan transactions:			
Obligations	43,688	46,222	42,016
Loan disbursements	39,586	38,448	37,989
Change in outstandings	9,125	11,506	10,522
Outstandings	219,974	231,480	242,002
ADDENDUM: DEFAULTED GUARANTEED LOANS THAT RESULT IN A LOAN RECEIVABLE			
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund guaranteed loan financing account:			
Claim payments	1	2	2
Change in outstandings	-2		
Outstandings	10	10	10
Commodity Credit Corporation export guarantee financing account:			
Claim payments	334	325	318
Change in outstandings	294	259	237
Outstandings	779	1,038	1,275
Commodity Credit Corporation guaranteed loans liquidating account:			
Claim payments			
Change in outstandings	-184	-201	-198
Outstandings	3,785	3,584	3,386
Department of Commerce			
National Oceanic and Atmospheric Administration			
Fisheries finance guaranteed loan financing account:			
Claim payments			1
Change in outstandings			1
Outstandings	13	13	14
Federal ship financing fund fishing vessels liquidating account:			
Claim payments			
Change in outstandings	-2	-2	-2
Outstandings	40	38	36
Department of Education			
Federal Student Aid			
Federal family education loan liquidating account:			
Claim payments	148	33	8
Change in outstandings	-1,193	-820	-712
Outstandings	12,928	12,108	11,396
Federal family education loan program financing account:			
Claim payments	2,819	3,925	4,772
Change in outstandings	760	1,744	2,127
Outstandings	6,098	7,842	9,969
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Claim payments	23	38	41
Change in outstandings	18	32	35
Outstandings	391	423	458

Table 9–9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Health education assistance loans liquidating account:			
Claim payments	8	9	7
Change in outstandings	-9	-30	-32
Outstandings	488	458	426
Department of Housing and Urban Development			
Housing Programs			
FHA-mutual mortgage and cooperative housing insurance funds liquidating account:			
Claim payments			
Change in outstandings	3	-7	
Outstandings	7		
FHA-general and special risk insurance funds liquidating account:			
Claim payments	614	768	704
Change in outstandings	227	-112	67
Outstandings	2,226	2,114	2,181
FHA-general and special risk guaranteed loan financing account:			
Claim payments	458	530	633
Change in outstandings	-17	341	335
Outstandings	601	942	1,277
FHA-mutual mortgage insurance guaranteed loan financing account:			
Claim payments		491	804
Change in outstandings		-4	
Outstandings	4		
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Claim payments			
Change in outstandings	-4	-4	-4
Outstandings	22	18	14
Indian guaranteed loan financing account:			
Claim payments	2	1	1
Change in outstandings	1		-1
Outstandings	25	25	24
Department of the Treasury			
Departmental Offices			
Air transportation stabilization guaranteed loan financing account: ¹			
Claim payments		495	105
Change in outstandings		495	-390
Outstandings		495	105
Department of Veterans Affairs			
Benefits Programs			
Housing liquidating account:			
Claim payments	12	14	11
Change in outstandings	8	4	3
Outstandings	282	286	289
Housing guaranteed loan financing account:			
Claim payments	296	355	396
Change in outstandings	528	215	225
Outstandings	872	1,087	1,312
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Claim payments	19	8	54
Change in outstandings	-29	8	54
Outstandings	10	18	72

Table 9-9. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Agency for International Development			
Housing and other credit guaranty programs liquidating account:			
Claim payments	41	16	31
Change in outstandings	15	-61	11
Outstandings	450	389	400
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Claim payments		1	
Change in outstandings	-3	-3	-5
Outstandings	17	14	9
Overseas Private Investment Corporation guaranteed loan financing account:			
Claim payments	162	45	45
Change in outstandings	155	38	42
Outstandings	204	242	284
Small Business Administration			
Small Business Administration			
Pollution control equipment fund liquidating account:			
Claim payments		1	1
Change in outstandings		1	1
Outstandings	49	50	51
Business guaranteed loan financing account:			
Claim payments	922	684	698
Change in outstandings	338	252	257
Outstandings	1,304	1,556	1,813
Business loan fund liquidating account:			
Claim payments	11	11	10
Change in outstandings	-21	-29	-21
Outstandings	357	328	307
Subtotal, defaulted guaranteed loans that result in a loan receivable:			
Claim payments	5,870	7,752	8,642
Change in outstandings	883	2,116	2,030
Outstandings	30,962	33,078	35,108
Total:			
Obligations	43,688	46,222	42,016
Loan disbursements	45,456	46,200	46,631
Change in outstandings	10,008	13,622	12,552
Outstandings	250,936	264,558	277,110

¹ Numbers shown for 2003 and 2004 include estimates for loan guarantees that have received either conditional or final approval. This presentation should not be construed as prejudging the outcome of the Air Transportation Stabilization Board's deliberations. The Board does not anticipate making any new loan guarantees in 2004.

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Department of Agriculture			
Farm Service Agency			
Agricultural credit insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-114	-50	-35
Outstandings	297	247	212
Agricultural credit insurance fund guaranteed loan financing account:			
Commitments	2,551	3,063	2,666
New guaranteed loans	2,553	3,000	2,666
Change in outstandings	267	679	339
Outstandings	9,378	10,057	10,396
Commodity Credit Corporation export guarantee financing account:			
Commitments	3,926	4,225	4,155
New guaranteed loans	3,926	4,225	4,155
Change in outstandings	-153	-80	-97
Outstandings	4,762	4,682	4,585
Natural Resources Conservation Service			
Agricultural resource conservation demonstration guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-2	-10	-7
Outstandings	22	12	5
Rural Utilities Service			
Rural communication development fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings			-1
Outstandings	4	4	3
Rural development insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-18	-16	-13
Outstandings	80	64	51
Rural electrification and telecommunications guaranteed loans financing account:			
Commitments		100	100
New guaranteed loans	55	22	100
Change in outstandings	53	19	97
Outstandings	256	275	372
Rural water and waste water disposal guaranteed loans financing account:			
Commitments	75	75	75
New guaranteed loans	9	11	37
Change in outstandings	19	7	31
Outstandings	30	37	68
Local television loan guarantee financing account:			
Commitments		1,067	
New guaranteed loans		213	480
Change in outstandings		205	455
Outstandings		205	660
Rural electrification and telecommunications liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-41	-20	-19
Outstandings	317	297	278
Rural Housing Service			
Rural housing insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-2	-2	-2
Outstandings	16	14	12

Table 9–10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Rural housing insurance fund guaranteed loan financing account:			
Commitments	2,528	1,918	2,825
New guaranteed loans	2,444	2,016	2,516
Change in outstandings	929	363	746
Outstandings	13,602	13,965	14,711
Rural community facility guaranteed loans financing account:			
Commitments	210	210	210
New guaranteed loans	59	155	164
Change in outstandings	74	121	124
Outstandings	301	422	546
Rural Business—Cooperative Service			
Rural business investment program guarantee financing account:			
Commitments		280	
New guaranteed loans		56	98
Change in outstandings		56	96
Outstandings		56	152
Rural business and industry guaranteed loans financing account:			
Commitments	844	1,078	602
New guaranteed loans	839	817	1,206
Change in outstandings	380	382	731
Outstandings	3,884	4,266	4,997
Department of Commerce			
Departmental Management			
Emergency oil and gas guaranteed loan financing account:			
Commitments	2		
New guaranteed loans	2		
Change in outstandings	2	-2	-2
Outstandings	5	3	1
Emergency steel guaranteed loan financing account:			
Commitments	42		
New guaranteed loans	42		
Change in outstandings	-54	-17	-8
Outstandings	55	38	30
National Oceanic and Atmospheric Administration			
Fisheries finance guaranteed loan financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-14	-10	-8
Outstandings	37	27	19
Federal ship financing fund fishing vessels liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-8	-6	-5
Outstandings	31	25	20
Department of Defense—Military			
Operation and Maintenance			
Defense export loan guarantee financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-4	-4	
Outstandings	4		
Procurement			
Arms initiative guaranteed loan financing account:			
Commitments		45	
New guaranteed loans		45	
Change in outstandings	-1	44	-2
Outstandings	27	71	69

Table 9–10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Family Housing			
Family housing improvement guaranteed loan financing account:			
Commitments		138	259
New guaranteed loans	131	16	7
Change in outstandings	130	13	4
Outstandings	200	213	217
Department of Education			
Federal Student Aid			
Federal family education loan liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-1,769	-1,149	-708
Outstandings	2,724	1,575	867
Federal family education loan program financing account:			
Commitments	48,102	53,327	52,064
New guaranteed loans	44,273	47,583	46,248
Change in outstandings	24,386	19,577	14,319
Outstandings	179,191	198,768	213,087
Department of Health and Human Services			
Health Resources and Services Administration			
Health education assistance loans financing account:			
Commitments	165	160	150
New guaranteed loans	165	160	150
Change in outstandings	133	114	101
Outstandings	1,646	1,760	1,861
Health education assistance loans liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-49	-53	-44
Outstandings	619	566	522
Health center guaranteed loan financing account:			
Commitments	1	17	22
New guaranteed loans	1	17	22
Change in outstandings	1	17	22
Outstandings	13	30	52
Medical facilities guarantee and loan fund:			
Commitments			
New guaranteed loans			
Change in outstandings	-3	-3	-3
Outstandings	16	13	10
Department of Housing and Urban Development			
Public and Indian Housing Programs			
Low-rent public housing—loans and other expenses:			
Commitments			
New guaranteed loans			
Change in outstandings	-275	-280	-280
Outstandings	2,189	1,909	1,629
Indian housing loan guarantee fund financing account:			
Commitments	1	20	23
New guaranteed loans	1	10	19
Change in outstandings	-8	-1	6
Outstandings	58	57	63
Title VI Indian Federal guarantees financing account:			
Commitments	55	17	12
New guaranteed loans	55	14	10
Change in outstandings	55	11	4
Outstandings	65	76	80

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Native Hawaiian housing loan guarantee fund financing account:			
Commitments		1	2
New guaranteed loans		1	2
Change in outstandings		1	1
Outstandings		1	2
Public housing reform initiative guaranteed loan financing account:			
Commitments			1,715
New guaranteed loans			86
Change in outstandings			84
Outstandings			84
Community Planning and Development			
Community development loan guarantees financing account:			
Commitments	311	390	183
New guaranteed loans	309	261	304
Change in outstandings	153	11	4
Outstandings	2,040	2,051	2,055
Community development loan guarantees liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-34	-20	-15
Outstandings	47	27	12
Housing Programs			
FHA-mutual mortgage and cooperative housing insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-7,995	-4,777	-3,665
Outstandings	31,968	27,191	23,526
FHA-general and special risk insurance funds liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-4,051	-2,773	-2,456
Outstandings	21,319	18,546	16,090
FHA-general and special risk guaranteed loan financing account:			
Commitments	23,000	24,000	25,000
New guaranteed loans	20,600	23,644	24,753
Change in outstandings	1,362	16,151	15,780
Outstandings	74,738	90,889	106,669
FHA-loan guarantee recovery fund financing account:			
Commitments		4	
New guaranteed loans	1	4	
Change in outstandings	1	1	-3
Outstandings	5	6	3
FHA-mutual mortgage insurance guaranteed loan financing account:			
Commitments	157,031	163,008	177,500
New guaranteed loans	136,382	133,582	139,289
Change in outstandings	16,040	57,863	71,486
Outstandings	435,353	493,216	564,702
Government National Mortgage Association			
Guarantees of mortgage-backed securities liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-12	-12	-14
Outstandings	122	110	96
Guarantees of mortgage-backed securities financing account:			
Commitments	178,924	259,419	200,000
New guaranteed loans	174,853	120,000	150,000
Change in outstandings	-36,080	29,492	43,267
Outstandings	568,229	597,721	640,988

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Department of the Interior			
Bureau of Indian Affairs			
Indian loan guaranty and insurance fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-8	-6	-3
Outstandings	9	3	
Indian guaranteed loan financing account:			
Commitments	75	72	84
New guaranteed loans	65	65	66
Change in outstandings	38	39	40
Outstandings	222	261	301
Department of Transportation			
Office of the Secretary			
Minority business resource center guaranteed loan financing account:			
Commitments	5	18	18
New guaranteed loans	5	18	18
Change in outstandings	-1	12	
Outstandings	6	18	18
Federal Highway Administration			
Transportation infrastructure finance and innovation program loan guarantee financing account:			
Commitments		200	200
New guaranteed loans		120	160
Change in outstandings		120	160
Outstandings		120	280
Maritime Administration			
Federal ship financing fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-74	-30	-30
Outstandings	108	78	48
Maritime guaranteed loan (title XI) financing account:			
Commitments	225	338	
New guaranteed loans	225	338	
Change in outstandings	-562	228	-110
Outstandings	4,176	4,404	4,294
Department of the Treasury			
Departmental Offices			
Air transportation stabilization guaranteed loan financing account: ³			
Commitments	429	1,433	
New guaranteed loans	429	1,433	
Change in outstandings	429	938	-270
Outstandings	429	1,367	1,097
Department of Veterans Affairs			
Benefits Programs			
Housing liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-2,478	-1,845	-1,350
Outstandings	6,704	4,859	3,509
Housing guaranteed loan financing account:			
Commitments	38,041	35,271	35,248
New guaranteed loans	38,041	35,271	35,247
Change in outstandings	30,123	26,836	26,186
Outstandings	257,828	284,664	310,850

Table 9–10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued
(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
International Assistance Programs			
International Security Assistance			
Foreign military loan liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-357	-349	-374
Outstandings	3,837	3,488	3,114
Agency for International Development			
Loan guarantees to Israel financing account:			
Commitments			
New guaranteed loans			
Change in outstandings	-20	-157	-49
Outstandings	9,206	9,049	9,000
Development credit authority guaranteed loan financing account:			
Commitments	201	280	675
New guaranteed loans	4	142	125
Change in outstandings	2	138	106
Outstandings	41	179	285
Housing and other credit guaranty programs liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-97	-93	-98
Outstandings	1,499	1,406	1,308
Microenterprise and small enterprise development guaranteed loan financing account:			
Commitments	13		
New guaranteed loans	11	20	26
Change in outstandings	-2	8	13
Outstandings	34	42	55
Urban and environmental credit guaranteed loan financing account:			
Commitments			
New guaranteed loans	22	17	
Change in outstandings	70	-8	-31
Outstandings	584	576	545
Overseas Private Investment Corporation			
Overseas Private Investment Corporation liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-9	-10	-7
Outstandings	17	7	
Overseas Private Investment Corporation guaranteed loan financing account:			
Commitments	809	715	765
New guaranteed loans	525	525	525
Change in outstandings	163	280	280
Outstandings	3,513	3,793	4,073
Small Business Administration			
Small Business Administration			
Pollution control equipment fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-4	-4	-3
Outstandings	12	8	5
Business guaranteed loan financing account:			
Commitments	15,266	18,983	20,802
New guaranteed loans	12,342	10,111	10,741
Change in outstandings	4,916	1,910	1,868
Outstandings	40,023	41,933	43,801
Business loan fund liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-434	-255	-201
Outstandings	1,067	812	611

Table 9-10. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT—Continued

(In millions of dollars)

Agency and Account	2002 Actual	Estimate	
		2003	2004
Other Independent Agencies			
Export-Import Bank of the United States			
Export-Import Bank of the United States liquidating account:			
Commitments			
New guaranteed loans			
Change in outstandings	-217	-215	-149
Outstandings	724	509	360
Export-Import Bank guaranteed loan financing account:			
Commitments	9,824	12,335	14,320
New guaranteed loans	7,859	7,543	8,662
Change in outstandings	690	1,316	2,117
Outstandings	30,274	31,590	33,707
National Credit Union Administration			
Credit union share insurance fund:			
Commitments	3	6	4
New guaranteed loans	4	3	4
Change in outstandings	3	2	-2
Outstandings	4	6	4
Presidio Trust			
Presidio Trust guaranteed loan financing account:			
Commitments		100	50
New guaranteed loans		50	75
Change in outstandings		49	69
Outstandings		49	118
Subtotal, Guaranteed loans (gross)			
Commitments	482,659	582,313	539,729
New guaranteed loans	446,232	391,508	427,961
Change in outstandings	25,469	144,746	168,472
Outstandings	1,713,967	1,858,713	2,027,185
Less, secondary guaranteed loans: ¹			
GNMA guarantees of FmHA/VA/FHA pools:			
Commitments	-178,924	-259,419	-200,000
New guaranteed loans	-174,853	-120,000	-150,000
Change in outstandings	36,092	-29,480	-43,253
Outstandings	-568,351	-597,831	-641,084
Total, primary guaranteed loans: ²			
Commitments	303,735	322,894	339,729
New guaranteed loans	271,379	271,508	277,961
Change in outstandings	61,561	115,266	125,219
Outstandings	1,145,616	1,260,882	1,386,101

¹ Loans guaranteed by FHA, VA, or FmHA are included above. GNMA places a secondary guarantee on these loans, so they are deducted here to avoid double counting.

² When guaranteed loans result in loans receivable, they are shown in the direct loan table.

³ Numbers shown for 2003 and 2004 include estimates for loan guarantees that have received either conditional or final approval. This presentation should not be construed as prejudging the outcome of the Air Transportation Stabilization Board's deliberations. The Board does not anticipate making any new loan guarantees in 2004.

Table 9–11. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES (GSEs)¹
(In millions of dollars)

Enterprise	2002 Actual	Estimate	
		2003	2004
LENDING			
Student Loan Marketing Association:			
<i>Net change</i>	900	-13,967	-9,426
Outstandings	41,932	27,965	18,539
Federal National Mortgage Association:			
Portfolio programs:			
<i>Net change</i>	59,249	126,081	103,879
Outstandings	759,733	885,814	989,693
Mortgage-backed securities:			
<i>Net change</i>	166,892	178,693	129,169
Outstandings	989,274	1,167,967	1,297,136
Federal Home Loan Mortgage Corporation:			
Portfolio programs:			
<i>Net change</i>	59,844	56,106	60,900
Outstandings	530,694	586,800	647,700
Mortgage-backed securities:			
<i>Net change</i>	94,497	122,868	64,823
Outstandings	730,341	853,209	918,032
Farm Credit System:			
Agricultural credit bank:			
<i>Net change</i>	878	3,412	955
Outstandings	20,466	23,878	24,833
Farm credit banks:			
<i>Net change</i>	5,720	2,525	2,167
Outstandings	58,165	60,690	62,857
Federal Agricultural Mortgage Corporation:			
<i>Net change</i>	1,106	.....	.....
Outstandings	6,000	6,000	6,000
Federal Home Loan Banks:			
<i>Net change</i>	48,399	.....	.....
Outstandings	537,812	537,812	537,812
Subtotal GSE lending (gross):			
<i>Net change</i>	437,485	475,718	352,467
Outstandings	3,674,417	4,150,135	4,502,602
Less guaranteed loans purchased by:			
Student Loan Marketing Association:			
<i>Net change</i>	900	-13,967	-9,426
Outstandings	41,932	27,965	18,539
Federal National Mortgage Association:			
<i>Net change</i>	-2,456	.....	.....
Outstandings	60,143	60,143	60,143
Other:			
<i>Net change</i>	4,148	.....	.....
Outstandings	25,979	25,979	25,979
Total GSE lending (net):			
<i>Net change</i>	434,893	489,685	361,893
Outstandings	3,546,363	4,036,048	4,397,941
BORROWING			
Student Loan Marketing Association:			
<i>Net Change</i>	-1,601	-13,620	-9,136
Outstandings	45,720	32,100	22,964
Federal National Mortgage Association:			
Portfolio programs:			
<i>Net Change</i>	73,263	109,431	113,861
Outstandings	800,255	909,686	1,023,547
Mortgage-backed securities:			
<i>Net Change</i>	166,892	178,693	129,169
Outstandings	989,274	1,167,967	1,297,136

Table 9–11. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES (GSEs) ¹—Continued

(In millions of dollars)

Enterprise	2002 Actual	Estimate	
		2003	2004
Federal Home Loan Mortgage Corporation:			
Portfolio programs:			
<i>Net Change</i>	87,339	18,910	61,565
Outstandings	618,651	637,561	699,126
Mortgage-backed securities:			
<i>Net Change</i>	94,497	122,868	64,823
Outstandings	730,341	853,209	918,032
Farm Credit System:			
Agricultural credit bank:			
<i>Net Change</i>	1,238	3,686	1,048
Outstandings	22,513	26,199	27,247
Farm credit banks:			
<i>Net Change</i>	5,784	4,644	3,765
Outstandings	63,794	68,438	72,203
Federal Agricultural Mortgage Corporation:			
<i>Net Change</i>	204	-10	321
Outstandings	3,074	3,064	3,385
Federal Home Loan Banks:			
<i>Net Change</i>	56,223		
Outstandings	667,561	667,561	667,561
Subtotal GSE borrowing (gross):			
<i>Net change</i>	483,839	424,602	365,416
Outstandings	3,941,183	4,365,785	4,731,201
Less borrowing from other GSEs:			
<i>Net Change</i>	1,535		
Outstandings	183,444	183,444	183,444
Less purchase of Federal debt securities:			
<i>Net Change</i>	404	-103	-81
Outstandings	3,530	3,427	3,346
Less borrowing to purchase loans guaranteed by:			
Student Loan Marketing Association:			
<i>Net Change</i>	900	-13,967	-9,426
Outstandings	41,932	27,965	18,539
Federal National Mortgage Association:			
<i>Net Change</i>	-2,456		
Outstandings	60,143	60,143	60,143
Other:			
<i>Net Change</i>	4,148		
Outstandings	25,979	25,979	25,979
Total GSE borrowing (net):			
<i>Net change</i>	479,307	438,672	374,923
Outstandings	3,626,154	4,064,826	4,439,749

¹ The estimates of borrowing and lending were developed by the GSEs based on certain assumptions that are subject to periodic review and revision and do not represent official GSE forecasts of future activity, nor are they reviewed by the President. The data for all years include programs of mortgage-backed securities. In cases where a GSE owns securities issued by the same GSE, including mortgage-backed securities, the borrowing and lending data for that GSE are adjusted to remove double-counting.

Table 9-12. GOVERNMENT-SPONSORED ENTERPRISE PARTICIPATION IN THE CREDIT MARKET ¹

(In billions of dollars)

	Actual													
	1965	1970	1975	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001	2002
Total net lending in credit market	66.8	88.1	169.6	336.9	829.3	705.2	702.4	716.0	723.0	981.3	1,076.2	902.8	1,012.5	1,268.3
Government-sponsored enterprise loans	1.2	4.9	5.3	21.4	57.9	115.4	125.7	141.5	112.8	293.1	284.0	245.6	466.1	434.9
GSE lending participation rate (percent)	1.8	5.6	3.1	6.4	7.0	16.4	17.9	19.8	15.6	29.9	26.4	27.2	46.0	34.3
Total net borrowing in credit market	66.8	88.1	169.6	336.9	829.3	705.2	702.4	716.0	723.0	981.3	1,076.2	902.8	1,012.5	1,268.3
Government-sponsored enterprise borrowing ²	1.4	5.2	5.5	24.1	60.7	90.0	68.2	161.2	107.9	276.2	346.8	277.9	415.3	479.3
GSE borrowing participation rate (percent)	2.1	5.9	3.2	7.2	7.3	12.8	9.7	22.5	14.9	28.1	32.2	30.8	41.0	37.8

¹ Government-sponsored enterprises (GSEs) are financial intermediaries. GSE borrowing (lending) is nevertheless compared with total credit market borrowing (lending) by nonfinancial sectors, because GSE borrowing (lending) is a proxy for the borrowing (lending) by nonfinancial sectors that the GSEs assist through intermediation. The GSEs assist the ultimate nonfinancial borrower by purchasing its loans from the initial, direct lender or by other methods, which they finance by issuing securities themselves in the credit market. Borrowing and lending include mortgage-backed securities, because the GSEs assist nonfinancial borrowers through this type of intermediation as well as by types of intermediation that involve financial instruments recognized on the GSEs' balance sheets. The data for this table are adjusted, with some degree of approximation, to remove double counting in making a comparison with other Federal and federally guaranteed transactions. GSE borrowing and lending are calculated net of transactions between components of GSEs and transactions in guaranteed loans; GSE borrowing is also calculated net of borrowing from other GSEs and purchases of Federal debt securities.

² Total net borrowing (or lending) in credit market by domestic nonfinancial sectors, excluding equities. Credit market borrowing (lending) is the acquisition (loan) of funds other than equities through formal credit channels. Financial sectors are omitted from the series used in this table to avoid double counting, since financial intermediaries borrow in the credit market primarily in order to finance lending in the credit market. Equities, trade credit, security credit, and other sources of funds are also excluded from this series. Source: Federal Reserve Board flow of funds accounts. Estimates for 2003 and 2004 are not available.

Table 9-13. BORROWING BY FINANCING VEHICLES ¹
(In millions of dollars)

Financing Vehicle	2002 Actual	Estimate	
		2003	2004
Financing Corporation (FICO):			
<i>Net change</i>	1	1	1
Outstandings	8,150	8,151	8,152
Resolution Funding Corporation (REFCORP):			
<i>Net change</i>	1	-3	-3
Outstandings	30,061	30,058	30,055
Subtotal, gross borrowing:			
<i>Net change</i>	2	-2	-2
Outstandings	38,211	38,209	38,207
Less purchases of Federal debt securities:			
<i>Net change</i>	487	698	757
Outstandings	8,407	9,105	9,862
Total, net borrowing:			
<i>Net change</i>	-485	-700	-759
Outstandings	29,804	29,104	28,345

¹ Financing vehicles are Government corporations established pursuant to law in order to provide financing for a Federal program but excluded from the on-budget and off-budget totals. FICO and REFCORP borrowed from the public in the past but have not loaned to the public. During the period covered by this table, the change in debt outstanding is due solely to the amortization of discounts and premiums. No sale or redemption of debt securities occurred in 2002 or is estimated to occur in 2003 or 2004.

10. AID TO STATE AND LOCAL GOVERNMENTS ¹

State and local governments have a vital constitutional responsibility to provide government services. They have the major role in providing domestic public services, such as public education, law enforcement, roads, water supply, and sewage treatment. The Federal Government contributes to that role by promoting a healthy economy. It also provides grants, loans, and tax subsidies to State and local governments.

Federal grants help State and local governments finance programs covering most areas of domestic public spending, including income support, infrastructure, education, and social services. Federal grant outlays were \$351.6 billion in 2002 and are estimated to increase to \$384.2 billion in 2003 and \$398.8 billion in 2004.

Grant outlays to individuals, such as Medicaid payments, are estimated to be 65 percent of total grants in 2004; grant outlays for physical capital investment, 15 percent; and grant outlays for all other purposes, largely education, training, and social services, 20 percent.

Some tax expenditures also constitute Federal aid to State and local governments. Tax expenditures stem from special exclusions, exemptions, deductions, credits, deferrals, or tax rates in the Federal tax laws.

The deductibility of personal income and property taxes from gross income for Federal income tax purposes and the exclusion of interest on State and local public purpose bonds from Federal taxation comprise the two largest tax expenditures benefiting State and local governments. These provisions, on an outlay equivalent basis, are estimated to be \$73 billion in both 2003 and 2004. Chapter 6, "Tax Expenditures," of this volume provides a detailed discussion of the measurement and definition of tax expenditures and a complete list of the estimated costs of specific tax expenditures. As discussed in that chapter, there are generally interactions among tax expenditure provisions, so that the

cost estimates only approximate the aggregate effect of these provisions. Tax expenditures that especially aid State and local governments are displayed separately at the end of Table 6–5 in that chapter, and also at the ends of Tables 6–1 and 6–2.

For the first time, this chapter includes State-by-State estimates of selected large grant programs to State and local governments. These tables appear as an Appendix to this chapter.

Table 10–1. FEDERAL GRANT OUTLAYS BY AGENCY

(In billions of dollars)

Agency	2002 Actual	2003 Estimate	2004 Estimate
Department of Agriculture	21.8	23.8	23.2
Department of Commerce	0.6	0.9	0.6
Department of Education	26.7	34.4	36.2
Department of Energy	0.2	0.3	0.3
Department of Health and Human Services	204.8	223.5	242.2
Department of Homeland Security	3.8	7.3	6.9
Department of Housing and Urban Development	29.3	30.8	25.8
Department of the Interior	2.6	2.8	2.9
Department of Justice	5.4	3.4	4.4
Department of Labor	9.0	10.6	8.9
Department of Transportation	41.0	39.3	39.9
Department of the Treasury	0.4	0.4	0.4
Department of Veterans Affairs	0.4	0.4	0.5
Environmental Protection Agency	3.6	4.0	4.1
Other agencies	2.0	2.3	2.6
Total	351.6	384.2	398.8

Table 10–1 shows the distribution of grants by agency. Grant outlays for the Department of Health and Human Services are estimated to be \$242.2 billion in 2004, more than 60 percent of total grant outlays. Grant outlays for the Department of Homeland Security decline in 2004 due to the spendout of balances from the Emergency Response Fund.

HIGHLIGHTS OF THE FEDERAL AID PROGRAM

Several proposals in this budget affect Federal aid to State and local governments and the important relationships between the levels of government. Through the use of grants, the Federal Government shares with State and local governments the cost and, ultimately, the benefits of a better educated, healthier, and safer citizenry. The Administration intends to work with State and local governments to make the Federal system more efficient and effective and to improve the design, administration, and financial management of

Federal grant programs. The Administration will achieve these goals through various efforts.

In programs where the Federal Government and State and local governments partner in the provision of services, State and local government involvement is critical to improving the performance of Federal programs. For this budget, Federal agencies and the Office of Management and Budget (OMB) worked together to rate the effectiveness of 234 programs using the Program Assessment Rating Tool (PART). On average, grant programs received lower ratings than other types

¹Federal aid to State and local governments is defined as the provision of resources by the Federal Government to support a State or local program of governmental service

to the public. The three primary forms of aid are grants, loan subsidies, and tax expenditures.

of programs, which suggests the need for strengthening partnerships and accountability for achieving program outcomes.

In support of the Administration's initiative to reduce erroneous payments, managers of several programs jointly administered by the Federal Government and the States, including Medicaid and the School Lunch program, are developing methodologies to estimate improper payment rates, identify the causes and remedy them. The passage of the Erroneous Payments Information Act of 2002 codifies the requirement of the President's initiative to estimate the extent of erroneous payments not just in those programs that are singled out in the President's effort to reduce erroneous payments, but for all Federal programs. With the passage of the Act, OMB will issue guidance to agencies to assist with the expanded reporting requirements in the statute.

Finally, by expanding a Government-wide effort to use electronic processing in the administration of grant programs, the Federal Government aims to streamline and improve the efficiency of Federal grant programs. Each of the Federal grant-making agencies is responsible for working individually and collectively under the auspices of the Federal Financial Assistance Management Improvement Act of 1999 (P.L. 106 107). The Act requires grant-making agencies to simplify grants and enable grantees to electronically conduct business with the Federal Government.

Highlights of grants to State and local governments are presented below. For additional information on grants, see Table 10-3 in this Chapter, and discussions in the main budget volume.

Department of Homeland Security

This budget requests \$5.6 billion in budget authority for Department of Homeland Security (DHS) grants to State and local governments for 2004. These funds support diverse activities, including State and local law enforcement terrorism prevention initiatives and natural disaster recovery efforts.

This budget requests funds to support substantial improvements in the capacity of State and local governments to anticipate and respond to incidents of terrorism on United States soil. Specifically, the Administration's "First Responder" initiative will provide firefighters, law enforcement, emergency medical services, and emergency management agencies with coordinated training, grants for preparedness equipment, technical assistance, and opportunities for joint exercises involving Federal, State, and local personnel. This budget consolidates Office for Domestic Preparedness and related functions in DHS to provide States and localities with a "one-stop shop" for funding and training needs. The \$3.5 billion request for this effort includes \$500 million for grants providing firefighters with health and safety equipment and vehicles, as well as \$500 million for State and local law enforcement initiatives to prevent terrorism. This is more than ten times the level the Federal Government provided for these programs prior to September 11, 2001. DHS will also assist State

and local governments, as well as the private sector, in identifying, prioritizing, and protecting critical infrastructure.

This budget also requests \$2.0 billion for disaster relief assistance to meet emergency needs of families and individuals and to help pay for the rebuilding and repair of critical community infrastructure. This includes a new \$300 million pre-disaster hazard mitigation program, which replaces the existing formula-based program funded through the Disaster Relief Fund. This new program will provide competitive awards to ensure that the most worthwhile and cost effective projects are funded.

Lastly, in order to build on partnerships started by the Office of Homeland Security, DHS will establish a liaison function to serve as a contact point within the Department for State and local governments and private sector officials, as well as constituents.

Education

The Department of Education seeks to ensure equal access to education and promote educational excellence for students throughout the Nation by providing formula and competitive grants. This budget requests a total of \$37.2 billion for States and local educational agencies for 2004, an increase of \$1.1 billion above the 2003 amount of \$36.1 billion. The Federal education programs will support programs that help States improve accountability for school and student performance.

This budget requests \$12.4 billion for Title I grants to school districts to help raise student achievement in the Nation's most impoverished communities. The request is a \$1 billion (nine percent) increase over the 2003 request. Implementation of the 2004 request would result in an increase of 56 percent over the funding amount provided in 2000. The amount States may keep to assist schools requiring improvements will reach nearly \$500 million in 2004. In light of the crucial role of our teachers in improving student achievement, the President requests \$2.8 billion for the Teacher Quality State Grants program, which supports State efforts to enhance teacher quality and training. In addition, the budget includes \$390 million for grants for State assessments to develop measures of achievement for students in grades three through eight.

The Reading First program, the President's signature effort to improve reading instruction, provides funds to States to support only scientifically proven reading practices. This budget proposes \$1.05 billion for this effort, \$50 million over the 2003 request. The budget also includes \$100 million for Early Reading First, a \$25 million increase, to develop model early childhood literacy and pre-reading programs for schools serving high-poverty communities.

Since 1975, the Federal Government has played an important role in ensuring that children with disabilities receive a free appropriate public education through the Individuals with Disabilities Education Act (IDEA). As with his requests for 2002 and 2003, the President

requests a \$1 billion increase in IDEA Grants to States. The 2004 request for \$9.5 billion will help States and local educational agencies meet their responsibilities toward children with disabilities. In addition, the President's request provides \$447 million for States to identify and serve infants and toddlers with disabilities, a \$10 million increase. Research shows that early intervention may help reduce or eliminate the need for special education when children enter school.

Under the Vocational Education State Grants program, the Department of Education supports programs intended to develop the academic, vocational, and technical skills of high school and community college students. However, after decades of increasing Federal investment, and despite various attempts at program reform, there remains little or no evidence that this program leads to improved outcomes. Specifically, the Administration's Program Assessment Rating Tool (PART) and several independent evaluations suggest the Vocational Education State Grants program has not effectively improved students' academic and job-related skills or helped students complete college. The Administration proposes to reform the program using frameworks for accountability and flexibility similar to those established by the No Child Left Behind Act of 2001. Participating State and local institutions will possess the flexibility to design high quality programs that encourage students to achieve the program's goals and employ responsible systems to monitor and report program performance.

This budget provides nearly \$3 billion for State and local vocational rehabilitation programs that support the President's New Freedom Initiative goals and guide individuals with disabilities to employment and independent living. In 2004, funding for Vocational Rehabilitation State Grants will help over 243,000 individuals with disabilities obtain and retain jobs with higher incomes.

Training and Employment

This budget reflects the Administration's continued efforts to enrich the Nation's workforce. The Administration will use the opportunity presented by the expiration of the Workforce Investment Act (WIA) to make significant improvements in Federal job training and employment programs in 2004. Many of these proposed reforms are designed to correct program weaknesses identified through the Program Assessment Rating Tool (PART). Specifically, the Administration proposes to consolidate three adult training and employment programs—the WIA adult program, dislocated worker program, and Employment Service State grants—into a single \$3.1 billion block grant. Such consolidation will eliminate duplication, strengthen resource allocation, improve accountability, enhance the role of employers in the national workforce system, and provide States with greater flexibility.

Legislation will be proposed to authorize \$3.6 billion for grants to States for Personal Re-employment Accounts for unemployed workers. This program would

allow States to give certain unemployed workers up to \$3,000 per person to purchase job training, child care, transportation, or moving services, or to finance other expenses of finding a job. As an additional incentive to find work, an individual who gets a job within thirteen weeks of establishing the account would receive any funds remaining in the account as a re-employment bonus. Because they reward work, eliminate red tape, and promote individual choice, Re-employment Accounts will be included in the Administration's Workforce Investment Act reauthorization proposal.

In recent years, large amounts of WIA State formula grants have remained unspent. In 2004, these programs will start the year with unexpended balances over \$1.5 billion. While total unexpended balances remain high, some States and local areas face resource shortages. Accordingly, the 2004 Budget uses unspent formula grant balances to maintain service levels while providing more flexibility to the Department of Labor and State governments to efficiently allocate funding.

The 2004 Budget proposes long-term reforms that will promote flexibility and strengthen the Unemployment Insurance (UI) that States provide to America's workers. Employers and State governments concur that the current administrative funding mechanism is flawed. Indeed, States maintain that Federal funding falls short of the resources necessary to run their UI programs. The Administration answers these concerns by giving States flexibility and control so that the States can make the UI system more responsive to the State-specific needs of employers and workers. Specifically, the reforms reduce employers' Federal payroll taxes, give States control over administrative funding, and uphold the Federal safety net so that no worker is denied benefits.

Social Services

The Head Start program gives low-income children a comprehensive approach to child development, stressing language and cognitive development, health, nutrition, and social competency. The President's Good Start, Grow Smart initiative has made modest progress in improving Head Start by sharpening the focus on school readiness, improving teacher training and mandating a system to assess the success of Head Start programs in preparing children for school. However, Head Start is one piece of an uncoordinated and overlapping puzzle of Federal, State and local programs. In order to improve the coordination between Head Start and other Federal, State, and local programs affecting pre-school children, the President plans to move responsibility for managing the Head Start program from the Department of Health and Human Services to the Department of Education. Under the President's plan, the transition would begin in 2004, and the Department of Education would assume full responsibility for the Head Start program in 2005. The Administration requests \$6.8 billion for Head Start in 2004, a \$148 million increase from 2003.

This budget also includes a legislative proposal to introduce an option available to all States to participate in an alternative financing system for child welfare. States choosing to participate will face fewer administrative burdens and will receive funds in the form of flexible grants. Such grants will encourage innovative child welfare plans that emphasize prevention and family support. The proposal couples flexibility with accountability in order to ensure the best outcomes for vulnerable children and families.

This budget builds on the President's expectation to enable community- and faith-based organizations to combat social problems. The President's Budget provides \$100 million for the Compassion Capital Fund, a fund to finance the start-up costs of charitable organizations; \$50 million in competitive grants for programs that link caring mentors and children with parents in prison; \$10 million to support community-based services for young, pregnant, and parenting women; and \$200 million in vouchers for individuals in need of drug treatment services.

Income Support

Food and nutrition assistance.—The major nutrition programs that support individuals and families in need include the National School Lunch program, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and the Food Stamp program. The President's plan to reauthorize the Child Nutrition Act includes provisions to improve the accuracy of decisions concerning eligibility for free school lunches. All savings that result from improving the accuracy of eligibility will be reinvested in the program according to the Administration's principles for strengthening the program's operation. Likewise, the President's Budget and reauthorization proposal for WIC provides \$4.8 billion for the program. This request provides funds to serve an estimated 7.8 million people monthly—the entire population estimated to be eligible and seeking services. In 2003, the Administration proposed a contingency fund to ensure that the program can expand to serve an increasing number of eligible persons, should that be necessary. The Federal Government will provide an additional \$4.1 billion for State administrative costs for the Food Stamp program, job training programs for Food Stamp recipients, and the Puerto Rico nutrition assistance block grant.

Housing assistance.—In keeping with the Administration's intention to expand homeownership opportunities, particularly for minority families, this budget includes grants of \$2.2 billion to State and local affordable housing programs through HOME investment partnerships in the Department of Housing and Urban Development. Recipients of HOME grants work with non-profit organizations to address affordable housing problems under widely varying local market conditions. The budget also converts funding for the Section 8 Housing Choice Voucher program to a block grant (the Housing Assistance for Needy Families—HANF), thus giving States the flexibility to tailor services to the

needs of particular communities while preventing a reduction in the number of low-income families receiving support.

As part of the Administration's efforts to end chronic homelessness, the budget requests funds for a new competitive grant connected with the Samaritan Initiative. Grants will support the most promising local strategies to move chronically homeless persons from the streets to safe, supportive, permanent housing. Through the Department of Housing and Urban Development, the 2004 Budget provides \$50 million for the housing component of the initiative. In order to complement the grant for housing, the budget provides \$20 million for services such as substance abuse treatment and primary health care offered through the Department of Veterans Affairs and the Department of Health and Human Services.

Other income security.—The Temporary Assistance for Needy Families (TANF) program is considered one of the most successful federally-funded domestic programs in decades. The program provides \$16.7 billion each year in block grants to States with bonuses for performance. States have significant flexibility in designing the eligibility criteria and benefit rules for their TANF programs, which require and reward work in exchange for time-limited benefits.

The Administration proposes to extend TANF, which expired on September 30, 2002. The Administration's plan maintains funding, strengthens work participation requirements, supports healthy marriages and family formation, and provides a more accessible contingency fund.

Health

Medicaid and the State Children's Health Insurance Program (SCHIP).—Medicaid is the largest Federal grant program. Medicaid assists one-fourth of the Nation's children and is the largest single purchaser of maternity care and nursing home/long-term care services. The State Children's Health Insurance Program (SCHIP) was established in 1997 to make available approximately \$40 billion over ten years for States to provide health care coverage to low-income, uninsured children. SCHIP gives States broad flexibility in designing programs while protecting beneficiaries through Federal standards. Medicaid and SCHIP rely on funding from States and the Federal Government, with the Federal contribution based on State per capita income. Federal outlays for Medicaid are estimated to be \$182.5 billion in 2004 including proposed legislation, and \$176.8 billion under current law. At the beginning of 2003, about \$3.2 billion is newly available to States' SCHIP programs, in addition to almost \$9.7 billion in unspent funds from previous years' allotments.

While States have considerable discretion in designing their Medicaid programs, some have complained that the web of Medicaid laws and administrative guidelines is confusing, burdensome, and restrictive. States frequently request additional flexibility, through waivers, to tailor public programs to specific insurance

markets or to expand eligibility beyond the populations they are legally required to cover. In addition, States are looking for ways to restructure their Medicaid programs to address the recent growth in program spending amidst the fiscal crises experienced by many States. The creation of the SCHIP program added further complexity to the already intricate rules for expanding coverage to low-income Americans.

Building on the Administration's Health Insurance Flexibility and Accountability (HIFA) initiative of 2001, this budget proposes to create optional Medicaid and SCHIP allotments for States. The 2004 Budget proposes to combine Medicaid and SCHIP funding and provide two allotments to States: one allotment for acute care and one allotment for long-term care (LTC). States would be allowed to transfer some amount (for example, up to 10 percent) between the acute and LTC allotments. Under the allotment option, States would be required to provide a specified benefit package to those current beneficiaries whose coverage is mandated by current law. State allotments would be based on 2002 spending, inflated annually by a specified trend rate, and States would be required to meet a maintenance of effort requirement for spending on Medicaid and SCHIP services.

States that choose an allotment option would be given flexibility in designing health insurance options for low-income, uninsured Americans. As with the HIFA initiative, integration with private insurance options (such as premium assistance programs) and coordination with any federally enacted health tax credit would be encouraged. This proposal is designed to be budget neutral over 10 years.

Bioterrorism.—Agencies within the Department of Health and Human Services (HHS) are improving the nation's capacity to prevent, identify, and respond to the use of biological weapons. The Centers for Disease Control (CDC) works with State and local health departments to improve the detection of and response to disease outbreaks caused by biological weapons. Such preparedness includes swift identification of dangerous agents, as well as rapid and secure communication between local, State and Federal public health officials. In addition, the Health Resources and Services Administration (HRSA) works with States and hospitals to ensure that they are prepared for a mass casualty event. CDC and HRSA work together to provide training so that health professionals can quickly recognize the difference between the first victims of a biological attack and patients with common illnesses that have similar early symptoms, like influenza. In 2002, HHS programs have awarded over \$1 billion to local health departments to improve public health preparedness and will continue this investment in 2003 and 2004.

Health Centers.—This budget requests additional assistance to State and local governments by increasing the number of community health centers. Health centers provide family-oriented, preventive and primary health care to over 11 million patients through a net-

work of over 3,400 sites. The budget builds on the Health Centers Presidential Initiative by adding 1,200 health centers by 2006. The proposed construction and expansion would enable an additional 6.1 million people to receive health care by 2006.

Natural Resources and Environment

This budget reflects the President's commitment to fully fund the Land and Water Conservation Fund (LWCF) at \$900 million. The programs funded from the LWCF have various natural resource goals, but all emphasize partnerships. Through voluntary incentives, LWCF programs focus on maintaining or restoring public lands in coordination with other landowners. Included within LWCF is \$113 million in matching funds for conservation projects via the Cooperative Conservation Initiative (CCI).

This budget provides the highest funding levels ever for Environmental Protection Agency program grants to States, which fund implementation of core environmental programs. Specifically, the budget proposes a \$20 million increase in State grants for water pollution control activities such as permit writing and technical assistance. The budget also provides an additional \$5 million for State wetland grants, bringing the program total to \$20 million. These additional funds will be targeted to helping States protect isolated waters and wetlands no longer covered by the Clean Water Act. For drinking water State grants, the President proposes an additional \$12 million, helping States monitor drinking water quality and enforce drinking water standards.

The budget also proposes an increase of \$10 million for the Brownfields program, which helps communities carry out assessments so that cleanup or development can occur and the site can return to productive use. For air, the budget increases air toxic State grants by \$7 million, implementing the recommendation of the National Academy of Sciences that EPA collect actual exposure data.

In addition to increasing EPA's State grant programs, the 2004 Budget extends Federal support of States' Clean Water and Drinking Water State Revolving Funds (SRFs) through 2011 and 2018, respectively. This extended capitalization, \$850 million per year for each SRF, will cover the projected compliance costs for federally mandated drinking water regulations and will enable the SRFs to close the estimated gap between current funding levels and future water infrastructure needs. The long-term annual revolving levels for both SRFs will increase by more than \$500 million over current levels—to \$2.8 billion for the Clean Water SRF and to \$1.2 billion for the Drinking Water SRF.

Administration of Justice

While the 2004 Budget redirects some grant funding under this category to Federal law enforcement activities and the "First Responder" initiative, this budget also proposes additional funding to help State and local governments prevent terrorism, combat crime, and rehabilitate criminals. Specifically, the budget requests \$12 million to expand Joint Terrorism Task Forces

(which coordinate the efforts of FBI field offices with their counterparts in State and local law enforcement); \$12 million to synchronize Federal, State, and local data on terrorist threats and investigations via the Regional Information Sharing System's network of regional law enforcement intelligence centers; and \$2.5 million to increase training for State and local enforcement on the investigation and prosecution of terrorist incidents. To assist State and local governments in prosecuting offenders and exonerating the innocent, the budget proposes \$177 million in grant funding for forensic DNA programs in order to help State and local crime labs clear their backlog of unanalyzed DNA samples, invest in the latest crime lab technology, and train criminal justice professionals to make better use of DNA evidence. The Budget also supports State and local efforts to rehabilitate non-violent drug offenders by recommending a \$16 million increase for the Drug Courts Program.

Transportation

Grant outlays for transportation are estimated to be \$39.9 billion in 2004 to assist with transportation infrastructure and related programs, including highways, transit, and airports. For grants to State and local governments for 2004, this budget includes:

- \$29.3 billion in budgetary resources for Federal-aid highway programs to maintain and improve surface transportation infrastructure, along with improvements in the physical condition and safety of the facilities;
- \$7.2 billion in budgetary resources to assist with mass transit projects, including \$1.5 billion for major capital transit projects ("New Starts") and \$145 million to expand transportation options available to individuals with disabilities; and
- \$3.4 billion in budget authority for airports. These funds will continue to support major capacity, safety, and noise mitigation projects that provide the greatest benefits to the national system, while targeting airports with significant needs.

Community and Regional Development

Community development.—The Community Development Block Grant (CDBG) provides annual grants totaling \$4.4 billion to over 1,000 eligible cities, counties, and States to fund a broad set of activities de-

signed to develop urban communities. Rehabilitating housing, developing public facilities, economic development, and urban planning constitute important goals of the CDBG program. Recent analysis suggests that some CDBG formula factors no longer allocate funds to the neediest localities. Subsequently, the Administration is considering changes to the CDBG formula factors in order to improve the efficacy of the program.

Area and regional development.—This budget provides \$56 million for the Appalachian Regional Commission, the Denali Commission, and the Delta Regional Authority. The President's proposal transforms these agencies from grantmakers to regional planners and coordinators of regional investments. The goal is to decrease duplicative grant-making and increase efficient investment of Federal, State, and local resources. The Administration also proposes to focus the efforts of the Economic Development Administration in the Department of Commerce on distressed communities.

The Department of Agriculture (USDA) provides rural development assistance to States, localities and Tribes through a variety of programs. These include loans and grants for infrastructure such as water and wastewater treatment facilities, community facilities such as fire station or medical units and loans and grants to stimulate economic development. These "community" programs are all part of the Rural Community Advancement Program (RCAP). Under RCAP, States have increased flexibility within the three funding streams for Water and Wastewater, Community Facilities, and Business and Industry. USDA also provides loans through the Intermediary Relending Program, which provides loan funds at a 1 percent interest rate to an intermediary such as a State or local government agency that, in turn, provides funds for economic and community development projects in rural areas. In 2004, USDA expects to provide \$2.1 billion in assistance through these programs.

Other Functions

Discussions of these and other Federal aid programs can be found in the main budget volume and elsewhere. As noted earlier, a detailed listing of budget authority and outlays for all grants to State and local governments is in Table 10-3 in this chapter.

HISTORICAL PERSPECTIVES

In recent decades, Federal aid to State and local governments has become a major factor in the financing of certain government functions. The rudiments of the present system date back to the Civil War. The Morrill Act, passed in 1862, established the land grant colleges and instituted certain federally-required standards for States that received the grants, as is characteristic of the present grant programs. Federal aid was later initi-

ated for agriculture, highways, vocational education and rehabilitation, forestry, and public health. In the depression years, Federal aid was extended to meet income security and other social welfare needs. However, Federal grants did not become a significant factor in Federal Government expenditures until after World War II.

Table 10–2 displays trends in Federal grants to State and local governments since 1960. Section A shows Federal grants by function. Functions with a substantial amount of grants are shown separately. Grants for the

national defense, energy, social security, and the veterans benefits and services functions are combined in the “other functions” line in the table.

Table 10–2. TRENDS IN FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS

(Outlays; dollar amounts in billions)

	Actual										Estimate					
	1960	1965	1970	1975	1980	1985	1990	1995	2000	2002	2003	2004	2005	2006	2007	2008
A. Distribution of grants by function:																
Natural resources and environment	0.1	0.2	0.4	2.4	5.4	4.1	3.7	4.0	4.6	5.1	5.9	5.8	5.7	5.7	5.7	5.8
Agriculture	0.2	0.5	0.6	0.4	0.6	2.4	1.3	0.8	0.7	0.8	0.8	0.8	0.9	0.9	0.9	0.9
Transportation	3.0	4.1	4.6	5.9	13.0	17.0	19.2	25.8	32.2	41.0	39.3	39.9	41.0	41.7	42.6	44.1
Community and regional development ...	0.1	0.6	1.8	2.8	6.5	5.2	5.0	7.2	8.7	10.5	15.2	14.1	13.4	11.4	11.4	11.7
Education, training, employment, and social services	0.5	1.1	6.4	12.1	21.9	17.1	21.8	30.9	36.7	44.8	54.5	55.8	55.0	56.1	57.3	58.5
Health	0.2	0.6	3.8	8.8	15.8	24.5	43.9	93.6	124.8	158.7	175.6	193.7	207.8	225.5	243.1	263.3
Income security	2.6	3.5	5.8	9.4	18.5	27.9	36.8	58.4	68.7	81.5	84.9	79.5	87.2	89.1	90.2	89.7
Administration of Justice	0.0	0.0	0.0	0.7	0.5	0.1	0.6	1.2	5.3	5.7	4.0	5.0	6.1	6.1	4.1	4.1
General government	0.2	0.2	0.5	7.1	8.6	6.8	2.3	2.3	2.1	2.5	2.9	2.9	4.2	2.5	2.5	2.4
Other	0.0	0.1	0.1	0.2	0.7	0.8	0.8	0.8	0.9	1.0	1.1	1.2	1.1	1.1	1.6	1.8
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	284.7	351.6	384.2	398.8	422.4	440.1	459.4	482.3
B. Distribution of Grants by BEA Category:																
Discretionary	N/A	2.9	10.2	21.0	53.3	55.5	63.3	94.0	116.7	145.6	157.8	154.1	163.7	164.1	164.1	166.3
Mandatory	N/A	8.0	13.9	28.8	38.1	50.4	72.0	131.0	168.0	205.9	226.5	244.8	258.7	276.0	295.3	316.0
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	284.7	351.6	384.2	398.8	422.4	440.1	459.4	482.3
C. Composition:																
Current dollars:																
Payments for individuals ¹	2.5	3.7	8.7	16.8	32.6	50.1	77.3	144.4	182.6	227.4	247.2	260.1	281.8	300.9	320.4	341.7
Physical capital ¹	3.3	5.0	7.1	10.9	22.6	24.9	27.2	39.6	48.7	58.7	59.2	58.6	58.5	58.9	59.8	60.6
Other grants	1.2	2.2	8.3	22.2	36.2	30.9	30.9	41.0	53.4	65.5	77.8	80.1	82.1	80.3	79.2	79.9
Total	7.0	10.9	24.1	49.8	91.4	105.9	135.3	225.0	284.7	351.6	384.2	398.8	422.4	440.1	459.4	482.3
Percentage of total grants:																
Payments for individuals ¹	35.3%	34.1%	36.2%	33.6%	35.7%	47.3%	57.1%	64.2%	64.1%	64.7%	64.3%	65.2%	66.7%	68.4%	69.7%	70.9%
Physical capital ¹	47.3%	45.7%	29.3%	21.9%	24.7%	23.5%	20.1%	17.6%	17.1%	16.7%	15.4%	14.7%	13.9%	13.4%	13.0%	12.6%
Other grants	17.4%	20.2%	34.5%	44.5%	39.6%	29.2%	22.8%	18.2%	18.8%	18.6%	20.3%	20.1%	19.4%	18.2%	17.2%	16.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Constant (FY 1996) dollars:																
Payments for individuals ¹	11.3	15.9	31.7	45.4	60.2	70.7	90.8	147.4	170.1	204.5	217.5	224.3	238.1	249.0	259.4	270.7
Physical capital ¹	15.8	22.4	25.2	23.9	36.1	31.8	30.3	40.4	45.4	52.7	52.1	50.5	49.3	48.5	48.1	47.6
Other grants	8.3	12.8	36.1	67.2	72.2	44.5	36.8	42.0	47.0	55.0	64.1	64.6	64.7	61.9	59.6	58.8
Total	35.3	51.2	92.9	136.5	168.5	147.0	157.9	229.8	262.5	312.2	333.7	339.4	352.1	359.4	367.2	377.1
D. Total grants as a percent of:																
Federal outlays:																
Total	7.6%	9.2%	12.3%	15.0%	15.5%	11.2%	10.8%	14.8%	15.9%	17.5%	18.0%	17.9%	18.0%	17.9%	17.8%	17.8%
Domestic programs ²	18.0%	18.3%	23.2%	21.7%	22.2%	18.2%	17.1%	21.6%	22.0%	23.2%	23.5%	23.6%	23.9%	23.7%	23.7%	23.7%
State and local expenditures	19.2%	20.1%	24.1%	27.1%	30.4%	24.2%	21.0%	25.1%	24.2%	26.3%	N/A	N/A	N/A	N/A	N/A	N/A
Gross domestic product	1.4%	1.6%	2.4%	3.2%	3.3%	2.6%	2.4%	3.1%	2.9%	3.4%	3.6%	3.5%	3.6%	3.5%	3.5%	3.5%
E. As a share of total State and local gross investments:																
Federal capital grants	24.6%	25.5%	25.4%	25.9%	35.4%	30.2%	21.9%	25.8%	21.9%	24.0%	N/A	N/A	N/A	N/A	N/A	N/A
State and local own-source financing	75.4%	74.5%	74.6%	74.1%	64.6%	69.8%	78.1%	74.2%	78.1%	76.0%	N/A	N/A	N/A	N/A	N/A	N/A
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	N/A	N/A	N/A	N/A	N/A	N/A

N/A: Not available.
¹50 million or less.

Federal grants for transportation increased to \$3.0 billion, or 43 percent of all Federal grants, in 1960 after initiation of aid to States to build the Interstate Highway System in the late 1950s.

By 1970 there had been significant increases in the relative amounts for education, training, employment, social services, and health (largely Medicaid).

In the early and mid-1970s, major new grants were created for natural resources and environment (construction of sewage treatment plants), community and regional development (community development block grants), and general government (general revenue sharing).

Since the late 1970s changes in the relative amounts among functions reflect steady growth of grants for health (Medicaid) and income security. The functions with the largest amount of grants are health; income security; education, training, employment, and social services; and transportation, with combined estimated grant outlays of \$326 billion, or more than 90 percent of total grant outlays in 2002.

The increase in total outlays for grants overall since 1990 has been driven by increases in grants for health, which more than tripled from \$43.9 billion in 1990 to \$158.7 billion in 2002. The income security; education, training, employment, and social services; and transportation functions also increased substantially, but at a slower rate than the increase for health.

Section B of the Table shows the distribution of grants divided into mandatory and discretionary spending.

Funding required for grant programs classified as mandatory occurs in authorizing legislation. Funding levels for mandatory programs can only be changed by changing eligibility criteria or benefit formulas established in law and are usually not limited by the annual appropriations process. Outlays for mandatory grant programs are estimated to be \$205.9 billion in 2002. The three largest mandatory grant programs are Medicaid, with estimated outlays of \$147.6 billion in 2002, Temporary Assistance for Needy Families, \$18.7 billion in 2002, and child nutrition programs, \$10.1 billion in 2002.

The funding level for discretionary grant programs is determined annually through appropriations acts. Outlays for discretionary grant programs are estimated to be \$145.6 billion in 2002. Table 10–3 at the end of this chapter identifies discretionary and mandatory grant programs separately. For more information on the Budget Enforcement Act and these categories, see Chapter 24, “Budget System and Concepts and Glossary” in this volume.

Section C of Table 10–2 shows the composition of grants divided into three major categories: payments for individuals, grants for physical capital, and other grants.² Grant outlays for payments for individuals, which are mainly entitlement programs in which the

Federal Government and the States share the costs, have grown significantly as a percent of total grants. They increased from 57 percent of the total in 1990 to 65 percent of the total in 2002.

These grants are distributed through State or local governments to provide cash or in-kind benefits that constitute income transfers to individuals or families. The major grant in this category is Medicaid. Temporary Assistance for Needy Families, Food Stamps administration, child nutrition programs, and housing assistance are also large grants in this category.

Grants for physical capital assist States and localities with construction and other physical capital activities. The major capital grants are for highways, but there are also grants for airports, mass transit, sewage treatment plant construction, community development, and other facilities. Grants for physical capital were almost half of total grants in 1960, shortly after grants began for construction of the Interstate Highway System. The relative share of these outlays has declined, as payments for individuals have grown. In 2002, grants for physical capital were \$58.7 billion, 17 percent of total grants.

The other grants are primarily for education, training, employment, and social services. These grants were 19 percent of total grants in 2002.

Section C of Table 10–2 also shows these three categories in constant dollars. In constant 1996 dollars, total grants increased from \$157.9 billion in 1990 to an estimated \$312.2 billion in 2002, an average increase of 5.8 percent per year. During this same period, grants for payments to individuals increased an average of 7.0 percent per year; grants for physical capital an average of 4.7 percent per year, and other grants an average of 3.4 percent per year.

In contrast to these increases, outlays for total grants in constant 1996 dollars decreased during the 1980s, from \$168.5 billion in 1980 to \$157.9 billion in 1990.

Section D of this table shows grants as a percentage of Federal outlays, State and local expenditures, and gross domestic product. Grants have increased as a percentage of total Federal outlays from 10.8 percent in 1990 to 17.5 percent in 2002. Grants as a percentage of domestic spending were 23.2 percent in 2002. As a percentage of total State and local expenditures, grants have increased from 21.0 percent in 1990 to 26.3 percent in 2002.

Section E shows the relative contribution of physical capital grants in assisting States and localities with gross investment. Federal capital grants are estimated to be 24.0 percent of State and local gross investment in 2002.

²Certain housing grants are classified in the budget as both payments for individuals and physical capital spending. In the text and tables in this section, these grants are included in the category for physical capital spending.

OTHER INFORMATION ON FEDERAL AID TO STATE AND LOCAL GOVERNMENTS

Additional information regarding aid to State and local governments can be found elsewhere in this budget and in other documents.

Major public physical capital investment programs providing Federal grants to State and local governments are identified in Chapter 7, "Federal Investment Spending and Capital Budgeting."

Data for summary and detailed grants to State and local governments can be found in many sections of a separate document entitled *Historical Tables*. Section 12 of that document is devoted exclusively to grants to State and local governments. Additional information on grants can be found in Section 6 (Composition of Federal Government Outlays); Section 9 (Federal Government Outlays for Investment: Major Physical Capital, Research and Development, and Education and Training); Section 11 (Federal Government Payments for Individuals); and Section 15 (Total (Federal and State and Local) Government Finances).

In addition to these sources, a number of other sources of information are available that use slightly different concepts of grants, provide State-by-State information, provide information on how to apply for Federal aid, or display information about audits.

The Bureau of the Census in the Department of Commerce provides data on public finances, including Federal aid to State and local governments.

The *Survey of Current Business*, published monthly by the Bureau of Economic Analysis in the Department of Commerce, provides data on the national income and product accounts (NIPA), a broad statistical concept encompassing the entire economy. These accounts include data on Federal grants to State and local governments. Data using the NIPA concepts appear in this volume

in Chapter 17, "National Income and Product Accounts."

Federal Aid to States, a report prepared by the Bureau of the Census, shows Federal spending by State for grants for the most recently completed fiscal year.

The *Consolidated Federal Funds* Report is an annual document that shows the distribution of Federal spending by State and county areas and by local governmental jurisdictions. It is prepared by the Bureau of the Census.

The Federal Assistance Awards Data System (FAADS) provides computerized information about current grant funding. Data on all direct assistance awards are provided quarterly by the Bureau of the Census to the States and to the Congress.

The *Catalog of Federal Domestic Assistance* is a primary reference source for communities wishing to apply for grants and other domestic assistance. The *Catalog* is prepared by the General Services Administration with data collected by the Office of Management and Budget and is available from the Government Printing Office. The basic edition of the *Catalog* is usually published in June and an update is generally prepared in December. It contains a detailed listing of grant and other assistance programs; discussions of eligibility criteria, application procedures, and estimated obligations; and related information.

The Federal Audit Clearinghouse maintains an on-line database (<http://harvester.census.gov/sac>) that provides access to summary information about audits conducted under OMB Circular A-133, "Audits to States, Local Governments, and Non-Profit Organizations." Information is available for each audited entity, including the amount of Federal money expended by program and whether there were audit findings.

DETAILED FEDERAL AID TABLE

Table 10-3, "Federal Grants to State and Local Governments-Budget Authority and Outlays," provides detailed budget authority and outlay data for grants, in-

cluding proposed legislation. This table displays discretionary and mandatory grant programs separately.

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2002 Actual	2003 Estimate	2004 Estimate	2002 Actual	2003 Estimate	2004 Estimate
NATIONAL DEFENSE						
Discretionary:						
Department of Homeland Security:						
Emergency Preparedness and Response:						
Operating Expenses	91	71	72	91	71	72
ENERGY						
Discretionary:						
Department of Energy:						
Energy Programs:						
Energy conservation	275	317	327	200	281	313
Mandatory:						
Tennessee Valley Authority fund	328	326	341	328	326	341
Total, energy	603	643	668	528	607	654
NATURAL RESOURCES AND ENVIRONMENT						
Discretionary:						
Department of Agriculture:						
Natural Resources Conservation Service:						
Watershed rehabilitation program	2		2	1		1
Resource conservation and development				1	1	1
Watershed and flood prevention operations	75	40	21	59	77	71
Forest Service:						
State and private forestry	160	162	196	148	154	175
Management of national forest lands for subsistence uses	5	5	5	5	5	5
Department of Commerce:						
National Oceanic and Atmospheric Administration:						
Operations, research, and facilities	222	220	192	104	104	103
Pacific coastal salmon recovery	157	110	90	71	329	90
Department of the Interior:						
Office of Surface Mining Reclamation and Enforcement:						
Regulation and technology	57	57	58	57	56	56
Abandoned mine reclamation fund	185	157	157	155	116	136
Bureau of Reclamation:						
Bureau of Reclamation loan subsidy	7			4	11	
United States Fish and Wildlife Service:						
Commercial salmon fishery capacity reduction				5		
State and tribal wildlife grants	60	60	60	3	56	57
Cooperative endangered species conservation fund	96	89	87	36	95	95
Wildlife conservation and appreciation fund				1	1	
Stewardship grants	10	10	10		7	12
Landowner incentive program	40	50	40		26	57
National Park Service:						
Urban park and recreation fund	30			1	25	26
National recreation and preservation	1	1	1	1	1	1
Land acquisition and State assistance	144	200	162	33	55	70
Historic preservation fund	41	37	37	41	37	37
Environmental Protection Agency:						
State and tribal assistance grants	3,738	3,464	3,121	3,353	3,758	3,843
Hazardous substance superfund	171	175	179	170	170	181
Leaking underground storage tank trust fund	63	56	63	65	71	70
Total, discretionary	5,264	4,893	4,481	4,314	5,155	5,087
Mandatory:						
Department of the Interior:						
Bureau of Land Management:						
Miscellaneous permanent payment accounts	206	184	130	209	175	135
Minerals Management Service:						
National forests fund, Payment to States	3	3	4	3	3	4
Leases of lands acquired for flood control, navigation, and allied purposes	1	1	1	1	1	1
United States Fish and Wildlife Service:						
Federal aid in wildlife restoration	213	237	238	226	230	229
Sport fish restoration	357	330	337	291	330	333

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2002 Actual	2003 Estimate	2004 Estimate	2002 Actual	2003 Estimate	2004 Estimate
National Park Service:						
Other permanent appropriations	41	40	45	31	40	45
Departmental Management:						
Everglades watershed protection				5	6	
Everglades restoration account					1	1
Department of the Treasury:						
Financial Management Service:						
Payment to terrestrial wildlife habitat restoration trust fund	5	5	5	5	5	5
Total, mandatory	826	800	760	771	791	753
Total, natural resources and environment	6,090	5,693	5,241	5,085	5,946	5,840
AGRICULTURE						
Discretionary:						
Department of Agriculture:						
Cooperative State Research, Education, and Extension Service:						
Extension activities	450	418	422	432	440	448
Outreach for socially disadvantaged farmers	3	3	4	3	3	3
Research and education activities	243	240	242	239	241	241
Integrated activities	15	15	32	7	10	13
Agricultural Marketing Service:						
Payments to States and possessions	1	1	1	1	1	1
Farm Service Agency:						
State mediation grants	3	3	3	3	3	3
Total, discretionary	715	680	704	685	698	709
Mandatory:						
Department of Agriculture:						
Office of the Secretary:						
Fund for rural America				4	11	14
Farm Service Agency:						
Commodity Credit Corporation fund	61	118	120	61	118	120
Total, mandatory	61	118	120	65	129	134
Total, agriculture	776	798	824	750	827	843
COMMERCE AND HOUSING CREDIT						
Mandatory:						
Department of Commerce:						
National Oceanic and Atmospheric Administration:						
Promote and develop fishery products and research pertaining to American fisheries ..	11			2	10	4
TRANSPORTATION						
Discretionary:						
Department of Transportation:						
Federal Aviation Administration:						
Grants-in-aid for airports (Airport and airway trust fund)				2,860	3,244	3,299
Federal Highway Administration:						
State infrastructure banks	-6			3	6	6
Appalachian development highway system	200			62	91	74
Highway-related safety grants					1	
Appalachian development highway system (Highway trust fund)				80	76	34
Federal-aid highways				29,833	27,882	28,282
Miscellaneous appropriations	148			28	218	128
Miscellaneous highway trust funds	100			224	301	286
Federal Motor Carrier Safety Administration:						
National motor carrier safety program	190	173		152	210	125
Motor carrier safety	5	10			9	6
Motor Carrier Safety Grants			221			61
Border enforcement program	8	18		1	27	2
National Highway Traffic Safety Administration:						
Highway traffic safety grants	212	214	431	218	218	306

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2002 Actual	2003 Estimate	2004 Estimate	2002 Actual	2003 Estimate	2004 Estimate
Federal Railroad Administration:						
Emergency railroad rehabilitation and repair						1
Local rail freight assistance				1		
Alaska railroad rehabilitation	20			41	8	13
Railroad research and development	2	2	2	1	2	2
Federal Transit Administration:						
Research, training, and human resources				1	1	
Job access and reverse commute grants	125	150		65	96	108
Interstate transfer grants-transit				8	-1	
Washington Metropolitan Area Transit Authority				89	14	10
Formula grants	4,681	3,839		4,383	3,870	3,291
Capital investment grants	4,791	3,036		2,401	2,507	2,719
Transit planning and research	36	15		20	30	86
Major capital investments grants			1,534			185
Discretionary grants (Highway trust fund, mass transit account)				495	455	220
Formula Grants and Research			5,562			568
Research and Special Programs Administration:						
Pipeline safety	19	19	19	19	19	21
Total, discretionary	10,531	7,476	7,769	40,986	39,284	39,833
Mandatory:						
Department of Transportation:						
Federal Aviation Administration:						
Grants-in-aid for airports (Airport and airway trust fund)	3,173	3,400	3,400			
Federal Highway Administration:						
Federal-aid highways	33,381	30,709	29,781			27
Research and Special Programs Administration:						
Emergency preparedness grants	13	13	13	12	14	14
Total, mandatory	36,567	34,122	33,194	12	14	41
Total, transportation	47,098	41,598	40,963	40,998	39,298	39,874
COMMUNITY AND REGIONAL DEVELOPMENT						
Discretionary:						
Department of Agriculture:						
Rural Development:						
Rural community advancement program	1,091	706	420	740	613	554
Rural Utilities Service:						
Distance learning, telemedicine, and broadband program	70	47	36	19	21	30
Rural Business—Cooperative Service:						
Rural cooperative development grants	48	19	11	18	51	23
Forest Service:						
Southeast Alaska economic disaster fund				7	1	
Department of Commerce:						
Economic Development Administration:						
Economic development assistance programs	336	317	331	355	430	406
Department of Homeland Security:						
Border and Transportation Security:						
Office for Domestic Preparedness	225	3,500	3,000		1,575	2,926
Emergency Preparedness and Response:						
Operating Expenses	490	88	19	218	340	53
Grant Programs	20	320	300	18	95	209
Disaster Relief	9,179	1,525	1,659	3,220	4,890	3,244
Department of Housing and Urban Development:						
Public and Indian Housing Programs:						
Moving to work				1	1	1
Community Planning and Development:						
Community development block grants	7,783	4,732	4,732	5,429	6,650	6,129
Urban development action grants			-30	6	10	10
Community development loan guarantees subsidy	15	7		6	7	7
Brownfields redevelopment	25	25		5	10	10
Empowerment zones/enterprise communities	45			57	75	70
Office of Lead Hazard Control and Healthy Homes:						
Lead hazard reduction	110	126	136	95	101	110

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2002 Actual	2003 Estimate	2004 Estimate	2002 Actual	2003 Estimate	2004 Estimate
Department of the Interior:						
Bureau of Indian Affairs:						
Operation of Indian programs	146	147	151	213	147	153
Indian guaranteed loan subsidy	4	5	6	6	5	6
Appalachian Regional Commission:						
Appalachian Regional Commission	64	59	29	101	87	68
Delta Regional Authority	9	9		1	8	8
Denali Commission	38	30	10	-14	61	74
Total, discretionary	19,698	11,662	10,810	10,501	15,178	14,091
Total, community and regional development	19,698	11,662	10,810	10,501	15,178	14,091
EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES						
Discretionary:						
Department of Commerce:						
National Telecommunications and Information Administration:						
Public telecommunications facilities, planning and construction	29	36	2	16	40	25
Information infrastructure grants	9			10	20	10
Department of Education:						
Office of Elementary and Secondary Education:						
Reading excellence	192			194	300	103
Indian education	117	117	117	102	120	118
Impact aid	1,136	1,133	1,008	1,116	1,182	1,023
Chicago litigation settlement				1	2	
Education reform				729	375	31
Education for the disadvantaged	11,670	13,335	14,143	9,211	11,872	13,142
School improvement programs	6,944	6,554	5,318	3,401	7,530	6,711
Office of Innovation and Improvement:						
Innovation and improvement			526			26
Office of Safe and Drug-Free Schools:						
Safe schools and citizenship education			384			36
Office of English Language Acquisition:						
English language acquisition	535	561	595	326	364	698
Office of Special Education and Rehabilitative Services:						
Special education	8,371	9,391	10,393	6,730	7,416	9,357
Rehabilitation services and disability research	178	120	59	140	228	79
American Printing House for the Blind	14	14	14	13	14	14
Office of Vocational and Adult Education:						
Vocational and adult education	1,894	1,863	1,576	1,742	1,861	1,843
Office of Postsecondary Education:						
Higher education	365	365	365	365	506	377
Federal Student Aid:						
Student financial assistance	67			62	54	
Institute of Education Sciences:						
Institute of education sciences				88	155	12
Department of Health and Human Services:						
Administration for Children and Families:						
Promoting safe and stable families	373	528	552	298	388	503
Children and families services programs	8,079	8,130	8,191	7,749	8,091	8,132
Administration on Aging:						
Aging services programs	1,200	1,341	1,344	1,105	1,288	1,342
Department of the Interior:						
Bureau of Indian Affairs:						
Operation of Indian programs	101	91	104	112	101	106
Department of Labor:						
Employment and Training Administration:						
Training and employment services	3,827	3,459	4,139	4,206	4,100	3,741
Community service employment for older Americans	100	97	97	99	100	100
State unemployment insurance and employment service operations	164	156	121	157	165	135
Unemployment trust fund	1,052	1,028	334	1,040	1,061	319
Corporation for National and Community Service:						
Domestic volunteer service programs, operating expenses	81	100	91	74	85	88
National and community service programs, operating expenses	213	334	313	214	275	349
Corporation for Public Broadcasting	375	390	380	375	390	380

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2002 Actual	2003 Estimate	2004 Estimate	2002 Actual	2003 Estimate	2004 Estimate
INCOME SECURITY						
Discretionary:						
Department of Agriculture:						
Food and Nutrition Service:						
Food donations programs	151	1		158	39	
Commodity assistance program	155	160	181	159	163	179
Special supplemental nutrition program for women, infants, and children (WIC)	4,477	4,726	4,769	4,330	4,818	4,746
Department of Health and Human Services:						
Administration for Children and Families:						
Low income home energy assistance	2,000	1,700	2,000	1,773	1,628	1,774
Refugee and entrant assistance	353	338	295	362	395	395
Payments to States for the child care and development block grant	2,093	2,093	2,093	2,167	2,073	2,086
Payments to States for foster care and adoption assistance	140	200	200	150	153	189
Department of Homeland Security:						
Emergency Preparedness and Response:						
Emergency food and shelter	140			140		
Department of Housing and Urban Development:						
Public and Indian Housing Programs:						
Public housing operating fund	3,495	3,530	3,574	3,635	3,457	3,565
Drug elimination grants for low-income housing	-11			325	200	74
Revitalization of severely distressed public housing (HOPE VI)	574	574		466	546	609
Native Hawaiian Housing Block Grant		10	10		1	10
Public housing capital fund	2,843	2,426	2,641	3,767	3,601	3,810
Native American housing block grant	649	647	647	713	740	820
Project-based rental assistance	10,214	12,156	103	10,962	11,318	103
Housing assistance for needy families			12,535			6,086
Community Planning and Development:						
Homeless assistance grants	1,123	1,130	1,325	1,019	1,057	1,174
Home investment partnership program	1,796	2,084	2,197	1,540	1,600	1,700
Youthbuild program					1	
Emergency food and shelter program		153	153		153	153
Housing opportunities for persons with AIDS	277	292	297	314	292	311
Rural housing and economic development	25			22	25	23
Samaritan housing			50			5
Housing Programs:						
Homeownership and opportunity for people everywhere grants (HOPE grants)				3	3	3
Housing for persons with disabilities			251			228
Housing for the elderly	1,024	1,024	773	895	895	702
Department of Labor:						
Employment and Training Administration:						
State unemployment insurance and employment service operations	4			9	100	
Unemployment trust fund	2,793	3,932	2,156	2,793	2,863	2,158
Total, discretionary	34,315	37,176	36,250	35,702	36,121	30,903
Mandatory:						
Department of Agriculture:						
Agricultural Marketing Service:						
Funds for strengthening markets, income, and supply (section 32)	888	978	1,148	915	1,169	847
Food and Nutrition Service:						
Food stamp program	3,754	4,088	4,148	3,949	4,149	4,136
Child nutrition programs	9,939	10,414	11,250	10,100	11,249	11,177
Department of Health and Human Services:						
Administration for Children and Families:						
Payments to States for child support enforcement and family support programs	3,847	4,037	4,346	3,998	4,174	4,291
Contingency fund	1,958	2,000				2
Payments to States for foster care and adoption assistance	6,482	6,356	6,674	5,735	6,153	6,577
Child care entitlement to States	2,751	2,710	2,710	2,358	2,684	2,806
Temporary assistance for needy families	17,009	17,009	17,609	18,749	19,208	18,713
Total, mandatory	46,628	47,592	47,885	45,804	48,786	48,549
Total, income security	80,943	84,768	84,135	81,506	84,907	79,452

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2002 Actual	2003 Estimate	2004 Estimate	2002 Actual	2003 Estimate	2004 Estimate
SOCIAL SECURITY						
Mandatory:						
Social Security Administration:						
Federal disability insurance trust fund	4	23	34	1	14	29
VETERANS BENEFITS AND SERVICES						
Discretionary:						
Department of Veterans Affairs:						
Medical Programs:						
Medical care	445	508	572	360	423	485
ADMINISTRATION OF JUSTICE						
Discretionary:						
Department of Health and Human Services:						
Administration for Children and Families:						
Violent crime reduction programs				13	9	3
Department of Homeland Security:						
Border and Transportation Security:						
Office for Domestic Preparedness	553		500	54	224	316
Department of Housing and Urban Development:						
Fair Housing and Equal Opportunity:						
Fair housing activities	46	46	50	43	46	47
Department of Justice:						
Office of Justice Programs:						
Justice assistance	121	102	1,951	15	320	2,185
State and local law enforcement assistance	2,552	672		2,993	1,127	
Juvenile justice programs	278	236		216	201	
Community oriented policing services	1,052	1,381	158	1,325	1,014	1,323
Equal Employment Opportunity Commission:						
Salaries and expenses	30	30	30	30	30	30
Federal Drug Control Programs:						
High-intensity drug trafficking areas program	187	206	206	152	213	207
State Justice Institute:						
State Justice Institute: salaries and expenses	3			2		
Total, discretionary	4,822	2,673	2,895	4,843	3,184	4,111
Mandatory:						
Department of Justice:						
Legal Activities and U.S. Marshals:						
Assets forfeiture fund	154	180	249	225	241	275
Office of Justice Programs:						
Crime victims fund	650	572	592	590	526	622
Department of the Treasury:						
Departmental Offices:						
Treasury forfeiture fund	78	75		78	75	
Total, mandatory	882	827	841	893	842	897
Total, administration of justice	5,704	3,500	3,736	5,736	4,026	5,008
GENERAL GOVERNMENT						
Discretionary:						
Department of the Interior:						
Departmental Management:						
Payments in lieu of taxes	210	165	200	210	165	200
Insular Affairs:						
Trust Territory of the Pacific Islands				2	2	2
Department of Labor:						
Employment and Training Administration:						
Workers compensation programs	175				175	
District of Columbia:						
District of Columbia Courts:						
Federal payment to the District of Columbia courts	112	159	164	101	154	161
Defender services in District of Columbia courts	34	32	33	34	32	32
Federal payment for family court act	24			1	23	

Table 10-3. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—BUDGET AUTHORITY AND OUTLAYS—Continued

(in millions of dollars)

Function, Category, Agency and Program	Budget Authority			Outlays		
	2002 Actual	2003 Estimate	2004 Estimate	2002 Actual	2003 Estimate	2004 Estimate
District of Columbia Corrections:						
Payment to the District of Columbia corrections trustee, operations	30			69		
District of Columbia General and Special Payments:						
Federal support for economic development and management reforms in the District ...	28	2	26	52	2	26
Federal payment for emergency planning and security cost in the District of Columbia	216	15	15	216	15	15
Election Assistance Commission		390	490		351	481
Total, discretionary	829	763	928	685	919	917
Mandatory:						
Department of Agriculture:						
Forest Service:						
Forest Service permanent appropriations	441	395	390	441	395	390
Department of Energy:						
Energy Programs:						
Payments to States under Federal Power Act	3	3	3	3	3	3
Department of Homeland Security:						
Border and Transportation Security:						
Customs and border protection	85	87	89	90	93	91
Department of the Interior:						
Bureau of Land Management:						
Miscellaneous permanent payment accounts	5	5	5	5	5	5
Minerals Management Service:						
Mineral leasing and associated payments	685	887	884	685	887	884
United States Fish and Wildlife Service:						
National wildlife refuge fund	21	21	21	20	21	21
Insular Affairs:						
Assistance to territories	77	70	71	84	78	82
Payments to the United States territories, fiscal assistance	134	122	122	134	122	122
Department of the Treasury:						
Alcohol and Tobacco Tax and Trade Bureau:						
Internal revenue collections for Puerto Rico	341	355	364	341	355	364
Corps of Engineers-Civil Works:						
Permanent appropriations		8	8		8	8
Total, mandatory	1,792	1,953	1,957	1,803	1,967	1,970
Total, general government	2,621	2,716	2,885	2,488	2,886	2,887
Total, Grants	377,880	386,786	398,151	351,550	384,245	398,832
Discretionary	133,074	124,650	124,989	145,618	157,760	154,063
Mandatory	244,806	262,136	273,162	205,932	226,485	244,769

APPENDIX: SELECTED GRANT DATA BY STATE

This Appendix displays State-by-State spending for the selected grant programs to State and local governments shown in the following table, "Summary of Programs by Agency and Bureau." The programs selected here cover more than 60 percent of total grant spending.

The first summary table shows the obligations for each program. The second summary table, "Summary of Programs by State," shows the amounts for each State for these programs. The individual program tables display obligations for each program on a State-by-State basis, consistent with the estimates in this budget. Each table reports the following information:

- The Federal agency that administers the program.
- The program title and number as contained in the *Catalog of Federal Domestic Assistance*.

- The budget account number from which the program is funded.
- Actual 2002 obligations by State, Federal territory, and Indian tribes in thousands of dollars. Undistributed obligations shown at the bottom of each page are generally project funds that are not distributed by formula, or programs for which State-by-State data are not available.
- Estimates of 2003 obligations by State from previous budget authority, from new budget authority, and total obligations.
- Estimates of 2004 obligations by State, which are also based on the 2004 budget request, unless otherwise noted.
- The percentage share of 2004 estimated program funds distributed to each State.

Summary of Programs by Agency and Bureau

(obligations in millions of dollars)

Agency, Bureau, and Program	FY 2002 (actual)	Estimated FY 2003 obligations from:			FY 2004 (estimated)
		Previous authority	New authority	Total	
Department of Agriculture, Food and Nutrition Service					
National School Lunch Program (10.555)	6,026	601	5,788	6,389	6,684
Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (10.557)	4,459	108	4,658	4,766	4,971
State Administrative Matching Grants for Food Stamp Program (10.561)	2,162		2,212	2,212	2,258
Department of Education, Office of Elementary and Secondary Education					
Title I Grants to Local Educational Agencies (84.010)	10,005	38	11,350	11,388	12,350
Department of Education, Office of Special Education and Rehabilitative Services					
Special Education—Grants to States (84.027)	7,530	17	8,529	8,546	9,529
Rehabilitation Services—Vocational Rehabilitation Grants to States (84.126)	2,481		2,616	2,616	2,669
Department of Health and Human Services, Centers for Medicare and Medicaid Services					
State Children's Health Insurance Program (93.767)	3,115		3,175	3,175	3,175
Medicaid (93.778)	151,644		162,443	162,443	176,754
Department of Health and Human Services, Administration for Children and Families					
Temporary Assistance for Needy Families (TANF)—Family Assistance Grants (93.558)	16,562		16,567	16,567	16,567
Child Support Enforcement—Federal Share of State and Local Administrative Costs and Incentives (93.563)	3,931		4,183	4,183	4,489
Child Care and Development Block Grant (93.575)	2,100		2,100	2,100	2,100
Child Care and Development Fund—Mandatory (93.596a)	1,235		1,235	1,235	1,235
Child Care and Development Fund—Matching (93.596b)	1,523		1,482	1,482	1,482
Head Start (93.600)	6,537		6,668	6,668	6,818
Foster Care—Title IV-E (93.658)	4,536		4,666	4,666	4,974
Department of Housing and Urban Development, Public and Indian Housing Programs					
Public Housing Operating Subsidy (14.850)	3,621	26	3,530	3,556	3,574
Housing Choice Vouchers (14.871)	11,846	225	12,991	13,215	13,607
Public Housing Capital Fund (14.872)	2,802	738	2,208	2,946	2,328
Department of Housing and Urban Development, Community Planning and Development					
Community Development Block Grants—Entitlement Grants (14.218)	3,039		3,100	3,100	3,100
Total	245,152	1,753	259,500	261,253	278,663

Summary of Programs by State
(obligations in millions of dollars)

State or Territory	FY 2002 (actual)	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	3,559	43	3,605	3,648	3,876	1.43
Alaska	738	3	771	774	815	0.30
Arizona	3,796	18	4,456	4,474	4,845	1.79
Arkansas	2,521	19	2,566	2,585	2,685	0.99
California	29,794	172	31,595	31,767	32,691	12.08
Colorado	2,203	15	2,387	2,402	2,474	0.91
Connecticut	3,003	20	3,166	3,186	3,369	1.24
Delaware	602	4	586	591	606	0.22
District of Columbia	1,221	10	1,270	1,281	1,304	0.48
Florida	9,827	75	10,911	10,986	11,464	4.23
Georgia	6,617	55	6,525	6,580	7,069	2.61
Hawaii	892	8	934	943	979	0.36
Idaho	877	4	914	918	968	0.36
Illinois	9,012	91	9,195	9,286	10,122	3.74
Indiana	4,172	24	4,513	4,537	4,923	1.82
Iowa	2,362	10	2,165	2,175	2,294	0.85
Kansas	1,831	14	1,755	1,769	1,770	0.65
Kentucky	4,047	23	4,060	4,082	4,135	1.53
Louisiana	5,066	35	5,055	5,090	5,354	1.98
Maine	1,405	6	1,471	1,477	1,608	0.59
Maryland	3,507	25	3,771	3,796	4,067	1.50
Massachusetts	6,450	42	6,977	7,019	7,240	2.67
Michigan	8,300	38	8,089	8,127	8,283	3.06
Minnesota	3,835	23	4,066	4,089	4,381	1.62
Mississippi	3,208	24	3,382	3,406	3,630	1.34
Missouri	5,082	28	5,008	5,037	5,446	2.01
Montana	704	3	713	716	757	0.28
Nebraska	1,307	7	1,324	1,331	1,414	0.52
Nevada	901	8	1,023	1,030	1,096	0.40
New Hampshire	780	4	866	870	904	0.33
New Jersey	6,779	49	6,832	6,881	7,141	2.64
New Mexico	1,982	9	2,118	2,127	2,257	0.83
New York	28,230	179	31,561	31,740	34,101	12.60
North Carolina	6,585	38	7,074	7,112	7,768	2.87
North Dakota	531	3	538	540	556	0.21
Ohio	9,711	76	10,319	10,395	11,183	4.13
Oklahoma	2,806	18	2,980	2,998	3,025	1.12
Oregon	2,642	14	2,905	2,919	3,025	1.12
Pennsylvania	11,286	77	11,676	11,753	12,273	4.53
Rhode Island	1,206	10	1,251	1,261	1,317	0.49
South Carolina	3,470	20	3,627	3,646	3,726	1.38
South Dakota	572	3	568	571	583	0.22
Tennessee	5,783	38	5,566	5,604	5,732	2.12
Texas	14,689	137	15,753	15,891	16,569	6.12
Utah	1,255	7	1,340	1,347	1,474	0.54
Vermont	657	2	684	686	719	0.27
Virginia	3,813	25	3,741	3,766	3,954	1.46
Washington	4,514	29	4,733	4,761	5,063	1.87
West Virginia	1,926	12	1,929	1,941	2,009	0.74
Wisconsin	4,171	16	4,179	4,195	4,425	1.63
Wyoming	322	2	336	338	352	0.13
American Samoa	25	8	28	36	29	0.01
Guam	74	8	85	93	88	0.03
Northern Mariana Islands	13	4	16	19	16	0.01
Puerto Rico	1,811	79	1,884	1,963	1,973	0.73
Freely Associated States						
Virgin Islands	90	17	99	116	103	0.04
Indian Tribes	605	1	637	638	681	0.25
Total, programs distributed by State in all years	243,170	1,732	255,578	257,310	270,710	100.00
MEMORANDUM:						
Not distributed by State in all years	1,982	20	3,923	3,943	7,953	N/A
Total, including undistributed	245,152	1,753	259,500	261,253	278,663	N/A

Department of Agriculture, Food and Nutrition Service

12-3539-0-1-605

National School Lunch Program (10.555)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	119,677	11,948	115,101	127,049	132,910	1.99
Alaska	16,775	1,675	16,134	17,809	18,630	0.28
Arizona	120,080	11,989	115,488	127,477	133,357	2.00
Arkansas	68,106	6,800	65,502	72,302	75,637	1.13
California	818,613	81,727	787,309	869,036	909,124	13.60
Colorado	56,241	5,615	54,090	59,705	62,460	0.93
Connecticut	50,129	5,005	48,212	53,217	55,672	0.83
Delaware	12,714	1,269	12,228	13,497	14,120	0.21
District of Columbia	15,782	1,576	15,179	16,755	17,527	0.26
Florida	345,143	34,459	331,946	366,405	383,306	5.73
Georgia	230,785	23,041	221,960	245,001	256,303	3.83
Hawaii	28,312	2,827	27,229	30,056	31,442	0.47
Idaho	26,048	2,601	25,052	27,653	28,928	0.43
Illinois	246,156	24,576	236,744	261,320	273,374	4.09
Indiana	99,308	9,915	95,511	105,426	110,289	1.65
Iowa	50,193	5,011	48,274	53,285	55,743	0.83
Kansas	49,427	4,935	47,537	52,472	54,892	0.82
Kentucky	100,947	10,078	97,087	107,165	112,109	1.68
Louisiana	145,959	14,572	140,378	154,950	162,098	2.43
Maine	18,428	1,840	17,723	19,563	20,466	0.31
Maryland	80,324	8,019	77,253	85,272	89,205	1.33
Massachusetts	87,304	8,716	83,966	92,682	96,957	1.45
Michigan	155,233	15,498	149,297	164,795	172,397	2.58
Minnesota	74,604	7,448	71,751	79,199	82,853	1.24
Mississippi	105,405	10,523	101,375	111,898	117,060	1.75
Missouri	109,072	10,890	104,901	115,791	121,132	1.81
Montana	14,837	1,481	14,270	15,751	16,478	0.25
Nebraska	32,697	3,264	31,447	34,711	36,312	0.54
Nevada	32,598	3,255	31,352	34,607	36,202	0.54
New Hampshire	12,055	1,204	11,594	12,798	13,388	0.20
New Jersey	127,122	12,692	122,261	134,953	141,178	2.11
New Mexico	53,437	5,335	51,394	56,729	59,346	0.89
New York	422,849	42,217	406,680	448,897	469,604	7.03
North Carolina	176,069	17,578	169,337	186,915	195,537	2.93
North Dakota	10,758	1,074	10,347	11,421	11,948	0.18
Ohio	173,506	17,323	166,872	184,195	192,691	2.88
Oklahoma	82,928	8,279	79,757	88,036	92,097	1.38
Oregon	56,958	5,687	54,780	60,467	63,256	0.95
Pennsylvania	181,447	18,115	174,509	192,624	201,510	3.01
Rhode Island	18,609	1,858	17,897	19,755	20,667	0.31
South Carolina	107,367	10,719	103,262	113,981	119,239	1.78
South Dakota	16,332	1,631	15,708	17,339	18,138	0.27
Tennessee	123,308	12,311	118,593	130,904	136,942	2.05
Texas	628,606	62,759	604,570	667,329	698,111	10.44
Utah	45,129	4,506	43,403	47,909	50,119	0.75
Vermont	8,006	799	7,700	8,499	8,891	0.13
Virginia	113,552	11,337	109,210	120,547	126,107	1.89
Washington	97,480	9,732	93,753	103,485	108,258	1.62
West Virginia	40,322	4,026	38,780	42,806	44,780	0.67
Wisconsin	77,282	7,716	74,327	82,043	85,827	1.28
Wyoming	7,879	787	7,578	8,365	8,750	0.13
American Samoa .....	.....	.....	.....	.....	.....	.....
Guam	3,931	392	3,781	4,173	4,366	0.07
Northern Mariana Islands .....	.....	.....	.....	.....	.....	.....
Puerto Rico	112,275	11,209	107,982	119,191	124,689	1.87
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands	3,994	399	3,841	4,240	4,436	0.07
Indian Tribes .....	.....	.....	.....	.....	.....	.....
Undistributed	7,658	.....	.....	.....	.....	.....
DOD/AF/USMC	6,197	619	5,960	6,579	6,882	0.10
Total	6,025,953	600,857	5,788,172	6,389,029	6,683,740	1 100.00

¹ Excludes undistributed obligations.

Department of Agriculture, Food and Nutrition Service

12-3510-0-1-605

Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (10.557)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	71,723	1,735	74,863	76,598	78,945	1.61
Alaska	21,251	514	22,181	22,695	23,391	0.48
Arizona	81,711	1,976	85,289	87,265	89,940	1.84
Arkansas	45,716	1,106	47,718	48,824	50,320	1.03
California	801,615	19,389	836,713	856,102	882,339	18.03
Colorado	43,445	1,051	45,347	46,398	47,820	0.98
Connecticut	34,987	846	36,519	37,365	38,510	0.79
Delaware	9,490	230	9,906	10,136	10,446	0.21
District of Columbia	11,054	267	11,538	11,805	12,167	0.25
Florida	201,713	4,879	210,545	215,424	222,025	4.54
Georgia	131,418	3,179	137,172	140,351	144,651	2.96
Hawaii	26,483	641	27,643	28,284	29,150	0.60
Idaho	18,256	442	19,055	19,497	20,094	0.41
Illinois	165,222	3,996	172,456	176,452	181,859	3.72
Indiana	71,099	1,720	74,212	75,932	78,259	1.60
Iowa	34,354	831	35,858	36,689	37,813	0.77
Kansas	31,621	765	33,005	33,770	34,805	0.71
Kentucky	68,188	1,649	71,173	72,822	75,054	1.53
Louisiana	79,041	1,912	82,502	84,414	87,001	1.78
Maine	11,849	287	12,368	12,655	13,042	0.27
Maryland	52,683	1,274	54,989	56,263	57,988	1.18
Massachusetts	62,569	1,513	65,308	66,821	68,869	1.41
Michigan	124,867	3,020	130,334	133,354	137,441	2.81
Minnesota	55,357	1,339	57,781	59,120	60,932	1.24
Mississippi	58,671	1,419	61,240	62,659	64,579	1.32
Missouri	71,330	1,725	74,453	76,178	78,513	1.60
Montana	13,819	334	14,424	14,758	15,210	0.31
Nebraska	21,467	519	22,406	22,925	23,628	0.48
Nevada	23,404	566	24,429	24,995	25,761	0.53
New Hampshire	9,624	233	10,045	10,278	10,593	0.22
New Jersey	75,205	1,819	78,498	80,317	82,778	1.69
New Mexico	32,432	784	33,852	34,636	35,698	0.73
New York	275,830	6,672	287,906	294,578	303,605	6.20
North Carolina	110,118	2,663	114,939	117,602	121,206	2.48
North Dakota	8,685	210	9,065	9,275	9,560	0.20
Ohio	141,493	3,422	147,688	151,110	155,741	3.18
Oklahoma	47,054	1,138	49,114	50,252	51,792	1.06
Oregon	58,982	1,427	61,564	62,991	64,921	1.33
Pennsylvania	130,179	3,149	135,879	139,028	143,288	2.93
Rhode Island	13,924	337	14,533	14,870	15,326	0.31
South Carolina	60,742	1,469	63,402	64,871	66,859	1.37
South Dakota	11,938	289	12,461	12,750	13,140	0.27
Tennessee	94,769	2,292	98,918	101,210	104,312	2.13
Texas	392,810	9,501	410,008	419,509	432,365	8.83
Utah	33,260	804	34,716	35,520	36,609	0.75
Vermont	10,150	245	10,594	10,839	11,172	0.23
Virginia	77,620	1,877	81,018	82,895	85,436	1.75
Washington	96,857	2,343	101,097	103,440	106,610	2.18
West Virginia	29,584	716	30,880	31,596	32,563	0.67
Wisconsin	57,442	1,389	59,957	61,346	63,226	1.29
Wyoming	6,340	153	6,617	6,770	6,978	0.14
American Samoa	5,536	134	5,779	5,913	6,094	0.12
Guam	6,257	151	6,531	6,682	6,888	0.14
Northern Mariana Islands .....	.....	.....	.....	.....	.....	.....
Puerto Rico	168,475	4,075	175,851	179,926	185,440	3.79
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands	5,562	135	5,806	5,941	6,122	0.13
Indian Tribes	41,646	1,007	43,470	44,477	45,840	0.94
Undistributed	11,623	.....	16,400	16,400	76,400	.....
Total	1 4,458,537	107,558	4,658,015	4,765,573	4,971,114	2 100.00

¹ Excludes \$21,335,532 in FY 2002 for Farmers' Market.² Excludes undistributed obligations.

Department of Agriculture, Food and Nutrition Service

12-3505-0-1-605

State Administrative Matching Grants for Food Stamp Program (10.561)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	31,490		31,119	31,119	31,767	1.41
Alaska	7,743		7,652	7,652	7,811	0.35
Arizona	26,942		26,625	26,625	27,178	1.20
Arkansas	18,620		18,401	18,401	18,783	0.83
California	301,418		297,874	297,874	304,069	13.47
Colorado	22,941		22,671	22,671	23,142	1.02
Connecticut	21,101		20,853	20,853	21,286	0.94
Delaware	5,184		5,123	5,123	5,230	0.23
District of Columbia	8,449		8,349	8,349	8,523	0.38
Florida	80,235		79,292	79,292	80,940	3.58
Georgia	62,828		62,089	62,089	63,380	2.81
Hawaii	9,018		8,912	8,912	9,097	0.40
Idaho	7,708		7,617	7,617	7,775	0.34
Illinois	100,774		99,588	99,588	101,659	4.50
Indiana	39,557		39,092	39,092	39,905	1.77
Iowa	13,810		13,647	13,647	13,931	0.62
Kansas	12,554		12,406	12,406	12,664	0.56
Kentucky	26,610		26,298	26,298	26,844	1.19
Louisiana	36,202		35,776	35,776	36,520	1.62
Maine	8,894		8,789	8,789	8,972	0.40
Maryland	35,021		34,609	34,609	35,329	1.56
Massachusetts	36,272		35,845	35,845	36,591	1.62
Michigan	90,969		89,899	89,899	91,768	4.06
Minnesota	33,860		33,461	33,461	34,157	1.51
Mississippi	24,554		24,265	24,265	24,769	1.10
Missouri	42,264		41,767	41,767	42,636	1.89
Montana	6,937		6,855	6,855	6,998	0.31
Nebraska	11,480		11,345	11,345	11,581	0.51
Nevada	9,142		9,034	9,034	9,222	0.41
New Hampshire	4,726		4,671	4,671	4,768	0.21
New Jersey	79,624		78,687	78,687	80,324	3.56
New Mexico	15,593		15,409	15,409	15,730	0.70
New York	254,227		251,236	251,236	256,461	11.36
North Carolina	56,091		55,432	55,432	56,584	2.51
North Dakota	5,524		5,459	5,459	5,573	0.25
Ohio	94,857		93,741	93,741	95,691	4.24
Oklahoma	28,379		28,045	28,045	28,628	1.27
Oregon	34,189		33,787	33,787	34,489	1.53
Pennsylvania	118,174		116,784	116,784	119,212	5.28
Rhode Island	6,271		6,197	6,197	6,326	0.28
South Carolina	24,540		24,251	24,251	24,756	1.10
South Dakota	5,747		5,679	5,679	5,798	0.26
Tennessee	31,810		31,436	31,436	32,090	1.42
Texas	162,636		160,724	160,724	164,066	7.27
Utah	17,740		17,532	17,532	17,896	0.79
Vermont	4,787		4,731	4,731	4,829	0.21
Virginia	70,628		69,797	69,797	71,249	3.16
Washington	36,358		35,930	35,930	36,678	1.62
West Virginia	11,435		11,301	11,301	11,536	0.51
Wisconsin	33,525		33,131	33,131	33,820	1.50
Wyoming	2,647		2,616	2,616	2,670	0.12
American Samoa						
Guam	3,078		3,042	3,042	3,105	0.14
Northern Mariana Islands						
Puerto Rico						
Freely Associated States						
Virgin Islands	3,166		3,129	3,129	3,194	0.14
Indian Tribes						
Undistributed	-76,563					
Total	2,161,763		2,212,000	2,212,000	2,258,000	100.00

¹ Excludes undistributed obligations.

Department of Education, Office of Elementary and Secondary Education

91-0900-0-1-501

Title I Grants to Local Educational Agencies (84.010)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	153,535		164,379	164,379	179,021	1.45
Alaska	27,007		32,904	32,904	36,562	0.30
Arizona	164,923		191,221	191,221	209,297	1.70
Arkansas	96,059		102,581	102,581	111,237	0.90
California	1,380,486	990	1,619,351	1,620,341	1,769,988	14.34
Colorado	94,011		104,081	104,081	113,367	0.92
Connecticut	98,605		115,855	115,855	125,063	1.01
Delaware	26,625		28,852	28,852	32,970	0.27
District of Columbia	31,224		39,772	39,772	43,557	0.35
Florida	458,771		540,935	540,935	590,806	4.79
Georgia	293,796		348,798	348,798	375,761	3.04
Hawaii	31,096		38,018	38,018	41,309	0.33
Idaho	31,710		36,012	36,012	39,449	0.32
Illinois	423,306		484,448	484,448	528,594	4.28
Indiana	153,457		166,123	166,123	177,593	1.44
Iowa	63,835		65,016	65,016	69,883	0.57
Kansas	71,325		79,503	79,503	84,877	0.69
Kentucky	149,883		164,225	164,225	176,679	1.43
Louisiana	222,327		215,762	215,762	238,722	1.93
Maine	37,427		39,470	39,470	43,957	0.36
Maryland	144,597		173,866	173,866	189,119	1.53
Massachusetts	211,597		239,786	239,786	260,090	2.11
Michigan	415,055		457,378	457,378	497,982	4.03
Minnesota	111,596		122,146	122,146	130,767	1.06
Mississippi	141,154		113,101	113,101	131,913	1.07
Missouri	158,992	3,710	173,153	176,864	187,053	1.52
Montana	32,685		37,367	37,367	41,132	0.33
Nebraska	37,830		39,779	39,779	43,608	0.35
Nevada	37,832		46,026	46,026	50,088	0.41
New Hampshire	25,074		28,506	28,506	32,314	0.26
New Jersey	245,424		280,153	280,153	303,312	2.46
New Mexico	78,806		91,378	91,378	98,495	0.80
New York	978,458		1,169,244	1,169,244	1,283,836	10.40
North Carolina	207,138		236,434	236,434	253,292	2.05
North Dakota	24,573		29,583	29,583	32,722	0.27
Ohio	347,641		358,384	358,384	387,450	3.14
Oklahoma	120,561		132,471	132,471	143,390	1.16
Oregon	90,394		101,678	101,678	109,147	0.88
Pennsylvania	398,047		426,660	426,660	461,918	3.74
Rhode Island	32,652		38,460	38,460	41,668	0.34
South Carolina	132,033		156,781	156,781	168,334	1.36
South Dakota	24,631		30,867	30,867	34,332	0.28
Tennessee	156,357		154,732	154,732	169,206	1.37
Texas	810,402		958,368	958,368	1,039,428	8.42
Utah	43,232		45,552	45,552	50,057	0.41
Vermont	20,902		24,960	24,960	27,541	0.22
Virginia	166,618	857	193,689	194,545	207,678	1.68
Washington	141,522		153,380	153,380	165,351	1.34
West Virginia	83,483		83,476	83,476	90,036	0.73
Wisconsin	149,276		158,844	158,844	172,026	1.39
Wyoming	22,303		26,527	26,527	29,293	0.24
American Samoa	5,973	7,453	8,587	16,040	9,344	0.08
Guam		6,646	7,657	14,303	8,332	0.07
Northern Mariana Islands	2,964	3,541	4,080	7,621	4,439	0.04
Puerto Rico	317,911		373,003	373,003	401,767	3.25
Freely Associated States						
Virgin Islands		10,014	11,539	21,553	12,556	0.10
Indian Tribes	70,821		81,602	81,602	88,794	0.72
Undistributed	7,522	4,978	3,500	8,478	3,500	
Total	10,005,465	38,188	11,350,000	11,388,188	12,350,000	100.00

¹ Excludes undistributed obligations.

Department of Education, Office of Special Education and Rehabilitative Services

91-0300-0-1-501

Special Education—Grants to States (84.027)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	119,684		135,871	135,871	151,447	1.59
Alaska	22,048		25,300	25,300	28,663	0.30
Arizona	110,287		126,552	126,552	143,377	1.51
Arkansas	71,471		82,011	82,011	92,742	0.98
California	776,324		890,815	890,815	1,009,245	10.62
Colorado	93,406		107,182	107,182	121,431	1.28
Connecticut	90,178		100,702	100,702	111,156	1.17
Delaware	20,207		23,187	23,187	26,270	0.28
District of Columbia	11,761		11,658	11,658	13,208	0.14
Florida	408,701		459,080	459,080	509,997	5.37
Georgia	193,883		222,477	222,477	252,054	2.65
Hawaii	25,485		29,243	29,243	33,131	0.35
Idaho	34,298		39,356	39,356	44,589	0.47
Illinois	336,814		380,968	380,968	424,368	4.46
Indiana	172,361		193,141	193,141	214,273	2.25
Iowa	83,389		93,120	93,120	102,787	1.08
Kansas	71,397		80,344	80,344	89,683	0.94
Kentucky	105,116		118,277	118,277	131,602	1.38
Louisiana	118,561		136,047	136,047	154,134	1.62
Maine	37,376		41,737	41,737	46,070	0.48
Maryland	132,217		148,680	148,680	165,193	1.74
Massachusetts	193,895		216,523	216,523	239,000	2.51
Michigan	258,726		295,343	295,343	331,115	3.48
Minnesota	129,662		144,793	144,793	160,169	1.68
Mississippi	76,672		87,729	87,729	98,505	1.04
Missouri	155,157		173,264	173,264	191,251	2.01
Montana	23,399		26,849	26,849	30,313	0.32
Nebraska	51,003		56,955	56,955	62,868	0.66
Nevada	41,476		47,592	47,592	53,920	0.57
New Hampshire	32,415		36,198	36,198	39,956	0.42
New Jersey	246,892		275,705	275,705	304,326	3.20
New Mexico	62,238		69,501	69,501	76,758	0.81
New York	510,810		576,149	576,149	640,283	6.74
North Carolina	202,036		229,896	229,896	257,022	2.70
North Dakota	16,408		18,828	18,828	21,331	0.22
Ohio	286,498		328,328	328,328	369,626	3.89
Oklahoma	97,830		111,848	111,848	125,307	1.32
Oregon	86,172		98,022	98,022	109,717	1.15
Pennsylvania	280,546		319,509	319,509	357,939	3.77
Rhode Island	29,870		33,355	33,355	36,818	0.39
South Carolina	116,462		130,487	130,487	144,760	1.52
South Dakota	19,546		22,429	22,429	25,410	0.27
Tennessee	153,748		175,516	175,516	196,004	2.06
Texas	603,949		693,019	693,019	782,513	8.23
Utah	68,127		78,174	78,174	88,567	0.93
Vermont	15,820		18,153	18,153	20,567	0.22
Virginia	182,669		205,048	205,048	227,888	2.40
Washington	141,649		161,934	161,934	181,556	1.91
West Virginia	51,874		57,928	57,928	63,941	0.67
Wisconsin	139,810		159,306	159,306	177,730	1.87
Wyoming	16,597		19,045	19,045	21,577	0.23
American Samoa	5,977		6,212	6,212	6,244	0.07
Guam	14,074		13,751	13,751	13,822	0.15
Northern Mariana Islands	3,958		4,761	4,761	4,786	0.05
Puerto Rico	67,416		77,359	77,359	87,643	0.92
Freely Associated States						
Virgin Islands	9,392	2,544	8,710	11,255	8,755	0.09
Indian Tribes	79,377		80,985	80,985	82,549	0.87
Undistributed	22,585	14,830	23,579	38,410	22,579	
Total	7,529,697	17,375	8,528,533	8,545,908	9,528,533	100.00

¹ Excludes undistributed obligations.

Department of Education, Office of Special Education and Rehabilitative Services

91-0301-0-1-506

Rehabilitation Services—Vocational Rehabilitation Grants to States (84.126)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	52,056	.....	53,777	53,777	54,667	2.05
Alaska	8,228	.....	8,632	8,632	8,804	0.33
Arizona	44,081	.....	47,144	47,144	50,416	1.89
Arkansas	31,572	.....	32,849	32,849	34,184	1.28
California	243,137	.....	256,918	256,918	252,173	9.45
Colorado	24,746	.....	31,790	31,790	32,394	1.21
Connecticut	18,039	.....	18,732	18,732	19,027	0.71
Delaware	8,253	.....	8,632	8,632	8,804	0.33
District of Columbia	11,664	.....	11,985	11,985	12,068	0.45
Florida	113,368	.....	132,385	132,385	140,477	5.26
Georgia	71,570	.....	76,217	76,217	78,752	2.95
Hawaii	9,536	.....	10,009	10,009	10,599	0.40
Idaho	13,272	.....	14,020	14,020	14,229	0.53
Illinois	90,467	.....	93,719	93,719	96,519	3.62
Indiana	58,483	.....	61,337	61,337	62,464	2.34
Iowa	28,274	.....	29,529	29,529	30,306	1.14
Kansas	24,101	.....	25,265	25,265	25,864	0.97
Kentucky	46,888	.....	48,119	48,119	48,893	1.83
Louisiana	44,153	.....	53,662	53,662	55,188	2.07
Maine	14,069	.....	14,577	14,577	14,678	0.55
Maryland	36,607	.....	38,255	38,255	38,431	1.44
Massachusetts	44,051	.....	45,101	45,101	43,944	1.65
Michigan	86,524	.....	89,688	89,688	90,476	3.39
Minnesota	40,190	.....	40,528	40,528	40,813	1.53
Mississippi	37,776	.....	38,697	38,697	39,670	1.49
Missouri	53,872	.....	56,475	56,475	57,594	2.16
Montana	9,946	.....	10,433	10,433	10,587	0.40
Nebraska	15,974	.....	16,390	16,390	16,728	0.63
Nevada	12,039	.....	13,283	13,283	15,553	0.58
New Hampshire	9,627	.....	10,102	10,102	9,924	0.37
New Jersey	50,197	.....	52,593	52,593	53,158	1.99
New Mexico	20,116	.....	20,969	20,969	21,939	0.82
New York	131,154	.....	134,669	134,669	137,507	5.15
North Carolina	76,746	.....	80,506	80,506	83,623	3.13
North Dakota	8,189	.....	8,632	8,632	8,804	0.33
Ohio	108,977	.....	111,032	111,032	112,993	4.23
Oklahoma	36,788	.....	39,183	39,183	39,762	1.49
Oregon	29,753	.....	31,009	31,009	32,313	1.21
Pennsylvania	111,070	.....	114,977	114,977	116,504	4.37
Rhode Island	9,053	.....	9,500	9,500	10,047	0.38
South Carolina	44,395	.....	45,753	45,753	46,869	1.76
South Dakota	8,321	.....	8,632	8,632	8,804	0.33
Tennessee	57,607	.....	60,031	60,031	61,579	2.31
Texas	179,338	.....	189,674	189,674	194,973	7.31
Utah	22,435	.....	23,571	23,571	24,785	0.93
Vermont	8,515	.....	8,632	8,632	8,804	0.33
Virginia	56,634	.....	59,152	59,152	59,262	2.22
Washington	42,656	.....	45,181	45,181	45,562	1.71
West Virginia	24,007	.....	24,244	24,244	24,447	0.92
Wisconsin	49,582	.....	52,009	52,009	52,682	1.97
Wyoming	6,839	.....	8,632	8,632	8,804	0.33
American Samoa	818	.....	871	871	880	0.03
Guam	1,600	.....	2,537	2,537	2,562	0.10
Northern Mariana Islands	883	.....	933	933	944	0.04
Puerto Rico	65,596	.....	66,473	66,473	67,327	2.52
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands	1,977	.....	1,877	1,877	1,895	0.07
Indian Tribes	25,575	.....	26,804	26,804	27,600	1.03
Undistributed .....	.....	.....	.....	.....	.....	.....
Total	2,481,383	.....	2,616,325	2,616,325	2,668,652	100.00

¹ Excludes undistributed obligations.

Department of Health and Human Services, Centers for Medicare and Medicaid Services

75-0515-0-1-551

State Children's Health Insurance Program (93.767)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	48,585	.....	51,973	51,973	51,973	1.64
Alaska	6,968	.....	7,430	7,430	7,430	0.23
Arizona	87,166	.....	87,709	87,709	87,709	2.76
Arkansas	36,292	.....	34,154	34,154	34,154	1.08
California	528,467	.....	548,808	548,808	548,808	17.28
Colorado	34,267	.....	37,915	37,915	37,915	1.19
Connecticut	25,994	.....	24,361	24,361	24,361	0.77
Delaware	8,520	.....	8,686	8,686	8,686	0.27
District of Columbia	7,849	.....	7,202	7,202	7,202	0.23
Florida	164,158	.....	171,991	171,991	171,991	5.42
Georgia	104,986	.....	96,977	96,977	96,977	3.05
Hawaii	9,464	.....	9,648	9,648	9,648	0.30
Idaho	16,800	.....	16,795	16,795	16,795	0.53
Illinois	127,220	.....	132,153	132,153	132,153	4.16
Indiana	47,030	.....	53,710	53,710	53,710	1.69
Iowa	22,411	.....	21,368	21,368	21,368	0.67
Kansas	21,979	.....	24,444	24,444	24,444	0.77
Kentucky	38,436	.....	37,984	37,984	37,984	1.20
Louisiana	57,692	.....	61,291	61,291	61,291	1.93
Maine	9,994	.....	9,689	9,689	9,689	0.31
Maryland	33,927	.....	33,648	33,648	33,648	1.06
Massachusetts	45,319	.....	46,201	46,201	46,201	1.46
Michigan	96,893	.....	95,696	95,696	95,696	3.01
Minnesota	30,042	.....	30,626	30,626	30,626	0.96
Mississippi	37,917	.....	37,673	37,673	37,673	1.19
Missouri	45,918	.....	43,425	43,425	43,425	1.37
Montana	10,933	.....	11,326	11,326	11,326	0.36
Nebraska	14,161	.....	15,414	15,414	15,414	0.49
Nevada	27,614	.....	30,436	30,436	30,436	0.96
New Hampshire	9,092	.....	8,904	8,904	8,904	0.28
New Jersey	69,479	.....	69,346	69,346	69,346	2.18
New Mexico	33,495	.....	32,789	32,789	32,789	1.03
New York	233,993	.....	227,517	227,517	227,517	7.17
North Carolina	81,129	.....	81,748	81,748	81,748	2.57
North Dakota	5,333	.....	5,437	5,437	5,437	0.17
Ohio	108,125	.....	114,614	114,614	114,614	3.61
Oklahoma	45,583	.....	44,622	44,622	44,622	1.41
Oregon	37,597	.....	40,709	40,709	40,709	1.28
Pennsylvania	101,604	.....	100,846	100,846	100,846	3.18
Rhode Island	7,473	.....	7,319	7,319	7,319	0.23
South Carolina	47,304	.....	43,402	43,402	43,402	1.37
South Dakota	5,942	.....	6,152	6,152	6,152	0.19
Tennessee	61,964	.....	58,354	58,354	58,354	1.84
Texas	301,840	.....	311,504	311,504	311,504	9.81
Utah	23,018	.....	24,694	24,694	24,694	0.78
Vermont	3,740	.....	3,813	3,813	3,813	0.12
Virginia	54,663	.....	53,438	53,438	53,438	1.68
Washington	42,446	.....	50,326	50,326	50,326	1.58
West Virginia	16,650	.....	18,551	18,551	18,551	0.58
Wisconsin	39,375	.....	43,825	43,825	43,825	1.38
Wyoming	5,297	.....	5,481	5,481	5,481	0.17
American Samoa	397	.....	397	397	397	0.01
Guam	1,158	.....	1,158	1,158	1,158	0.04
Northern Mariana Islands	364	.....	364	364	364	0.01
Puerto Rico	30,297	.....	30,297	30,297	30,297	0.95
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands	860	.....	860	860	860	0.03
Indian Tribes .....	.....	.....	.....	.....	.....	.....
Undistributed .....	.....	.....	.....	.....	.....	.....
Total ¹	3,115,220	.....	3,175,200	3,175,200	3,175,200	≈ 100.00

¹ FY2003 amounts published in FEDERAL REGISTER; FY2004 are estimates; FY2002, FY2003 and FY2004 do not include redistribution/retention amounts.² Excludes undistributed obligations.

Note: Amounts do not include proposed legislation.

Department of Health and Human Services, Centers for Medicare and Medicaid Services

75-0512-0-1-551

Medicaid (93.778)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	2,284,697		2,297,147	2,297,147	2,498,116	1.47
Alaska	499,595		507,510	507,510	536,791	0.31
Arizona	2,515,859		3,089,898	3,089,898	3,403,630	2.00
Arkansas	1,778,650		1,808,276	1,808,276	1,883,376	1.10
California	15,417,626		16,400,909	16,400,909	16,773,353	9.84
Colorado	1,237,013		1,370,232	1,370,232	1,405,367	0.82
Connecticut	1,837,157		1,933,523	1,933,523	2,084,309	1.22
Delaware	377,151		360,699	360,699	366,955	0.22
District of Columbia	810,501		854,953	854,953	871,268	0.51
Florida	5,866,161		6,766,407	6,766,407	7,078,372	4.15
Georgia	4,223,853		3,983,295	3,983,295	4,395,505	2.58
Hawaii	464,772		489,685	489,685	513,883	0.30
Idaho	607,783		623,802	623,802	661,073	0.39
Illinois	4,853,987		4,892,698	4,892,698	5,608,260	3.29
Indiana	2,773,571		3,049,143	3,049,143	3,387,938	1.99
Iowa	1,686,563		1,463,788	1,463,788	1,559,921	0.92
Kansas	1,202,605		1,102,614	1,102,614	1,085,101	0.64
Kentucky	2,812,262		2,774,057	2,774,057	2,786,240	1.63
Louisiana	3,563,060		3,538,119	3,538,119	3,735,081	2.19
Maine	1,019,628		1,077,046	1,077,046	1,195,081	0.70
Maryland	1,937,056		2,126,757	2,126,757	2,340,933	1.37
Massachusetts	4,155,775		4,583,898	4,583,898	4,747,040	2.78
Michigan	5,072,834		4,713,285	4,713,285	4,747,131	2.78
Minnesota	2,396,953		2,645,333	2,645,333	2,896,950	1.70
Mississippi	2,254,686		2,443,130	2,443,130	2,631,793	1.54
Missouri	3,552,986		3,469,346	3,469,346	3,832,278	2.25
Montana	471,087		462,179	462,179	492,666	0.29
Nebraska	858,883		866,216	866,216	931,792	0.55
Nevada	462,175		554,267	554,267	594,705	0.35
New Hampshire	519,739		588,979	588,979	612,505	0.36
New Jersey	4,181,342		4,171,695	4,171,695	4,358,495	2.56
New Mexico	1,365,092		1,465,738	1,465,738	1,572,677	0.92
New York	18,339,660		21,542,393	21,542,393	23,674,744	13.89
North Carolina	4,448,904		4,885,071	4,885,071	5,472,244	3.21
North Dakota	340,848		337,314	337,314	344,100	0.20
Ohio	5,919,055		6,450,203	6,450,203	7,142,873	4.19
Oklahoma	1,800,676		1,934,385	1,934,385	1,926,119	1.13
Oregon	1,680,165		1,894,861	1,894,861	1,968,221	1.15
Pennsylvania	7,204,070		7,525,108	7,525,108	7,940,687	4.66
Rhode Island	812,004		845,238	845,238	893,525	0.52
South Carolina	2,465,078		2,571,718	2,571,718	2,613,730	1.53
South Dakota	386,036		370,263	370,263	373,273	0.22
Tennessee	4,282,845		4,047,238	4,047,238	4,134,061	2.43
Texas	8,705,000		9,485,662	9,485,662	9,935,720	5.83
Utah	728,501		776,867	776,867	879,874	0.52
Vermont	460,758		477,521	477,521	502,537	0.29
Virginia	2,204,823		2,073,049	2,073,049	2,201,666	1.29
Washington	2,833,169		2,905,075	2,905,075	3,158,947	1.85
West Virginia	1,328,659		1,325,246	1,325,246	1,377,382	0.81
Wisconsin	2,782,134		2,757,799	2,757,799	2,939,222	1.72
Wyoming	191,046		195,617	195,617	202,762	0.12
American Samoa	3,470		3,620	3,620	3,620	*
Guam	5,921		6,140	6,140	6,140	*
Northern Mariana Islands	2,100		2,190	2,190	2,190	*
Puerto Rico	192,900		201,400	201,400	201,400	0.12
Freely Associated States						
Virgin Islands	6,354		6,350	6,350	6,350	*
Indian Tribes						
Undistributed	475,763		2,291,867	2,291,867	6,283,415	
Vaccines for Children	982,667		1,056,185	1,056,185	980,196	0.58
Total ¹	151,643,708		162,443,004	162,443,004	176,753,583	≈ 100.00

* \$500 or less or 0.005 percent or less.

¹ Amounts exclude proposed legislation.² Excludes undistributed obligations.

Department of Health and Human Services, Administration for Children and Families

75-1552-0-1-609

Temporary Assistance for Needy Families (TANF)—Family Assistance Grants (93.558)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	93,315		93,315	93,315	93,315	0.56
Alaska	53,377		53,377	53,377	53,377	0.32
Arizona	202,263		202,206	202,206	202,206	1.22
Arkansas	56,709		56,733	56,733	56,733	0.34
California	3,698,141		3,694,826	3,694,826	3,693,721	22.30
Colorado	136,057		136,057	136,057	136,057	0.82
Connecticut	266,788		266,788	266,788	266,788	1.61
Delaware	32,291		32,291	32,291	32,291	0.19
District of Columbia	92,610		92,610	92,610	92,610	0.56
Florida	562,340		562,340	562,340	562,340	3.39
Georgia	330,742		330,742	330,742	330,742	2.00
Hawaii	98,905		98,905	98,905	98,905	0.60
Idaho	30,413		30,413	30,413	30,413	0.18
Illinois	585,057		585,057	585,057	585,057	3.53
Indiana	206,799		206,799	206,799	206,799	1.25
Iowa	131,525		131,525	131,525	131,525	0.79
Kansas	101,931		101,931	101,931	101,931	0.62
Kentucky	181,288		181,288	181,288	181,288	1.09
Louisiana	163,972		163,972	163,972	163,972	0.99
Maine	78,121		78,121	78,121	78,121	0.47
Maryland	229,098		229,098	229,098	229,098	1.38
Massachusetts	459,371		459,371	459,371	459,371	2.77
Michigan	775,353		775,353	775,353	775,353	4.68
Minnesota	267,161		267,161	267,161	267,161	1.61
Mississippi	86,768		86,768	86,768	86,768	0.52
Missouri	217,052		217,052	217,052	217,052	1.31
Montana	42,977		42,977	42,977	42,977	0.26
Nebraska	57,769		57,769	57,769	57,769	0.35
Nevada	43,977		43,977	43,977	43,977	0.27
New Hampshire	38,521		38,521	38,521	38,521	0.23
New Jersey	404,035		404,035	404,035	404,035	2.44
New Mexico	109,067		110,578	110,578	110,578	0.67
New York	2,442,930		2,442,930	2,442,930	2,442,930	14.75
North Carolina	302,240		302,240	302,240	302,240	1.82
North Dakota	26,400		26,400	26,400	26,400	0.16
Ohio	727,968		727,968	727,968	727,968	4.39
Oklahoma	147,594		147,594	147,594	147,594	0.89
Oregon	166,799		166,799	166,799	166,799	1.01
Pennsylvania	719,499		719,499	719,499	719,499	4.34
Rhode Island	95,022		95,022	95,022	95,022	0.57
South Carolina	99,968		99,968	99,968	99,968	0.60
South Dakota	21,280		21,280	21,280	21,280	0.13
Tennessee	191,524		191,524	191,524	191,524	1.16
Texas	486,257		486,257	486,257	486,257	2.94
Utah	75,609		75,609	75,609	75,609	0.46
Vermont	47,353		47,353	47,353	47,353	0.29
Virginia	158,285		158,285	158,285	158,285	0.96
Washington	397,755		392,570	392,570	389,069	2.35
West Virginia	110,176		110,176	110,176	110,176	0.67
Wisconsin	316,676		316,603	316,603	316,603	1.91
Wyoming	18,500		18,500	18,500	18,500	0.11
American Samoa						
Guam	3,993		3,993	3,993	3,993	0.02
Northern Mariana Islands						
Puerto Rico	66,918		71,562	71,562	71,562	0.43
Freely Associated States						
Virgin Islands	2,846		2,846	2,846	2,846	0.02
Indian Tribes	102,792		110,135	110,135	114,741	0.69
Undistributed						
Total	16,562,177		16,567,069	16,567,069	16,567,069	100.00

¹ Excludes undistributed obligations.

Department of Health and Human Services, Administration for Children and Families

75-1501-0-1-609

Child Support Enforcement—Federal Share of State and Local Administrative Costs and Incentives (93.563)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	42,480	.....	45,504	45,504	48,599	1.08
Alaska	17,709	.....	18,969	18,969	20,260	0.45
Arizona	46,231	.....	49,522	49,522	52,891	1.18
Arkansas	34,804	.....	37,281	37,281	39,817	0.89
California	643,480	.....	689,293	689,293	736,172	16.40
Colorado	44,459	.....	47,624	47,624	50,863	1.13
Connecticut	54,298	.....	58,164	58,164	62,120	1.38
Delaware	15,470	.....	16,571	16,571	17,698	0.39
District of Columbia	3,184	.....	3,410	3,410	3,642	0.08
Florida	172,713	.....	185,009	185,009	197,592	4.40
Georgia	80,262	.....	85,976	85,976	91,823	2.05
Hawaii	9,673	.....	10,362	10,362	11,067	0.25
Idaho	16,680	.....	17,867	17,867	19,082	0.43
Illinois	142,773	.....	152,937	152,937	163,339	3.64
Indiana	50,402	.....	53,990	53,990	57,662	1.28
Iowa	42,157	.....	45,158	45,158	48,229	1.07
Kansas	44,069	.....	47,206	47,206	50,417	1.12
Kentucky	50,816	.....	54,434	54,434	58,136	1.30
Louisiana	43,685	.....	46,795	46,795	49,977	1.11
Maine	17,661	.....	18,919	18,919	20,205	0.45
Maryland	74,098	.....	79,373	79,373	84,771	1.89
Massachusetts	58,572	.....	62,742	62,742	67,010	1.49
Michigan	299,030	.....	320,320	320,320	342,105	7.62
Minnesota	106,447	.....	114,025	114,025	121,780	2.71
Mississippi	16,507	.....	17,682	17,682	18,884	0.42
Missouri	70,449	.....	75,465	75,465	80,597	1.80
Montana	9,822	.....	10,521	10,521	11,236	0.25
Nebraska	36,372	.....	38,962	38,962	41,612	0.93
Nevada	28,638	.....	30,677	30,677	32,763	0.73
New Hampshire	14,636	.....	15,678	15,678	16,745	0.37
New Jersey	137,732	.....	147,538	147,538	157,572	3.51
New Mexico	30,207	.....	32,358	32,358	34,558	0.77
New York	217,215	.....	232,679	232,679	248,504	5.54
North Carolina	79,217	.....	84,857	84,857	90,628	2.02
North Dakota	9,140	.....	9,790	9,790	10,456	0.23
Ohio	304,020	.....	325,665	325,665	347,814	7.75
Oklahoma	36,252	.....	38,832	38,832	41,474	0.92
Oregon	40,442	.....	43,321	43,321	46,267	1.03
Pennsylvania	140,173	.....	150,152	150,152	160,364	3.57
Rhode Island	13,901	.....	14,890	14,890	15,903	0.35
South Carolina	19,621	.....	21,018	21,018	22,447	0.50
South Dakota	6,628	.....	7,099	7,099	7,582	0.17
Tennessee	50,199	.....	53,773	53,773	57,430	1.28
Texas	196,686	.....	210,689	210,689	225,018	5.01
Utah	26,469	.....	28,353	28,353	30,281	0.67
Vermont	6,144	.....	6,581	6,581	7,029	0.16
Virginia	59,155	.....	63,366	63,366	67,676	1.51
Washington	109,730	.....	117,541	117,541	125,536	2.80
West Virginia	23,899	.....	25,601	25,601	27,342	0.61
Wisconsin	60,764	.....	65,090	65,090	69,517	1.55
Wyoming	7,509	.....	8,044	8,044	8,591	0.19
American Samoa .....	.....	.....	.....	.....	.....	.....
Guam	4,032	.....	4,319	4,319	4,613	0.10
Northern Mariana Islands .....	.....	.....	.....	.....	.....	.....
Puerto Rico	23,384	.....	25,049	25,049	26,752	0.60
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands	3,515	.....	3,766	3,766	4,022	0.09
Indian Tribes	6,133	.....	11,700	11,700	34,800	0.78
Undistributed .....	.....	.....	.....	.....	.....	.....
Adjustments	31,592	.....	.....	.....	.....	.....
Total	3,931,336	.....	4,182,507	4,182,507	4,489,270	1 100.00

¹ Excludes undistributed obligations.

Department of Health and Human Services, Administration for Children and Families

75-1515-0-1-609

Child Care and Development Block Grant (93.575)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	42,930		41,897	41,897	41,897	2.00
Alaska	4,078		4,269	4,269	4,269	0.20
Arizona	43,481		45,868	45,868	45,868	2.18
Arkansas	25,554		25,041	25,041	25,041	1.19
California	243,602		239,515	239,515	239,515	11.41
Colorado	23,217		23,169	23,169	23,169	1.10
Connecticut	15,516		15,111	15,111	15,111	0.72
Delaware	4,425		4,479	4,479	4,479	0.21
District of Columbia	3,576		3,640	3,640	3,640	0.17
Florida	105,496		110,305	110,305	110,305	5.25
Georgia	69,950		71,558	71,558	71,558	3.41
Hawaii	8,044		8,464	8,464	8,464	0.40
Idaho	11,558		11,311	11,311	11,311	0.54
Illinois	78,611		79,575	79,575	79,575	3.79
Indiana	39,634		40,331	40,331	40,331	1.92
Iowa	18,911		19,267	19,267	19,267	0.92
Kansas	18,967		20,171	20,171	20,171	0.96
Kentucky	37,297		36,177	36,177	36,177	1.72
Louisiana	51,718		49,481	49,481	49,481	2.36
Maine	7,953		7,797	7,797	7,797	0.37
Maryland	27,856		27,991	27,991	27,991	1.33
Massachusetts	28,623		28,038	28,038	28,038	1.34
Michigan	60,684		60,653	60,653	60,653	2.89
Minnesota	27,018		26,780	26,780	26,780	1.28
Mississippi	34,881		34,048	34,048	34,048	1.62
Missouri	38,898		39,638	39,638	39,638	1.89
Montana	6,448		6,219	6,219	6,219	0.30
Nebraska	11,693		11,877	11,877	11,877	0.57
Nevada	10,856		11,789	11,789	11,789	0.56
New Hampshire	5,342		5,180	5,180	5,180	0.25
New Jersey	39,728		39,451	39,451	39,451	1.88
New Mexico	19,314		18,911	18,911	18,911	0.90
New York	117,149		117,163	117,163	117,163	5.58
North Carolina	59,840		62,110	62,110	62,110	2.96
North Dakota	4,636		4,475	4,475	4,475	0.21
Ohio	69,347		69,623	69,623	69,623	3.32
Oklahoma	32,479		31,516	31,516	31,516	1.50
Oregon	21,693		22,354	22,354	22,354	1.06
Pennsylvania	65,738		66,213	66,213	66,213	3.15
Rhode Island	5,609		5,760	5,760	5,760	0.27
South Carolina	38,363		37,265	37,265	37,265	1.77
South Dakota	6,239		6,167	6,167	6,167	0.29
Tennessee	44,213		45,390	45,390	45,390	2.16
Texas	202,599		202,217	202,217	202,217	9.63
Utah	21,355		20,955	20,955	20,955	1.00
Vermont	3,452		3,381	3,381	3,381	0.16
Virginia	40,870		40,441	40,441	40,441	1.93
Washington	34,994		34,324	34,324	34,324	1.63
West Virginia	15,110		14,400	14,400	14,400	0.69
Wisconsin	31,005		31,085	31,085	31,085	1.48
Wyoming	3,321		3,223	3,223	3,223	0.15
American Samoa	2,663		2,663	2,663	2,663	0.13
Guam	4,001		4,001	4,001	4,001	0.19
Northern Mariana Islands	1,636		1,636	1,636	1,636	0.08
Puerto Rico	47,374		45,182	45,182	45,182	2.15
Freely Associated States						
Virgin Islands	2,199		2,199	2,199	2,199	0.10
Indian Tribes	43,000		43,000	43,000	43,000	2.05
Undistributed						
Technical Assistance	5,226		5,250	5,250	5,121	0.24
Research Set-Aside	9,972		10,000	10,000	9,864	0.47
Total	2,099,942		2,099,994	2,099,994	2,099,729	1 100.00

¹ Excludes undistributed obligations.

Department of Health and Human Services, Administration for Children and Families

75-1550-0-1-609

Child Care and Development Fund—Mandatory (93.596a)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	16,442	.....	16,442	16,442	16,442	1.33
Alaska	3,545	.....	3,545	3,545	3,545	0.29
Arizona	19,827	.....	19,827	19,827	19,827	1.60
Arkansas	5,300	.....	5,300	5,300	5,300	0.43
California	85,592	.....	85,592	85,592	85,592	6.93
Colorado	10,174	.....	10,174	10,174	10,174	0.82
Connecticut	18,738	.....	18,738	18,738	18,738	1.52
Delaware	5,179	.....	5,179	5,179	5,179	0.42
District of Columbia	4,567	.....	4,567	4,567	4,567	0.37
Florida	43,026	.....	43,027	43,027	43,027	3.48
Georgia	36,548	.....	36,548	36,548	36,548	2.96
Hawaii	4,972	.....	4,972	4,972	4,972	0.40
Idaho	2,868	.....	2,868	2,868	2,868	0.23
Illinois	56,873	.....	56,873	56,873	56,873	4.60
Indiana	26,182	.....	26,182	26,182	26,182	2.12
Iowa	8,508	.....	8,508	8,508	8,508	0.69
Kansas	9,812	.....	9,812	9,812	9,812	0.79
Kentucky	16,702	.....	16,702	16,702	16,702	1.35
Louisiana	13,865	.....	13,865	13,865	13,865	1.12
Maine	3,019	.....	3,019	3,019	3,019	0.24
Maryland	23,301	.....	23,301	23,301	23,301	1.89
Massachusetts	44,973	.....	44,973	44,973	44,973	3.64
Michigan	32,082	.....	32,082	32,082	32,082	2.60
Minnesota	23,368	.....	23,368	23,368	23,368	1.89
Mississippi	6,293	.....	6,293	6,293	6,293	0.51
Missouri	24,669	.....	24,669	24,669	24,669	2.00
Montana	3,191	.....	3,191	3,191	3,191	0.26
Nebraska	10,595	.....	10,595	10,595	10,595	0.86
Nevada	2,580	.....	2,580	2,580	2,580	0.21
New Hampshire	4,582	.....	4,582	4,582	4,582	0.37
New Jersey	26,374	.....	26,374	26,374	26,374	2.13
New Mexico	8,308	.....	8,308	8,308	8,308	0.67
New York	101,983	.....	101,983	101,983	101,983	8.26
North Carolina	69,639	.....	69,639	69,639	69,639	5.64
North Dakota	2,506	.....	2,506	2,506	2,506	0.20
Ohio	70,125	.....	70,125	70,125	70,125	5.68
Oklahoma	24,910	.....	24,910	24,910	24,910	2.02
Oregon	19,409	.....	19,409	19,409	19,409	1.57
Pennsylvania	55,337	.....	55,337	55,337	55,337	4.48
Rhode Island	6,634	.....	6,634	6,634	6,634	0.54
South Carolina	9,867	.....	9,867	9,867	9,867	0.80
South Dakota	1,711	.....	1,711	1,711	1,711	0.14
Tennessee	37,702	.....	37,702	37,702	37,702	3.05
Texas	59,844	.....	59,844	59,844	59,844	4.84
Utah	12,592	.....	12,592	12,592	12,592	1.02
Vermont	3,945	.....	3,945	3,945	3,945	0.32
Virginia	21,329	.....	21,329	21,329	21,329	1.73
Washington	41,883	.....	41,883	41,883	41,883	3.39
West Virginia	8,727	.....	8,727	8,727	8,727	0.71
Wisconsin	24,511	.....	24,511	24,511	24,511	1.98
Wyoming	2,815	.....	2,815	2,815	2,815	0.23
American Samoa .....	.....	.....	.....	.....	.....	.....
Guam .....	.....	.....	.....	.....	.....	.....
Northern Mariana Islands .....	.....	.....	.....	.....	.....	.....
Puerto Rico .....	.....	.....	.....	.....	.....	.....
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands .....	.....	.....	.....	.....	.....	.....
Indian Tribes	54,340	.....	54,340	54,340	54,340	4.40
Undistributed .....	.....	.....	.....	.....	.....	.....
Technical Assistance	3,530	.....	3,532	3,532	3,532	0.29
Total	1,235,394	.....	1,235,397	1,235,397	1,235,397	2 100.00

¹ The FY 2003 allotment calculation used Census 2000 data because July 2001 census estimates have not been published by the Census Bureau.² Excludes undistributed obligations.

Department of Health and Human Services, Administration for Children and Families

75-1550-0-1-609

Child Care and Development Fund—Matching (93.596b)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	22,803	.....	22,803	22,803	22,803	1.54
Alaska	4,042	.....	3,837	3,837	3,837	0.26
Arizona	29,867	.....	28,415	28,415	28,415	1.92
Arkansas	13,918	.....	13,742	13,742	13,742	0.93
California	202,346	.....	192,511	192,511	192,511	12.99
Colorado	23,346	.....	22,506	22,506	22,506	1.52
Connecticut	18,326	.....	17,434	17,434	17,434	1.18
Delaware	4,195	.....	3,997	3,997	3,997	0.27
District of Columbia	2,532	.....	2,420	2,420	2,420	0.16
Florida	74,316	.....	74,316	74,316	74,316	5.02
Georgia	46,969	.....	44,737	44,737	44,737	3.02
Hawaii	6,391	.....	6,077	6,077	6,077	0.41
Idaho	7,687	.....	7,417	7,417	7,417	0.50
Illinois	70,164	.....	66,742	66,742	66,742	4.50
Indiana	33,405	.....	32,196	32,196	32,196	2.17
Iowa	14,671	.....	14,671	14,671	14,671	0.99
Kansas	14,387	.....	14,387	14,387	14,387	0.97
Kentucky	21,286	.....	20,269	20,269	20,269	1.37
Louisiana	24,348	.....	24,348	24,348	24,348	1.64
Maine	6,220	.....	5,925	5,925	5,925	0.40
Maryland	29,279	.....	27,869	27,869	27,869	1.88
Massachusetts	32,528	.....	30,947	30,947	30,947	2.09
Michigan	53,067	.....	53,068	53,068	53,068	3.58
Minnesota	27,154	.....	25,839	25,839	25,839	1.74
Mississippi	15,814	.....	15,614	15,614	15,614	1.05
Missouri	30,244	.....	28,781	28,781	28,781	1.94
Montana	4,707	.....	4,482	4,482	4,482	0.30
Nebraska	9,431	.....	8,974	8,974	8,974	0.61
Nevada	11,345	.....	10,804	10,804	10,804	0.73
New Hampshire	6,578	.....	6,260	6,260	6,260	0.42
New Jersey	45,576	.....	43,391	43,391	43,391	2.93
New Mexico	10,636	.....	10,117	10,117	10,117	0.68
New York	101,293	.....	96,440	96,440	96,440	6.51
North Carolina	42,876	.....	40,786	40,786	40,786	2.75
North Dakota	3,295	.....	3,135	3,135	3,135	0.21
Ohio	61,571	.....	58,588	58,588	58,588	3.95
Oklahoma	11,502	.....	17,896	17,896	17,896	1.21
Oregon	17,957	.....	17,091	17,091	17,091	1.15
Pennsylvania	61,888	.....	58,901	58,901	58,901	3.98
Rhode Island	5,349	.....	5,090	5,090	5,090	0.34
South Carolina	21,614	.....	20,591	20,591	20,591	1.39
South Dakota	4,188	.....	3,985	3,985	3,985	0.27
Tennessee	29,774	.....	28,706	28,706	28,706	1.94
Texas	122,571	.....	120,570	120,570	120,570	8.14
Utah	7,800	.....	14,732	14,732	14,732	0.99
Vermont	3,048	.....	2,905	2,905	2,905	0.20
Virginia	36,889	.....	35,556	35,556	35,556	2.40
Washington	30,721	.....	30,721	30,721	30,721	2.07
West Virginia	8,412	.....	8,001	8,001	8,001	0.54
Wisconsin	28,649	.....	27,266	27,266	27,266	1.84
Wyoming	2,487	.....	2,487	2,487	2,487	0.17
American Samoa .....	.....	.....	.....	.....	.....	.....
Guam .....	.....	.....	.....	.....	.....	.....
Northern Mariana Islands .....	.....	.....	.....	.....	.....	.....
Puerto Rico .....	.....	.....	.....	.....	.....	.....
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands .....	.....	.....	.....	.....	.....	.....
Indian Tribes .....	.....	.....	.....	.....	.....	.....
Undistributed .....	.....	.....	.....	.....	.....	.....
Technical Assistance	3,258	.....	3,260	3,260	3,260	0.22
Total	1,522,720	.....	1,481,603	1,481,603	1,481,603	2 100.00

¹ The FY 2003 allotment calculation used Census 2000 data because July 2001 census estimates have not been published by the Census Bureau.² Excludes undistributed obligations.

Department of Health and Human Services, Administration for Children and Families

75-1536-0-1-506

Head Start (93.600)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	100,154		102,170	102,170	104,418	1.53
Alaska	12,104		12,348	12,348	12,620	0.19
Arizona	96,913		98,863	98,863	101,038	1.48
Arkansas	61,024		62,252	62,252	63,622	0.93
California	801,430		817,556	817,556	835,542	12.26
Colorado	65,716		67,038	67,038	68,513	1.00
Connecticut	49,985		50,990	50,990	52,112	0.76
Delaware	12,286		12,534	12,534	12,810	0.19
District of Columbia	24,091		24,576	24,576	25,117	0.37
Florida	252,370		257,448	257,448	263,112	3.86
Georgia	161,740		164,995	164,995	168,625	2.47
Hawaii	21,977		22,419	22,419	22,912	0.34
Idaho	21,663		22,099	22,099	22,585	0.33
Illinois	259,780		265,008	265,008	270,838	3.97
Indiana	88,667		90,451	90,451	92,441	1.36
Iowa	49,495		50,491	50,491	51,602	0.76
Kansas	47,909		48,873	48,873	49,948	0.73
Kentucky	103,473		105,555	105,555	107,877	1.58
Louisiana	135,048		137,766	137,766	140,797	2.07
Maine	26,661		27,198	27,198	27,796	0.41
Maryland	74,929		76,437	76,437	78,119	1.15
Massachusetts	104,182		106,278	106,278	108,616	1.59
Michigan	225,290		229,824	229,824	234,880	3.45
Minnesota	69,643		71,045	71,045	72,608	1.07
Mississippi	155,259		158,384	158,384	161,868	2.37
Missouri	113,256		115,535	115,535	118,077	1.73
Montana	20,117		20,522	20,522	20,973	0.31
Nebraska	34,580		35,276	35,276	36,052	0.53
Nevada	19,786		20,184	20,184	20,628	0.30
New Hampshire	12,861		13,119	13,119	13,408	0.20
New Jersey	125,176		127,694	127,694	130,503	1.91
New Mexico	49,185		50,175	50,175	51,279	0.75
New York	418,239		426,655	426,655	436,041	6.40
North Carolina	132,667		135,337	135,337	138,314	2.03
North Dakota	16,036		16,359	16,359	16,719	0.25
Ohio	236,999		241,768	241,768	247,087	3.62
Oklahoma	76,910		78,457	78,457	80,183	1.18
Oregon	57,105		58,254	58,254	59,536	0.87
Pennsylvania	219,115		223,524	223,524	228,442	3.35
Rhode Island	21,184		21,611	21,611	22,086	0.32
South Carolina	78,507		80,086	80,086	81,848	1.20
South Dakota	18,079		18,442	18,442	18,848	0.28
Tennessee	112,344		114,604	114,604	117,125	1.72
Texas	454,292		463,434	463,434	473,630	6.95
Utah	36,270		37,000	37,000	37,814	0.55
Vermont	13,023		13,285	13,285	13,577	0.20
Virginia	95,366		97,285	97,285	99,425	1.46
Washington	97,247		99,204	99,204	101,386	1.49
West Virginia	48,625		49,603	49,603	50,694	0.74
Wisconsin	86,941		88,690	88,690	90,641	1.33
Wyoming	11,882		12,122	12,122	12,389	0.18
American Samoa						
Guam						
Northern Mariana Islands						
Puerto Rico	234,304		239,018	239,018	244,276	3.58
Freely Associated States						
Virgin Islands	9,878		10,077	10,077	10,299	0.15
Indian Tribes	181,794		185,452	185,452	189,532	2.78
Undistributed						
Migrant Program	257,815		263,002	263,002	268,789	3.94
Outer Pacific	14,943		15,244	15,244	15,579	0.23
Technical Assistance	166,414		169,688	169,688	105,263	1.54
RD&E	20,000		20,000	20,000	20,000	0.29
Monitoring	23,841		24,229	24,229	24,229	0.36
Unallocated					72,445	1.06
Total	6,536,570		6,667,533	6,667,533	6,817,533	1 100.00

¹ Excludes undistributed obligations.

Department of Health and Human Services, Administration for Children and Families

75-1545-0-1-506

Foster Care—Title IV-E (93.658)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	26,761		27,514	27,514	29,093	0.58
Alaska	9,043		9,297	9,297	9,831	0.20
Arizona	37,175		38,222	38,222	40,416	0.81
Arkansas	27,204		27,969	27,969	29,575	0.59
California	1,088,647		1,119,284	1,119,284	1,183,534	23.79
Colorado	46,104		47,401	47,401	50,122	1.01
Connecticut	69,375		71,327	71,327	75,422	1.52
Delaware	9,263		9,524	9,524	10,071	0.20
District of Columbia	21,829		22,443	22,443	23,731	0.48
Florida	134,027		137,799	137,799	145,709	2.93
Georgia	71,401		73,410	73,410	77,624	1.56
Hawaii	18,410		18,928	18,928	20,015	0.40
Idaho	4,376		4,500	4,500	4,758	0.10
Illinois	305,507		314,104	314,104	332,135	6.68
Indiana	37,343		38,394	38,394	40,598	0.82
Iowa	10,629		10,929	10,929	11,556	0.23
Kansas	16,582		17,048	17,048	18,027	0.36
Kentucky	54,934		56,480	56,480	59,722	1.20
Louisiana	54,485		56,018	56,018	59,234	1.19
Maine	27,675		28,454	28,454	30,088	0.60
Maryland	154,288		158,630	158,630	167,736	3.37
Massachusetts	67,468		69,366	69,366	73,348	1.47
Michigan	152,602		156,897	156,897	165,903	3.34
Minnesota	97,895		100,650	100,650	106,428	2.14
Mississippi	17,759		18,258	18,258	19,306	0.39
Missouri	56,505		58,095	58,095	61,430	1.23
Montana	5,042		5,184	5,184	5,481	0.11
Nebraska	21,683		22,293	22,293	23,573	0.47
Nevada	22,941		23,586	23,586	24,940	0.50
New Hampshire	9,659		9,931	9,931	10,501	0.21
New Jersey	43,587		44,814	44,814	47,387	0.95
New Mexico	13,482		13,861	13,861	14,657	0.29
New York	534,882		549,935	549,935	581,503	11.69
North Carolina	62,945		64,716	64,716	68,431	1.38
North Dakota	13,694		14,080	14,080	14,888	0.30
Ohio	206,408		212,217	212,217	224,399	4.51
Oklahoma	27,515		28,290	28,290	29,913	0.60
Oregon	32,147		33,052	33,052	34,949	0.70
Pennsylvania	398,424		409,636	409,636	433,150	8.71
Rhode Island	12,629		12,984	12,984	13,729	0.28
South Carolina	36,970		38,010	38,010	40,192	0.81
South Dakota	5,419		5,571	5,571	5,891	0.12
Tennessee	24,043		24,720	24,720	26,139	0.53
Texas	145,823		149,927	149,927	158,533	3.19
Utah	22,034		22,654	22,654	23,954	0.48
Vermont	12,494		12,846	12,846	13,583	0.27
Virginia	85,322		87,723	87,723	92,759	1.86
Washington	55,826		57,397	57,397	60,691	1.22
West Virginia	27,568		28,344	28,344	29,971	0.60
Wisconsin	78,152		80,352	80,352	84,964	1.71
Wyoming	2,491		2,561	2,561	2,708	0.05
American Samoa						
Guam						
Northern Mariana Islands						
Puerto Rico	9,215		9,475	9,475	10,018	0.20
Freely Associated States						
Virgin Islands						
Indian Tribes						
Undistributed						
Technical Assistance	8,342		11,000	11,000	16,584	0.33
New Program Option					35,300	0.71
Total	4,536,024		1 4,666,100	4,666,100	4,974,200	2 100.00

¹ Assumes lapse of \$69,900,000.² Excludes undistributed obligations.

Department of Housing and Urban Development, Public and Indian Housing Programs

86-0163-0-1-604

Public Housing Operating Subsidy (14.850)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	120,607	867	117,591	118,458	119,057	3.33
Alaska	8,075	58	7,873	7,931	7,971	0.22
Arizona	19,485	140	18,998	19,138	19,235	0.54
Arkansas	26,177	188	25,522	25,711	25,841	0.72
California	112,608	810	109,792	110,602	111,161	3.11
Colorado	19,714	142	19,221	19,363	19,461	0.54
Connecticut	47,299	340	46,116	46,456	46,691	1.31
Delaware	6,472	47	6,310	6,357	6,389	0.18
District of Columbia	24,221	174	23,615	23,789	23,910	0.67
Florida	85,555	615	83,416	84,031	84,455	2.36
Georgia	128,537	924	125,323	126,247	126,885	3.55
Hawaii	11,091	80	10,814	10,893	10,948	0.31
Idaho	1,155	8	1,126	1,134	1,140	0.03
Illinois	270,395	1,944	263,634	265,578	266,920	7.47
Indiana	40,458	291	39,446	39,737	39,938	1.12
Iowa	6,917	50	6,744	6,794	6,828	0.19
Kansas	16,972	122	16,548	16,670	16,754	0.47
Kentucky	53,546	385	52,207	52,592	52,858	1.48
Louisiana	48,861	351	47,639	47,990	48,233	1.35
Maine	8,659	62	8,442	8,505	8,548	0.24
Maryland	81,123	583	79,094	79,678	80,080	2.24
Massachusetts	100,105	720	97,602	98,322	98,818	2.76
Michigan	50,600	364	49,335	49,699	49,950	1.40
Minnesota	40,802	293	39,782	40,075	40,278	1.13
Mississippi	30,244	217	29,488	29,705	29,855	0.84
Missouri	41,854	301	40,807	41,108	41,316	1.16
Montana	4,093	29	3,991	4,020	4,040	0.11
Nebraska	12,344	89	12,035	12,124	12,185	0.34
Nevada	11,105	80	10,827	10,907	10,962	0.31
New Hampshire	5,924	43	5,776	5,818	5,848	0.16
New Jersey	165,733	1,192	161,589	162,780	163,603	4.58
New Mexico	12,009	86	11,709	11,795	11,855	0.33
New York	899,639	6,468	877,143	883,611	888,076	24.85
North Carolina	97,049	698	94,622	95,320	95,802	2.68
North Dakota	2,662	19	2,595	2,615	2,628	0.07
Ohio	180,018	1,294	175,517	176,811	177,704	4.97
Oklahoma	28,240	203	27,534	27,737	27,877	0.78
Oregon	15,255	110	14,874	14,983	15,059	0.42
Pennsylvania	243,625	1,752	237,533	239,285	240,494	6.73
Rhode Island	32,270	232	31,463	31,695	31,855	0.89
South Carolina	28,107	202	27,404	27,606	27,746	0.78
South Dakota	2,836	20	2,765	2,785	2,800	0.08
Tennessee	88,803	638	86,582	87,221	87,662	2.45
Texas	125,204	900	122,073	122,973	123,595	3.46
Utah	4,284	31	4,177	4,208	4,229	0.12
Vermont	2,792	20	2,722	2,742	2,756	0.08
Virginia	56,487	406	55,075	55,481	55,761	1.56
Washington	30,610	220	29,845	30,065	30,217	0.85
West Virginia	16,903	122	16,480	16,602	16,686	0.47
Wisconsin	20,386	147	19,876	20,023	20,124	0.56
Wyoming	1,697	12	1,655	1,667	1,675	0.05
American Samoa .....	.....	.....	.....	.....	.....	.....
Guam	2,373	17	2,314	2,331	2,343	0.07
Northern Mariana Islands .....	.....	.....	.....	.....	.....	.....
Puerto Rico	105,940	762	103,291	104,053	104,578	2.93
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands	22,614	163	22,049	22,211	22,323	0.62
Indian Tribes .....	.....	.....	.....	.....	.....	.....
Undistributed .....	.....	.....	.....	.....	.....	.....
Total	3,620,534	26,031	1 3,530,000	3,556,031	3,574,000	2 100.00

¹ A regular 2003 appropriation for this account has not been enacted, and thus, this account is operating under a continuing resolution. The 2003 estimated obligations of \$3.530 billion reflect the amounts proposed in the 2003 Budget, which includes \$10 million that will be used by the Attorney General to assist in the investigation, prosecution and prevention of violent crimes in public and federally assisted housing, including Indian housing. The \$10 million will be administered by the Department of Justice through a reimbursable agreement with HUD.

² Excludes undistributed obligations.

Department of Housing and Urban Development, Public and Indian Housing Programs

86-0319-0-1-604

Housing Choice Vouchers (14.871)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	103,768	1,978	119,836	121,814	124,569	0.92
Alaska	11,398	224	25,052	25,276	25,945	0.19
Arizona	94,159	1,776	123,826	125,602	129,296	0.95
Arkansas	88,392	1,686	89,761	91,447	92,962	0.68
California	2,041,365	38,665	2,396,807	2,435,472	2,548,340	18.73
Colorado	186,006	3,529	194,566	198,095	202,820	1.49
Connecticut	225,334	4,271	259,505	263,776	270,967	1.99
Delaware	27,281	517	26,531	27,048	27,659	0.20
District of Columbia	77,001	1,461	89,007	90,468	94,270	0.69
Florida	524,431	9,959	544,355	554,314	581,393	4.27
Georgia	259,915	4,923	316,366	321,289	327,820	2.41
Hawaii	83,119	1,574	87,982	89,556	91,322	0.67
Idaho	20,897	405	30,291	30,696	31,371	0.23
Illinois	575,975	10,925	577,508	588,433	604,763	4.44
Indiana	164,719	3,125	182,051	185,176	190,430	1.40
Iowa	71,923	1,371	83,651	85,022	86,700	0.64
Kansas	50,396	967	48,744	49,711	50,482	0.37
Kentucky	118,064	2,248	138,056	140,304	143,447	1.05
Louisiana	147,038	2,788	160,042	162,830	168,901	1.24
Maine	59,152	1,124	60,452	61,576	62,800	0.46
Maryland	238,844	4,541	287,218	291,759	303,114	2.23
Massachusetts	543,313	10,317	607,223	617,540	633,331	4.65
Michigan	198,742	3,777	233,067	236,844	246,012	1.81
Minnesota	192,367	3,642	170,139	173,781	176,967	1.30
Mississippi	70,654	1,349	79,492	80,841	82,327	0.61
Missouri	185,148	3,507	183,393	186,900	190,602	1.40
Montana	18,388	360	26,167	26,527	27,100	0.20
Nebraska	48,330	922	48,875	49,797	51,358	0.38
Nevada	78,452	1,484	84,586	86,070	93,686	0.69
New Hampshire	46,032	877	57,434	58,311	59,483	0.44
New Jersey	512,106	9,711	515,877	525,588	539,013	3.96
New Mexico	47,289	899	65,548	66,447	67,886	0.50
New York	1,462,778	27,763	1,364,449	1,392,212	1,419,765	10.43
North Carolina	261,833	4,968	281,879	286,847	291,959	2.15
North Dakota	27,542	517	29,562	30,079	30,682	0.23
Ohio	394,478	7,486	431,689	439,175	448,217	3.29
Oklahoma	105,530	2,001	131,478	133,479	136,168	1.00
Oregon	159,115	3,012	175,526	178,538	182,105	1.34
Pennsylvania	439,623	8,340	475,200	483,540	495,380	3.64
Rhode Island	48,591	922	56,493	57,415	59,346	0.44
South Carolina	91,980	1,753	113,457	115,210	117,504	0.86
South Dakota	23,169	450	24,868	25,318	25,839	0.19
Tennessee	143,225	2,720	153,806	156,526	160,581	1.18
Texas	743,773	14,117	815,588	829,705	846,817	6.22
Utah	47,691	899	60,210	61,109	62,494	0.46
Vermont	28,349	540	31,289	31,829	32,754	0.24
Virginia	219,949	4,181	256,532	260,713	266,960	1.96
Washington	192,168	3,642	298,333	301,975	310,597	2.28
West Virginia	54,785	1,034	58,319	59,353	60,572	0.45
Wisconsin	123,933	2,360	121,526	123,886	126,145	0.93
Wyoming	10,219	202	10,246	10,448	10,856	0.08
American Samoa .....	.....	.....	.....	.....	.....	.....
Guam	21,931	427	24,044	24,471	24,902	0.18
Northern Mariana Islands	1,318	22	1,754	1,776	1,817	0.01
Puerto Rico	125,490	2,383	152,894	155,277	160,279	1.18
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands	8,318	157	8,040	8,197	8,326	0.06
Indian Tribes .....	.....	.....	.....	.....	.....	.....
Undistributed .....	.....	.....	.....	.....	.....	.....
Total	11,845,786	224,798	12,990,590	13,215,388	13,607,201	100.00

¹ Excludes undistributed obligations.

Department of Housing and Urban Development, Public and Indian Housing Programs

86-0304-0-1-604

Public Housing Capital Fund (14.872)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	77,999	26,498	64,939	91,437	68,145	2.93
Alaska	3,128	734	2,550	3,284	2,676	0.11
Arizona	12,740	2,485	9,573	12,058	10,046	0.43
Arkansas	26,617	8,937	21,736	30,673	22,810	0.98
California	124,321	30,095	90,232	120,327	94,686	4.07
Colorado	11,991	5,006	12,849	17,855	13,483	0.58
Connecticut	26,023	9,821	28,560	38,381	29,970	1.29
Delaware	11,335	2,245	5,181	7,426	5,438	0.23
District of Columbia	36,098	6,893	20,008	26,901	20,996	0.90
Florida	83,021	25,043	59,520	84,563	62,458	2.68
Georgia	73,460	23,056	76,470	99,526	80,245	3.45
Hawaii	11,619	3,306	12,733	16,039	13,362	0.57
Idaho	1,737	458	1,203	1,661	1,262	0.05
Illinois	146,394	50,022	166,744	216,766	174,976	7.52
Indiana	23,987	9,023	26,642	35,665	27,957	1.20
Iowa	7,039	3,026	5,878	8,904	6,168	0.26
Kansas	11,954	6,783	12,298	19,081	12,905	0.55
Kentucky	38,032	8,394	39,493	47,887	41,442	1.78
Louisiana	70,214	14,999	50,895	65,894	64,208	2.76
Maine	6,232	2,355	5,657	8,012	5,936	0.26
Maryland	65,043	10,999	35,209	46,208	36,947	1.59
Massachusetts	83,028	21,043	61,187	82,230	64,208	2.76
Michigan	29,124	15,763	41,430	57,193	43,476	1.87
Minnesota	65,373	10,221	35,226	45,447	36,964	1.59
Mississippi	30,089	10,922	22,180	33,102	23,275	1.00
Missouri	59,034	8,304	35,936	44,240	37,710	1.62
Montana	2,601	433	3,431	3,864	3,600	0.15
Nebraska	12,550	2,105	9,205	11,310	9,660	0.41
Nevada	11,454	2,305	7,051	9,356	7,399	0.32
New Hampshire	8,556	1,983	5,544	7,527	5,817	0.25
New Jersey	91,566	23,845	79,105	102,950	83,010	3.57
New Mexico	13,977	1,822	7,656	9,478	8,034	0.35
New York	428,000	95,679	386,629	482,308	405,716	17.43
North Carolina	90,147	12,093	52,599	64,692	55,196	2.37
North Dakota	2,748	783	2,349	3,132	2,465	0.11
Ohio	138,782	46,732	98,681	145,413	103,552	4.45
Oklahoma	39,371	6,302	18,066	24,368	18,959	0.81
Oregon	13,774	4,089	10,843	14,932	11,378	0.49
Pennsylvania	204,114	45,413	156,387	201,800	164,107	7.05
Rhode Island	20,403	6,321	14,179	20,500	14,879	0.64
South Carolina	28,193	5,556	21,460	27,016	22,520	0.97
South Dakota	2,289	729	2,023	2,752	2,123	0.09
Tennessee	69,728	19,786	56,630	76,416	59,426	2.55
Texas	153,582	49,893	88,995	138,888	93,388	4.01
Utah	3,912	1,045	3,064	4,109	3,216	0.14
Vermont	2,887	780	2,172	2,952	2,279	0.10
Virginia	66,244	6,032	33,062	39,094	34,694	1.49
Washington	40,558	12,836	28,878	41,714	30,303	1.30
West Virginia	16,085	5,778	10,047	15,825	10,543	0.45
Wisconsin	24,476	4,207	18,880	23,087	19,812	0.85
Wyoming	1,002	469	1,091	1,560	1,145	0.05
American Samoa .....	.....	.....	.....	.....	.....	.....
Guam	1,803	412	1,235	1,647	1,296	0.06
Northern Mariana Islands .....	.....	.....	.....	.....	.....	.....
Puerto Rico	167,333	60,285	136,411	196,696	143,145	6.15
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands	9,804	3,578	7,992	11,570	8,386	0.36
Indian Tribes .....	.....	.....	.....	.....	.....	.....
Undistributed .....	.....	.....	.....	.....	.....	.....
Total	1 2,801,571	737,722	2,207,994	2 2,945,716	2 2,327,797	3 100.00

¹ FY 2002 actuals include Technical Assistance funds, Emergency/Disaster funds, and Neighborhood Networks Initiative funds.² FY 2003 new authority and FY 2004 estimated obligations are projected formula grant estimates only.³ Excludes undistributed obligations.

Department of Housing and Urban Development, Community Planning and Development

86-0162-0-1-451

Community Development Block Grants—Entitlement Grants (14.218)

(obligations in thousands of dollars)

State or Territory	FY 2002 Actual	Estimated FY 2003 obligations from:			FY 2004 (estimated)	FY 2004 Percentage of distributed total
		Previous authority	New authority	Total		
Alabama	30,765	.....	28,971	28,971	28,971	0.93
Alaska	2,283	.....	2,378	2,378	2,378	0.08
Arizona	43,095	.....	50,725	50,725	50,725	1.64
Arkansas	8,853	.....	9,408	9,408	9,408	0.30
California	484,817	.....	521,004	521,004	521,004	16.80
Colorado	30,548	.....	32,649	32,649	32,649	1.05
Connecticut	34,920	.....	34,563	34,563	34,563	1.11
Delaware	6,042	.....	6,473	6,473	6,473	0.21
District of Columbia	23,206	.....	23,331	23,331	23,331	0.75
Florida	151,464	.....	161,147	161,147	161,147	5.20
Georgia	44,255	.....	49,474	49,474	49,474	1.60
Hawaii	13,140	.....	12,351	12,351	12,351	0.40
Idaho	2,521	.....	2,890	2,890	2,890	0.09
Illinois	176,188	.....	173,735	173,735	173,735	5.60
Indiana	45,229	.....	44,374	44,374	44,374	1.43
Iowa	17,317	.....	17,096	17,096	17,096	0.55
Kansas	13,506	.....	12,951	12,951	12,951	0.42
Kentucky	22,819	.....	21,660	21,660	21,660	0.70
Louisiana	45,375	.....	40,524	40,524	40,524	1.31
Maine	5,950	.....	6,037	6,037	6,037	0.19
Maryland	56,605	.....	58,534	58,534	58,534	1.89
Massachusetts	91,283	.....	92,410	92,410	92,410	2.98
Michigan	122,665	.....	115,727	115,727	115,727	3.73
Minnesota	45,768	.....	45,621	45,621	45,621	1.47
Mississippi	7,201	.....	6,213	6,213	6,213	0.20
Missouri	54,830	.....	51,924	51,924	51,924	1.67
Montana	2,715	.....	2,843	2,843	2,843	0.09
Nebraska	8,562	.....	8,635	8,635	8,635	0.28
Nevada	14,043	.....	20,306	20,306	20,306	0.65
New Hampshire	4,713	.....	4,885	4,885	4,885	0.16
New Jersey	112,123	.....	113,272	113,272	113,272	3.65
New Mexico	7,640	.....	7,791	7,791	7,791	0.25
New York	359,400	.....	369,611	369,611	369,611	11.92
North Carolina	27,981	.....	32,072	32,072	32,072	1.03
North Dakota	1,878	.....	1,850	1,850	1,850	0.06
Ohio	140,883	.....	136,332	136,332	136,332	4.40
Oklahoma	16,225	.....	16,361	16,361	16,361	0.53
Oregon	23,618	.....	26,835	26,835	26,835	0.87
Pennsylvania	212,972	.....	209,355	209,355	209,355	6.75
Rhode Island	14,376	.....	14,724	14,724	14,724	0.47
South Carolina	18,653	.....	18,330	18,330	18,330	0.59
South Dakota	1,660	.....	1,648	1,648	1,648	0.05
Tennessee	29,345	.....	28,109	28,109	28,109	0.91
Texas	213,931	.....	220,365	220,365	220,365	7.11
Utah	15,815	.....	15,827	15,827	15,827	0.51
Vermont	1,098	.....	1,087	1,087	1,087	0.04
Virginia	45,807	.....	48,075	48,075	48,075	1.55
Washington	50,520	.....	55,186	55,186	55,186	1.78
West Virginia	9,256	.....	8,739	8,739	8,739	0.28
Wisconsin	47,164	.....	45,734	45,734	45,734	1.48
Wyoming	1,240	.....	1,247	1,247	1,247	0.04
American Samoa .....	.....	.....	.....	.....	.....	.....
Guam .....	.....	.....	.....	.....	.....	.....
Northern Mariana Islands .....	.....	.....	.....	.....	.....	.....
Puerto Rico	76,437	.....	68,911	68,911	68,911	2.22
Freely Associated States .....	.....	.....	.....	.....	.....	.....
Virgin Islands .....	.....	.....	.....	.....	.....	.....
Indian Tribes .....	.....	.....	.....	.....	.....	.....
Undistributed .....	.....	.....	.....	.....	.....	.....
Total	3,038,700	.....	3,100,300	3,100,300	3,100,300	100.00

¹ Excludes undistributed obligations.

11. FEDERAL EMPLOYMENT AND COMPENSATION

This section provides information on civilian and military employment, and personnel compensation and benefits in the Executive, Legislative, and Judicial branches. A comparison of Federal employment levels, state and local government employment, and the United States population appears in the Historical Tables which is published as a separate volume of the President's Budget.

Measuring Federal Employment

Civilian employment is measured on the basis of full-time equivalents (FTEs). One FTE is equal to one work year (see OMB Circular A-11, Section 32). Put simply, one full-time employee counts as one FTE, and two half-time employees also count as one FTE. However, data shown for military are average strengths, not FTEs. Federal employment can also be measured by actual positions filled.

Total Federal Employment Levels

The tables that follow show total Federal employment in all branches of Government, as well as the U.S. Postal Service, Postal Rate Commission, and active duty uniformed military personnel. Two of this year's tables also provide a breakout of Commissioned Corps officers employed by the Public Health Service (PHS) in the Department of Health and Human Services and the National Oceanic and Atmospheric Administration (NOAA) within the Department of Commerce. Table 11-1 provides Executive Branch FTE totals from 2000 through 2004. Table 11-2 displays total Federal employment as measured by actual positions filled, i.e., the total number of employees, whether full-time, part-time or intermittent, at the end of the fiscal year. Table 11-3 shows total Federal employment as measured on an FTE basis.

Department of Homeland Security

On November 25, 2002, the President signed the Homeland Security Act of 2002 (Public Law 107-296). The Act initiates the most substantial reorganization of the Federal Government since the 1940's transferring FTE from ten major Federal agencies to the newly-established Department of Homeland Security (DHS). The President's Budget displays FTE estimates for DHS on a three-year comparable basis. The DHS FTE totals reflect estimates of 142 thousand civilians and 37 thousand military (US Coast Guard) in fiscal year 2004 for a total estimated strength of 179 thousand FTEs. The net increase of 23 thousand Executive Branch civilian FTE from 2002 actuals to the 2004 estimate is largely due to the creation of the Transportation Security Administration, which will be incorporated into the Department of Homeland Security.

Personnel Compensation and Benefits

Table 11-4 displays personnel compensation and benefits (in millions of dollars) for all branches of Government, as well as for military personnel.

Direct compensation of the Federal work force includes base pay and premium pay, such as overtime. In addition, it includes other cash components, such as geographic pay differentials (i.e., locality pay, and special pay adjustments for law enforcement officers), recruitment and relocation bonuses, retention allowances, performance awards, and cost-of-living and overseas allowances.

In the case of military personnel, compensation includes basic pay, special and incentive pays (including enlistment and reenlistment bonuses), and allowances for clothing, housing, and subsistence.

Related compensation in the form of personnel benefits for current employees consists of the cost to Government agencies (as an employer) primarily for health insurance, life insurance, Social Security (old age, survivors, disability, and health insurance) and contributions to the retirement funds to finance future retirement benefits. Compensation for former personnel includes outlays for retirement pay benefits, and the Government's share of the cost of health and life insurance.

The Budget proposes a new approach to federal pay. Consistent with the Administration's emphasis on program performance, the 2004 pay proposal combines a two percent across-the-board increase with a performance component. \$500 million will be set aside governmentwide to allow managers to increase pay beyond annual raises to reward top-performing employees with a permanent increase in their base pay. The Administration also proposes to reform the pay structure of its senior managers by increasing the limit on pay and replacing the current six-tier system with a pay band so that agencies can tie these managers' compensation more closely to their performance.

The Administration proposes legislation to require agencies to pay the full Government share of the accruing cost of retirement for current CSRS, CIA and Foreign Service employees, and the Coast Guard, Public Health Service and NOAA Commissioned Corps. The legislation also requires agencies to pay the full accruing cost of post-retirement health benefits for current civilian employees who are enrolled in the Federal Employees Health Benefits Program and the post-retirement health costs of Medicare eligible retirees (and their dependents/survivors) of the Uniformed Services (DoD, Coast Guard, Public Health Service, and NOAA Commissioned Corps). Pending approved legislation, the 2004 Budget includes the realignment of these incremental costs to the agencies as memorandum entries.

Table 11-1. FEDERAL EMPLOYMENT IN THE EXECUTIVE BRANCH
(Civilian employment as measured by Full-Time Equivalents, in thousands)

Agency	Actual			Estimate		Change: 2000 to 2004	
	2000	2001	2002	2003	2004	FTE's	Percent
Cabinet agencies:							
Agriculture	95.1	96.9	97.0	99.2	98.0	2.9	3.0%
Commerce ¹	112.7	36.4	34.9	38.9	38.5	n/a	n/a
Defense-military functions	660.3	649.9	649.9	642.8	635.8	-24.5	-3.7%
Education	4.6	4.6	4.5	4.6	4.6	0.0	0.0%
Energy	15.6	15.6	15.8	16.3	16.1	0.5	3.2%
Health and Human Services	54.8	56.1	59.0	61.0	60.9	6.1	11.1%
Homeland Security ²	0.0	0.0	81.3	144.9	142.2	n/a	n/a
Housing and Urban Development	10.1	10.1	10.0	10.5	10.5	0.4	4.0%
Interior	67.3	68.7	70.3	70.0	70.3	3.0	4.5%
Justice ³	122.8	124.2	97.3	106.0	112.0	n/a	n/a
Labor	16.3	16.5	17.0	17.3	17.5	1.2	7.4%
State	27.3	27.7	28.6	29.5	30.1	2.8	10.3%
Transportation ³	63.0	63.4	61.2	59.2	60.0	n/a	n/a
Treasury ³	143.7	145.0	115.9	116.7	117.5	n/a	n/a
Veterans Affairs	202.6	206.9	208.9	209.0	214.0	11.4	5.6%
Other agencies—excluding Postal Service:							
Agency for International Development	2.4	2.3	2.3	2.4	2.5	0.1	4.2%
Broadcasting Board of Governors	2.4	2.4	2.4	2.5	2.5	0.1	4.2%
Corps of Engineers—Civil Works	24.8	24.7	25.0	24.8	24.8	0.0	0.0%
Environmental Protection Agency	17.7	17.5	17.5	17.6	17.9	0.2	1.1%
EEOC	2.9	2.7	2.8	2.7	2.8	-0.1	-3.4%
FEMA ⁴	4.6	4.9	0.0	0.0	0.0	n/a	n/a
FDIC/RTC	7.1	6.4	6.0	5.7	5.6	-1.5	-21.1%
General Services Administration	14.0	14.0	12.4	12.4	12.4	-1.6	-11.4%
NASA	18.4	18.7	18.7	19.1	18.9	0.5	2.7%
National Archives and Records Administration	2.5	2.6	2.8	2.8	2.9	0.4	16.0%
National Labor Relations Board	1.9	2.0	1.9	2.0	2.0	0.1	5.3%
National Science Foundation	1.2	1.2	1.2	1.3	1.3	0.1	8.3%
Nuclear Regulatory Commission	2.8	2.8	2.8	2.9	3.0	0.2	7.1%
Office of Personnel Management	2.8	2.8	2.8	2.9	3.0	0.2	7.1%
Peace Corps	1.0	1.0	1.0	1.2	1.3	0.3	30.0%
Railroad Retirement Board	1.2	1.2	1.2	1.1	1.1	-0.1	-8.3%
Securities and Exchange Commission	2.8	2.9	3.0	3.2	3.7	0.9	32.1%
Small Business Administration	4.3	4.1	4.0	3.9	3.9	-0.4	-9.3%
Smithsonian Institution	5.0	4.9	5.0	5.6	5.8	0.8	16.0%
Social Security Administration	62.4	62.7	63.1	63.6	64.6	2.2	3.5%
Tennessee Valley Authority	13.2	13.2	13.5	13.6	13.4	0.2	1.5%
All other small agencies	16.4	14.7	15.1	15.8	15.9	-0.5	-3.0%
Total, Executive Branch civilian employment ⁵	1,808.2	1,731.7	1,749.9	1,826.7	1,831.0	22.8	1.3%
Subtotal, Defense	660.3	649.9	649.9	642.8	635.8	-24.5	-3.7%
Subtotal, Non-Defense	1,147.9	1,081.8	1,100.0	1,183.9	1,195.2	47.3	4.1%

¹ Department of Commerce FY 2000 data in as outlier due to 2000 Census workload.

² Department of Homeland Security FTEs shown on a three-year comparable basis. See the introduction to this chapter for an explanation of the growth in DHS FTEs.

³ Transfers to the Department of Homeland Security prevent meaningful 2000 to 2004 comparisons.

⁴ FEMA realigned under the Department of Homeland Security.

⁵ Totals may not add due to rounding.

Table 11-2. TOTAL FEDERAL EMPLOYMENT

(As measured by total positions filled)

Description	Actual as of September 30			Change: 2000 to 2002	
	2000	2001	2002	Positions	Percent
Executive branch civilian employment:					
All agencies except Postal Service and Postal Rate Commission:					
Full-time permanent	1,578,495	1,595,801	1,632,663	54,168	3.4%
Other than full-time permanent	199,643	196,009	185,597	-14,046	-7.0%
Subtotal	1,778,138	1,791,810	1,818,260	40,122	2.3%
Postal Service: ¹					
Full-time permanent	666,528	661,452	645,758	-20,770	-3.1%
Other than full-time permanent	194,249	186,418	165,933	-28,316	-14.6%
Subtotal	860,777	847,870	811,691	-49,086	-5.7%
Subtotal, Executive branch civilian employment	2,638,915	2,639,680	2,629,951	-8,964	-0.3%
Uniformed Services: ²					
Department of Defense	1,384,338	1,385,116	1,411,634	27,296	2.0%
Department of Transportation (Coast Guard)	36,157	36,580	38,238	2,081	5.8%
Commissioned Corps (PHS, NOAA)	5,843	6,027	6,221	378	6.5%
Subtotal, military personnel	1,426,338	1,427,723	1,456,093	29,755	2.1%
Subtotal, Executive Branch	4,065,253	4,067,403	4,086,044	20,791	0.5%
Legislative branch:					
Full-time permanent	11,970	11,856	12,097	127	1.1%
Other than full-time permanent	19,187	18,583	18,789	-398	-2.1%
Subtotal, Legislative Branch	31,157	30,439	30,886	-271	-0.9%
Judicial Branch:					
Full-time permanent	28,938	30,478	31,286	2,348	8.1%
Other than full-time permanent	3,248	3,332	3,413	165	5.1%
Subtotal, Judicial Branch	32,186	33,810	34,699	2,513	7.8%
Grand total ³	4,128,596	4,131,652	4,151,629	23,033	0.6%
ADDENDUM					
Executive branch civilian personnel (excluding Postal Service):					
DOD civilians—Military functions	651,247	647,048	644,817	-6,430	-1.0%
All other executive branch	1,126,891	1,144,762	1,173,443	46,552	4.1%
Total	1,778,138	1,791,810	1,818,260	40,122	2.3%

¹ Includes Postal Rate Commission.² Excludes reserve components.³ Includes Summer Aides, Stay-in-school, Junior Fellowship, Worker-Trainee Opportunity, and disadvantage youth programs.

Table 11-3. TOTAL FEDERAL EMPLOYMENT

(As measured by Full-Time Equivalents)

Description	2002 actual	Estimate		Change: 2002 to 2004	
		2003	2004	FTE's	Percent
Executive branch civilian personnel:					
All agencies except Postal Service and Defense	1,100,022	1,183,979	1,195,189	95,167	8.7%
Defense-Military functions (civilians)	649,875	642,759	635,781	-14,094	-2.2%
Subtotal, excluding Postal Service	1,749,897	1,826,738	1,830,970	81,073	4.6%
Postal Service ¹	809,946	799,537	786,825	-23,121	-2.9%
Subtotal, Executive Branch civilian personnel	2,559,843	2,626,275	2,617,795	57,952	2.3%
Executive Branch Uniformed Services: ²					
Department of Defense	1,414,355	1,392,379	1,390,776	-23,579	-1.7%
Homeland Security (Coast Guard)	37,112	37,249	37,255	143	0.4%
Commissioned Corps (PHS, NOAA)	5,984	6,207	6,259	275	4.6%
Subtotal, uniformed military personnel	1,457,451	1,435,835	1,434,290	-23,161	-1.6%
Subtotal, Executive Branch	4,017,294	4,062,110	4,052,085	34,791	0.9%
Legislative Branch: ³ Total FTE	31,390	32,167	33,082	1,692	5.4%
Judicial branch: Total FTE	33,205	35,125	34,966	1,761	5.3%
Grand total	4,081,889	4,129,402	4,120,133	38,244	0.9%

¹ Includes Postal Rate Commission.² Military personnel on active duty. Excludes reserve components. Data shown are average strengths, not FTEs.

TABLE 11-4. PERSONNEL COMPENSATION AND BENEFITS
(In millions of dollars)

Description	2002 actual	Estimate		Change: 2002 to 2004	
		2003	2004	Dollars	Percent
Civilian personnel costs:					
Executive Branch (excluding Postal Service):					
Direct compensation:					
DOD—military functions	35,478	35,787	37,014	1,536	4.3%
All other executive branch	69,019	74,561	79,812	10,793	15.6%
Subtotal, direct compensation	104,497	110,348	116,826	12,329	11.8%
Personnel benefits:					
DOD—military functions	8,096	8,414	9,302	1,206	14.9%
All other executive branch	28,038	29,979	30,742	2,704	9.6%
Subtotal, personnel benefits	36,134	38,393	40,044	3,910	10.8%
Subtotal, executive branch	140,631	148,741	156,870	16,239	11.5%
Postal Service:					
Direct compensation	36,877	37,496	38,165	1,288	3.5%
Personnel benefits	12,670	13,814	14,326	1,656	13.1%
Subtotal	49,547	51,310	52,491	2,944	5.9%
Legislative Branch: ¹					
Direct compensation	1,521	1,712	1,812	291	19.1%
Personnel benefits	366	443	455	89	24.3%
Subtotal	1,887	2,155	2,267	380	20.1%
Judicial Branch:					
Direct compensation	2,214	2,557	2,613	399	18.0%
Personnel benefits	591	658	708	117	19.8%
Subtotal	2,805	3,215	3,321	516	18.4%
Total, civilian personnel costs	194,870	205,421	214,949	20,079	10.3%
Military personnel costs:					
DOD—Military Functions:					
Direct compensation	60,813	61,737	65,640	4,827	7.9%
Personnel benefits ²	23,065	29,420	30,248	7,183	31.1%
Subtotal	83,878	91,157	95,888	12,010	14.3%
All other executive branch, uniformed personnel:					
Direct compensation	1,933	2,016	2,148	215	11.1%
Personnel benefits	298	504	584	286	96.0%
Subtotal	2,231	2,520	2,732	501	22.5%
Total, military personnel costs	86,109	93,677	98,620	12,511	14.5%
Grand total, personnel costs	280,979	299,098	313,569	32,590	11.6%
ADDENDUM					
Former Civilian Personnel:					
Retired pay for former personnel	49,945	52,076	53,768	3,823	7.7%
Government payment for Annuitants:					
Employee health benefits	6,071	6,759	7,456	1,385	22.8%
Employee life insurance	33	34	35	2	6.1%
Total Former Civilian Personnel	56,049	58,869	61,259	5,210	9.3%
Former Military personnel:					
Retired pay for former personnel	35,188	36,056	36,870	1,682	4.8%
Military annuitants health benefits	0	4,445	4,765	4,765	n/a

¹ Excludes members and officers of the Senate.

² Increases in 2003 and 2004 are largely due to legislation requiring payments to the Uniformed Services retiree health care fund.

12. STRENGTHENING FEDERAL STATISTICS

Economic statistics are valuable tools that policy makers, industry leaders, and individuals use to understand developments in our economy. Their ability to make appropriate decisions about taxes, work, investments, and a host of other important issues depends critically on the relevance, accuracy, and timeliness of federal statistics. Data on real Gross Domestic Product (GDP), the Consumer Price Index (CPI), and the trade deficit, for example, have a major impact on government spending, budget projections, and the allocation of federal funds. They also are critical to monetary, fiscal, trade, and regulatory policy. Economic data, such as measures of price change, have a significant influence on interest rates and cost-of-living adjustments that affect every American who runs a business, saves for retirement, or obtains a mortgage. The Administration has proposed initiatives to recognize new financial instruments, such as derivatives, in the Balance of Payments; continue to improve the Consumer Price Index; strengthen the source data used to measure the service sector; and accelerate the release of critical economic statistics. These initiatives will improve the quality of current federal economic statistics.

Similarly, current, comparable data on the characteristics of the U.S. population are essential to monitor significant societal changes. The plan for the next decade is to re-engineer the 2010 Census in order to reduce operational risks, improve accuracy, provide more relevant data, and contain costs. The approach has three components:

- a simplified, short form only, 2010 Census and more timely data based on eliminating the decennial long form through the implementation of the American Community Survey;
- a central, continuously updated address universe and associated geographical products employing satellite and Global Positioning System technology for use in all decennial census and demographic survey programs; and
- a well-tested and planned 2010 Census design produced through systematic development well before mid-decade operational testing.

In particular, the American Community Survey represents a major modernization of the statistical system that will provide community profiles similar to those from the decennial census, but on a far more current basis. This will shift the traditional “once every ten years” long form data collection and data dissemination activity to a continuous activity providing current data every year.

Under the aegis of the congressionally-mandated Interagency Council on Statistical Policy (ICSP), the principal statistical agencies continue to extend their collaborative endeavors in order to improve the overall performance and efficiency of the federal statistical system. Several recent initiatives will enhance the quality of data the federal statistical system produces. First, the passage of the Confidential Information Protection

and Statistical Efficiency Act of 2002 (CIPSEA), included as Title V in the E-Government Act of 2002 (Public Law 107-347), provides a uniform set of confidentiality protections and extends these protections to all individually identifiable data collected for statistical purposes under a pledge of confidentiality; this Act also permits the sharing of business data among the Bureau of Economic Analysis, the Bureau of Labor Statistics, and the Bureau of the Census. Since 1971, the Executive Branch has sought to shore up legal protection for the confidentiality of statistical information, as well as to permit some limited sharing of data for statistical purposes. The ability to share data will reduce paperwork burdens on businesses that provide information to the government and improve the comparability and accuracy of federal economic statistics. To achieve the greatest benefits from CIPSEA, complementary changes are needed in the “Statistical Use” section of the Internal Revenue Code. A legislative proposal to effect these changes has been endorsed by the Administration and submitted to the Congress.

Second, the statistical agencies have developed a common statement of their principles for information quality, as well as their own individual statistical agency information quality guidelines. These actions were taken in response to OMB’s Information Quality Guidelines (Public Law 106-554, known as the “Information Quality Law”). The Information Quality Law represents the first time that the Executive Branch has developed a government-wide set of information quality guidelines, including agency-specific guidelines tailored to each agency’s unique programs and information. Statistical agencies played a leadership role throughout the federal government in developing a comprehensive and consistent approach for implementation.

Third, the ICSP has formed a working group of information technology (IT) leaders to better coordinate and explore opportunities to foster improved IT collaboration among the statistical agencies. The working group is examining areas such as jointly supporting IT services that are common to the statistical agencies, and adopting a standard data description language known as the extensible markup language (XML). Using the capabilities of XML should allow agencies to more easily manage statistical data and provide broader access to data users, thereby achieving better quality data, improved cost management, and increased user satisfaction.

Fourth, the ICSP continues to support FedStats (www.fedstats.gov), the “one-stop shopping” Internet site for federal statistics. The site provides easy access via an initial point of entry to the wide array of statistical information available to the public from more than 100 federal agencies. The FedStats team has conducted a Section 508 Accessibility Workshop to identify best practices to make statistical agency web content accessible to people with disabilities and is preparing a working paper based on the workshop findings. It is

also examining ways to disseminate statistical information to promote a better understanding of statistics among the general public and to improve the FedStats search engine.

Despite these accomplishments, rapid changes in our economy and society can threaten the relevance, accuracy, and timeliness of our nation's key statistics. Any growing inability of our statistical system to mirror accurately our economy and society, including the unprecedented growth of electronic commerce, could undermine core government activities, such as the accurate allocation of scarce federal funds. Fortunately, the most serious shortcomings of our statistical infrastructure would be substantially mitigated by four programs supported in the Administration's budget. These initiatives would:

- continue support for early planning of the 2010 Census predicated on a fundamental re-engineering of the census process (Bureau of the Census);
- continue implementation of the American Community Survey program (Bureau of the Census);
- accelerate the release of some of the nation's most important economic statistics (Bureau of Economic Analysis); and

HIGHLIGHTS OF 2004 PROGRAM PROPOSALS FOR PRINCIPAL STATISTICAL AGENCIES

Bureau of Economic Analysis: Funding is requested to move forward with critical improvements to the nation's economic accounts to: (1) accelerate the release of some of the nation's most important economic statistics to dramatically increase their usefulness to policy makers, business leaders, and other users; (2) update the U.S. Balance of Payments to recognize derivatives and other new financial instruments, and to meet U.S. statistical obligations to international organizations; (3) improve the economic accounts by acquiring monthly real-time data from private sources to fill data gaps in current measures; and (4) conduct a quarterly survey of large and volatile international services such as telecommunications, finance, and insurance.

Bureau of Justice Statistics: Funding is requested to enhance and maintain core statistical programs, including: (1) the National Crime Victimization Survey, the nation's primary source of information on criminal victimization, which plans to automate household data collection; (2) cybercrime statistics on the incidence, magnitude, and consequences of electronic and computer crime; (3) law enforcement data from over 3,000 agencies on the organization and administration of police and sheriffs' departments; (4) nationally representative prosecution data on resources, policies, and practices of local prosecutors; (5) court and sentencing statistics, including federal and state case processing data; and (6) data on correctional populations and facilities from federal, state, and local governments.

Bureau of Labor Statistics: Funding is requested to: (1) produce two Current Population Survey supplements on key labor force issues every year, such as volunteerism and worker turnover, to provide insights

- increase the annual number of topical studies of key labor force issues (Bureau of Labor Statistics).

More broadly, the programs that provide essential statistical information for use by governments, businesses, researchers, and the public are carried out by some 70 agencies spread across every department and several independent agencies. Approximately 40 percent of the funding for these programs provides resources for ten agencies that have statistical activities as their principal mission. (Please see Table 12-1.) The remaining funding supports work in 60-plus agencies that carry out statistical activities in conjunction with other missions such as providing services or enforcing regulations. More comprehensive budget and program information about the federal statistical system will be available in OMB's annual report, *Statistical Programs of the United States Government, Fiscal Year 2004*, when it is published this summer. The following highlights elaborate on the Administration's proposals to strengthen the programs of the principal federal statistical agencies.

into trends and their effect on the business cycle; (2) continue to modernize the computing systems for monthly processing of the Producer Price Index (PPI) and U.S. Import and Export Price Indexes, improve index accuracy, and produce new data outputs such as experimental PPI's for goods and services that will provide the first economy-wide measures of changes in producer prices; (3) continue to implement a significant change in the way the Consumer Price Index (CPI) is revised and updated by instituting a process for continuous improvement in place of the periodic major revisions that were undertaken about every ten years; and (4) continue to enhance and consolidate core BLS information technology infrastructure (through a central Department of Labor appropriation).

Bureau of the Census: Funding is requested for the Census Bureau's economic and demographic programs and for a re-engineered 2010 Census. For the Census Bureau's economic and demographic programs, funding is requested to: (1) support the completion of the data processing activities and product preparations associated with disseminating results of the 2002 Economic Census and the Census of Governments; (2) improve measurement of services by expanding key source data for critical quarterly and annual estimates of our nation's Gross Domestic Product; (3) offer electronic reporting for almost 100 current economic surveys; (4) provide computing capacity required for mission critical data products in the event of a disaster; and (5) implement the first new samples based on 2000 Census data for ongoing federal household surveys that gather data on topics such as crime, employment, and health. For 2010 Census planning, funding is requested to continue

to: (1) conduct extensive planning, testing, and development activities to support a re-engineered 2010 Census; (2) correct the accuracy of map feature locations in 600 of the nation's 3,232 counties; and (3) implement the American Community Survey to collect current "long form" data instead of using a long form in the 2010 Census.

Bureau of Transportation Statistics: Funding is requested to: (1) collect more timely, comprehensive, and geographically detailed data on freight movement and personal travel; (2) advance the Administration's Geospatial One-Stop e-Government initiative; (3) develop and produce a series of indicators of transportation system performance; (4) publish transportation issue briefs that bridge the gap between researchers and policy makers; and (5) improve the collection and analysis of airline data.

Economic Research Service: Funding is requested to: (1) strengthen the economic information and analytical bases for genomics research, application, and education program decisions in coordination with an increase in United States Department of Agriculture genomics research; and (2) develop the Security Analysis System for U.S. agriculture.

Energy Information Administration: Funding is requested to: (1) improve the data quality of natural gas and electricity surveys, (2) redesign petroleum surveys to reflect new fuel standards, (3) complete the update of the 20-year old survey designs for residential and commercial building energy consumption based on the 2000 Census, (4) integrate the operation of the Weekly Natural Gas Underground Storage Survey as an ongoing EIA activity, and (5) continue development and operation of the Voluntary Greenhouse Gases survey to support the President's Initiative on Greenhouse Gases.

National Agricultural Statistics Service: Funding is requested to: (1) restore and modernize the agricul-

tural estimates program to ensure the continuation of state, regional, and national level agricultural estimates of sufficient precision, quality, and detail to meet the needs of a broad customer base; (2) implement the NASS e-Government tactical plan, specifically the infrastructure needs and the continued development of electronic data reporting and enhanced services to the public; and (3) maintain development of an annual integrated locality-based county estimates program.

National Center for Education Statistics: Funding is requested to: (1) support new data collection for the Schools and Staffing Survey, the principal source of information on the characteristics of America's schools and the teachers and principals who work in them; (2) improve survey designs for the Study of Students and Faculty, the National Household Survey, and the October supplement to the Current Population Survey; (3) continue U.S. participation in data collections and analyses that depict international educational performance and permit comparison of United States' educational progress with those of other countries; (4) continue support for the National Assessment of Educational Progress (NAEP) Program and its role in the No Child Left Behind Act; and (5) improve electronic data collection and dissemination efforts.

National Center for Health Statistics: Funding is requested to: (1) maintain and rebuild several core data collections, including the National Health Interview Survey, which is undertaking a multi-year effort to identify the sample for household surveys for the next decade and to overhaul the basic systems through which data are collected, processed, and made available to users; and (2) support the National Health and Nutrition Examination Survey, through which health information is obtained by direct physical examinations and laboratory tests.

TABLE 12-1. 2002-2004 BUDGET AUTHORITY FOR PRINCIPAL STATISTICAL AGENCIES

(in millions of dollars)

	2002 actual	2003 estimate	2004 estimate
Bureau of Economic Analysis	\$ 57	\$ 67	\$ 78
Bureau of Justice Statistics	33	34	36
Bureau of Labor Statistics	475	498	512
Bureau of the Census ¹	499	725	682
Salaries and Expenses ¹	189	225	241
Periodic Censuses and Programs	310	500	441
Bureau of Transportation Statistics	31	35	36
Economic Research Service	67	73	77
Energy Information Administration	78	80	80
National Agricultural Statistics Service ²	115	141	136
National Center for Education Statistics	³ 197	190	191
Statistics	85	95	95
Assessment	³ 112	95	96
National Center for Health Statistics	127	126	125
PHS Evaluation Funds	23	47	52
Budget Authority	104	79	73

¹ Includes Mandatory Appropriations of \$20 million for each year.

² Includes funds for the periodic Census of Agriculture of \$25, \$41, and \$25 million in 2002, 2003, and 2004, respectively. The 2004 Budget includes a reduction of \$16.5 million due to the lower cyclical funding needs of the quinquennial Census of Agriculture (funding needs for the Census are at their peak level in 2003).

³ Includes \$17 million in administrative contract costs not necessary in 2003 or 2004, consistent with the assessment plan authorized in the No Child Left Behind Act.