



SPECIAL
ANALYSES
BUDGET OF THE
UNITED STATES
GOVERNMENT

FISCAL YEAR

1990

THE BUDGET DOCUMENTS

**Budget of the United States Government, 1990* contains the Budget Message of the President and presents an overview of the President's budget proposals. It includes summary information on the economic assumptions used in the 1990 Budget, Federal receipts, and Federal spending. In addition it includes supplemental information on Federal credit programs, several topics that help place the budget in perspective, the budget system and concepts, a listing of the Federal program by agency and account, and summary tables.

**United States Budget in Brief, 1990* is designed for use by the general public. It provides a more concise, less technical overview of the 1990 budget than the above volume, including summary and historical tables on the Federal budget and debt, together with graphic displays.

**Budget of the United States Government, 1990—Appendix* contains detailed information on the various appropriations and funds that constitute the budget. The *Appendix* contains more detailed information than any of the other budget documents. It includes for each agency: the proposed text of appropriation language, budget schedules for each account, new legislative proposals, explanations of the work to be performed and the funds needed, and proposed general provisions applicable to the appropriations of entire agencies or groups of agencies. Supplemental proposals for the current year are presented separately. Information is also provided on certain activities whose outlays are not part of the budget totals.

**Special Analyses, Budget of the United States Government, 1990* contains analyses that are designed to highlight specified program areas or provide other significant presentations of budget data. The first part of this document includes information about two alternative views of the budget; i.e., the current services and Gramm-Rudman-Hollings budget baselines, and the national income accounts. The second part provides analyses and tabulations of the totals that cover the Federal Government's finances and operation as a whole and reflect the ways in which Government finances affect the economy. Financial information on Federal research and development programs and data on Federal civilian employment are also included in this part.

**Historical Tables, Budget of the United States Government, 1990* provides data on budget receipts, outlays, surpluses or deficits, and Federal debt covering extended time periods—in many cases from 1940–1994. These are much longer time periods than those covered by similar tables in other budget documents. The data in this volume and all other historical data in the budget documents are consistent with the concepts and presentation used in the 1990 Budget, so the data series are comparable over time.

**Management of the United States Government, 1990* highlights the many significant achievements of the President's Management Improvement Program, Reform '88 and provides a strategic planning guide to the Government in the Year 2000. Also included are reports to Congress on the President's Private Sector Survey on Cost Control, Debt Collection, Prompt Pay, and the First Progress Report of the Chief Financial Officer of the United States.

**Major Policy Initiatives, 1990* summarizes the changes that are proposed in the 1990 Budget. It contains an overview of Budget policy and a description of each initiative. The descriptions include an explanation of the reasons for the policy change, and where relevant a summary chart showing the funding changes that would occur if the policy change were enacted.

Recommendations for Executive, Legislative and Judicial Salaries provides the recommendations of the President concerning the report of the Quadrennial Commission on Executive, Legislative and Judicial Salaries.

Instructions for purchasing copies of any of these documents are on the last two pages of this volume.

GENERAL NOTES

1. All years referred to are fiscal years, unless otherwise noted.
2. Detail in the tables, text and charts of this volume may not add to the totals because of rounding.

TABLE OF CONTENTS

	Page
PART 1. ALTERNATIVE VIEWS OF THE BUDGET.....	1-1
A. Baseline Estimates	A-1
B. Federal Transactions in the National Income and Product Accounts	B-1
PART 2. ANALYSES OF THE TOTALS	2-1
C. Funds in the Budget.....	C-1
D. Federal Investment Outlays	D-1
E. Borrowing and Debt	E-1
F. Federal Credit Programs.....	F-1
G. Tax Expenditures.....	G-1
H. Federal Aid to State and Local Governments.....	H-1
I. Civilian Employment in the Executive Branch	I-1
J. Research and Development.....	J-1

PART 1

**ALTERNATIVE VIEWS OF
THE BUDGET**

1-1

INTRODUCTION

Part 1 includes two alternative views of the budget—baseline estimates and the national income and product accounts. The data include both on-budget and off-budget amounts (i.e., transactions of the Federal old-age, survivors, and disability insurance trust funds). These special analyses are designated A and B.

Special Analysis A (Baseline Estimates) presents two sets of baseline estimates required by law. The first, current services, reflects the anticipated costs of continuing ongoing Federal programs and activities at present levels without any policy changes. Estimates are provided through 1994. The second, the Gramm-Rudman-Hollings budget baseline, is the baseline used to determine if automatic reductions will be triggered under the Balanced Budget and Emergency Deficit Control Act as amended. These estimates are provided for 1990 only.

Special Analysis B (Federal Transactions in the National Income and Product Accounts) presents the Federal Government estimates through 1990 in terms of the national income and product accounts (NIPAs). It also explains the relationship of the unified budget to the NIPAs, which constitute the most widely used measure of aggregate economic activity in the United States.

SPECIAL ANALYSIS A

BASELINE ESTIMATES

This analysis discusses the two sets of baseline estimates that are required to be submitted with the President's Budget. The first, current services, is designed to show what budget estimates would be if current policy continued unchanged into the future. The second, the Gramm-Rudman-Hollings budget baseline, is developed using the rules required to determine whether automatic spending reductions would be triggered under the Balanced Budget and Emergency Deficit Control Act of 1985, as amended in 1987. Each of the baselines is discussed in turn. A final section compares the two baselines.

CURRENT SERVICES ESTIMATES

The Congressional Budget Act of 1974, as amended, requires that the President submit to the Congress estimates of the outlays and budget authority needed to maintain current Government services and activity levels. The Act defines the current services levels as the estimated budget outlays and proposed budget authority that would be included in the budget for the following fiscal year if programs and activities of the United States Government were carried on during that year at the same level as the current year without a change in policy.

Current services estimates are designed to show what outlays, receipts, and budget authority would be if no policy changes were made, thus providing a base against which the administration's budget proposals, or other proposals, may be compared. Since long range estimates of Presidential policy are included in the budget, current services estimates are also provided for the 4 years beyond the budget year. Generally, these long-range current services estimates are based on the same concepts as the budget year current services estimates. Current services estimates include both on- and off-budget receipts and outlays.

THE CURRENT SERVICES CONCEPT

The current services estimates are neither recommended amounts nor forecasts of what the budget results for 1989-1994 will actually be. Rather, they provide a base against which budgetary alternatives may be assessed. This base embodies the cumulative

effects of all past congressional and Presidential budgetary choices. Since the estimates indicate the budgetary implications of the current directions of Federal programs, they in effect answer the question: "What would the budget be if enacted budget policy were continued unchanged?"

The guiding principle in establishing a conceptual basis for the current services estimates is to make the results useful to the Congress and the public. The current services concepts used in this analysis are not the only ones possible. Different concepts may be useful for different purposes. For mandatory programs and receipts, the current services estimates presented in this analysis generally reflect the expected costs of continuing ongoing programs through 1994, without policy change; that is, they omit all proposed new legislative initiatives, presidential or congressional, that are not now enacted. The estimates allow for anticipated changes of a relatively uncontrollable nature (as distinct from policy changes), such as increases in the number of medicare beneficiaries. The estimates also include the impact of previously enacted legislative changes that will become effective in 1989 or later years. For both defense and non-defense discretionary programs, the current services estimates generally reflect a continuation of the 1989 program level, as included in enacted appropriations, in real terms.

The current services estimates are based on the same economic assumptions as the President's budget proposals. The economic assumptions assume that all the President's budget proposals will be adopted. If the President's budget proposals were not enacted, then it is likely that the economy would not grow at the same levels forecasted in the economic assumptions. However, if different economic assumptions were used for current services and presidential policy estimates, the budgetary impacts of policy proposals could not be measured reliably. Small policy changes could be claimed to produce large deficit impacts despite the highly uncertain relationship between policy changes and subsequent changes in economic conditions. Therefore, to properly measure the budgetary impacts of policy changes, the current services estimates and the presidential policy estimates use the same economic assumptions.

The economic assumptions common to the budget and the current services estimates are summarized in table A-1. For further details and discussion of the sensitivity of the estimates to the selected economic assumptions, see Part 3 of the *Budget of the United States Government, Fiscal Year 1990*.

The current services estimates reflect the effects of inflation on virtually all budget accounts, including discretionary programs. To further facilitate the comparison between the current services estimates and the President's budget proposals, the current services

estimates are presented in the same account structure as the budget, even if legislation is required to effect any structural changes that may be proposed in the budget.

Table A-1. SUMMARY OF ECONOMIC ASSUMPTIONS

(Fiscal years)

	1988	1989	1990	1991	1992	1993	1994
Gross national product (in billions of current dollars).....	4,780	5,120	5,476	5,848	6,208	6,555	6,888
Change in constant dollar GNP (percent change, year over year).....	4.4	3.0	3.2	3.4	3.3	3.2	3.2
Inflation measures (percent change, year over year):							
GNP deflator.....	3.2	4.0	3.6	3.3	2.8	2.3	1.8
Consumer Price Index.....	4.1	4.0	3.8	3.3	2.8	2.3	1.8
Unemployment rate (percent, annual average).....	5.5	5.3	5.1	5.0	5.0	5.0	5.0
Interest rate, 91-day Treasury bills (percent).....	6.2	6.7	5.7	4.7	4.1	3.6	3.1
Interest rate, 10-year Treasury notes (percent).....	8.9	8.5	7.6	6.2	5.2	4.5	4.1

Specific guidelines for this year's detailed programmatic estimates are:

- Current services estimates for the national defense function are based on 1989 enacted levels and adjusted for inflation only. In recent years, real growth has been included in the defense current services estimates. .
- For entitlement programs (such as social security), the current services estimates take into account changes in the benefit base (usually determined by past earnings), and changes in the anticipated numbers of beneficiaries. In addition, inflation adjustments are applied where mandatory under current law and for veterans compensation for which historically such an adjustment has been enacted.
- The impact of regulations that are required to be issued under current law in order to set specific program parameters (such as Commodity Credit Corporation price support levels) is included in current services at the level assumed in the President's Budget. The impact of all other proposed regulations is not reflected in current services.
- Individual grants to State and local governments are assumed to be funded at the same real (constant-dollar) amounts as in 1989 unless the grants are: (a) set by law at specified amounts; (b) tied by legislation to cost-of-living increases or the unemployment rate; or (c) affected by changes in beneficiary populations or other factors that alter benefit payments under entitlement programs.

- Procurement and construction activities are assumed to proceed in an orderly fashion, consistent with current law and past appropriation levels. Outlays for these programs are largely determined by prior-year contracts and obligations. Some appropriations provide for anticipated inflation in the cost of multiyear projects. In other cases, however, current services estimates may reflect constraints on spending levels imposed by available funding.
- As set by law, the 1989 Federal pay raise was 4.1 percent for civilians and military personnel. All funding for the pay raise is assumed to come from already enacted 1989 appropriations. For 1990 and beyond, the military and civilian pay raises are assumed to be effective at the start of the fiscal year and equal the inflation rate as measured by the gross national product deflator. It is assumed that agencies will absorb 15 percent of each pay raise in the first year. Funding for civilian agency pay raises is included in an allowance.
- Interest on the public debt is estimated on the basis of the current services deficits and the interest rate assumptions shown in Table A-1.
- Offsetting receipts are estimated on the basis of judgment as to their most likely level, assuming no change in current law.
- Budget authority for certain major trust funds consists of trust fund receipts. These are estimated using standard revenue estimating techniques.

Many Federal programs are authorized for a limited number of years, but are routinely renewed. If authority for such a program is scheduled to expire before or during the projection period, it is generally assumed for purposes of current services estimates that it will be renewed. Programs that are temporary in nature, such as temporary study commissions, are assumed to expire.

The estimates of receipts on a current services basis assume that future tax changes will occur as scheduled under current law. Provisions in law that are temporary in nature are assumed to expire. Airport and airway trust fund taxes, highway trust fund taxes, and hazardous substance response trust fund taxes scheduled to expire under current law are assumed to be extended at present rates.

CURRENT SERVICES TOTALS

As shown in Table A-2, current services outlays are estimated to be \$1,184.5 billion in 1990, 4.3 percent higher than in 1989, and budget authority is estimated to be \$1,337.5 billion, an increase of 5.2 percent over 1989. Outlays are projected to grow at an average annual rate of 3.3 percent from 1990 to 1994. Receipts for 1990 are estimated to increase 8.4 percent on a current services basis, from

\$975.5 billion in 1989 to \$1,057.5 billion in 1990. Receipts are projected to grow at an average annual rate of 6.1 percent from 1990 to 1994. The resulting 1990 current services deficit is \$126.9 billion, \$33.1 billion lower than the \$160.0 billion deficit for 1989. The deficit is projected to decline further each year, falling to \$8.7 billion in 1994.

Table A-2. CURRENT SERVICES TOTALS

(In billions of dollars)

	1988 actual	1989	1990	1991	1992	1993	1994
Budget authority	1,185.5	1,271.9	1,337.5	1,419.9	1,462.4	1,512.0	1,550.1
(On-budget)	(944.0)	(1,005.1)	(1,048.6)	(1,107.4)	(1,130.7)	(1,157.6)	(1,175.8)
(Off-budget)	(241.5)	(266.9)	(288.9)	(312.5)	(331.8)	(354.4)	(374.2)
Receipts	909.0	975.5	1,057.5	1,136.7	1,208.6	1,278.1	1,341.7
(On-budget)	(667.5)	(708.7)	(768.6)	(824.2)	(876.8)	(923.8)	(967.5)
(Off-budget)	(241.5)	(266.9)	(288.9)	(312.5)	(331.8)	(354.4)	(374.2)
Outlays	1,064.0	1,135.5	1,184.5	1,238.3	1,278.3	1,315.0	1,350.4
(On-budget)	(861.4)	(924.7)	(964.4)	(1,006.6)	(1,037.4)	(1,065.1)	(1,092.4)
(Off-budget)	(202.7)	(210.9)	(220.1)	(231.7)	(240.9)	(249.9)	(258.0)
Surplus or deficit (—)	—155.1	—160.0	—126.9	—101.6	—69.7	—36.9	—8.7
(On-budget)	(—193.9)	(—216.0)	(—195.7)	(—182.3)	(—160.5)	(—141.4)	(—124.9)
(Off-budget)	(38.8)	(56.0)	(68.8)	(80.8)	(90.9)	(104.5)	(116.2)

Receipts.—Table A-3 shows receipts by major source on a current services basis. Current services receipts are projected to increase by \$82.0 billion from 1989 to 1990 and by \$284.2 billion from 1990 to 1994, largely due to assumed increases in incomes resulting from both real economic growth and inflation.

Table A-3 CURRENT SERVICES RECEIPTS BY SOURCE

(In billions of dollars)

	1988 actual	1989	1990	1991	1992	1993	1994
Individual income taxes	401.2	425.2	467.0	508.9	549.7	581.3	613.8
Corporation income taxes	94.5	107.0	119.4	130.4	138.7	147.4	152.7
Social insurance taxes and contributions	334.3	363.9	389.6	416.9	439.8	467.8	492.5
(On-budget)	(92.8)	(97.0)	(100.7)	(104.4)	(108.0)	(113.4)	(118.3)
(Off-budget)	(241.5)	(266.9)	(288.9)	(312.5)	(331.8)	(354.4)	(374.2)
Excise taxes	35.2	34.0	34.1	31.6	30.9	31.2	31.6
Other	43.7	45.5	47.5	48.9	49.5	50.4	51.1
Total	909.0	975.5	1,057.5	1,136.7	1,208.6	1,278.1	1,341.7
(On-budget)	(667.5)	(708.7)	(768.6)	(824.2)	(876.8)	(923.8)	(967.5)
(Off-budget)	(241.5)	(266.9)	(288.9)	(312.5)	(331.8)	(354.4)	(374.2)

Individual income taxes are estimated to increase by \$41.8 billion from 1989 to 1990 on a current services basis. This growth of 9.8 percent is the effect of increased collections resulting from rising personal incomes and the newly enacted medicare premium based on individual income tax liability. Individual income taxes are

projected to grow at an average annual rate of 7.1 percent between 1990 and 1994, to \$613.8 billion.

Corporation income taxes on a current services basis are estimated to grow by \$12.4 billion or 11.6 percent from 1989 to 1990, in large part due to higher corporate profits and the changes provided in the Tax Reform Act of 1986 and the Omnibus Reconciliation Act of 1987. Corporation income taxes are projected to increase at an average annual rate of 6.3 percent from 1990 to 1994.

Social insurance taxes and contributions are estimated to increase by \$25.7 billion on a current services basis between 1989 and 1990, and by an additional \$103.0 billion between 1990 and 1994. The estimates reflect assumed increases in total wages and salaries paid; scheduled increases in the combined employer-employee social security (OASDHI) tax rate from 15.02 percent to 15.3 percent on January 1, 1990; and annual increases in the social security taxable earnings base to \$62,100 in 1994.

On a current services basis, excise taxes are estimated to increase by \$0.1 billion from 1989 to 1990 and to decrease by \$2.5 billion from 1990 to 1994. This decrease is in large part attributable to expiration of the 3 percent telephone excise tax on December 31, 1990. The estimates for 1991 through 1994 assume extension of the highway trust fund taxes scheduled to expire September 30, 1993 and the hazardous substance response trust fund taxes scheduled to expire December 31, 1991. The estimates for these years also assume extension of the airport and airway trust fund taxes that are scheduled to expire December 31, 1990. However, in accordance with the current law requirement that beginning in calendar year 1990 these taxes must be reduced if appropriations for the programs they fund are less than 85 percent of authorizations, the estimates assume that most of these taxes are extended at 50 percent of their current law rate.

Other receipts (estate and gift taxes, customs duties, and miscellaneous receipts) are projected to increase on a current services basis by \$5.6 billion from 1989 to 1994.

Outlays.—The level of outlays necessary to continue ongoing Federal programs and activities at current services levels is estimated at \$1,184.5 billion in 1990. The increase in current services outlays from 1989 to 1990 is \$48.9 billion, or 4.3 percent. Between 1990 and 1994 current services outlays are projected to increase at an average annual rate of 3.3 percent.

Table A-4 shows current services outlays by function. Estimates by agency are presented in table A-5. The outlay increases from 1989 to 1990 are largely due to increases in the number of beneficiaries, cost-of-living adjustments, increases in the prices of goods and services purchased or financed and, in the case of interest, increased borrowing requirements.

Table A-4. CURRENT SERVICES OUTLAYS BY FUNCTION

(In billions of dollars)

	1988 actual	Current services		1990 administration proposals	1990 differences
		1989 estimate	1990 estimate		
National defense:					
Department of Defense—Military	281.9	289.8	292.1	293.8	1.7
Other	8.4	8.5	8.8	9.2	0.4
International affairs	10.5	10.7	17.0	17.3	0.3
General science, space, and technology	10.8	12.6	13.6	14.9	1.3
Energy	2.3	4.0	4.1	2.3	-1.8
Natural resources and environment	14.6	16.5	17.6	14.4	-3.2
Agriculture	17.2	20.0	18.7	15.9	-2.8
Commerce and housing credit	18.8	20.0	9.7	8.3	-1.5
Transportation	27.3	28.0	29.2	28.3	-0.9
Community and regional development	5.3	6.3	6.9	6.4	-0.5
Education, training, employment, and social services	31.9	35.9	37.2	39.5	2.3
Health	44.5	49.8	55.1	52.2	-2.9
Medicare	78.9	86.8	100.0	94.9	-5.0
Income security	129.3	137.0	142.6	136.8	-5.8
Social security	219.3	232.3	246.7	246.7	*
On-budget	(4.9)	(5.4)	(5.3)	(6.2)	(0.9)
Off-budget	(214.5)	(226.9)	(241.4)	(240.6)	(-0.9)
Veterans benefits and services	29.4	29.2	29.7	29.9	0.1
Administration of justice	9.2	9.4	9.8	10.6	0.8
General government	9.5	9.9	10.2	10.0	-0.2
Central federal credit activities				-7.2	-7.2
Net interest	151.7	165.6	171.1	170.1	-1.0
On-budget	(159.2)	(176.8)	(186.9)	(185.0)	(-1.9)
Off-budget	(-7.4)	(-11.2)	(-15.8)	(-14.9)	(0.9)
Allowances:					
Civilian agency pay raises			1.3	0.2	-1.2
Employee health benefits reform				-0.3	-0.3
Reduced government mail rates				-0.3	-0.3
Undistributed offsetting receipts:					
Employer share, employee retirement (on-budget)	-29.0	-29.4	-28.1	-27.8	0.3
Employer share, employee retirement (off-budget)	-4.4	-4.8	-5.6	-5.6	
Rents and royalties on the Outer Continental Shelf	-3.5	-2.7	-3.2	-3.7	-0.5
Sale of major assets				-2.3	-2.3
Other undistributed offsetting receipts				-2.7	-2.7
Total Undistributed offsetting receipts	-37.0	-36.9	-36.9	-42.0	-5.1
On-budget	(-32.6)	(-32.1)	(-31.3)	(-36.5)	(-5.1)
Off-budget	(-4.4)	(-4.8)	(-5.6)	(-5.6)	
Total outlays	1,064.0	1,135.5	1,184.5	1,151.8	-32.6
On-budget	(861.4)	(924.7)	(964.4)	(931.7)	(-32.6)
Off-budget	(202.7)	(210.9)	(220.1)	(220.1)	(*)

* \$50 million or less.

Table A-6 shows the major components of the changes in current services outlays between 1989 and 1990. Outlays for social security (OASDI) are estimated to increase by \$14.4 billion between 1989 and 1990, from \$232.3 billion in 1989 to \$246.7 billion in 1990. Medicare outlays are estimated to increase by \$13.2 billion, from \$86.8 billion in 1989 to \$100.0 billion in 1990, largely as a result of increases in medical care prices and utilization. Outlays for income security programs are estimated to rise by \$5.6 billion, from \$137.0

Table A-5. CURRENT SERVICES OUTLAYS BY AGENCY

(In billions of dollars)

	1988 actual	Current services		1990 administration proposals	1990 difference
		1989 estimate	1990 estimate		
Legislative Branch.....	1.9	2.2	2.2	2.2	
The Judiciary.....	1.3	1.5	1.5	1.5	
Executive Office of the President.....	0.1	0.1	0.1	0.1	*
Funds Appropriated to the President.....	7.3	5.6	11.2	11.5	0.2
Department of Agriculture.....	44.0	51.3	50.6	42.4	-8.2
Department of Commerce.....	2.3	2.8	3.8	3.5	-0.3
Department of Defense—Military.....	281.9	289.8	292.1	293.8	1.7
Department of Defense—Civil.....	22.0	23.4	24.6	23.8	-0.7
Department of Education.....	18.2	20.8	21.8	24.5	2.7
Department of Energy.....	11.2	11.3	11.5	11.0	-0.5
Department of Health and Human Services, except Social Security.....	159.1	174.3	191.9	183.8	-8.1
Department of Health and Human Services, Social Security.....	214.5	226.9	241.4	240.6	-0.9
Department of Housing and Urban Development.....	18.9	20.4	20.5	22.6	2.0
Department of the Interior.....	5.1	5.4	5.6	3.1	-2.6
Department of Justice.....	5.4	6.0	6.4	6.8	0.4
Department of Labor.....	21.9	22.8	23.2	23.0	-0.2
Department of State.....	3.4	3.6	3.6	3.9	0.3
Department of Transportation.....	26.4	27.1	28.2	27.3	-0.9
Department of the Treasury.....	202.4	227.6	242.8	235.7	-7.1
Department of Veterans Affairs.....	29.3	29.2	29.7	29.8	0.1
Environmental Protection Agency.....	4.9	5.2	5.4	5.5	0.1
General Services Administration.....	-0.3	0.1	0.2	0.1	-0.1
National Aeronautics and Space Administration.....	9.1	10.6	11.5	12.6	1.1
Office of Personnel Management.....	29.2	30.8	34.2	30.5	-3.7
Small Business Administration.....	-0.1	0.2	0.3	-0.1	-0.4
Other Independent Agencies.....	23.4	24.7	16.3	14.9	-1.4
Allowances:					
Civilian agency pay raises.....			1.3	0.2	-1.2
Employee health benefits reform.....				-0.3	-0.3
Reduced government mail rates.....				-0.3	-0.3
Undistributed offsetting receipts:					
Interest received by on-budget trust funds..	-34.5	-39.8	-44.4	-44.7	-0.3
Interest received by off-budget trust funds..	-7.4	-11.2	-15.8	-14.9	0.9
Interest received by OCS escrow account....	*		-0.6	-0.6	
Employer share, employee retirement (on-budget).....	-29.0	-29.4	-28.1	-27.8	0.3
Employer share, employee retirement (off-budget).....	-4.4	-4.8	-5.6	-5.6	
Rents and royalties on the Outer Continental Shelf.....	-3.5	-2.7	-3.2	-3.7	-0.5
Sale of major assets.....				-2.3	-2.3
Other undistributed offsetting receipts.....				-2.7	-2.7
Total Undistributed offsetting receipts.....	-78.9	-87.9	-97.6	-102.1	-4.6
On-budget.....	(-67.1)	(-71.9)	(-76.3)	(-81.7)	(-5.4)
Off-budget.....	(-11.8)	(-16.1)	(-21.3)	(-20.4)	(0.9)
Total outlays.....	1,064.0	1,135.5	1,184.5	1,151.8	-32.6
On-budget.....	(861.4)	(924.7)	(964.4)	(931.7)	(-32.6)
Off-budget.....	(202.7)	(210.9)	(220.1)	(220.1)	(*)

* \$50 million or less.

billion in 1989 to \$142.6 billion in 1990. This increase includes \$3.8 billion for Federal employee retirement and disability programs, resulting from automatic cost-of-living adjustments and increases in the number of beneficiaries, and \$1.3 billion for subsidized housing

resulting from increases in rental housing prices and more households being served in units for which construction is currently being completed. Outlays for the remaining income security programs are estimated to grow by \$0.5 billion on net. Table A-7 shows caseload projections for these and other major benefit programs and other selected programmatic assumptions.

Table A-6. CHANGE IN CURRENT SERVICES BUDGET AUTHORITY AND OUTLAYS, 1989-90

(In billions of dollars)

	Budget authority	Outlays
1989 current services estimate	1,271.9	1,135.5
(On-budget)	(1,005.1)	(924.7)
(Off-budget)	(266.9)	(210.9)
Changes:		
Social security	27.1	14.4
Medicare	16.9	13.2
Income security:		
General retirement and disability (excluding social security)	-0.2	-0.1
Federal employee retirement and disability	2.7	3.8
Unemployment compensation	-0.2	0.4
Housing assistance	-3.2	0.9
Food and nutrition assistance	1.0	0.6
Other income security programs	0.2	-0.1
Subtotal, income security	0.4	5.6
National defense	11.6	2.6
International affairs	1.8	6.3
General science, space, and technology	0.3	1.0
Energy programs	0.6	0.1
Natural resources and environment	*	1.1
Agriculture	-2.6	-1.4
Commerce and housing credit	-4.6	-10.3
Transportation programs	0.3	1.2
Community and regional development	0.6	0.6
Education	0.3	0.9
Training and employment	*	—*
Social and other labor services	0.5	0.5
Medicaid	3.3	3.3
Other health programs	1.8	2.0
Veterans programs	0.1	0.5
Net interest	5.5	5.5
Civilian agency pay raises	1.3	1.3
All other programs, net	0.4	0.7
Subtotal, changes	65.6	48.9
(On-budget)	(43.6)	(39.7)
(Off-budget)	(22.0)	(9.2)
1990 current services estimate	1,337.5	1,184.5
(On-budget)	(1,048.6)	(964.4)
(Off-budget)	(288.9)	(220.1)

* \$50 million or less.

The decline of \$10.3 billion in the commerce and housing credit function is primarily the net effect of changes in 3 programs. Federal Deposit Insurance Corporation outlays decline by \$5.1 bil-

lion because the number of failed banks requiring assistance is expected to decline. Outlays for the Federal Savings and Loan Insurance Corporation decline by \$6.7 billion because 1989 outlays reflect accelerated case resolution in an attempt to stem continuing losses in the thrift industry. These declines are offset by a \$2.1 billion increase for the Postal Service.

Table A-7. PROGRAMMATIC ASSUMPTIONS

	Fiscal years					
	1989	1990	1991	1992	1993	1994
Beneficiaries (annual average, in thousands):						
Social security (OASDI) ¹	38,839	39,492	40,152	40,699	41,254	41,770
Railroad retirement	906	890	875	860	842	823
Federal civil service retirement	2,148	2,193	2,255	2,317	2,379	2,441
Military retirement	1,599	1,630	1,661	1,691	1,719	1,748
Veterans compensation	2,531	2,515	2,499	2,483	2,468	2,454
Veterans pensions	1,172	1,117	1,069	1,027	990	957
Disabled coal miners programs	369	348	322	298	276	256
Supplemental security income ²	4,108	4,177	4,240	4,301	4,355	4,405
Maintenance assistance (AFDC)	10,901	10,914	10,948	10,987	11,034	11,099
Food stamps ³	18,308	18,125	17,947	17,923	17,864	17,855
HUD Housing subsidy recipients (households)	4,312	4,407	4,453	4,488	4,498	4,498
Medicaid	25,069	25,840	26,628	27,378	27,884	28,143
Medicare:						
Hospital insurance	32,576	33,228	33,822	34,396	34,940	35,469
Supplementary medical insurance	32,126	32,778	33,368	33,918	34,456	34,971
Automatic benefit increases (percent):						
Social security and veterans pensions (January)	4.0	3.6	3.9	3.2	2.6	2.1
Federal employee retirement (January)	4.0	3.6	3.9	3.2	2.6	2.1
Food stamps (October)	3.4	5.0	4.8	3.0	2.9	2.3
Unemployment rate (percent, annual average):						
Total	5.5	5.3	5.1	5.0	5.0	5.0
Insured ⁴	2.0	2.0	1.9	1.8	1.8	1.8
Strategic petroleum reserves daily fill rate (thousands of barrels)	50	50	50	50	50	50

¹ In current pay status as of June.

² Includes those receiving federally administered State supplements.

³ Average monthly participation.

⁴ This measures unemployment under State regular unemployment insurance as a percentage of covered employment under that program. It does not include recipients of extended benefits under that program.

Net outlays for the foreign military sales credit program will increase by \$5.5 billion largely because 1989 outlays are artificially low due to expected large loan prepayments. Other large changes are a \$3.3 billion increase for medicaid grants and a \$2.6 billion increase for national defense.

The estimated 1990 current services deficit of \$126.9 billion would add a like amount to the Federal debt. Primarily due to this increase in debt, net interest outlays would increase by \$5.5 billion between 1989 and 1990 under current services assumptions.

Budget Authority.—Current services budget authority is estimated to total \$1,337.5 billion in 1990, \$65.6 billion more than in 1989. Increases in budget authority between 1989 and 1990 generally reflect the higher funding levels that would be necessary to maintain 1989 program levels in real terms in 1990. In the case of most trust funds, however, the funds' receipts automatically become budget authority; thus increases in budget authority for these funds simply reflect year-to-year growth in expected receipts. Budget authority for some programs displays erratic year-to-year changes due to sporadic funding patterns or advance funding.

Tables A-8 and A-9 show the estimates of current services budget authority by function and by agency, respectively. The major components of the changes in current services budget authority between 1989 and 1990 are also shown in table A-6.

Increases in budget authority of \$27.1 billion for social security and \$16.9 billion for medicare (for which trust fund receipts constitute budget authority) are primarily due to higher payroll tax payments. Budget authority for the national defense function increases by \$11.6 billion to maintain the 1989 level in real terms. Other major changes include a \$4.6 billion decline for commerce and housing credit, a \$3.2 billion decline for housing assistance, and a \$2.7 billion increase for Federal employee retirement and disability programs.

Change in Current Services Since Release of the 1989 Budget.—When the 1989 Budget was released in February, 1988, the current services deficit for 1989 was estimated to be \$138 billion. These projections were based on the 1988 continuing resolution and enacted law at the time they were issued. The current estimate for 1989 is \$160 billion, or \$22 billion more. Changes in economic assumptions have reduced the 1989 deficit by approximately \$10 billion, from the net effects of increasing receipts due primarily to higher real growth and increasing outlays due primarily to higher interest rates. Policy changes have increased the 1989 deficit by approximately \$8 billion, primarily as result of appropriations action that, on net, increased discretionary programs above the Bipartisan Budget Agreement levels that were included in the February, 1988 estimates, and the Disaster Assistance Act of 1988, which provided \$4 billion in aid to farmers stricken by the drought. Technical reestimates, including a \$6 billion decrease in farm price supports as a result of the drought in the Midwest, West, and South during the summer of 1988, account for the remaining difference, or a \$24 billion increase in the 1989 current services deficit.

Table A-8. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION

(In billions of dollars)

	1988 actual	Current services		1990 administration proposals	1990 differences
		1989 estimate	1990 estimate		
National defense:					
Department of Defense—Military.....	283.8	290.2	301.5	305.6	4.2
Other.....	8.3	8.6	8.9	9.5	0.6
International affairs.....	17.2	16.2	18.0	18.9	0.9
General science, space, and technology.....	10.9	13.0	13.2	15.5	2.3
Energy.....	5.5	5.7	6.3	3.6	-2.7
Natural resources and environment.....	15.4	16.7	16.7	12.7	-4.0
Agriculture.....	18.4	25.1	22.5	20.6	-1.9
Commerce and housing credit.....	22.7	22.9	18.4	17.5	-0.9
Transportation.....	28.1	29.4	29.7	28.8	-0.8
Community and regional development.....	8.8	6.7	7.3	6.4	-0.9
Education, training, employment, and social services.....	35.0	37.3	38.0	40.4	2.4
Health.....	45.6	51.2	56.3	53.6	-2.7
Medicare.....	94.2	107.4	124.4	125.4	1.0
Income security.....	169.3	174.9	175.3	176.4	1.2
Social security.....	258.1	288.3	315.5	315.5	*
On-budget.....	(4.9)	(5.4)	(5.3)	(6.2)	(0.9)
Off-budget.....	(253.3)	(282.9)	(310.2)	(309.3)	(-0.9)
Veterans benefits and services.....	29.5	29.9	30.0	30.1	0.1
Administration of justice.....	9.4	9.9	10.0	10.7	0.7
General government.....	10.4	9.8	10.1	10.1	*
Central federal credit activities.....				2.1	2.1
Net interest.....	151.7	165.6	171.1	170.1	-1.0
On-budget.....	(159.2)	(176.8)	(186.9)	(185.0)	(-1.9)
Off-budget.....	(-7.4)	(-11.2)	(-15.8)	(-14.9)	(0.9)
Allowances:					
Civilian agency pay raises.....			1.3	0.2	-1.1
Employee health benefits reform.....				-0.3	-0.3
Reduced government mail rates.....				-0.3	-0.3
Undistributed offsetting receipts:					
Employer share, employee retirement (on-budget).....	-29.0	-29.4	-28.1	-27.8	0.3
Employer share, employee retirement (off-budget).....	-4.4	-4.8	-5.6	-5.6	
Rents and royalties on the Outer Continental Shelf.....	-3.5	-2.7	-3.2	-3.7	-0.5
Sale of major assets.....				-2.3	-2.3
Other undistributed offsetting receipts.....				-2.7	-2.7
Total Undistributed offsetting receipts.....	-37.0	-36.9	-36.9	-42.0	-5.1
On-budget.....	(-32.6)	(-32.1)	(-31.3)	(-36.5)	(-5.1)
Off-budget.....	(-4.4)	(-4.8)	(-5.6)	(-5.6)	
Total budget authority.....	1,185.5	1,271.9	1,337.5	1,331.2	-6.3
On-budget.....	(944.0)	(1,005.1)	(1,048.6)	(1,042.3)	(-6.3)
Off-budget.....	(241.5)	(266.9)	(288.9)	(288.9)	

* \$50 million or less.

DIFFERENCES BETWEEN CURRENT SERVICES AND THE BUDGET

The differences between the administration's budget proposals and the current services estimates are summarized in Table A-10. The administration's proposals would reduce the current services budget deficit by \$34.4 billion in 1990 and would reduce the 1994 deficit by \$42.0 billion. Between 1989 and 1994, the cumulative deficit reductions proposed by the administration total \$186.5 billion. Receipts proposals would reduce the deficit by a total of \$15.7

Table A-9. CURRENT SERVICES BUDGET AUTHORITY BY AGENCY

(In billions of dollars)

	1988 actual	Current services		1990 administration proposals	1990 difference
		1989 estimate	1990 estimate		
Legislative Branch.....	2.1	2.1	2.1	2.1	
The Judiciary.....	1.3	1.5	1.5	1.5	
Executive Office of the President.....	0.1	0.1	0.1	0.3	0.1
Funds Appropriated to the President.....	11.7	10.1	11.5	12.3	0.8
Department of Agriculture.....	55.2	59.5	56.8	50.8	-6.0
Department of Commerce.....	2.4	2.8	3.7	3.2	-0.6
Department of Defense—Military.....	283.8	290.2	301.5	305.6	4.2
Department of Defense—Civil.....	36.3	38.0	38.5	38.1	-0.3
Department of Education.....	20.2	22.2	22.5	25.9	3.4
Department of Energy.....	11.2	12.0	12.9	12.4	-0.5
Department of Health and Human Services, except Social Security.....	177.0	195.5	216.4	214.1	-2.3
Department of Health and Human Services, Social Security.....	253.3	282.9	310.2	309.3	-0.9
Department of Housing and Urban Development.....	14.9	15.0	12.1	16.8	4.7
Department of the Interior.....	5.2	5.5	5.7	3.0	-2.7
Department of Justice.....	5.6	6.4	6.6	6.9	0.3
Department of Labor.....	30.7	31.7	31.7	31.4	-0.3
Department of State.....	3.8	3.9	4.0	4.4	0.4
Department of Transportation.....	27.2	28.4	28.7	27.8	-0.9
Department of the Treasury.....	204.1	227.4	242.8	245.0	2.2
Department of Veterans Affairs.....	29.4	29.8	29.9	30.0	0.1
Environmental Protection Agency.....	5.0	5.1	5.2	4.8	-0.4
General Services Administration.....	0.2	0.1	0.1	*	-0.1
National Aeronautics and Space Administration.....	9.1	11.0	11.1	13.1	2.0
Office of Personnel Management.....	48.1	50.6	54.3	53.3	-1.0
Small Business Administration.....	0.4	0.4	0.5	0.4	*
Other Independent Agencies.....	25.9	27.8	23.4	21.1	-2.2
Allowances:					
Civilian agency pay raises.....			1.3	0.2	-1.1
Employee health benefits reform.....				-0.3	-0.3
Reduced government mail rates.....				-0.3	-0.3
Undistributed offsetting receipts:					
Interest received by on-budget trust funds.....	-34.5	-39.8	-44.4	-44.7	-0.3
Interest received by off-budget trust funds.....	-7.4	-11.2	-15.8	-14.9	0.9
Interest received by OCS escrow account.....	*		-0.6	-0.6	
Employer share, employee retirement (on-budget).....	-29.0	-29.4	-28.1	-27.8	0.3
Employer share, employee retirement (off-budget).....	-4.4	-4.8	-5.6	-5.6	
Rents and royalties on the Outer Continental Shelf.....	-3.5	-2.7	-3.2	-3.7	-0.5
Sale of major assets.....				-2.3	-2.3
Other undistributed offsetting receipts.....				-2.7	-2.7
Total Undistributed offsetting receipts.....	-78.9	-87.9	-97.6	-102.1	-4.6
On-budget.....	(-67.1)	(-71.9)	(-76.3)	(-81.7)	(-5.4)
Off-budget.....	(-11.8)	(-16.1)	(-21.3)	(-20.4)	(0.9)
Total budget authority.....	1,185.5	1,271.9	1,337.5	1,331.2	-6.3
On-budget.....	(944.0)	(1,005.1)	(1,048.6)	(1,042.3)	(-6.3)
Off-budget.....	(241.5)	(266.9)	(288.9)	(288.9)	

* \$50 million or less.

billion, whereas proposed outlay reductions would reduce the deficit by \$170.8 billion.

As shown in Table A-11, cumulative increases for national defense are \$41.0 billion while those for international affairs, space

Table A-10. SUMMARY OF CURRENT SERVICES AND PROPOSED BUDGET TOTALS

(In billions of dollars)

	1988 actual	Estimate					
		1989	1990	1991	1992	1993	1994
Total receipts:							
Current services.....	909.0	975.5	1,057.5	1,136.7	1,208.6	1,278.1	1,341.7
Effect of proposals.....		—*	1.8	3.8	3.6	3.3	3.2
Administration budget.....	909.0	975.5	1,059.3	1,140.5	1,212.2	1,281.4	1,345.0
Total outlays:							
Current services.....	1,064.0	1,135.5	1,184.5	1,238.3	1,278.3	1,315.0	1,350.4
Effect of proposals.....		1.5	—32.6	—31.0	—33.8	—36.0	—38.8
Administration budget.....	1,064.0	1,137.0	1,151.8	1,207.3	1,244.4	1,279.0	1,311.6
Total surplus or deficit (—):							
Current services.....	—155.1	—160.0	—126.9	—101.6	—69.7	—36.9	—8.7
Effect of proposals.....		—1.5	34.4	34.8	37.4	39.3	42.0
Administration budget.....	—155.1	—161.5	—92.5	—66.8	—32.2	2.4	33.4

* \$50 million or less.

and science, and administration of justice are \$24.3 billion. Reductions to human resources programs account for \$119.6 billion of the cumulative reduction in total deficits. Reductions in other domestic program areas account for \$95.3 billion of the total deficit reduction. Net interest savings from all of the reductions during 1989–1994 total \$21.3 billion.

Table A-11. COMPOSITION OF ADMINISTRATION BUDGET PROPOSALS:
CHANGE FROM CURRENT SERVICES

(In billions of dollars)

	1989	1990	1991	1992	1993	1994	Total 1989– 1994
Outlays:							
National defense.....		2.1	5.5	7.5	11.0	14.9	41.0
International affairs, space and science, and justice.....	*	2.6	3.6	5.3	6.1	6.7	24.3
Human resources ¹	0.4	—15.4	—20.4	—24.2	—28.0	—32.0	—119.6
Net interest.....	0.1	—1.2	—2.9	—4.5	—5.8	—6.9	—21.3
Other domestic programs...	1.0	—20.7	—16.8	—18.0	—19.3	—21.6	—95.3
Subtotal, outlays...	1.5	—32.6	—31.0	—33.8	—36.0	—38.8	—170.8
Receipts ²	*	—1.8	—3.8	—3.6	—3.3	—3.2	—15.7
Total deficit reduction.....	1.5	—34.4	—34.8	—37.4	—39.3	—42.0	—186.5

Note: Estimates exclude the effect of the administration's credit reform proposal.

* 50 million or less.

¹ Education, training, employment and social services; Health; Medicare; Income security; Social security; and Veterans functions.² Receipt increases are shown as a negative because they reduce the deficit.

Receipts.—As shown in table A-12, the administration's estimate of receipts for 1989 is the same as the current services level of \$975.5 billion.

Current services receipts for 1990 are estimated at \$1,057.5 billion. Legislative and administrative proposals, which are estimated to increase receipts to \$1,059.3 billion, or \$1.8 billion above the current services level, include the following: extension of medicare hospital insurance (HI) coverage to all State and local government employees, revision of research and experimentation (R&E) allocation rules, initiation of a permanent R&E tax credit, increases in Nuclear Regulatory Commission (NRC) and Federal Emergency Management Agency (FEMA) user fees, a modification and reclassification of the customs ad valorem user fee as governmental receipts, an Internal Revenue Service (IRS) enforcement initiative, and the repeal of the airport and airway trust fund trigger. A more detailed discussion of the administration's receipts proposals is presented in the *Budget of the United States Government, Fiscal Year 1990, Part 4, "Federal Receipts by Source."*

The administration's proposals are estimated to increase receipts above the current services level between \$3.2 billion and \$3.8 billion each year, 1991-1994.

Table A-12. DIFFERENCES BETWEEN CURRENT SERVICES AND ADMINISTRATION POLICY RECEIPTS

(In billions of dollars)

	1989	1990	1991	1992	1993	1994
Current services receipts estimates..	975.5	1,057.5	1,136.7	1,208.6	1,278.1	1,341.7
(On-budget)	(708.7)	(768.6)	(824.2)	(876.8)	(923.8)	(967.5)
(Off-budget)	(266.9)	(288.9)	(312.5)	(331.8)	(354.4)	(374.2)
Differences:						
Extend HI coverage to State and local employees ¹		1.8	1.9	1.9	1.9	1.9
R&E allocation rules		-1.7	-0.7	-0.8	-0.9	-1.0
R&E credit		-0.4	-0.7	-1.0	-1.2	-1.4
NRC fees		0.3	0.3	0.3	0.4	0.4
FEMA fees		*	*	*	*	*
Customs user fees ²		0.6	0.8	0.8	0.9	0.9
IRS enforcement		0.3	0.6	0.7	0.7	0.7
Airport and airway trigger repeal ¹		0.9	1.6	1.7	1.8	1.9
Other	-*	-0.1	-*	-*	-0.3	-0.2
Total differences	-*	1.8	3.8	3.6	3.3	3.2
(On-budget)	(-*)	(1.8)	(3.8)	(3.6)	(3.3)	(3.2)
(Off-budget)						
Administration policy receipts estimates	975.5	1,059.3	1,140.5	1,212.2	1,281.4	1,345.0
(On-budget)	(708.7)	(770.4)	(828.0)	(880.4)	(927.1)	(970.7)
(Off-budget)	(266.9)	(288.9)	(312.5)	(331.8)	(354.4)	(374.2)

* \$50 million or less.

¹ Net of income tax offsets.² These estimates reflect only the effect of the proposal on budget receipts. The proposal increases customs outlays by the following amounts: 1990, \$0.8 billion; 1991, \$0.9 billion; 1992, \$0.9 billion; 1993, \$1.0 billion; and 1994, \$1.1 billion.

Outlays.—The total outlay change proposed by the administration is, on net, a \$32.6 billion reduction for 1990. Of this reduction, \$5.9 billion is from loan and real asset sales, \$0.2 billion is from the

net of increased user fees and the proposed reclassification of the customs ad valorem user fee, and \$5.2 billion is from increases in other offsetting receipts. The remaining \$21.3 billion is the net effect of program reforms, increases, and reductions, and debt service. Table A-13 shows the major differences between the administration's budget request and current services for outlays by function.

A summary description of the administration's proposals is in the *Budget of the United States Government, Fiscal Year 1990, Part 2, "Budget Trends and Priorities."*

A detailed discussion of the administration's budget authority and outlay proposals is presented in the *Budget of the United States Government, Fiscal Year 1990, Part 5, "Federal Programs by Function."*

Table A-13. DIFFERENCES BETWEEN CURRENT SERVICES AND ADMINISTRATION POLICY OUTLAYS

(In billions of dollars)

	1989	1990	1991	1992	1993	1994
Current services estimates	1,135.5	1,184.5	1,238.3	1,278.3	1,315.0	1,350.4
(On-budget).....	(924.7)	(964.4)	(1,006.6)	(1,037.4)	(1,065.1)	(1,092.4)
(Off-budget).....	(210.9)	(220.1)	(231.7)	(240.9)	(249.9)	(258.0)
Differences:						
National defense.....		2.1	5.5	7.5	11.0	14.9
International affairs:						
International development and humanitarian assistance.....		-0.1	-0.1	-0.2	-0.3	-0.3
International security assistance.....		*	-0.2	-0.1	-0.1	-0.2
Conduct of foreign affairs.....		0.3	0.4	0.4	0.5	0.5
Foreign information and exchange activities.....		*	0.1	*	-0.1	-0.1
International financial programs.....		*	*	-0.1	*	*
Subtotal, international affairs.....		0.3	0.1	0.1	*	-0.1
General science, space, and technology.....		1.3	2.4	4.0	4.9	5.6
Energy.....	0.1	-1.8	-1.5	-1.8	-2.0	-2.2
Natural resources and environment.....	*	-3.2	-1.8	-2.0	-3.7	-2.6
Agriculture:						
Farm income stabilization.....	0.9	-2.7	-2.3	-3.0	-2.9	-2.8
Agricultural research and services.....		-0.1	-0.2	-0.2	-0.3	-0.3
Subtotal, agriculture.....	0.9	-2.8	-2.5	-3.2	-3.2	-3.1
Commerce and housing credit:						
Mortgage credit and deposit insurance.....		-0.8	0.7	0.8	0.5	-0.2
Postal service.....		-0.4	-0.5	-0.5	-0.5	-0.5

Table A-13. DIFFERENCES BETWEEN CURRENT SERVICES AND ADMINISTRATION POLICY OUTLAYS—
Continued

(In billions of dollars)

	1989	1990	1991	1992	1993	1994
Other advancement of commerce.....	*	-0.2	-0.1	-0.4	-0.5	-0.6
Subtotal, commerce and housing credit.....	*	-1.5	0.1	-0.1	-0.5	-1.3
Transportation:						
Ground transportation.....	-*	-1.2	-2.6	-3.2	-2.7	-4.2
Air transportation.....	*	0.4	0.9	1.0	1.1	1.2
Water transportation.....	-*	-0.1	0.2	0.2	0.2	0.3
Other transportation.....		*	*	*	*	*
Subtotal, transportation.....	-*	-0.9	-1.6	-2.0	-1.3	-2.7
Community and regional development.....	*	-0.5	-1.1	-1.6	-1.8	-2.1
Education, training, employment, and social services:						
Education.....	-*	2.7	2.8	1.6	0.4	-0.3
Training and employment.....		-0.1	-0.2	-0.2	-0.3	-0.3
Social services and other.....	0.5	-0.4	-0.9	-1.0	-0.9	-1.0
Subtotal, education, training, employment, and social services.....	0.5	2.3	1.7	0.4	-0.9	-1.7
Health:						
Medicaid.....	-*	-1.7	-2.3	-2.8	-2.9	-3.1
Other health.....		-1.2	-1.4	-1.5	-1.6	-1.8
Subtotal, health.....	-*	-2.9	-3.7	-4.2	-4.6	-4.8
Medicare.....	-*	-5.0	-7.9	-10.5	-13.4	-16.6
Income security:						
General retirement and disability (excluding social security).....	-*	-0.1	-*	-*	-0.1	-0.1
Federal employee retirement and disability.....	*	-3.5	-4.4	-5.1	-5.7	-6.1
Unemployment compensation.....		-0.1	-0.1	-0.1	-0.1	-0.1
Housing assistance.....		-*	*	0.3	0.8	1.4
Food and nutritional assistance.....	-0.1	-1.4	-1.2	-1.3	-1.3	-1.4
Other income security.....	-*	-0.7	-0.8	-0.7	-0.7	-0.8
Subtotal, income security.....	-0.1	-5.8	-6.5	-6.9	-7.2	-7.0
Social security.....		*	-*	-0.1	-0.1	-0.2
(On-budget).....		(0.9)	(0.8)	(0.7)	(0.6)	(0.6)
(Off-budget).....		(-0.9)	(-0.8)	(-0.8)	(-0.8)	(-0.8)
Veterans benefits and services:						
Income security for veterans.....		-*	-*	-*	-*	-*
Hospital and medical care for veterans.....		-0.1	0.2	0.3	0.4	0.5
Veterans housing.....		0.3	0.1	0.3	0.4	-0.3
Other.....	*	*	*	*	-*	-*

Table A-13. DIFFERENCES BETWEEN CURRENT SERVICES AND ADMINISTRATION POLICY OUTLAYS—
Continued

(In billions of dollars)

	1989	1990	1991	1992	1993	1994
Subtotal, veterans benefits and services.....	*	0.1	0.3	0.6	0.8	0.2
Administration of justice:						
Federal law enforcement activities.....		0.9	1.1	1.2	1.2	1.3
Federal correctional activities.....	0.2	0.3	0.4	0.6	0.6	
Other.....	*	-0.3	-0.4	-0.5	-0.5	-0.5
Subtotal, administration of justice.....	*	0.8	0.9	1.1	1.3	1.3
General government:						
Government-sponsored enterprise fees.....		-0.1	-0.2	-0.6	-0.8	-1.0
Other.....	0.1	-0.2	0.7	0.3	0.4	0.3
Subtotal, general government.....	0.1	-0.2	0.5	-0.2	-0.4	-0.6
Central federal credit activities.....		-7.2	-7.9	-7.4	-6.2	-5.3
Net interest.....	0.1	-1.0	-2.4	-3.8	-4.9	-6.0
(On-budget).....	(0.1)	(-1.9)	(-3.2)	(-4.5)	(-5.6)	(-6.6)
(Off-budget).....		(0.9)	(0.8)	(0.7)	(0.6)	(0.6)
Allowances.....		-1.7	-1.8	-1.8	-1.8	-1.7
Undistributed offsetting receipts:						
Employer share, employee retirement.....		0.3	0.1	-0.1	-0.4	-0.8
(On-budget).....		(0.3)	(0.1)	(-0.1)	(-0.4)	(-0.8)
(Off-budget).....						
Rents and royalties on the Outer Continental Shelf.....		-0.5				
Sale of major assets.....		-2.3	-1.5	-1.2	-1.0	-1.0
Other undistributed offsetting receipts.....		-2.7	-2.5	-0.6	-0.6	-1.0
Subtotal, undistributed offsetting receipts.....		-5.1	-3.9	-1.9	-2.1	-2.8
(On-budget).....		(-5.1)	(-3.9)	(-1.9)	(-2.1)	(-2.8)
(Off-budget).....						
Total, differences.....	1.5	-32.6	-31.0	-33.8	-36.0	-38.8
(On-budget).....	(1.5)	(-32.6)	(-31.0)	(-33.8)	(-35.9)	(-38.6)
(Off-budget).....		(*)	(-*)	(-0.1)	(-0.1)	(-0.2)
Administration policy estimates.....	1,137.0	1,151.8	1,207.3	1,244.4	1,279.0	1,311.6
(On-budget).....	(926.2)	(931.7)	(975.6)	(1,003.6)	(1,029.3)	(1,053.8)
(Off-budget).....	(210.9)	(220.1)	(231.7)	(240.8)	(249.8)	(257.8)

* \$50 million or less.

The effects of the administration's budget proposals on Federal borrowing and debt held by the public are substantial. As shown in Table A-14, the budget proposals would reduce the debt held by

the public in 1994 by \$186.5 billion, from \$2,532.5 billion to \$2,346.0 billion.

Table A-14. DIFFERENCES BETWEEN CURRENT SERVICES AND ADMINISTRATION BUDGET REQUEST BORROWING REQUIREMENTS

(In billions of dollars)

	1989	1990	1991	1992	1993	1994
Requirements for borrowing from the public:						
Current services.....	142.1	125.6	101.0	69.1	36.3	8.1
Budget proposals.....	143.6	91.2	66.2	31.6	-3.0	-33.9
Difference.....	-1.5	34.4	34.8	37.4	39.3	42.0
End of year debt held by the public:						
Current services.....	2,192.3	2,318.0	2,419.0	2,488.0	2,524.4	2,532.5
Budget proposals.....	2,193.8	2,285.0	2,351.2	2,382.9	2,379.9	2,346.0
Difference.....	-1.5	32.9	67.7	105.2	144.5	186.5

Tables A-15 and A-16 provide a more detailed comparison (by function, subfunction, and program) of the President's policy estimates for 1990 with the current services budget authority and outlay estimates.

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
050 NATIONAL DEFENSE				
051 Department of Defense—Military:				
Existing law.....	283,755	290,186	301,493	305,336
Proposed legislation.....				309
Subtotal, Department of Defense—Military.....	283,755	290,186	301,493	305,645
053 Atomic energy defense activities.....	7,749	8,100	8,389	9,027
054 Defense-related activities.....	504	519	541	521
Total budget authority.....	292,008	298,805	310,423	315,193
150 INTERNATIONAL AFFAIRS				
151 International development and humanitarian assistance:				
Multilateral development banks.....	1,206	1,315	1,362	1,637
International organizations.....	245	226	234	209
Agency for International Development:				
Existing law.....	2,339	2,338	2,420	2,383
Proposed legislation.....				200
Proposed credit reform.....				22
P.L. 480 food aid:				
Existing law.....	1,060	1,098	984	931
Proposed credit reform.....				-208
Refugee assistance.....	362	412	427	380
Other:				
Existing law.....	293	308	318	334
Proposed credit reform.....				28
Offsetting receipts.....	-483	-480	-505	-505
Subtotal, International development and humanitarian assistance.....	5,022	5,216	5,241	5,411

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
152 International security assistance:				
Foreign military sales financing.....	4,049	4,273	4,427	5,027
Guarantee reserve fund.....	532	594	720	720
Military assistance.....	701	467	485	40
Economic support fund.....	3,269	3,258	3,376	3,349
Other.....	117	125	92	98
Offsetting receipts.....	-70	-977	-150	-150
Subtotal, International security assistance.....	8,598	7,741	8,950	9,084
153 Conduct of foreign affairs:				
Administration of foreign affairs:				
Existing law.....	2,038	2,061	2,120	2,280
Proposed credit reform.....				—*
International organizations and conferences.....	515	521	540	832
Other.....	78	82	83	91
Subtotal, Conduct of foreign affairs.....	2,631	2,665	2,743	3,204
154 Foreign information and exchange activities.....	1,056	1,127	1,161	1,386
155 International financial programs:				
Export-Import Bank:				
Existing law.....	8	110	489	100
Proposed credit reform.....				136
Foreign military sales trust fund (net).....	-835	-582	-500	-500
International monetary programs:				
Existing law.....	796			
Proposed legislation.....				150
Offsetting receipts.....	-90	-92	-94	-94
Subtotal, International financial programs.....	-123	-564	-105	-208
Total budget authority.....	17,184	16,185	17,989	18,877
250 GENERAL SCIENCE, SPACE, AND TECHNOLOGY				
251 General science and basic research:				
National Science Foundation programs.....	1,737	1,906	1,973	2,171
Department of Energy general science programs.....	805	922	966	1,169
Subtotal, General science and basic research.....	2,542	2,828	2,940	3,340
253 Space flight.....	4,759	6,080	6,289	7,808
254 Space science, applications, and technology.....	2,488	2,805	2,926	3,164
255 Supporting space activities.....	1,075	1,268	1,087	1,236
Total budget authority.....	10,864	12,982	13,241	15,548
270 ENERGY				
271 Energy supply:				
Research and development.....	2,574	2,763	3,418	2,686
Petroleum reserves.....	-493	-379	-318	-318
Federal power marketing.....	-213	-102	-96	-473
Tennessee Valley Authority:				
Existing law.....	1,021	648	628	628
Proposed credit reform.....				-43
Uranium enrichment.....	-285			
Nuclear waste disposal fund.....	-112	-156	-157	-34
Subsidies for nonconventional fuel production.....	50	*	*	16
Rural electric and telephone:				
Existing law.....	1,265	1,488	1,442	31
Proposed credit reform.....				78
Subtotal, Energy supply.....	3,807	4,263	4,916	2,571

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
272 Energy conservation:				
Energy conservation grants and R&D.....	308	315	377	96
Solar Energy and Energy Conservation Bank.....	2			
Subtotal, Energy conservation.....	310	315	377	96
274 Emergency energy preparedness.....	609	422	450	329
276 Energy information, policy, and regulation.....	799	717	579	618
Total budget authority.....	5,526	5,717	6,322	3,614
300 NATURAL RESOURCES AND ENVIRONMENT				
301 Water resources:				
Corps of Engineers:				
Existing law.....	3,396	3,413	3,520	3,365
Proposed legislation.....				13
Bureau of Reclamation:				
Existing law.....	1,034	1,100	1,109	1,073
Proposed legislation.....				-98
Proposed credit reform.....				-15
Other.....	215	212	218	142
Offsetting receipts.....	-351	-389	-369	-341
Subtotal, Water resources.....	4,295	4,336	4,478	4,141
302 Conservation and land management:				
Management of national forests, cooperative forestry, and forestry research (Forest Service):				
Existing law.....	2,125	2,288	2,368	2,168
Proposed legislation.....				24
Management of public lands (BLM):				
Existing law.....	564	548	624	596
Proposed legislation.....				175
Mining reclamation and enforcement.....	309	296	305	254
Conservation reserve program.....	1,086	1,803	1,202	1,202
Other conservation of agricultural lands:				
Existing law.....	687	709	726	526
Proposed legislation.....				8
Other resources management:				
Existing law.....	322	305	340	327
Proposed legislation.....				11
Arctic National Wildlife Refuge (proposed).....				-2,149
Offsetting receipts.....	-2,443	-2,542	-2,516	-2,509
Subtotal, Conservation and land management.....	2,650	3,407	3,049	633
303 Recreational resources:				
Federal land acquisition:				
Existing law.....	188	260	252	87
Proposed legislation.....				-30
Urban park and historic preservation funds.....	27	30	32	
Operation of recreational resources:				
Existing law.....	1,539	1,727	1,707	1,442
Proposed legislation.....				7
Offsetting receipts.....	-108	-115	-106	-133
Subtotal, Recreational resources.....	1,647	1,903	1,885	1,372
304 Pollution control and abatement:				
Regulatory, enforcement, and research programs.....	1,538	1,691	1,740	1,844
Hazardous substance response fund.....	1,128	1,425	1,474	1,740
Oil pollution funds (gross).....	5	6	6	6
Sewage treatment plant construction grants.....	2,304	1,950	2,020	1,200
Leaking underground storage tank trust fund.....	14	50	52	100
Offsetting receipts.....	-58	-81	-95	-101

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Subtotal, Pollution control and abatement	4,932	5,040	5,197	4,789
306 Other natural resources:				
Program activities:				
Existing law	1,868	1,992	2,093	1,760
Proposed legislation				42
Offsetting receipts	-15	-21	-21	-28
Subtotal, Other natural resources	1,852	1,971	2,073	1,774
Total budget authority	15,375	16,657	16,682	12,709
350 AGRICULTURE				
351 Farm income stabilization:				
Commodity Credit Corporation:				
Existing law	11,131	15,274	12,988	12,936
Proposed legislation				-1,100
Proposed credit reform				833
Crop insurance	429	314	377	389
Agricultural credit:				
Existing law	4,757	7,225	6,063	5,088
Proposed credit reform				312
Farm Credit System assistance:				
Existing law		175	933	1,038
Proposed legislation				-915
Other programs and unallocated overhead	*	*	*	
Subtotal, Farm income stabilization	16,317	22,988	20,362	18,581
352 Agricultural research and services:				
Research programs	912	925	943	900
Extension programs	358	361	378	325
Marketing programs:				
Existing law	138	143	145	142
Proposed legislation				-4
Animal and plant health programs:				
Existing law	337	339	351	353
Proposed legislation				-68
Economic intelligence	204	211	216	224
Other programs and unallocated overhead	223	232	235	235
Offsetting receipts	-96	-102	-102	-102
Subtotal, Agricultural research and services	2,075	2,110	2,166	2,004
Total budget authority	18,392	25,098	22,528	20,585
370 COMMERCE AND HOUSING CREDIT				
371 Mortgage credit and deposit insurance:				
Mortgage-backed securities (GNMA):				
Proposed credit reform				1,425
Mortgage purchase activities (GNMA)	209	24		
Mortgage credit (FHA):				
Existing law	984	1,558	1,421	1,421
Proposed credit reform				852
Housing for the elderly or handicapped:				
Existing law	573	429	444	
Proposed legislation				78
Proposed credit reform				6
Rural housing programs (FmHA):				
Existing law	6,595	4,371	4,831	2,897
Proposed credit reform				98
Federal Deposit Insurance Corporation	1,014	2,500	1,000	1,000
Federal Savings and Loan Insurance Corporation	9,821	9,748	3,800	3,800
Other				7

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Subtotal, Mortgage credit and deposit insurance.....	19,196	18,629	11,496	11,584
372 Postal service:				
Payments to the Postal Service fund:				
Existing law.....	517	436	460	497
Proposed legislation.....				-481
Postal Service:				
Existing law.....	941	1,656	3,255	3,255
Proposed legislation.....				-448
Subtotal, Postal service.....	1,458	2,093	3,715	2,823
376 Other advancement of commerce:				
Small and minority business assistance:				
Existing law.....	458	459	511	331
Proposed legislation.....				-13
Proposed credit reform.....				120
Science and technology.....	388	290	292	284
Economic and demographic statistics.....	473	688	1,512	1,530
International trade and other:				
Existing law.....	744	777	825	817
Proposed legislation.....				1
Subtotal, Other advancement of commerce.....	2,063	2,214	3,141	3,070
Total budget authority.....	22,717	22,936	18,352	17,477
400 TRANSPORTATION				
401 Ground transportation:				
Highways.....	13,807	14,263	14,000	13,850
Highway safety.....	402	328	331	335
Mass transit:				
Existing law.....	3,337	3,317	3,415	1,394
Proposed legislation.....				223
Railroads.....	676	672	687	52
Regulation:				
Existing law.....	44	43	44	45
Proposed legislation.....				-14
Subtotal, Ground transportation.....	18,267	18,623	18,478	15,885
402 Air transportation:				
Airports and airways (FAA).....	6,143	6,590	6,895	7,743
Aeronautical research and technology.....	740	815	841	940
Air carrier subsidies.....	24	25	26	
Subtotal, Air transportation.....	6,906	7,430	7,762	8,683
403 Water transportation:				
Marine safety and transportation:				
Existing law.....	2,541	2,953	3,033	3,271
Proposed legislation.....				-2
Ocean shipping:				
Existing law.....	406	258	253	379
Proposed legislation.....				465
Proposed credit reform.....				*
Reimbursement to Treasury from Panama Canal.....	-86			
Subtotal, Water transportation.....	2,861	3,212	3,286	4,113
407 Other transportation.....	107	133	137	150
Total budget authority.....	28,141	29,397	29,663	28,831
450 COMMUNITY AND REGIONAL DEVELOPMENT				
451 Community development:				
Community development block grants.....	2,880	2,650	3,108	2,650

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Urban development action grants.....	216			
Rental rehabilitation and rental development.....	217	155	155	130
Pennsylvania Avenue Development Corporation.....	6	6	18	18
Other:				
Existing law.....	227	238	242	261
Proposed legislation.....				*
Subtotal, Community development.....	3,546	3,048	3,523	3,059
452 Area and regional development:				
Rural development:				
Existing law.....	3,860	2,260	2,160	2,039
Proposed legislation.....				-58
Proposed credit reform.....				53
Economic development assistance.....	207	207	214	20
Indian programs:				
Existing law.....	1,109	1,089	1,090	1,069
Proposed credit reform.....				13
Regional commissions:				
Existing law.....	111	115	119	4
Proposed legislation.....				-3
Tennessee Valley Authority.....	103	103	107	88
Other.....				14
Offsetting receipts.....	-310	-290	-296	-292
Subtotal, Area and regional development.....	5,080	3,484	3,393	2,948
453 Disaster relief and insurance:				
Disaster relief:				
Existing law.....	120	100	270	270
Proposed legislation.....				50
Other:				
Existing law.....	85	100	103	97
Proposed legislation.....				*
Subtotal, Disaster relief and insurance.....	205	200	373	416
Total budget authority.....	8,831	6,732	7,288	6,423
500 EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES				
501 Elementary, secondary, and vocational education:				
School improvement programs.....	1,040	1,217	1,258	1,201
Compensatory education.....	4,337	4,579	4,735	4,730
Education for the handicapped.....	1,869	1,966	2,033	2,014
Impact aid.....	708	733	759	629
Vocational and adult education:				
Existing law.....	1,013	1,081	1,117	177
Proposed legislation.....				942
Other:				
Existing law.....	572	585	601	566
Proposed legislation.....				31
Subtotal, Elementary, secondary, and vocational education.....	9,539	10,161	10,504	10,291
502 Higher education:				
Student financial assistance.....	5,545	5,814	6,011	5,845
Guaranteed student loan program:				
Existing law.....	2,565	3,504	3,130	3,130
Proposed legislation.....				-167
Proposed credit reform.....				4,013
Other:				
Existing law.....	875	920	962	894

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Proposed legislation.....				3
Subtotal, Higher education.....	8,985	10,239	10,103	13,718
503 Research and general education aids:				
Existing law.....	1,363	1,403	1,457	1,339
Proposed legislation.....				137
Subtotal, Research and general education aids.....	1,363	1,403	1,457	1,476
504 Training and employment:				
Training and employment services.....	3,808	3,818	3,820	3,858
TAA training assistance:				
Existing law.....			74	74
Proposed legislation.....				-74
Older Americans employment.....	331	344	344	336
Work incentive program.....	93	91		
Federal-State employment service.....	1,025	1,069	1,105	1,002
Other.....	71	71	72	63
Subtotal, Training and employment.....	5,327	5,393	5,415	5,259
505 Other labor services.....	778	800	815	815
506 Social services:				
Social services block grant.....	2,700	2,700	2,700	2,700
Community services block grant.....	382	381	394	
Rehabilitation services.....	1,590	1,657	1,724	1,726
Payments to states for foster care and				
Existing law.....	811	1,120	1,286	1,286
Proposed legislation.....				-571
Human development services:				
Existing law.....	2,456	2,574	2,665	2,571
Proposed legislation.....				483
Domestic volunteer programs.....	163	170	174	170
Interim assistance to States for legalization.....	930	645	744	444
Other social services.....	25	28	28	27
Subtotal, Social services.....	9,057	9,275	9,717	8,836
Total budget authority.....	35,050	37,271	38,011	40,395
550 HEALTH				
551 Health care services:				
Medicaid grants:				
Existing law.....	30,768	34,301	37,616	37,398
Proposed legislation.....				-1,437
Federal employees' health benefits:				
Existing law.....	1,789	2,374	3,780	3,780
Proposed legislation.....				-970
Other health care services:				
Existing law.....	4,195	4,856	5,005	4,808
Proposed credit reform.....				*
Subtotal, Health care services.....	36,752	41,532	46,402	43,579
552 Health research:				
National Institutes of Health research.....	6,365	6,834	7,044	6,453
Other research programs.....	653	843	879	1,847
Subtotal, Health research.....	7,018	7,677	7,923	8,300
553 Education and training of health care work force:				
Research training.....	301	313	323	324
Clinical training:				
Existing law.....	208	198	191	7

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Proposed legislation.....				-7
Proposed credit reform.....				29
Other.....	41	45	46	39
Subtotal, Education and training of health care work force.....	550	556	561	392
554 Consumer and occupational health and safety:				
Consumer safety.....	908	976	981	869
Occupational safety and health.....	405	417	427	432
Subtotal, Consumer and occupational health and safety.....	1,313	1,393	1,408	1,301
Total budget authority.....	45,634	51,158	56,294	53,571
570 MEDICARE				
571 Medicare:				
Hospital insurance (HI):				
Existing law.....	67,999	75,331	80,696	80,689
Proposed legislation.....				2,289
Catastrophic hospital reserve fund.....		554	2,847	2,847
Supplementary medical insurance (SMI):				
Existing law.....	35,002	42,070	48,300	48,551
Proposed legislation.....				-1,130
SMI, catastrophic.....		1,169	4,915	4,915
Federal catastrophic drug insurance.....				833
Medicare premiums and collections.....	-8,798	-10,511	-11,374	-11,769
SMI, catastrophic premium.....		-1,163	-1,838	-1,838
Interfund transactions.....				
Total budget authority.....	94,203	107,450	124,379	125,387
600 INCOME SECURITY				
601 General retirement and disability insurance (excluding social security):				
Railroad retirement:				
Existing law.....	4,974	4,844	4,702	4,762
Proposed legislation.....				-207
Special benefits for disabled coal miners.....	1,597	1,580	1,560	1,505
Other.....	71	87	95	95
Subtotal, General retirement and disability insurance (excluding social security).....	6,641	6,512	6,357	6,155
602 Federal employee retirement and disability:				
Civilian retirement and disability programs:				
Existing law.....	46,984	48,932	51,214	51,214
Proposed legislation.....				72
Military retirement.....	33,006	34,680	35,037	34,892
Federal employees workers' compensation (FECA).....	213	242	255	217
Federal employees life insurance fund.....			3	3
Subtotal, Federal employee retirement and disability.....	80,203	83,854	86,508	86,397
603 Unemployment compensation:				
Existing law.....	23,620	24,341	24,176	24,277
Proposed legislation.....				-176
Subtotal, Unemployment compensation.....	23,620	24,341	24,176	24,101
604 Housing assistance:				
Subsidized housing.....	6,938	7,175	4,204	6,683
Public housing operating subsidies.....	1,450	1,618	1,676	1,694
Public housing modernization.....				1,000
Low-rent public housing loans.....	1,050	856	567	567

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Transitional housing and emergency shelter for the homeless.....	73	128	131	72
Other housing assistance:				
Existing law.....	186	207	210	217
Proposed credit reform.....				-27
Subtotal, Housing assistance.....	9,698	9,983	6,788	10,207
605 Food and nutrition assistance:				
Food stamps and aid to Puerto Rico:				
Existing law.....	13,518	13,599	14,088	14,088
Proposed legislation.....				-80
Child nutrition and other programs:				
Existing law.....	7,132	7,438	7,924	7,875
Proposed legislation.....				-955
Subtotal, Food and nutrition assistance.....	20,650	21,037	22,013	20,928
609 Other income security:				
Supplemental security income (SSI).....	12,563	12,474	12,062	12,052
Family support payments:				
Existing law.....	11,125	10,892	11,172	11,172
Proposed legislation.....				-350
JOBS training program for welfare recipients.....			350	350
Earned income tax credit (EITC).....	2,698	3,849	3,841	3,841
Refugee assistance.....	347	382	352	242
Low income home energy assistance.....	1,532	1,383	1,433	1,100
Other.....	188	206	212	224
Subtotal, Other income security.....	28,452	29,186	29,421	28,632
Total budget authority.....	169,264	174,914	175,263	176,420
650 SOCIAL SECURITY				
651 Social security:				
Old-age and survivors insurance (OASI):				
Existing law.....	235,760	263,538	286,488	287,278
Proposed legislation.....				-790
Disability insurance (DI):				
Existing law.....	22,380	24,807	29,004	29,084
Proposed legislation.....				-80
Interfund transactions.....	*			
Other.....				8
Total budget authority.....	258,140	288,344	315,492	315,500
On-budget.....	(4,852)	(5,414)	(5,290)	(4,126)
Off-budget.....	(253,289)	(282,931)	(310,202)	(338,892)
700 VETERANS BENEFITS AND SERVICES				
701 Income security for veterans:				
Service-connected compensation:				
Existing law.....	10,865	10,682	11,226	11,226
Proposed legislation.....			318	318
Non-service-connected pensions.....	3,826	3,865	3,989	3,989
Burial and other benefits:				
Existing law.....	146	137	152	153
Proposed legislation.....				-36
Supplemental for compensation, pensions, and burial benefits.....		701		
National service life insurance trust fund.....	1,407	1,421	1,419	1,419
All other insurance programs.....	31	28	27	27
Insurance program receipts.....	-425	-405	-395	-395
Subtotal, Income security for veterans.....	15,848	16,429	16,737	16,701

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
702 Veterans education, training, and rehabilitation:				
Readjustment benefits (GI Bill and related programs):				
Existing law.....	689	606	434	434
Proposed legislation.....				5
Post-Vietnam era education.....				
All-volunteer force educational assistance trust fund.....	-178	-197	-186	-186
Other:				
Proposed credit reform.....				*
Subtotal, Veterans education, training, and rehabilitation.....	511	409	248	253
703 Hospital and medical care for veterans:				
Medical care and hospital services:				
Existing law.....	10,151	10,543	10,784	10,741
Proposed legislation.....				-1
Medical administration, research, and other.....	240	259	265	246
Construction.....	563	543	561	530
Third-party reimbursement.....	-119	-138	-304	-390
Subtotal, Hospital and medical care for veterans.....	10,836	11,206	11,305	11,127
704 Veterans housing:				
Loan guaranty revolving fund:				
Existing law.....	1,484	970	822	1,364
Proposed legislation.....				-1,162
Proposed credit reform.....				882
Direct loan revolving fund:				
Proposed credit reform.....				*
Subtotal, Veterans housing.....	1,484	970	822	1,084
705 Other veterans benefits and services:				
Cemeteries, administration of veterans benefits, and other:				
Existing law.....	795	804	814	861
Proposed legislation.....				-4
Non-VA support programs.....	68	77	69	70
Subtotal, Other veterans benefits and services.....	863	882	883	926
Total budget authority.....	29,542	29,896	29,995	30,091
750 ADMINISTRATION OF JUSTICE				
751 Federal law enforcement activities:				
Criminal investigations (DEA, FBI, and OCDE).....	1,896	1,974	2,018	2,267
Alcohol, tobacco, and firearms investigation (ATF).....	218	241	246	227
Border enforcement activities (Customs and INS).....	2,231	2,313	2,387	2,319
Customs user fee.....		-637	-771	
Protection activities (Secret Service).....	384	376	384	386
Other enforcement.....	411	451	443	494
Subtotal, Federal law enforcement activities.....	5,140	4,717	4,707	5,693
752 Federal litigative and judicial activities:				
Civil and criminal prosecution and representation:				
Existing law.....	1,252	1,526	1,565	1,666
Proposed legislation.....				1
Federal judicial activities.....	1,369	1,521	1,563	1,550
Representation of indigents in civil cases.....	306	309	320	
Subtotal, Federal litigative and judicial activities.....	2,926	3,356	3,448	3,217
753 Federal correctional activities.....	1,059	1,361	1,385	1,554

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
754 Criminal justice assistance	316	422	430	196
Total budget authority	9,441	9,855	9,971	10,661
800 GENERAL GOVERNMENT				
801 Legislative functions	1,602	1,655	1,687	1,656
802 Executive direction and management	125	137	134	275
803 Central fiscal operations:				
Collection of taxes	5,059	5,195	5,307	5,484
Other fiscal operations:				
Existing law	130	214	302	-364
Proposed legislation				709
Proposed credit reform				4
Subtotal, Central fiscal operations	5,189	5,408	5,609	5,833
804 General property and records management:				
Property receipts	-98	-186	-164	-289
Records management	116	122	123	123
Other	280	259	265	273
Subtotal, General property and records management	298	195	225	107
805 Central personnel management:				
Existing law	145	151	154	255
Proposed legislation				-65
Subtotal, Central personnel management	145	151	154	190
806 General purpose fiscal assistance:				
Payments and loans to the District of Columbia	520	526	523	464
Payments to States and counties from Forest Service receipts:				
Existing law	301	356	362	362
Proposed legislation				-64
Payments to States from receipts under the Mineral Leasing Act:				
Existing law	396	449	423	423
Proposed legislation				-71
Payments to States and counties from Federal land management activities:				
Existing law	187	104	94	94
Proposed legislation				-14
Payments in lieu of taxes	105	105	105	105
Payments to territories and Puerto Rico	190	193	196	196
Other	264	242	237	259
Subtotal, General purpose fiscal assistance	1,963	1,974	1,941	1,756
808 Other general government:				
Compacts of free association	161	158	193	206
Territories	120	121	125	74
Treasury claims	1,409	349	349	349
Other:				
Existing law	116	92	104	114
Proposed legislation				19
Subtotal, Other general government	1,805	720	771	761
809 Deductions for offsetting receipts:				
Government-sponsored enterprise fees (proposed)				-59
Other	-694	-400	-400	-400
Subtotal, Deductions for offsetting receipts	-694	-400	-400	-459

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Total budget authority.....	10,435	9,840	10,120	10,120
870 CENTRAL FEDERAL CREDIT ACTIVITIES				
871 Central federal credit activities:				
Proposed credit reform.....				2,107
Total budget authority.....				2,107
900 NET INTEREST				
901 Interest on the public debt:				
Existing law.....	214,066	235,548	250,018	248,655
Proposed legislation.....				-569
Subtotal, Interest on the public debt.....	214,066	235,548	250,018	248,086
902 Interest received by on-budget trust funds.....	-34,480	-39,774	-44,374	-44,652
903 Interest received by off-budget trust funds.....	-7,416	-11,210	-15,758	-14,888
908 Other interest:				
Interest on loans to Federal Financing Bank.....	-15,228	-14,110	-13,499	-13,420
Interest on refunds of tax collections.....	1,681	1,800	1,776	1,776
Interest on uninvested funds:				
Existing law.....	20	20	21	21
Proposed credit reform.....				205
Other.....	-6,900	-6,539	-7,075	-7,020
Subtotal, Other interest.....	-20,426	-18,929	-18,777	-18,437
Total budget authority.....	151,744	165,635	171,108	170,109
On-budget.....	(159,160)	(176,845)	(186,866)	(184,997)
Off-budget.....	(-7,416)	(-11,210)	(-15,758)	(-14,888)
920 ALLOWANCES				
921 Civilian agency pay raises.....			1,301	153
924 Employee health benefits reform:				
Proposed legislation.....				-256
Subtotal, Employee health benefits reform.....				-256
925 Reduced government mail rates:				
Proposed legislation.....				-261
Subtotal, Reduced government mail rates.....				-261
Total budget authority.....			1,301	-364
950 UNDISTRIBUTED OFFSETTING RECEIPTS				
951 Employer share, employee retirement (on-budget):				
Military retired contributions.....	-18,382	-18,798	-16,753	-16,608
Contributions to HI trust fund.....	-1,884	-2,010	-2,131	-2,131
Contributions from Postal Service.....	-3,705	-3,436	-3,578	-3,578
Contributions from other civilian agencies.....	-5,066	-5,183	-5,639	-5,528
Subtotal, Employer share, employee retirement (on-budget).....	-29,037	-29,427	-28,100	-27,844
952 Employer share, employee retirement (off-budget).....	-4,382	-4,849	-5,551	-5,551
953 Rents and royalties on the Outer Continental Shelf.....	-3,548	-2,655	-3,243	-3,710
954 Sale of major assets:				
Sale of petroleum reserve (proposed).....				-1,000
Sale of power administrations (proposed).....				-1,285

Table A-15. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Subtotal, Sale of major assets.....				-2,285
959 Other undistributed offsetting receipts:				
Chlorofluorocarbon production rights.....				-400
Spectrum fees, FCC.....				-2,252
Subtotal, Other undistributed offsetting receipts.....				-2,652
Total budget authority.....	-36,967	-36,931	-36,894	-42,042
On-budget.....	(-32,585)	(-32,082)	(-31,343)	(-36,491)
Off-budget.....	(-4,382)	(-4,849)	(-5,551)	(-5,551)
Total budget authority.....	1,185,526	1,271,940	1,337,527	1,331,210
On-budget.....	(944,035)	(1,005,068)	(1,048,634)	(1,042,317)
Off-budget.....	(241,491)	(266,872)	(288,893)	(288,893)

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
050 NATIONAL DEFENSE				
051 Department of Defense—Military:				
Existing law.....	281,935	289,800	292,076	293,718
Proposed legislation.....				102
Subtotal, Department of Defense—Military.....	281,935	289,800	292,076	293,820
053 Atomic energy defense activities.....	7,913	7,945	8,251	8,647
054 Defense-related activities.....	512	510	535	524
Total outlays.....	290,361	298,255	300,862	302,991
150 INTERNATIONAL AFFAIRS				
151 International development and humanitarian assistance:				
Multilateral development banks.....	1,235	1,302	1,264	1,326
International organizations.....	263	247	255	236
Agency for International Development:				
Existing law.....	2,082	2,136	2,254	2,254
Proposed legislation.....				150
Proposed credit reform.....				5
P.L. 480 food aid:				
Existing law.....	1,060	1,098	984	931
Proposed credit reform.....				-208
Refugee assistance.....	378	410	428	404
Other:				
Existing law.....	170	195	201	212
Proposed credit reform.....				1
Offsetting receipts.....	-483	-480	-505	-505
Subtotal, International development and humanitarian assistance.....	4,703	4,907	4,880	4,805
152 International security assistance:				
Foreign military sales financing.....	-75	-923	3,767	3,791
Guarantee reserve fund.....	659	599	720	720
Military assistance.....	607	599	544	499
Economic support fund.....	3,269	3,361	3,481	3,467
Other.....	109	162	98	101

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Offsetting receipts.....	-70	-977	-150	-150
Subtotal, International security assistance.....	4,500	2,823	8,459	8,428
153 Conduct of foreign affairs:				
Administration of foreign affairs:				
Existing law.....	2,092	2,186	2,140	2,209
Proposed credit reform.....				*
International organizations and conferences.....	547	538	539	809
Other.....	90	98	91	99
Subtotal, Conduct of foreign affairs.....	2,729	2,822	2,769	3,117
154 Foreign information and exchange activities.....	1,051	1,154	1,213	1,263
155 International financial programs:				
Export-Import Bank:				
Existing law.....	-894	-862	-184	-216
Proposed credit reform.....				61
Foreign military sales trust fund (net).....	93	125	120	120
International monetary programs:				
Existing law.....	-136			
Proposed legislation.....				3
Special defense acquisition fund.....	13	-28	-57	-57
Exchange stabilization fund.....	-1,498	-100	-107	-107
Offsetting receipts.....	-90	-92	-94	-94
Subtotal, International financial programs.....	-2,513	-957	-322	-291
Total outlays.....	10,471	10,748	17,000	17,322
250 GENERAL SCIENCE, SPACE, AND TECHNOLOGY				
251 General science and basic research:				
National Science Foundation programs.....	1,665	1,850	1,917	2,014
Department of Energy general science programs.....	763	884	955	1,119
Subtotal, General science and basic research.....	2,428	2,734	2,872	3,133
253 Space flight.....	5,007	6,245	6,674	7,512
254 Space science, applications, and technology.....	2,261	2,727	2,874	2,996
255 Supporting space activities.....	1,145	886	1,149	1,221
Total outlays.....	10,841	12,593	13,569	14,863
270 ENERGY				
271 Energy supply:				
Research and development.....	2,431	2,650	2,712	2,564
Petroleum reserves.....	-466	-392	-324	-324
Federal power marketing:				
Existing law.....	-451	-601	-609	-984
Proposed legislation.....				-534
Tennessee Valley Authority:				
Existing law.....	992	540	300	300
Proposed credit reform.....				-43
Uranium enrichment:				
Existing law.....	-97	-112	-69	-69
Proposed legislation.....				69
Nuclear waste disposal fund.....	-67	-99	-162	-100
Subsidies for nonconventional fuel production.....	143	302	158	157
Rural electric and telephone:				
Existing law.....	-1,738	148	669	442
Proposed legislation.....				-512
Proposed credit reform.....				12
Subtotal, Energy supply.....	746	2,436	2,674	978

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
272 Energy conservation:				
Energy conservation grants and R&D.....	340	313	372	316
Solar Energy and Energy Conservation Bank.....	3	1	*	*
Subtotal, Energy conservation.....	342	314	373	316
274 Emergency energy preparedness.....	568	520	480	348
276 Energy information, policy, and regulation.....	640	735	581	635
Total outlays.....	2,297	4,005	4,108	2,277
300 NATURAL RESOURCES AND ENVIRONMENT				
301 Water resources:				
Corps of Engineers:				
Existing law.....	3,198	3,454	3,508	3,429
Proposed legislation.....				13
Bureau of Reclamation:				
Existing law.....	964	1,103	1,103	1,072
Proposed legislation.....				-107
Proposed credit reform.....				-19
Other.....	222	223	227	199
Offsetting receipts.....	-351	-389	-369	-341
Subtotal, Water resources.....	4,034	4,391	4,469	4,247
302 Conservation and land management:				
Management of national forests, cooperative forestry, and forestry research (Forest Service):				
Existing law.....	2,320	2,272	2,289	2,158
Proposed legislation.....				17
Management of public lands (BLM):				
Existing law.....	635	557	619	553
Proposed legislation.....				118
Mining reclamation and enforcement.....	349	320	307	292
Conservation reserve program.....	291	1,652	2,117	1,771
Other conservation of agricultural lands:				
Existing law.....	722	711	728	644
Proposed legislation.....				1
Other resources management:				
Existing law.....	316	308	331	305
Proposed legislation.....				3
Arctic National Wildlife Refuge (proposed).....				-2,149
Offsetting receipts.....	-2,443	-2,542	-2,516	-2,509
Subtotal, Conservation and land management.....	2,189	3,278	3,875	1,204
303 Recreational resources:				
Federal land acquisition.....	258	262	267	168
Urban park and historic preservation funds.....	26	33	31	15
Operation of recreational resources:				
Existing law.....	1,497	1,572	1,646	1,576
Proposed legislation.....				5
Offsetting receipts.....	-108	-115	-106	-133
Subtotal, Recreational resources.....	1,673	1,752	1,838	1,630
304 Pollution control and abatement:				
Regulatory, enforcement, and research programs.....	1,531	1,625	1,738	1,815
Hazardous substance response fund.....	829	1,150	1,308	1,373
Oil pollution funds (gross).....	3	6	7	7
Sewage treatment plant construction grants.....	2,514	2,390	2,365	2,350
Leaking underground storage tank trust fund.....	14	32	36	43
Offsetting receipts.....	-58	-81	-95	-101
Subtotal, Pollution control and abatement.....	4,832	5,122	5,360	5,486

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
306 Other natural resources:				
Program activities:				
Existing law.....	1,893	1,985	2,096	1,864
Proposed legislation.....				29
Offsetting receipts.....	-15	-21	-21	-28
Subtotal, Other natural resources.....	1,878	1,964	2,075	1,865
Total outlays.....	14,606	16,507	17,616	14,434
350 AGRICULTURE				
351 Farm income stabilization:				
Commodity Credit Corporation:				
Existing law.....	12,224	13,214	12,816	11,918
Proposed legislation.....				-1,100
Proposed credit reform.....				833
Crop insurance.....	411	1,245	586	586
Agricultural credit:				
Existing law.....	2,618	3,435	2,375	1,958
Proposed credit reform.....				-446
Farm Credit System assistance:				
Existing law.....	6	43	692	796
Proposed legislation.....				-757
Other programs and unallocated overhead.....	-12	8	*	*
Subtotal, Farm income stabilization.....	15,246	17,945	16,468	13,788
352 Agricultural research and services:				
Research programs.....	842	928	980	981
Extension programs.....	318	353	374	327
Marketing programs:				
Existing law.....	142	128	151	150
Proposed legislation.....				-4
Animal and plant health programs:				
Existing law.....	340	341	353	364
Proposed legislation.....				-68
Economic intelligence.....	191	208	214	222
Other programs and unallocated overhead.....	226	244	234	236
Offsetting receipts.....	-96	-102	-102	-102
Subtotal, Agricultural research and services.....	1,964	2,099	2,205	2,104
Total outlays.....	17,210	20,044	18,673	15,892
370 COMMERCE AND HOUSING CREDIT				
371 Mortgage credit and deposit insurance:				
Mortgage-backed securities (GNMA):				
Existing law.....	-92	-210	-313	-313
Proposed credit reform.....				863
Mortgage purchase activities (GNMA).....	16	-3	-5	-5
Mortgage credit (FHA):				
Existing law.....	1,134	1,447	586	586
Proposed credit reform.....				1,605
Housing for the elderly or handicapped.....	322	340	358	-143
Rural housing programs (FmHA):				
Existing law.....	3,612	3,295	2,732	1,596
Proposed legislation.....				-1,692
Proposed credit reform.....				35
Federal Deposit Insurance Corporation.....	2,146	3,807	-1,324	-1,324
Federal Savings and Loan Insurance Corporation.....	8,075	8,725	2,067	2,067
National Credit Union Administration.....	-217	-164	-190	-211
Other.....				5
Subtotal, Mortgage credit and deposit insurance.....	14,997	17,238	3,911	3,069

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
372 Postal service:				
Payments to the Postal Service fund:				
Existing law.....	517	436	460	497
Proposed legislation.....				- 481
Postal Service.....	1,712	142	2,198	2,198
Subtotal, Postal service.....	2,229	579	2,658	2,214
376 Other advancement of commerce:				
Small and minority business assistance:				
Existing law.....	334	396	459	232
Proposed legislation.....				- 88
Proposed credit reform.....				118
Science and technology.....	141	351	288	284
Economic and demographic statistics.....	365	704	1,604	1,619
International trade and other:				
Existing law.....	742	770	817	813
Proposed legislation.....				1
Subtotal, Other advancement of commerce.....	1,581	2,222	3,168	2,980
Total outlays.....	18,808	20,039	9,736	8,262
400 TRANSPORTATION				
401 Ground transportation:				
Highways.....	13,921	13,532	13,556	13,337
Highway safety.....	292	335	348	352
Mass transit:				
Existing law.....	3,315	3,556	3,798	3,212
Proposed legislation.....				112
Railroads.....	577	519	708	190
Regulation:				
Existing law.....	43	43	44	45
Proposed legislation.....				- 16
Subtotal, Ground transportation.....	18,148	17,985	18,454	17,230
402 Air transportation:				
Airports and airways (FAA).....	5,191	5,732	6,278	6,639
Aeronautical research and technology.....	680	752	820	866
Air carrier subsidies.....	26	25	26	2
Subtotal, Air transportation.....	5,897	6,509	7,123	7,507
403 Water transportation:				
Marine safety and transportation:				
Existing law.....	2,719	2,917	2,946	2,903
Proposed legislation.....				- 2
Ocean shipping:				
Existing law.....	478	486	539	514
Proposed legislation.....				- 4
Proposed credit reform.....				- 4
Reimbursement to Treasury from Panama Canal.....	- 86			
Subtotal, Water transportation.....	3,111	3,403	3,484	3,406
407 Other transportation.....	116	137	134	144
Total outlays.....	27,272	28,033	29,196	28,287
450 COMMUNITY AND REGIONAL DEVELOPMENT				
451 Community development:				
Community development block grants.....	3,044	3,021	3,043	3,025
Urban development action grants.....	216	310	265	252
Rental rehabilitation and rental development.....	180	215	250	250
Pennsylvania Avenue Development Corporation.....	- *	13	37	37

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Other:				
Existing law.....	10	206	229	251
Proposed legislation.....				*
Subtotal, Community development.....	3,449	3,766	3,824	3,816
452 Area and regional development:				
Rural development:				
Existing law.....	900	1,228	1,560	1,506
Proposed legislation.....				-151
Proposed credit reform.....				-12
Economic development assistance.....	171	201	207	183
Indian programs:				
Existing law.....	1,070	1,095	1,096	1,067
Proposed credit reform.....				1
Regional commissions:				
Existing law.....	152	112	120	110
Proposed legislation.....				-1
Tennessee Valley Authority.....	97	105	104	99
Other.....	-5	-6	-5	9
Offsetting receipts.....	-310	-290	-296	-292
Subtotal, Area and regional development.....	2,075	2,445	2,785	2,519
453 Disaster relief and insurance:				
Small business disaster loans:				
Existing law.....	-348	-209	-104	-236
Proposed legislation.....				-128
Disaster relief:				
Existing law.....	187	225	236	236
Proposed legislation.....				40
National flood insurance fund.....	-211	-78	-40	-40
Other:				
Existing law.....	142	151	160	158
Proposed legislation.....				*
Subtotal, Disaster relief and insurance.....	-230	89	253	31
Total outlays.....	5,294	6,300	6,861	6,365
500 EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES				
501 Elementary, secondary, and vocational education:				
School improvement programs.....	443	975	1,242	1,235
Compensatory education.....	4,028	4,226	4,312	4,312
Education for the handicapped.....	1,466	1,872	1,943	1,940
Impact aid.....	708	721	800	686
Vocational and adult education:				
Existing law.....	1,276	828	909	796
Proposed legislation.....				113
Other:				
Existing law.....	493	556	607	600
Proposed legislation.....				4
Subtotal, Elementary, secondary, and vocational education.....	8,413	9,178	9,814	9,687
502 Higher education:				
Student financial assistance.....	5,220	5,792	6,016	6,006
Guaranteed student loan program:				
Existing law.....	2,779	3,202	3,182	3,182
Proposed legislation.....				-118
Proposed credit reform.....				3,211

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Other:				
Existing law.....	299	915	904	905
Proposed legislation.....				-258
Subtotal, Higher education.....	8,299	9,910	10,102	12,927
503 Research and general education aids:				
Existing law.....	1,261	1,413	1,470	1,449
Proposed legislation.....				55
Subtotal, Research and general education aids.....	1,261	1,413	1,470	1,503
504 Training and employment:				
Training and employment services.....	3,701	3,837	3,839	3,841
TAA training assistance:				
Existing law.....			22	22
Proposed legislation.....				-22
Older Americans employment.....	324	334	343	342
Work incentive program.....	90	97	5	5
Federal-State employment service.....	1,037	1,047	1,083	1,059
Other.....	64	68	68	61
Subtotal, Training and employment.....	5,215	5,384	5,362	5,308
505 Other labor services.....	739	800	802	803
506 Social services:				
Social services block grant.....	2,666	2,688	2,694	2,694
Community services block grant.....	408	391	391	119
Rehabilitation services.....	1,537	1,618	1,702	1,703
Payments to states for foster care and				
Existing law.....	1,004	1,037	1,238	1,326
Proposed legislation.....				-421
Human development services:				
Existing law.....	2,216	2,485	2,615	2,572
Proposed legislation.....				352
Domestic volunteer programs.....	153	169	173	171
Interim assistance to States for legalization.....	10	756	834	759
Other social services.....	17	30	27	28
Subtotal, Social services.....	8,011	9,175	9,674	9,303
Total outlays.....	31,938	35,859	37,224	39,531
550 HEALTH				
551 Health care services:				
Medicaid grants:				
Existing law.....	30,462	34,301	37,616	37,398
Proposed legislation.....				-1,437
Federal employees' health benefits:				
Existing law.....	1,755	1,884	2,779	2,779
Proposed legislation.....				-958
Other health care services:				
Existing law.....	3,802	4,373	4,874	4,595
Proposed legislation.....				-20
Proposed credit reform.....				*
Subtotal, Health care services.....	36,019	40,558	45,269	42,357
552 Health research:				
National Institutes of Health research.....	6,051	6,455	6,866	6,654
Other research programs.....	594	877	994	1,391
Subtotal, Health research.....	6,645	7,332	7,859	8,045

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
553 Education and training of health care work force:				
Research training.....	283	298	316	318
Clinical training:				
Existing law.....	229	190	186	75
Proposed legislation.....				-7
Proposed credit reform.....				29
Other.....	29	48	50	44
Subtotal, Education and training of health care work force.....	541	536	552	459
554 Consumer and occupational health and safety:				
Consumer safety.....	886	934	977	890
Occupational safety and health.....	398	411	422	426
Subtotal, Consumer and occupational health and safety.....	1,285	1,345	1,399	1,316
Total outlays.....	44,490	49,770	55,081	52,177
570 MEDICARE				
571 Medicare:				
Hospital insurance (HI):				
Existing law.....	52,730	58,383	65,254	64,290
Proposed legislation.....				-2,396
Supplementary medical insurance (SMI):				
Existing law.....	34,947	39,945	46,038	45,833
Proposed legislation.....				-985
SMI, catastrophic:				
Existing law.....		123	1,724	1,724
Proposed legislation.....				-90
Federal catastrophic drug insurance.....			150	150
Medicare premiums and collections.....	-8,798	-10,511	-11,374	-11,769
SMI, catastrophic premium.....		-1,163	-1,838	-1,838
Interfund transactions.....				
Total outlays.....	78,878	86,778	99,955	94,918
600 INCOME SECURITY				
601 General retirement and disability insurance (excluding social security):				
Railroad retirement:				
Existing law.....	3,934	4,155	4,185	4,246
Proposed legislation.....				-92
Special benefits for disabled coal miners.....	1,562	1,586	1,563	1,531
Pension Benefit Guaranty Corporation.....	-278	-231	-343	-342
Other.....	75	81	89	89
Subtotal, General retirement and disability insurance (excluding social security).....	5,294	5,590	5,494	5,432
602 Federal employee retirement and disability:				
Civilian retirement and disability programs:				
Existing law.....	28,399	29,904	32,567	32,567
Proposed legislation.....				-2,827
Military retirement:				
Existing law.....	19,011	20,088	21,228	21,228
Proposed legislation.....				-617
Federal employees workers' compensation (FECA).....	212	231	245	207
Federal employees life insurance fund:				
Existing law.....	-743	-782	-842	-829
Proposed legislation.....				18

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Subtotal, Federal employee retirement and disability.....	46,879	49,441	53,200	49,749
603 Unemployment compensation:				
Existing law.....	15,271	15,782	16,168	16,220
Proposed legislation.....				-170
Subtotal, Unemployment compensation.....	15,271	15,782	16,168	16,050
604 Housing assistance:				
Subsidized housing.....	11,057	12,366	13,634	13,645
Public housing operating subsidies.....	1,489	1,547	1,643	1,652
Low-rent public housing loans.....	1,173	1,096	634	634
Transitional housing and emergency shelter for the homeless.....	34	80	75	70
Other housing assistance:				
Existing law.....	154	209	223	167
Proposed credit reform.....				28
Subtotal, Housing assistance.....	13,906	15,299	16,209	16,197
605 Food and nutrition assistance:				
Food stamps and aid to Puerto Rico:				
Existing law.....	13,145	13,776	14,083	13,606
Proposed legislation.....				-70
Child nutrition and other programs:				
Existing law.....	6,938	7,555	7,897	7,852
Proposed legislation.....				-834
Subtotal, Food and nutrition assistance.....	20,083	21,331	21,980	20,554
609 Other income security:				
Supplemental security income (SSI).....	12,345	12,477	12,151	12,148
Family support payments:				
Existing law.....	10,765	11,322	11,180	11,180
Proposed legislation.....				-350
JOBS training program for welfare recipients.....			350	350
Earned income tax credit (EITC).....	2,698	3,849	3,841	3,841
Refugee assistance.....	321	345	358	287
Low income home energy assistance.....	1,585	1,373	1,428	1,125
Other.....	186	210	212	226
Subtotal, Other income security.....	27,899	29,577	29,519	28,806
Total outlays.....	129,332	137,020	142,570	136,788
650 SOCIAL SECURITY				
651 Social security:				
Old-age and survivors insurance (OASI):				
Existing law.....	197,060	209,237	222,407	223,192
Proposed legislation.....				-783
Disability insurance (DI):				
Existing law.....	22,280	23,096	24,309	24,386
Proposed legislation.....				-79
Interfund transactions.....				
Other.....				8
Total outlays.....	219,341	232,334	246,715	246,724
On-budget.....	(4,852)	(5,414)	(5,290)	(6,167)
Off-budget.....	(214,489)	(226,920)	(241,425)	(240,557)
700 VETERANS BENEFITS AND SERVICES				
701 Income security for veterans:				
Service-connected compensation:				
Existing law.....	11,251	10,220	11,198	11,198
Proposed legislation.....			286	286

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Non-service-connected pensions	3,935	3,859	3,953	3,953
Burial and other benefits:				
Existing law.....	142	136	152	153
Proposed legislation.....				-36
Supplemental for compensation, pensions, and burial benefits		664	37	37
National service life insurance trust fund.....	1,096	1,163	1,197	1,197
All other insurance programs.....	-36	-20	4	4
Insurance program receipts.....	-425	-405	-395	-395
Subtotal, Income security for veterans	15,963	15,617	16,433	16,397
702 Veterans education, training, and rehabilitation:				
Readjustment benefits (GI Bill and related programs):				
Existing law.....	700	620	451	451
Proposed legislation.....				5
Post-Vietnam era education.....	29	73	79	79
All-volunteer force educational assistance trust fund	-294	-290	-272	-272
Veterans jobs program	25	20	2	2
Other:				
Existing law.....	-6	-7	-7	-7
Proposed legislation.....				*
Proposed credit reform.....				*
Subtotal, Veterans education, training, and rehabilitation.....	454	415	254	259
703 Hospital and medical care for veterans:				
Medical care and hospital services:				
Existing law.....	10,045	10,384	10,622	10,580
Proposed legislation.....				-1
Medical administration, research, and other.....	238	254	260	246
Construction.....	677	733	704	704
Third-party reimbursement	-119	-138	-304	-390
Subtotal, Hospital and medical care for veterans	10,842	11,233	11,282	11,140
704 Veterans housing:				
Loan guaranty revolving fund:				
Existing law.....	1,219	1,112	916	1,458
Proposed legislation.....				-1,162
Proposed credit reform.....				882
Direct loan revolving fund:				
Existing law.....	-80	-24	-18	-18
Proposed credit reform.....				-1
Other (HUD participation sales trust fund)	153	*		
Subtotal, Veterans housing	1,292	1,088	898	1,159
705 Other veterans benefits and services:				
Cemeteries, administration of veterans benefits, and other:				
Existing law.....	799	798	804	851
Proposed legislation.....				-4
Non-VA support programs.....	77	65	71	71
Subtotal, Other veterans benefits and services.....	877	863	875	918
Total outlays.....	29,428	29,216	29,741	29,872
750 ADMINISTRATION OF JUSTICE				
751 Federal law enforcement activities:				
Criminal investigations (DEA, FBI, and OCDE)	1,890	1,950	1,922	2,111
Alcohol, tobacco, and firearms investigation (ATF)	213	239	257	240

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Border enforcement activities (Customs and INS).....	2,180	2,308	2,314	2,265
Customs user fee.....		-637	-771	
Protection activities (Secret Service).....	382	396	386	391
Other enforcement.....	396	453	463	500
Subtotal, Federal law enforcement activities.....	5,061	4,709	4,572	5,507
752 Federal litigative and judicial activities:				
Civil and criminal prosecution and representation:				
Existing law.....	1,208	1,335	1,517	1,598
Proposed legislation.....				1
Federal judicial activities.....	1,365	1,511	1,551	1,546
Representation of indigents in civil cases.....	306	298	318	40
Subtotal, Federal litigative and judicial activities.....	2,880	3,143	3,387	3,184
753 Federal correctional activities.....	930	1,196	1,299	1,462
754 Criminal justice assistance.....	352	375	532	444
Total outlays.....	9,223	9,424	9,789	10,598
800 GENERAL GOVERNMENT				
801 Legislative functions.....	1,599	1,705	1,718	1,696
802 Executive direction and management.....	120	136	134	138
803 Central fiscal operations:				
Collection of taxes.....	4,985	5,224	5,297	5,456
Other fiscal operations:				
Existing law.....	-175	232	294	-380
Proposed legislation.....				630
Proposed credit reform.....				4
Subtotal, Central fiscal operations.....	4,809	5,456	5,592	5,711
804 General property and records management:				
Federal buildings fund.....	-332	-14	146	146
Property receipts.....	-98	-186	-164	-289
Records management.....	102	120	118	118
Other.....	147	252	240	245
Subtotal, General property and records management.....	-182	172	341	220
805 Central personnel management:				
Existing law.....	113	159	128	228
Proposed legislation.....				-65
Subtotal, Central personnel management.....	113	159	128	163
806 General purpose fiscal assistance:				
Payments and loans to the District of Columbia.....	520	510	545	486
Payments to States and counties from Forest Service receipts:				
Existing law.....	305	344	360	360
Proposed legislation.....				-47
Payments to States from receipts under the Mineral Leasing Act:				
Existing law.....	396	449	423	423
Proposed legislation.....				-71
Payments to States and counties from Federal land management activities:				
Existing law.....	86	105	94	94
Proposed legislation.....				-14
Payments in lieu of taxes.....	103	105	105	105
Payments to territories and Puerto Rico.....	187	193	196	196

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(in millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Other.....	217	243	238	259
Subtotal, General purpose fiscal assistance.....	1,816	1,948	1,960	1,793
808 Other general government:				
Compacts of free association.....	165	158	193	206
Territories.....	108	120	122	82
Treasury claims.....	1,409	349	349	349
Other:				
Existing law.....	211	111	87	94
Proposed legislation.....				1
Subtotal, Other general government.....	1,893	738	751	732
809 Deductions for offsetting receipts:				
Government-sponsored enterprise fees (proposed).....				-59
Other.....	-694	-400	-400	-400
Subtotal, Deductions for offsetting receipts.....	-694	-400	-400	-459
Total outlays.....	9,474	9,914	10,224	9,993
870 CENTRAL FEDERAL CREDIT ACTIVITIES				
871 Central federal credit activities:				
Direct loan revolving fund:				
Proposed credit reform.....				1,492
Guaranteed loan revolving fund:				
Proposed credit reform.....				-8,648
Total outlays.....				-7,156
900 NET INTEREST				
901 Interest on the public debt:				
Existing law.....	214,066	235,548	250,018	248,655
Proposed legislation.....				-569
Subtotal, Interest on the public debt.....	214,066	235,548	250,018	248,086
902 Interest received by on-budget trust funds.....	-34,480	-39,774	-44,374	-44,652
903 Interest received by off-budget trust funds.....	-7,416	-11,210	-15,758	-14,888
908 Other interest:				
Interest on loans to Federal Financing Bank.....	-15,228	-14,110	-13,499	-13,420
Interest on refunds of tax collections.....	1,681	1,800	1,776	1,776
Interest on uninvested funds:				
Existing law.....	24	20	21	21
Proposed credit reform.....				205
Other.....	-6,900	-6,639	-7,075	-7,020
Subtotal, Other interest.....	-20,422	-18,929	-18,777	-18,437
Total outlays.....	151,748	165,635	171,108	170,109
On-budget.....	(159,164)	(176,845)	(186,866)	(184,997)
Off-budget.....	(-7,416)	(-11,210)	(-15,758)	(-14,888)
920 ALLOWANCES				
921 Civilian agency pay raises.....			1,345	157
924 Employee health benefits reform:				
Proposed legislation.....				-256
Subtotal, Employee health benefits reform.....				-256
925 Reduced government mail rates:				
Proposed legislation.....				-261
Subtotal, Reduced government mail rates.....				-261

Table A-16. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1988 actual	Current services		1990 administration proposals
		1989 estimate	1990 estimate	
Total outlays.....			1,345	-360
950 UNDISTRIBUTED OFFSETTING RECEIPTS				
951 Employer share, employee retirement (on-budget):				
Military retired contributions.....	-18,382	-18,798	-16,753	-16,608
Contributions to HI trust fund.....	-1,884	-2,010	-2,131	-2,131
Contributions from Postal Service.....	-3,705	-3,436	-3,578	-3,578
Contributions from other civilian agencies.....	-5,066	-5,183	-5,639	-5,528
Subtotal, Employer share, employee retirement (on-budget).....	-29,037	-29,427	-28,100	-27,844
952 Employer share, employee retirement (off-budget).....	-4,382	-4,849	-5,551	-5,551
953 Rents and royalties on the Outer Continental Shelf.....	-3,548	-2,655	-3,243	-3,710
954 Sale of major assets:				
Sale of petroleum reserve (proposed).....				-1,000
Sale of power administrations (proposed).....				-1,285
Subtotal, Sale of major assets.....				-2,285
959 Other undistributed offsetting receipts:				
Chlorofluorocarbon production rights.....				-400
Spectrum fees, FCC.....				-2,252
Subtotal, Other undistributed offsetting receipts.....				-2,652
Total outlays.....	-36,967	-36,931	-36,894	-42,042
On-budget.....	(-32,585)	(-32,082)	(-31,343)	(-36,491)
Off-budget.....	(-4,382)	(-4,849)	(-5,551)	(-5,551)
Total outlays	1,064,044	1,135,544	1,184,479	1,151,848
On-budget.....	(861,352)	(924,683)	(964,363)	(931,730)
Off-budget.....	(202,691)	(210,861)	(220,116)	(220,118)

GRAMM-RUDMAN-HOLLINGS BUDGET BASELINE

The Balanced Budget and Emergency Deficit Control Act of 1985 defines a budget baseline for calculating a budget deficit to determine whether automatic spending reductions are to be triggered. The 1987 amendments to the Act specified that the President's budget include a baseline estimate developed using the same rules. The Act also stipulates that this baseline use economic and technical assumptions consistent with current services estimates.

The Act (commonly known as Gramm-Rudman-Hollings or G-R-H) stipulates that budget deficits must decrease annually and specifies measures that must be taken to achieve this result. If by October 15th when final estimates are required, the estimated G-R-H budget baseline deficit exceeds \$110 billion (the 1990 deficit target of \$100 billion plus the \$10 billion "cushion" allowed under

the Act), a sequestration will be triggered to reduce the baseline deficit.

Under the specifications set forth in the Act, the deficit for 1990 is \$126.1 billion. Outlays total \$1,183.6 billion; while receipts total \$1,057.5 billion. Since the estimated deficit exceeds \$100 billion by more than the \$10 billion cushion, a sequester of \$26.1 billion would be triggered.

These estimates generally assume that current law for revenues and entitlements will continue unchanged. Because these estimates are being prepared prior to appropriations action for 1990, the estimates for discretionary programs are required to be based on enacted 1989 appropriations. The 1989 levels are adjusted for inflation and pay-related cost increases.

A provision of the G-R-H law requires, for the August and October reports, that the aggregate spendout rate (the ratio of new outlays to new budgetary resources) for discretionary sequesterable resources, calculated separately for defense and nondefense programs, not differ by more than one-half of one percentage point from the comparable rates contained in the sequester report for the previous year. This provision does not apply to the estimates in this analysis. Because 1988 spending patterns have led to an upward revision in the spendout rates assumed for defense programs, the aggregate spendout rate for defense programs has increased by more than 0.5 percentage points since October. If in August the estimates remain at this level, a downward adjustment of \$4.1 billion would be required to bring the aggregate spendout rate within one-half percentage point of the benchmark rate. Likewise, because the aggregate spendout rate for nondefense programs has decreased by more than 0.5 percentage points, an upward adjustment of \$0.4 billion would be required.

The G-R-H budget baseline is estimated using the economic assumptions shown in Table A-1, the same assumptions used for current services and proposed policy estimates. The Act requires that this report include the assumptions used for the rate of real growth for each quarter of the fiscal year and for the last two quarters of the preceding fiscal year. Table A-17 presents these assumptions.

Table A-17. REAL ECONOMIC GROWTH RATES BY QUARTER

(In percents, annual rates)

	1989			1990			
	Jan-Mar 1989	Apr-Jun 1989	Jul-Sep 1989	Oct-Dec 1990	Jan-Mar 1990	Apr-Jun 1990	Jul-Sep 1990
Real growth rate.....	5.7	2.8	2.8	2.8	3.4	3.4	3.4

SEQUESTERABLE RESOURCES

If reductions in outlays were required under the Act, they would not be made directly; rather, they would be achieved by the permanent cancellation—referred to under the Act as “sequestration”—of budget authority and other authority to obligate and expend funds (except that amounts sequestered in special and trust funds remain in such funds). For defense programs, sequesterable budgetary resources are defined to be new budget authority provided for 1990 and unobligated balances of budget authority provided in previous years. For nondefense programs, the sequesterable budgetary resources are new budget authority; new direct loan obligations, commitments, or limitations; new guaranteed loan commitments or limitations; obligation limitations, and spending authority as defined in Section 401(c)(2) of the Congressional Budget Act of 1974. As defined, spending authority includes various mandatory and permanent appropriations, as well as Federal payments financed by offsetting collections that are credited to budget accounts.

Not all programs and not all budgetary resources are subject to sequestration. The Act exempts many programs and activities of the Federal Government. The largest are social security benefits, net interest, certain low-income programs, most Federal retirement and disability benefits, veterans compensation and pensions, and regular State unemployment insurance benefits. Federal administrative expenses for most otherwise exempt programs and activities, however, are sequesterable, including programs that are self-supporting. Budgetary resources that are exempt from sequestration are unobligated balances of prior-year appropriations for non-defense programs, prior legal obligations of the Government in certain specified budget accounts, as well as the program bases for certain programs whose automatic spending increases are subject to sequester.

Under the Act, the President is granted authority to exempt all military personnel accounts from sequester. Since the notification to Congress is not required for this report, Table A-18 presents the composition of baseline estimates under two scenarios: all military personnel are exempt and no special exemptions are made.

Certain programs and activities, while not exempt, are subject to special rules that have the effect of limiting the amount of the spending reduction. For example, the sequestration reduction for medicare, veterans medical care, and certain health programs (but not for the administrative expenses of these programs) is limited to two percent annually. In addition, the total amount of the automatic spending increases in three programs specified in the Act is sequesterable.

For credit programs, the sequesterable budgetary resources are direct loan obligations and guaranteed loan commitments. In the

event of a sequester, the Act requires that credit limitations enacted in annual appropriation acts be reduced, and that *de facto* limitations be imposed on both types of new credit activity where there is no enacted limitation.

COMPOSITION OF BASELINE OUTLAYS

Table A-18 provides detail on the OMB G-R-H baseline outlay estimates for 1990. An estimated \$194.3 billion of 1990 outlays for defense programs, or 65 percent of total defense outlays, are associated with budgetary resources that would be subject to an across-the-board percentage reduction if all military personnel accounts were sequesterable. If these accounts were exempted by the President, \$116.7 billion of 1990 outlays or 39 percent of total defense outlays would be in this category.

Table A-18. COMPOSITION OF BASELINE OUTLAYS FOR 1990

(In billions of dollars)

	Estimate	Percent of Total
Defense: ¹		
Subject to across-the-board reduction	194.3	16.4
Exempt from sequestration	106.3	9.0
Subtotal, defense programs.....	300.5	25.4
Nondefense programs:		
Subject to sequestration:		
Certain programs with automatic spending increases	1.3	0.1
Programs subject to special rules	123.6	10.4
Subject to across-the-board reduction	108.7	9.2
Subtotal, subject to sequestration.....	233.6	19.7
Exempt from sequestration:		
Social security.....	244.5	20.7
Federal retirement, disability, and workers compensation	66.0	5.6
Earned income tax credit.....	3.8	0.3
Low-income programs	79.9	6.8
Veterans compensation and pensions.....	15.4	1.3
State unemployment benefits.....	14.0	1.2
Offsetting receipts.....	-63.0	-5.3
Net interest.....	171.1	14.5
Other	117.8	9.9
Subtotal, exempt from sequestration.....	649.5	54.9
Subtotal, nondefense programs	883.1	74.6
Total	1,183.6	100.0
Memorandum:		
Defense with all military personnel accounts exempt:		
Subject to across-the-board reduction	116.7	9.9
Exempt from sequestration	183.9	15.5

¹ Excludes Federal Emergency Management Agency accounts.

An estimated \$233.6 billion of outlays for nondefense programs, or 26 percent of total nondefense outlays, are associated with sequesterable budgetary resources. About \$124.8 billion of these outlays, or 14 percent of total nondefense outlays, are associated with programs with automatic spending increases and certain special rule programs, the largest of which is medicare. The Act limits the extent of spending reductions for these programs.

Of the total estimated 1990 nondefense outlays of \$883.1 billion, an estimated \$108.7 billion—about 12 percent of nondefense outlays—are associated with budgetary resources subject to an across-the-board percentage reduction. An estimated \$649.5 billion of nondefense outlays, or 74 percent of total nondefense outlays, are exempt from sequestration.

SEQUESTRATION CALCULATIONS

If no changes were made in the current G-R-H budget baseline estimates before the final sequestration report in October, a sequestration of \$26.1 billion, the difference between the current deficit and the target of \$100 billion, would be determined using the following steps, as shown in Table A-19.

Table A-19. SEQUESTRATION CALCULATIONS FOR 1990

(In billions of dollars)

	Estimate
Required deficit reduction	26.1
Defense Programs: ¹	
Total required outlay reductions	13.0
Estimated outlays associated with across-the-board sequesterable budgetary resources	194.3
Uniform reduction percentage	6.7
Nondefense programs:	
Total required outlay reductions	13.0
Estimated savings from automatic spending increases	*
Estimated savings from the application of special rules:	
Guaranteed student loans	*
Foster care and adoption assistance	*
Medicare	1.5
Other health programs	0.2
Amount remaining to be obtained from uniform percentage reductions of budget resources	11.3
Estimated outlays associated with across-the-board sequesterable budgetary resources ²	115.3
Uniform reduction percentage	9.8
Memorandum:	
Defense with all military personnel accounts exempt:	
Total required outlay reductions	13.0
Estimated outlays associated with across-the-board sequesterable budgetary resources	116.7
Uniform reduction percentage	11.2

¹ Excludes Federal Emergency Management Agency accounts.

² Includes \$6.6 billion in estimated 1991 outlays for the Commodity Credit Corporation that can be affected by a 1990 sequester and \$3.0 billion in outlays from offsetting collections.

* \$50 million or less.

First, one-half of the required deficit reduction, \$13.0 billion, would be assigned to defense programs (budget accounts in the

national defense function, 050, excluding the Federal Emergency Management Agency) and the other half to nondefense programs.

Second, savings from eliminating automatic spending increases in three specific programs—the National Wool Act, the special milk program, and vocational rehabilitation—would be applied to the required reduction in outlays for nondefense programs. For 1990, only vocational rehabilitation state grants (4.2 percent) and the special milk program (2.6 percent) are estimated to have automatic spending increases. Savings from eliminating these adjustments would be \$47 million.

Third, the amount of outlay savings to be obtained by applying four special rules would be calculated. These special rules are for guaranteed student loans, foster care and adoption assistance, Medicare and certain other health programs. For the guaranteed student loan program, two changes would occur automatically if a sequester were triggered. First, under current assumptions, the statutory factor for calculating the quarterly special allowance payments to lenders would be reduced by 0.25 percentage points. Second, a student's origination fee would increase by 0.5 percentage points. For foster care and adoption assistance, a sequestration would eliminate increases in foster care maintenance payment rates or adoption assistance payment rates taking effect during the fiscal year. The reductions are limited to the extent that they can be made by reducing Federal matching payments by a uniform percentage across States. For Medicare and certain other health programs, reductions under a sequester order are limited to 2 percent. The estimated savings, \$1.7 billion for 1990, from these special rules would be applied toward the required spending reductions in nondefense programs.

The reductions in defense programs and remaining reductions in nondefense programs would be taken on a uniform percentage basis, computed separately for each category. The uniform reduction percentages are computed from outlay estimates. The remaining outlay savings to be achieved separately in defense and nondefense spending would be divided by the estimated outlays associated with sequesterable budgetary resources in each category. The two resulting uniform reduction percentages for defense and nondefense would then be applied separately to all of the remaining sequesterable budgetary resources (budget authority, credit authority, and other spending authority) in each category. Under current estimates, the uniform percentage reductions would be 9.8 percent for nondefense programs. For defense programs, the uniform percentage reduction would be 6.7 percent if military personnel accounts were sequesterable and 11.2 percent if these accounts were exempted from sequestration.

Tables A-20 and A-21 show the G-R-H budget baseline and sequestration reductions by function and agency.

Table A-20. 1990 G-R-H PRE- AND POST-SEQUESTER ESTIMATES BY FUNCTION

(In billions of dollars)

	Baseline		Sequestrations		Post-Sequester levels	
	Budget authority	Outlays	Budget authority	Outlays	Budget authority	Outlays
National defense ¹	310.4	300.9	-20.8	-13.0	289.6	287.8
International affairs	17.7	17.1	-1.8	-0.9	15.9	16.1
General science, space and technology	13.4	13.6	-1.3	-0.8	12.1	12.8
Energy	6.2	4.0	-0.6	-0.4	5.6	3.6
Natural resources and environment	16.8	17.7	-1.9	-1.2	14.9	16.5
Agriculture ²	22.5	18.7	-0.8	-0.9	21.7	17.8
Commerce and housing credit	17.4	8.8	-0.6	-0.4	16.8	8.4
Transportation	29.7	29.3	-2.9	-1.0	26.9	28.3
Community and regional development	6.8	6.8	-0.5	-0.2	6.3	6.6
Education, training, employment, and social services	37.2	37.4	-3.1	-1.2	34.1	36.2
Health	56.4	55.0	-1.7	-0.7	54.7	54.3
Medicare	124.4	100.0		-1.7	124.4	98.2
Income security	179.7	142.7	-1.5	-0.8	178.2	141.9
Social security	315.5	246.8		-0.2	315.5	246.6
Veterans' benefits and services	30.8	30.5	-0.5	-0.4	30.3	30.1
Administration of justice	10.1	10.0	-1.1	-0.9	9.1	9.1
General government	10.3	10.4	-0.9	-0.9	9.4	9.5
Net interest ³	171.1	171.1	-1.3	-1.3	169.8	169.8
Undistributed offsetting receipts	-36.9	-36.9			-36.9	-36.9
Total	1,339.4	1,183.6	-41.2	-26.7	1,298.2	1,156.9

* \$50 million or less.

¹ Sequestration calculation assumes that military personnel accounts are sequesterable.² Excludes \$0.6 billion in estimated 1991 outlay savings for Commodity Credit Corporation programs.³ Sequestrations and post-sequester levels include \$1.3 billion in debt service reduction resulting from the outlay reduction under the sequester.

DIFFERENCES BETWEEN CURRENT SERVICES AND THE G-R-H BUDGET BASELINE

The two baselines presented in this analysis are closely related. The current services deficit for 1990 is \$126.9 billion, while the G-R-H budget baseline deficit is \$126.1 billion. For mandatory programs the two baselines are nearly identical. One difference in mandatory programs that exists between the baselines is the treatment of expiring provisions of law in the Department of Veterans Affairs (VA) home loan guaranty program. Currently, VA has the authority to collect a one percent loan origination fee and to conduct non-recourse loan sales. These provisions expire at the end of 1989. The G-R-H budget baseline is required to assume that these provisions expire as scheduled; while the current services estimates assume they will be extended. Because the expiration of each of the provisions would increase outlays, current services outlays for the program are \$0.5 billion below the G-R-H budget baseline outlays.

The baselines are defined somewhat differently for discretionary programs. As required by law, the G-R-H baseline estimates for

Table A-21. 1990 G-R-H PRE- AND POST-SEQUESTER ESTIMATES BY AGENCY

(In billions of dollars)

	Baseline		Sequestrations		Post-sequester level	
	Budget authority	Outlays	Budget authority	Outlays	Budget authority	Outlays
Legislative Branch.....	2.2	2.2	-0.2	-0.2	2.0	2.1
Judicial Branch.....	1.7	1.6	-0.2	-0.1	1.5	1.5
Executive Office of the President.....	0.1	0.1	-*	-*	0.1	0.1
Funds appropriated to the President.....	11.6	11.2	-1.2	-0.5	10.3	10.7
Agriculture ¹	56.9	50.6	-1.5	-1.6	55.3	49.0
Commerce.....	2.8	2.8	-0.3	-0.2	2.6	2.6
Defense—Military ²	301.5	292.1	-20.3	-12.7	281.2	279.4
Defense—Civil.....	38.5	24.6	-0.3	-0.2	38.2	24.3
Education.....	22.5	21.8	-1.9	-0.5	20.6	21.3
Energy.....	12.7	11.4	-1.2	-0.8	11.6	10.6
Health and Human Services, except Social Security.....	216.7	192.0	-2.3	-3.2	214.4	188.8
Health and Human Services, Social Security.....	310.2	241.5	-0.2	-0.2	310.2	241.3
Housing and Urban Development.....	14.9	20.5	-1.2	-0.2	13.7	20.4
Interior.....	5.8	5.7	-0.6	-0.5	5.2	5.2
Justice.....	6.5	6.4	-0.6	-0.5	5.9	5.9
Labor.....	31.8	23.3	-0.6	-0.4	31.2	22.9
State.....	4.0	3.6	-0.3	-0.2	3.7	3.4
Transportation.....	28.7	28.3	-2.8	-0.9	26.0	27.3
Treasury ³	242.9	242.9	-2.1	-2.0	240.8	240.9
Veterans Affairs.....	30.7	30.4	-0.5	-0.4	30.2	30.1
Environmental Protection Agency.....	5.3	5.4	-0.5	-0.2	4.7	5.3
General Services Administration.....	0.1	0.2	-*	-*	0.1	0.2
National Aeronautics and Space Administration.....	11.3	11.6	-1.1	-0.7	10.2	10.9
Office of Personnel Management.....	54.3	34.2	-0.4	-*	53.9	34.2
Small Business Administration.....	0.4	0.3	-*	-*	0.4	0.3
Other independent agencies.....	22.9	16.3	-1.1	-0.6	21.8	15.7
Undistributed offsetting receipts.....	-97.6	-97.6			-97.6	-97.6
Total.....	1,339.4	1,183.6	-41.2	-26.7	1,298.2	1,156.9

* \$50 million or less.

¹ Excludes \$0.6 billion in estimated 1991 outlay savings for Commodity Credit Corporation programs.² Sequestration calculation assumes that military personnel accounts are sequesterable.³ Sequestrations and post-sequester levels include \$1.3 billion in debt service reduction resulting from the outlay reduction under the sequester.

discretionary programs are based on 1989 enacted levels adjusted for inflation and increased pay related costs. In general, current services estimates are defined in the same way with the exception that funding for the 1990 pay raise is included in a separate allowance in current services but in each account for the G-R-H baseline. (Use of the allowance for pay provides a better comparison with Presidential policy estimates, which also use an allowance.) However, some exceptions to the general guidance are given in developing current services estimates. For example, programs that are clearly temporary in nature, such as temporary commissions, are not extended past their expiration date in current services. Additionally, large construction projects that have not been constrained by appropriations are reflected in current services estimates following their approved schedule. In addition, mandatory

Table A-22. **COMPARISON OF CURRENT SERVICES AND G-R-H BASELINE DEFICITS**

(In billions of dollars)

	Estimate
Current services deficit (—)	-126.9
Differences:	
Entitlement programs:	
Veterans home loan guaranty program	-0.5
Discretionary programs:	
Periodic censuses	0.9
Other	0.4
Subtotal, discretionary programs	1.4
Net interest	*
Subtotal, differences	0.8
G-R-H baseline deficit (—)	-126.1

* \$50 million or less.

type activities within discretionary accounts, such as the decennial census, are built into the current services estimates. On net, differences for discretionary programs increase current services estimates above the G-R-H baseline by \$1.4 billion.

SPECIAL ANALYSIS B

FEDERAL TRANSACTIONS IN THE NATIONAL INCOME AND PRODUCT ACCOUNTS

The budget is designed to serve several purposes:

- It sets forth the *President's request to the Congress* for appropriations action on existing or new programs and for changes in tax and entitlement legislation.
- It is a *report to the Congress and the people* on how the Government has spent the funds entrusted to it in past years.
- It is an *economic document* that reflects the taxation and spending policies of the Government for promoting economic growth, high employment, and a stable price level.
- It proposes an *allocation of resources* between the private and public sectors and within the public sector. Through its impact on consumption, investment, and the distribution of income it also affects the allocation of resources within the private sector.

No single budget concept can satisfy all these purposes fully. The budget documents and related Treasury reports provide complete, detailed information on the finances of the Federal Government and on the tax and spending programs proposed by the President. For study of aggregate economic activity, however, the national income and product accounts (NIPA) of the United States provide the most useful measures. This special analysis shows Federal finances as measured in the NIPAs. The analysis is divided into three major sections. The first shows the size, composition, and trends in Federal sector receipts and expenditures. Additional details will be published in the January 1989 issue of the Department of Commerce publication, *Survey of Current Business*. The second section of this analysis shows quarterly estimates of Federal sector receipts and expenditures. The final section explains the major differences between the budget and the NIPA concepts. A discussion of fiscal policy can be found in Part 3 of the *Budget* and in the *Economic Report of the President*.

FEDERAL SECTOR RECEIPTS AND EXPENDITURES

Table B-1 shows Federal sector NIPA receipts, expenditures, and deficits for 1988-90.

Table B-1. FEDERAL SECTOR RECEIPTS AND EXPENDITURES IN THE NIPAs

(In billions of dollars)

Description	1988 actual	1989 estimate	1990 estimate
RECEIPTS			
Personal tax and nontax receipts	413.1	436.8	470.5
Corporate profits tax accruals	109.9	118.5	140.7
Indirect business tax and nontax accruals	57.0	57.5	65.7
Contributions for social insurance	384.8	416.5	456.5
Total receipts	964.8	1,029.3	1,133.4
EXPENDITURES			
Purchases of goods and services	378.3	398.4	413.0
Defense	(296.9)	(298.3)	(304.8)
Nondefense	(81.4)	(100.1)	(108.2)
Transfer payments	434.2	463.4	488.0
Domestic ("to persons")	(421.3)	(450.1)	(474.5)
Foreign	(12.9)	(13.3)	(13.5)
Grants-in-aid to State and local governments	108.5	116.9	117.5
Net interest paid	150.4	165.9	171.1
Subsidies less current surplus of Government enterprises	34.8	29.6	23.4
Wage disbursements less accruals	0.1	0.0	0.0
Total expenditures	1,106.3	1,174.2	1,213.0
Deficit (—)	—141.5	—144.9	—79.6

Note: The estimates for 1989 and 1990 are preliminary; revisions will be published in the January 1989 issue of the *Survey of Current Business*.

Trends in Federal sector receipts.—Table B-1 divides receipts into four major categories, which are also illustrated in the chart on the distribution of Federal sector receipts by category. Table B-2 shows 10-year averages of Federal sector receipts by category as a percent of the gross national product (GNP). The decade averages are shown to provide a perspective relative to the 1990 levels.

Table B-2. FEDERAL SECTOR RECEIPTS AS A PERCENT OF GNP

Description	1950-59 average actual	1960-69 average actual	1970-79 average actual	1980-89 average estimate	1990 estimate
Personal tax and nontax receipts	7.9	8.3	8.6	8.9	8.6
Corporate profits tax accruals	5.0	4.0	3.1	2.1	2.6
Indirect business tax and nontax accruals	2.8	2.3	1.5	1.4	1.2
Contributions for social insurance	2.5	4.1	6.1	7.6	8.3
Total receipts	18.2	18.8	19.3	20.0	20.7

Personal tax and nontax receipts.—The largest receipt category—personal tax and nontax receipts—is composed primarily of individual income taxes but also includes estate and gift taxes and some miscellaneous receipts.

Prior to 1981, individual income taxes grew at a faster rate than taxable personal income, because of "bracket creep." Because tax

rates are progressive, increases in income due to inflation pushed taxpayers into higher tax brackets. Periodically, tax reductions were enacted that partially offset the increase in effective tax rates resulting from the progressive tax structure. However, the Economic Recovery Tax Act of 1981 (ERTA) dramatically altered those circumstances. That act provided for across-the-board tax reductions and—starting in 1985—indexing of income tax brackets, the zero bracket amount, and the personal exemption to inflation. Although subsequent legislation limited the reduction in personal tax and nontax receipts anticipated in ERTA, its central components—rate reductions and indexation—remained largely intact. Largely due to the rate reductions enacted in 1981, personal tax and nontax receipts fell from a peak of 9.9 percent of GNP in 1982 to 8.5 percent in 1986.

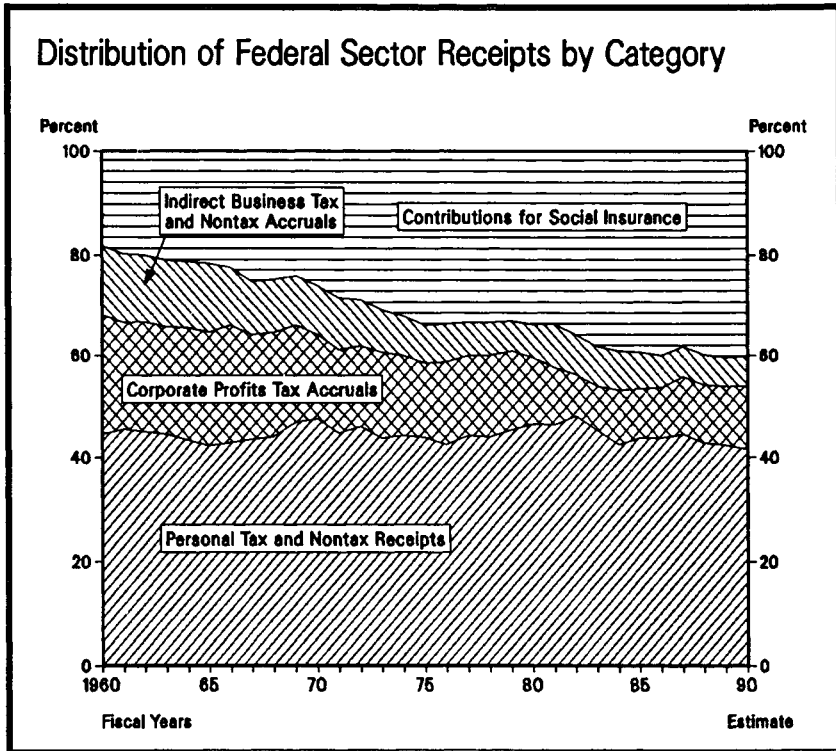
The Tax Reform Act of 1986 replaced the sixteen individual income tax brackets with two brackets having rates of 15 and 28 percent, in exchange for repeal of numerous deductions, exclusions, and special provisions. Despite generally lower tax rates, personal tax and nontax receipts are expected to increase slightly as a share of GNP to 8.6 percent in 1990 reflecting shifts in the composition of national income in favor of wages and salaries. This percentage is less than the 8.9 percent average for the 1980's as a whole, and the same as the average for the 1970's.

Corporate profits tax accruals.—Corporate profits tax accruals change significantly from year to year because corporate profits are highly volatile. The NIPA corporate profits taxes differ from the corresponding budget category primarily because: (1) the NIPAs include the deposit of earnings by the Federal Reserve System as corporate profits taxes, whereas the budget treats these collections as miscellaneous receipts; and (2) the NIPAs record corporate profits taxes when the profits are earned (that is, accrued), while the unified budget records the cash receipts.

The gradual decline in corporate profits tax accruals relative to total receipts, as shown in the chart on the next page, resulted mainly from three factors: (1) a long-term decline in corporate profits relative to GNP; (2) a narrowing of the corporate profits tax base resulting from changes in the definition of corporate profits for tax purposes (largely increases in permissible depreciation allowances); and (3) reductions in effective tax rates on corporate profits resulting from statutory rate reductions and tax credits. Provisions of ERTA designed to stimulate investment further accelerated this trend, but subsequent legislation offset their effects on corporate profits tax accruals, which are now expected to increase. Corporate profits tax accruals are estimated to increase to 2.6 percent of GNP in 1990, the highest percentage since 1980.

Indirect business tax and nontax accruals.—These receipts are composed of excise taxes, customs duties, and various miscellaneous receipts. Over time, indirect business tax and nontax accruals have become a much less important part of total Federal sector receipts for two reasons. First, they normally do not rise in proportion to the nominal growth in the economy; most are taxes on physical quantities rather than on the value of a good. Second, some excise taxes have been reduced or repealed.

Despite their long-term decline as a general-purpose source of tax receipts, the use of excise taxes as user charges to finance Federal programs, such as highways, airports, and airways, makes them an important source of financing for certain specialized programs in the budget. Indirect business taxes and nontax accruals are estimated to be 1.2 percent of GNP in 1990.



Contributions for social insurance.—This is the second largest category of Federal sector receipts. The increase in contributions for social insurance since World War II has been caused by the growth in the labor force and in wage rates, the expanded coverage of existing social insurance programs, the enactment of new ones,

and increases in the taxable wage base and tax rates needed to finance liberalization of benefits. During the decade of the 1950's, contributions for social insurance averaged 2.5 percent of GNP. During the 1980's they are expected to average 7.6 percent. As a result of the rapid rise in social insurance taxes (mainly social security) and the passage of legislation reducing or eliminating individual income taxes for many low- and moderate-income individuals and families, millions of Americans now pay significantly higher social insurance taxes than income taxes. The reductions in individual income tax rates provided by the Economic Recovery Tax Act of 1981 and the Tax Reform Act of 1986, combined with the increases in social security and other social insurance taxes mandated by the Social Security Amendments of 1983 and the Railroad Retirement Revenue Act of 1983, reinforce the trend toward increases in social insurance contributions relative to GNP. The supplemental premium for medicare catastrophic illness and prescription drug benefits, enacted in the Medicare Catastrophic Coverage Act of 1988, also contributes to this trend. These premiums are recorded as individual income taxes in the budget but as contributions for social insurance in the NIPAs. Contributions for social insurance are estimated to increase from 8.1 percent of GNP in 1989 to 8.3 percent in 1990, reflecting the scheduled increase in the social security tax rate, effective January 1, 1990.

Major tax changes.—In the past 8 years, major tax legislation has been passed to reduce tax rates and increase investment incentives; to curb tax shelter abuse, limit unwarranted tax benefits, and increase taxpayer compliance; to increase payroll taxes as part of overall legislation to restore the solvency of the social security system; and to increase gasoline taxes to fund infrastructure improvements.

One of the most sweeping overhauls of the Federal income tax code in the Nation's history became law in October 1986, when the President signed the Tax Reform Act of 1986. The major provisions of this Act, which broadened the individual and corporation income tax bases and substantially lowered individual and corporation income tax rates, were designed to restore simplicity and fairness to the tax code.

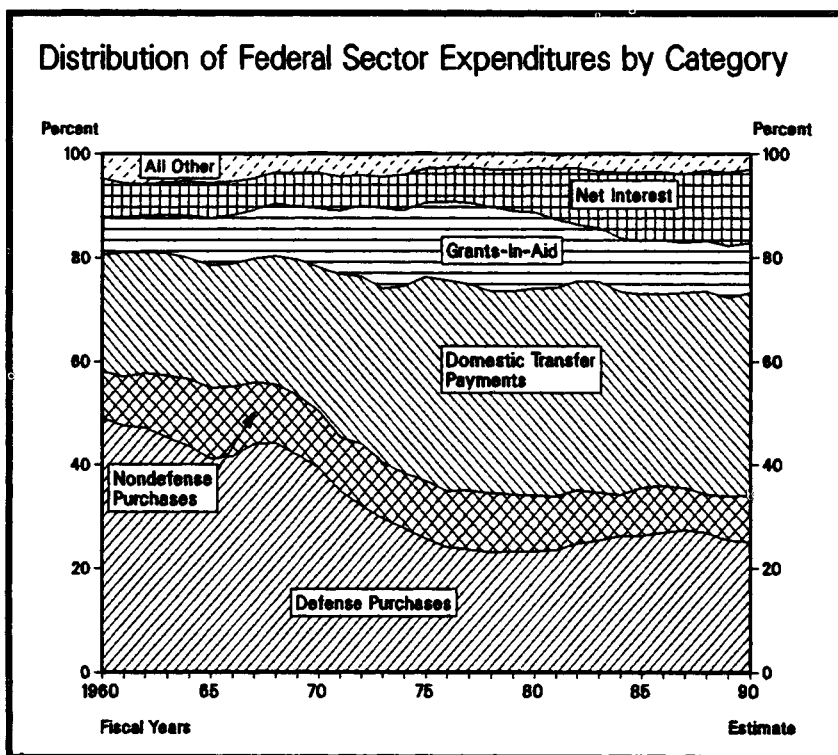
In this budget, the administration proposes several minor modifications of the existing tax system, the effects of which are included in both the budget and the NIPA estimates. The largest of these include extension of medicare hospital insurance coverage to all State and local government employees, permanent extension of the research and experimentation (R&E) tax credit, revisions in R&E allocation rules, and repeal of scheduled reductions in aviation-related taxes. Details about enacted and proposed tax changes on a unified budget basis can be found in Part 4 of the *Budget*; addition-

al details on an NIPA basis will be published in the January 1989 *Survey of Current Business*.

Trends in Federal sector expenditures.—Federal sector expenditures are divided into several major NIPA categories. The principal distinction is between purchases of goods and services (which are divided between defense and nondefense purchases) and all other transactions. Purchases are that portion of the Nation's output that is bought directly by the Federal Government and, therefore, is included in the GNP. The other expenditure categories consist primarily of transfer payments to individuals, net interest payments, and grants to State and local governments. The individuals and governments who receive these payments can use the income to finance their own purchases of goods and services, to save, and—in the case of States and localities—to hold down taxes or to make transfer payments.

Major changes in composition.—As can be seen in the chart on the distribution of Federal sector expenditures since 1960, major shifts in the composition of Federal sector expenditures occur over time.

Over most of this period, defense purchases of goods and services constituted a declining share of Federal spending. This trend was temporarily reversed for three years during the Vietnam period, but by 1970 the defense share was well below the pre-Vietnam percentages and continued declining through 1978. The defense share increased significantly in the early 1980's reaching a peak of 27.4 percent in 1987. It then declined to 26.8 percent in 1988 and is estimated to decline further to 25.4 percent in 1989 and 25.1 percent in 1990.



Spending for domestic transfer payments contrasts sharply with the general decline in defense purchases. After remaining relatively stable at just below 24 percent of total expenditures for most of the 1960's, domestic transfer payments began growing rapidly in the latter part of the decade, and reached a share of nearly 41 percent in 1976. This growth is largely explained by higher expenditures for retirement and other social insurance programs, due to increases in the number of beneficiaries, higher earnings histories, legislated increases in benefit levels enacted over a period of years, and by the creation and expansion of the medicare program. Slower growth in the retiree population, lower unemployment, and legislative initiatives have slowed the growth of transfers so that domestic transfer payments are now several percentage points below the 1976 share.

For the remaining categories, two patterns stand out. Grants-in-aid to State and local governments grew rapidly in the 1960's and 1970's, but their share of Federal sector expenditures has declined from 16.2 percent in 1978 to an estimated 9.7 percent in 1990. Conversely, the net interest share more than doubled in the past decade—from about 6.5 percent throughout the 1960's and early

1970's to over 14.1 percent in 1990. This increase was due to a combination of growth in Federal debt and higher interest rates. By 1991, however, the increase in the net interest share is expected to reverse, because of lower interest rates and lower deficits that are projected to slow the growth of Federal debt.

Expenditures as a share of GNP.—The preceding section discussed the various categories of Federal sector expenditures relative to total expenditures. An alternative way to compare spending trends is to look at changes in the share of the Nation's current output represented by the major expenditure categories. Table B-3 shows 10-year averages of Federal sector expenditures by category as a percent of GNP.

Table B-3. FEDERAL SECTOR EXPENDITURES AS A PERCENT OF GNP

Description	1950-59 average actual	1960-69 average actual	1970-79 average actual	1980-89 average estimate	1990 estimate
Defense purchases	9.9	8.5	5.9	6.0	5.6
Nondefense purchases	1.7	2.2	2.3	2.2	2.0
Domestic transfer payments ("to persons")	3.2	4.6	7.5	9.2	8.7
Foreign transfer payments	0.7	0.4	0.2	0.3	0.2
Grants-in-aid to State and local governments	0.9	1.6	3.0	2.6	2.1
Net interest paid	1.3	1.2	1.4	2.8	3.1
Subsidies less current surplus of Government enterprises	0.4	0.6	0.5	0.5	0.4
Total expenditures	18.0	19.1	20.9	23.6	22.2

Note.—Total expenditures also include wage disbursements less accruals, which are less than 0.1 percent in most year

In the 1950's, defense purchases averaged nearly 10 percent of GNP. By the 1970's they had declined to an average of just under 6 percent. In 1986, defense purchases had increased to 6.6 percent of GNP, reflecting the Reagan administration's defense build-up. In 1990 they are expected to be 5.6 percent of GNP.

Between 1967 and 1984, domestic transfer payments increased dramatically as a share of GNP, although they have declined somewhat in recent years. Net interest has also increased sharply and is expected to continue increasing through 1990. Grants-in-aid spending relative to GNP increased rapidly before declining significantly in recent years. Spending for everything except defense purchases averaged 8.1 percent of GNP in the 1950's. In the 1980's such spending is estimated to average 17.6 percent of GNP; in 1990 its share is estimated to decline to 16.6 percent of GNP.

Defense purchases of goods and services.—Defense purchases consist of all purchases of goods and services under programs included in the national defense function in the budget. Also included are purchases of goods and services by the military assistance programs that are classified in the international affairs function. Nor-

mally about 95 percent of defense purchases are made by the Department of Defense-Military. Most of the remainder is for nuclear weapons programs, international security assistance, and civil defense, carried out by other agencies.

In 1944, at the peak of World War II, defense purchases were 41.3 percent of GNP. Four years later, they had declined to 4.2 percent.

During the Korean conflict, they increased sharply to 12.3 percent in 1952 and 13.4 percent in 1953, declining somewhat when the conflict was over, but averaging 9.7 percent from 1954-1963.

The defense purchases share declined somewhat in the years immediately preceding the Vietman conflict, falling to 7.3 percent in 1965, but then increased to 9.1 percent in 1968.

The years after Vietman saw defense purchases decline as a share of GNP in every year but one from 1969 to 1979, when it reached a low of 4.8 percent of GNP.

During the early 1980's, defense increased as a share of GNP in nearly every year through 1986, where it reached a peak of 6.6 percent. In 1990 it is estimated to be 5.6 percent.

Table B-4. PURCHASES OF GOODS AND SERVICES BY CHARACTER OF EXPENDITURE

(In billions of dollars)

	1985 actual	1986 actual	1987 actual	1988 actual	1989 estimate	1990 estimate
Defense purchases:						
Compensation of employees	99.2	103.6	107.6	112.1	116.4	121.2
Other	153.5	171.7	182.5	184.8	181.9	183.6
Total defense purchases	252.7	275.3	290.1	296.9	298.3	304.8
Nondefense purchases:						
Compensation of employees	39.0	39.4	41.4	44.1	47.3	50.4
Other	49.8	53.7	43.9	37.3	52.8	57.8
Total nondefense purchases	88.8	93.1	85.3	81.4	100.1	108.2

Table B-4 displays defense and nondefense purchases of goods and services, with a split by character of purchases between compensation of employees and all other purchases.

Nondefense purchases, which had actually declined from 1985 to 1988, are estimated to increase 23.0 percent in 1989, and 8.1 percent in 1990. The large increase in 1989 represents a rebound from the large commodity sales by the Commodity Credit Corporation (CCC) in 1988, which resulted from the drought. Excluding CCC, nondefense purchases are estimated to increase 9.3 percent in 1989 and 4.1 percent in 1990.

Nondefense compensation is estimated to increase by 6.6 percent in 1990, while defense compensation increases 4.1 percent. The larger nondefense increase is partly due to increased manpower for

the 1990 Census, and due to transition to the Federal Employee Retirement System. Agencies make higher employer contributions than to the old Civil Service Retirement System. Defense purchases other than compensation are estimated to increase by less than 1 percent in 1990.

Nondefense purchases of goods and services.—This category covers the goods and services purchased by Federal nondefense agencies. Included are such programs as the operation of national forest, park, and recreation areas; promotion of commerce; acquisition and disposal of agricultural commodities; construction of flood control and navigation projects; operation of the Federal airway system; a wide variety of medical, energy, space, and other scientific research; the capital outlays of Government enterprises; Federal law enforcement; and operation of veterans hospitals. Table B-5 shows these purchases by agency for the years 1981 to 1990, reflecting the agency structure in the 1990 budget.

Nondefense purchases consist mainly of the cost of operating the various nondefense agencies. In the case of Government enterprises, including the Commodity Credit Corporation (CCC) and the Postal Service, the data also reflect capital formation net of sales of assets and changes in inventories. The most volatile major segment of nondefense purchases is CCC purchases, because the CCC buys, sells, or otherwise disposes of agricultural commodities. On occasion—as in 1979 and in 1984—CCC sales and other disposals may exceed new purchases. As a result of the severe drought in the summer of 1988, CCC had unusually large sales, resulting in negative net purchases of $-\$14.8$ billion. Purchases are expected to remain negative in 1989 and 1990, at $-\$5.0$ billion and $-\$1.2$ billion, respectively.

The Department of Health and Human Services and the Department of Veterans Affairs are normally the two largest agencies in terms of nondefense purchases. Their combined purchases for health care, including research and administrative costs for medicare, are estimated at $\$22.6$ billion in 1990, about 85 percent of the total purchases for the two agencies. Most of their remaining purchases are for administering social security and income security transfer programs. Both the National Aeronautics and Space Administration, with $\$12.5$ billion in 1990 nondefense purchases, and the Department of Energy, with $\$3.6$ billion in 1990 nondefense purchases, conduct major research and development programs. The Transportation Department's $\$8.7$ billion of 1990 nondefense purchases is mainly for the Federal Aviation Administration and the Coast Guard. The Corps of Engineers has an estimated $\$3.2$ billion in 1990 nondefense purchases, which, along with the Tennessee Valley Authority's $\$1.2$ billion, is primarily used for natural resources public works projects and for power activities.

Table B-5.—NONDEFENSE PURCHASES OF GOODS AND SERVICES BY AGENCY AND ACTIVITY

(In billions of dollars)

	Actual								Estimate	
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Legislative and judicial branches.....	1.8	2.1	2.2	2.4	2.6	2.7	3.0	3.2	3.7	3.7
Department of Agriculture.....	5.6	12.9	9.6	-2.0	12.1	15.8	4.4	-7.6	2.6	5.1
Commodity Credit Corporation.....	(1.2)	(8.0)	(4.3)	(-7.6)	(6.3)	(10.8)	(-0.8)	(-13.4)	(-4.1)	(-0.6)
Forest Service.....	(1.9)	(1.9)	(1.8)	(1.8)	(2.0)	(1.9)	(1.9)	(2.3)	(2.5)	(2.2)
All other.....	(2.6)	(3.0)	(3.5)	(3.9)	(3.9)	(3.1)	(3.3)	(3.4)	(4.2)	(3.5)
Department of Commerce.....	1.5	1.5	1.6	1.6	1.7	1.8	1.7	2.0	2.5	3.4
Corps of Engineers, Civil.....	3.2	3.0	3.0	3.0	3.0	2.8	2.7	3.0	3.3	3.2
Department of Education.....	0.8	0.8	0.7	0.9	0.8	0.8	0.9	0.8	1.0	1.0
Department of Energy.....	7.8	5.2	5.1	4.8	5.0	3.5	3.4	3.6	3.9	3.6
Department of Health and Human Services.....	8.3	8.7	8.6	9.2	9.8	10.0	10.6	12.0	13.5	14.5
Health, including medicare.....	(5.9)	(5.9)	(5.8)	(6.3)	(7.1)	(7.4)	(7.7)	(9.1)	(10.6)	(11.4)
Social security, income security, and other.....	(2.4)	(2.8)	(2.7)	(2.8)	(2.7)	(2.7)	(2.9)	(2.9)	(2.9)	(3.0)
Department of Housing and Urban Development.....	0.4	0.5	0.7	1.0	1.1	1.6	1.7	1.8	2.0	2.0
Department of the Interior.....	4.0	3.9	4.2	4.3	4.5	4.4	4.3	4.7	4.8	4.8
Department of Justice.....	2.3	2.4	2.7	3.0	3.4	3.5	4.2	5.2	5.7	6.2
Department of Labor.....	1.9	1.9	1.5	1.5	1.4	1.6	1.5	1.9	1.9	1.9
Department of State.....	1.0	1.1	1.3	1.4	1.6	1.9	1.9	2.3	2.4	2.4
Department of Transportation.....	5.1	5.3	5.7	6.0	6.3	6.5	6.9	7.3	7.9	8.7
Coast Guard.....	(1.6)	(1.8)	(2.1)	(2.2)	(2.2)	(2.1)	(2.2)	(2.3)	(2.5)	(2.7)
Federal Aviation Administration.....	(2.7)	(2.5)	(2.8)	(3.1)	(3.4)	(3.8)	(4.0)	(4.4)	(4.6)	(5.4)
Other.....	(0.8)	(0.9)	(0.8)	(0.8)	(0.6)	(0.5)	(0.8)	(0.6)	(0.8)	(0.7)
Department of the Treasury.....	4.2	4.2	4.6	4.7	5.4	5.8	6.3	7.4	8.0	8.3
Internal Revenue Service.....	(2.4)	(2.5)	(2.9)	(3.2)	(3.6)	(3.8)	(4.2)	(5.0)	(5.2)	(5.5)
Other.....	(1.8)	(1.7)	(1.7)	(1.5)	(1.9)	(2.0)	(2.1)	(2.4)	(2.8)	(2.8)
Veterans Affairs.....	7.6	8.1	8.9	9.6	10.3	10.7	11.0	11.6	11.9	11.7
Hospital and medical care.....	(6.8)	(7.3)	(8.1)	(8.7)	(9.5)	(9.7)	(10.1)	(10.7)	(11.1)	(11.2)
Administration and other.....	(0.8)	(0.8)	(0.8)	(0.9)	(0.8)	(1.0)	(0.9)	(0.9)	(0.8)	(0.5)
Environmental Protection Agency.....	1.0	0.9	1.0	1.1	1.3	1.4	1.6	1.9	2.2	2.5
National Aeronautics and Space Administration.....	5.3	5.9	6.5	6.9	7.2	7.3	7.5	8.8	10.4	12.5

SPECIAL ANALYSIS B

B-11

Table B-5.—NONDEFENSE PURCHASES OF GOODS AND SERVICES BY AGENCY AND ACTIVITY—Continued

(In billions of dollars)

	Actual								Estimate	
	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
All other	9.3	8.8	9.0	9.1	11.3	11.1	11.7	11.4	12.5	12.7
National Science Foundation	(0.4)	(0.5)	(0.5)	(0.5)	(0.6)	(0.7)	(0.7)	(0.7)	(0.8)	(0.9)
Nuclear Regulatory Commission	(0.4)	(0.4)	(0.5)	(0.5)	(0.5)	(0.4)	(0.4)	(0.2)	(0.4)	(0.5)
Office of Personnel Management: Employee health benefits and imputed employee retirement contributions	(2.3)	(2.5)	(2.7)	(3.0)	(3.3)	(3.1)	(3.2)	(3.3)	(3.7)	(3.7)
Postal Service	(0.5)	(0.4)	(0.6)	(0.9)	(1.0)	(1.2)	(1.6)	(1.7)	(1.5)	(2.5)
Tennessee Valley Authority	(1.5)	(1.0)	(0.9)	(0.2)	(0.8)	(1.5)	(1.7)	(1.4)	(1.3)	(1.2)
United States Information Agency	(0.4)	(0.5)	(0.5)	(0.5)	(0.6)	(0.7)	(0.7)	(0.8)	(0.8)	(0.8)
Imputed bank service charges	(0.4)	(0.4)	(0.4)	(0.5)	(0.6)	(0.5)	(0.6)	(0.6)	(0.6)	(0.6)
Other	(3.3)	(3.1)	(2.8)	(3.0)	(3.9)	(2.9)	(2.7)	(2.6)	(3.3)	(2.5)
Total nondefense purchases	71.1	77.1	77.0	68.7	88.8	93.1	85.3	81.4	100.1	108.2

B-12

THE BUDGET FOR FISCAL YEAR 1990

Domestic transfer payments.—This is the largest category of Federal sector expenditures. Spending for domestic transfers has expanded rapidly in recent years, mainly as a result of more beneficiaries and higher benefit payments under social insurance programs. As Table B-6 shows, spending on human resources programs, especially for social security and medicare benefits, dominates domestic transfer payments. Medicare is among the fastest-growing programs in the budget, and is expected to increase 10.4 percent in 1990. This includes spending on the recently enacted catastrophic health care programs. Social security is expected to increase 6.2 percent. Together they are estimated to account for 72.2 percent of total domestic transfer payments in 1990, while Federal civilian and military employees' retirement and disability account for 10.5 percent, veterans benefits for 3.7 percent of the total, and unemployment assistance accounts for another for 3.1 percent. Program trends on a unified budget basis are discussed in Part 5 of the *Budget* and elsewhere in the budget documents.

Most domestic transfer payments are for income support and are characterized by automatic eligibility of coverage and automatic benefit increases to adjust for changes in the cost of living. For these programs demographic and economic conditions dominate the growth patterns, and the rate of growth is quite substantial for most years shown. However, due to the sharp decline in the unemployment rate, transfer payments for unemployment benefits are estimated to decline by \$1.9 billion between 1980 and 1990, despite a significantly larger economy and a 50 percent higher price level. This, combined with legislative efforts to slow the growth of Federal spending, is thereby significantly slowing the rate of growth for transfer payments as a whole.

Table B-6. FUNCTIONAL COMPOSITION OF DOMESTIC TRANSFER PAYMENTS

(In billions of dollars)

Description	Actual										Estimate	
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
HUMAN RESOURCES PROGRAMS												
Social security (OASDI)	99.4	113.7	134.1	149.6	163.3	170.9	181.2	190.9	199.4	210.7	223.7	237.6
Medicare (HI, SMI, and CHI)	28.1	33.8	41.1	49.0	56.1	60.8	68.3	73.8	81.4	85.7	95.3	105.3
Income security:												
Railroad retirement	4.2	4.7	5.2	5.6	6.0	6.1	6.2	6.3	6.5	6.5	6.8	7.0
Civil service retirement	12.4	14.6	17.6	19.4	20.7	21.8	23.0	23.9	25.7	28.2	29.7	29.5
Military retired pay	10.1	11.8	13.6	14.7	15.8	16.3	15.6	17.5	17.9	18.9	19.9	20.5
Unemployment benefits	9.9	16.4	17.9	22.0	29.4	16.9	16.0	16.3	15.8	13.7	14.2	14.5
Benefits for coal miners	1.6	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.5	1.5	1.5
Supplemental security income	5.2	5.7	6.4	6.9	7.2	8.1	8.7	9.4	10.1	11.4	11.3	11.0
Food and nutrition	5.7	7.9	9.8	9.5	11.1	10.7	10.7	10.6	10.5	11.1	11.3	11.4
Earned income tax credit	0.8	1.3	1.3	1.2	1.2	1.2	1.1	1.4	1.4	2.7	3.8	3.8
Workers' compensation	0.7	0.8	0.9	0.9	0.9	1.0	1.1	1.1	1.2	1.2	1.3	1.4
Other	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.5	0.5	0.4	0.4
Subtotal, income security	50.6	65.0	74.5	81.9	94.2	83.9	84.1	88.5	91.1	95.6	100.3	100.9
Health	0.6	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.9
Education, training, employment, and social services:												
Education	3.4	4.5	5.7	5.3	5.9	6.1	6.3	6.0	5.9	6.6	7.6	7.4
Training, employment, and social services	0.9	1.5	1.1	0.9	0.8	1.0	1.0	1.0	1.0	1.1	1.1	1.1
Subtotal, education, training, employment, and social services.....	4.3	6.0	6.8	6.2	6.7	7.1	7.2	7.0	7.0	7.7	8.7	8.5
Veterans benefits and services	14.0	14.4	15.5	16.2	16.5	16.3	16.5	16.6	16.5	16.8	17.3	17.5

B-14

THE BUDGET FOR FISCAL YEAR 1990

Total human resources pro- grams	196.9	233.5	272.7	303.6	337.4	339.6	358.0	377.5	396.1	417.3	446.1	470.5
ALL OTHER FUNCTIONS												
National defense: CHAMPUS ¹	0.7	0.7	0.9	1.1	1.2	1.3	1.5	1.7	1.9	2.6	2.5	2.8
Other	0.9	1.1	1.1	1.0	1.1	1.4	1.1	1.1	1.4	1.5	1.4	1.2
Total functions not included in human resources grouping	1.5	1.8	1.9	2.1	2.3	2.7	2.6	2.8	3.2	4.0	4.0	4.0
Total domestic transfer pay- ments	198.5	235.4	274.6	305.6	339.8	342.2	360.6	380.4	399.4	421.3	450.1	474.5

*\$50 million or less.

¹ Health care for dependents of active duty personnel and retired military personnel and their dependents.

Grants-in-aid.—These expenditures help State and local governments provide general public services and finance programs for the needy. Table B-7 shows grants-in-aid by budget function and major activity. Grant expenditures are discussed in greater detail in Special Analysis H in this volume. While the definition of Federal aid used in that analysis differs somewhat from that used in the NIPAs, the two sets of data largely overlap. Special Analysis H explains the relationship between the series.

Grants-in-aid may often substitute for domestic transfer payments and, to a lesser degree, nondefense purchases. For example, low-income veterans could be eligible for free medical care under medicaid (Federal grants to finance State and local transfer payments), in a veterans hospital (nondefense purchases), or perhaps under medicare (transfer payments). Medicaid and most grants in the income security function are grants to assist States to provide income support; most other grants finance State and local services to the public. (The income support may be aid-in-kind, as is the case for medicaid, where much of the State and local spending is to reimburse the cost of providing medical care for the poor.)

The growth in most Federal grants-in-aid categories has been constrained over the last 8 years as part of the administration's efforts to curb the growth in overall spending. However, expenditures have increased significantly for two categories—medicaid and transportation. Despite reforms to increase program efficiency and effectiveness, medicaid grants are estimated to increase by 12.5 percent in 1989 and 5.0 percent in 1990. Transportation grants are estimated to increase by 0.6 percent in 1989, and 1.1 percent in 1990. Outlays for other grants are estimated to increase by 7.4 percent in 1989 and to decline by 2.0 percent in 1990.

Table B-7. FUNCTIONAL COMPOSITION OF FEDERAL GRANTS-IN-AID

(In billions of dollars)

Description	Actual										Estimate	
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
HUMAN RESOURCES PROGRAMS												
Income security:												
Family support payments.....	6.5	7.2	8.4	7.9	7.8	8.2	8.5	9.2	10.5	10.7	11.2	10.7
Child nutrition and other food programs..	3.3	3.9	4.4	4.2	4.7	5.4	5.8	6.2	6.6	7.0	7.7	7.1
Other.....	1.7	2.2	4.5	4.7	5.4	5.4	5.6	6.3	5.9	5.3	5.0	5.0
Subtotal, income security.....	11.5	13.3	17.2	16.7	17.9	19.0	19.9	21.7	23.0	23.0	24.0	22.9
Health:												
Medicaid.....	12.4	13.9	16.8	17.3	18.9	20.0	22.6	24.6	27.4	30.4	34.2	35.9
Other (includes research, construction, services, and medical training).....	2.7	3.0	3.1	3.1	2.8	3.0	3.2	3.3	3.4	3.8	4.2	4.2
Subtotal, health.....	15.1	16.9	19.9	20.5	21.8	23.0	25.7	27.9	30.8	34.2	38.3	40.1
Education, training, employment, and social services:												
Education.....	6.6	7.3	7.5	7.0	6.6	6.6	7.9	8.3	8.0	8.7	9.5	9.9
Training and employment.....	8.5	7.7	6.7	3.3	3.3	2.6	2.9	3.1	2.9	2.9	3.0	2.9
Social services.....	5.3	6.3	5.4	5.0	5.4	6.2	5.8	6.3	6.3	6.9	8.5	8.1
Subtotal, education, training, employment, and social services.....	20.3	21.3	19.6	15.3	15.3	15.5	16.6	17.7	17.3	18.4	20.9	20.9
Other (social security, medicare, and veterans benefits and services).....	0.4	0.5	0.6	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.1	1.2
Total human resources programs.....	47.4	52.0	57.2	53.2	55.8	58.2	63.0	68.2	71.9	76.6	84.4	85.0

SPECIAL ANALYSIS B

B-17

Table B-7. FUNCTIONAL COMPOSITION OF FEDERAL GRANTS-IN-AID—Continued

(In billions of dollars)

Description	Actual										Estimate	
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
OTHER FUNCTIONS:												
Natural resources and environment:												
EPA	3.9	4.6	4.1	4.0	3.2	2.9	3.2	3.4	3.2	2.9	2.9	2.9
Other	0.6	0.7	0.7	0.7	0.6	0.8	0.8	0.7	0.6	0.8	0.7	0.5
Subtotal, natural resources and environment	4.5	5.2	4.8	4.7	3.9	3.7	4.0	4.1	3.8	3.6	3.7	3.4
Community and regional development:												
Local public works	1.6	0.4	0.1	*	*	*	*	*	*			
Block grants	3.2	4.0	4.3	4.1	3.9	4.1	4.2	3.7	3.2	3.2	3.3	3.2
Other	1.6	1.8	1.5	1.1	0.9	0.8	0.8	0.9	0.8	0.9	0.8	0.8
Subtotal, community and regional development	6.4	6.2	5.9	5.2	4.8	5.0	4.9	4.5	4.0	4.1	4.1	4.0
Transportation	9.6	11.8	12.2	10.8	12.1	14.3	16.0	17.7	16.1	17.1	17.2	17.4
General purpose fiscal assistance:												
General revenue sharing	6.8	6.8	5.1	4.6	4.6	4.6	4.6	4.6	4.4			
Other	0.9	1.1	1.1	1.4	1.2	1.6	1.6	1.5	1.4	1.4	1.5	1.4
Subtotal, general purpose fiscal assistance	7.8	7.9	6.3	5.9	5.9	6.1	6.1	5.9	1.4	1.4	1.5	1.4
All other functions	3.5	3.5	3.7	3.6	3.3	3.4	3.7	7.0	5.9	5.7	6.0	6.3
Total other functions	31.7	34.7	32.9	30.3	29.9	32.5	34.7	39.3	31.2	31.9	32.5	32.5
Total grants-in-aid	79.1	86.7	90.1	83.4	85.7	90.7	97.8	107.4	103.1	108.5	116.9	117.5

* 50 million or less.

Foreign transfer payments.—There are three major types of foreign transfer payments: expenditures to assist foreign economic development, grants of surplus agricultural products, and payments under social security and similar programs to individuals living abroad. Although payments to individuals living abroad are gradually rising, roughly in proportion to the rise in GNP, total foreign transfer payments have declined to just 0.2 percent of GNP. The peak year for foreign transfer payments was 1949; in that year they were equal to 1.9 percent of GNP, due to the Marshall Plan.

Net interest paid.—Net interest paid depends on the size of Federal debt, loans outstanding, and the interest rates on borrowing and lending. Large budget deficits in the 1980's, in combination with high interest rates made net interest among the fastest growing components of the budget, increasing from 8.6 percent of total expenditures in 1980 to 14.1 percent in 1990. However, this trend is projected to reverse as lower interest rates and smaller deficits cause net interest to decline after 1990.

Subsidies less current surplus of Government enterprises.—This category of expenditures consists of two elements: (1) subsidy payments to resident businesses (including farms); and (2) the "current surplus" or "deficit" of Government enterprises. In this context, a subsidy is a monetary grant to a unit engaged in commercial activities. Examples are housing subsidies, farm subsidies, railroad subsidies, and mass transit subsidies. As Table B-8 shows, normally about half of the subsidies are for housing programs (including Department of Agriculture housing programs). These subsidies are designed mainly to reduce the cost of housing to low- and moderate-income families.

"Government enterprise" is the term used in the NIPAs to designate certain business-type operations of the Government that usually appear in the budget as public enterprise revolving funds. The operating costs of Government enterprises are, to a great extent, covered by the sale of goods and services to the public rather than from tax receipts. The difference between the sales and the current operating expense of a Government enterprise constitutes its surplus or deficit. The net capital formation of Government enterprises is classified as nondefense purchases. The largest Federal Government enterprises are the Commodity Credit Corporation, the Postal Service, and the Tennessee Valley Authority.

Table B-8. SUBSIDIES LESS CURRENT SURPLUS OF GOVERNMENT ENTERPRISES

(In billions of dollars)

Description	Actual										Estimate	
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Subsidies:												
Commodity Credit Corporation.....	2.0	0.5	1.4	1.6	4.9	10.6	8.0	10.0	13.0	14.9	10.4	10.0
Rural housing insurance fund.....	0.6	0.6	0.8	1.4	1.7	1.7	1.9	2.1	1.8	1.7	1.6	1.3
Other Department of Agriculture.....	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.2
Housing (HUD).....	4.3	5.1	6.3	7.6	9.2	9.7	11.0	11.0	11.0	12.3	13.7	15.0
Maritime.....	0.5	0.6	0.5	0.6	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2
Railroad and mass transit.....	1.5	2.0	2.2	1.9	1.7	1.7	1.6	1.3	1.3	1.4	1.4	0.4
Other ¹	0.6	0.5	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Subtotal.....	9.9	9.5	11.7	13.5	18.2	24.4	23.2	25.0	27.6	30.9	27.6	27.2
Enterprise surpluses (—) or deficits:												
Commodity Credit Corporation.....	1.4	1.5	1.8	2.3	5.5	2.5	2.0	4.5	8.0	10.6	9.0	2.7
Postal Service.....	0.6	1.6	1.1	-0.1	0.4	0.6	1.1	-0.1	0.5	-0.2	-1.3	-0.1
Bonneville Power Administration.....	-0.2	-0.2	-0.3	-0.2	-0.4	-0.7	-0.7	-0.5	-0.5	-0.3	-0.3	-0.8
Tennessee Valley Authority.....	-0.8	-1.1	-1.0	-1.2	-1.4	-1.5	-2.0	-2.0	-2.4	-2.2	-2.3	-2.6
Federal Housing Administration.....	-0.2	-0.4	-0.5	-0.5	-0.5	-0.4	-0.5	-0.6	-0.5	-1.1	-1.1	-1.3
Federal Deposit Insurance Corporation.....	-0.3	-0.3	-0.4	-0.6	-0.6	-1.1	-1.2	-1.4	-1.4	-1.4	-1.7	-1.8
Federal Savings and Loan Insurance Corporation.....	-0.3	-0.3	*	-0.2	-0.3	-0.4	-1.4	-1.9	-1.9	-1.4	-0.6	*
All other ¹	-0.2	*	*	*	—*	0.1	-0.2	*	0.2	*	0.3	—*
Subtotal.....	—*	1.0	0.9	-0.5	2.7	-1.0	-2.6	-2.1	2.0	4.0	2.0	-3.8
Total subsidies less current surplus.....	9.9	10.4	12.5	13.0	20.9	23.4	20.7	22.9	29.6	34.8	29.6	23.4

* \$50 million or less.

¹ Includes wage disbursements less accruals.

Wage disbursements less accruals.—This is an adjustment occasionally made in the NIPAs to bridge between the sum of the expenditure components and the totals. This is necessary when wages and salaries are received in a time period that is different from when they are earned. The unified budget records these payments on a cash basis (when they are paid). The NIPA treat such payments on an accrual basis (when they are earned) for nondefense purchases and the current surplus of Government enterprises, but on a cash basis for total expenditures. Wage disbursements less accruals is the timing adjustment necessary to allow the individual expenditure categories to sum to the total expenditures. The net adjustment made is normally small since wage and salary payments disbursed in one year but earned in another are approximately offset by payments disbursed in the next year but earned in the current one.

QUARTERLY ESTIMATES

Table B-9 presents quarterly NIPA receipts and expenditures estimates at seasonally adjusted annual rates for 1988 to 1990. The translation of the budget into the NIPA categories is inexact. When the annual NIPA estimates are converted into quarterly distributions that are seasonally adjusted at annual rates, greater imprecision must be expected. The data presented in Table B-9 are the best available estimates of the quarterly NIPA receipts and expenditures consistent with the 1990 budget.

Table B-9. FEDERAL RECEIPTS AND EXPENDITURES IN THE NIPAs, QUARTERLY, 1988-90

(In billions of dollars; seasonally adjusted at annual rates)

Description	Actual				Estimate							
	Oct.-Dec. 1987	Jan.-Mar. 1988	Apr.-June 1988	July-Sept. 1988	Oct.-Dec. 1988	Jan.-Mar. 1989	Apr.-June 1989	July-Sept. 1989	Oct.-Dec. 1989	Jan.-Mar. 1990	Apr.-June 1990	July-Sept. 1990
RECEIPTS												
Personal tax and nontax receipts	422.3	404.6	425.0	408.3	420.4	431.6	441.9	445.4	454.3	466.0	472.7	480.8
Corporate profits tax accruals	107.7	107.2	111.7	113.1	113.9	114.2	119.3	126.4	131.5	139.1	143.8	148.5
Indirect business tax and nontax accruals...	55.0	55.9	55.9	57.1	59.0	56.9	57.0	57.2	63.5	66.3	66.5	66.8
Contributions for social insurance.....	359.4	383.4	390.3	397.0	404.1	414.9	420.0	425.0	432.6	455.7	461.5	467.0
Total receipts	944.4	951.0	983.0	975.5	997.4	1,017.6	1,037.9	1,054.0	1,081.9	1,127.1	1,144.5	1,163.1
EXPENDITURES												
Purchases of goods and services.....	391.4	377.7	382.2	367.7	385.0	398.4	403.6	406.3	404.2	412.0	419.1	416.2
Defense.....	(299.2)	(298.4)	(298.8)	(294.3)	(294.9)	(298.3)	(299.3)	(300.5)	(297.3)	(303.8)	(308.1)	(309.6)
Nondefense.....	(92.2)	(79.3)	(83.4)	(73.4)	(90.1)	(100.1)	(104.3)	(105.8)	(108.2)	(108.2)	(111.0)	(106.6)
Transfer payments.....	422.5	434.4	437.6	440.7	448.8	463.4	468.2	471.7	476.6	487.9	491.9	496.1
Domestic ("to persons")	(406.1)	(422.9)	(426.5)	(428.3)	(433.2)	(450.9)	(455.7)	(459.1)	(460.8)	(475.2)	(479.2)	(483.3)
Foreign	(16.4)	(11.5)	(11.0)	(12.5)	(15.6)	(12.5)	(12.5)	(12.6)	(15.8)	(12.7)	(12.7)	(12.8)
Grants-in-aid to State and local govern- ments.....	101.4	111.1	110.4	111.5	115.0	116.9	118.1	117.9	117.5	117.4	117.5	117.7
Net interest paid.....	149.5	149.9	152.1	154.9	160.9	165.4	167.9	169.4	170.1	170.8	171.5	172.2
Subsidies less current surplus of Govern- ment enterprises.....	39.7	33.0	34.0	24.1	36.6	30.1	29.3	22.2	30.7	23.0	22.0	18.2
Wage disbursements less accruals.....	0.2											
Total expenditures	1,104.9	1,106.1	1,116.3	1,099.0	1,146.3	1,174.2	1,187.1	1,187.5	1,199.1	1,211.1	1,222.0	1,220.4
Deficit (-)	-160.4	-155.1	-133.3	-123.5	-148.9	-156.6	-149.2	-133.5	-117.2	-84.0	-77.5	-57.3

Note.—Because of the methods normally used to seasonally adjust NIPA data, the average of seasonally adjusted data for the 4 quarters of a fiscal year may not be equal to the unadjusted fiscal year total.

RELATIONSHIP OF THE BUDGET TO THE FEDERAL SECTOR, NIPA

Table B-10 shows the major differences between the budget and the Federal sector in the NIPAs. Adjustments required to reconcile the budget to the Federal sector in the NIPAs are explained below.

Table B-10. RELATIONSHIP OF THE BUDGET TO THE FEDERAL SECTOR, NIPA

(In billions of dollars)

Description	1986 actual	1987 actual	1988 actual	1989 estimate	1990 estimate
RECEIPTS					
Total budget receipts ¹	769.1	854.1	909.0	975.5	1,059.3
Government contributions for employee retirement (grossing) ..	33.7	35.4	38.8	40.5	42.4
Other netting and grossing.....	12.6	13.9	16.4	19.4	26.7
Timing adjustments.....	1.1	-0.1	2.3	-4.4	6.9
Geographic exclusions.....	-1.5	-1.7	-1.7	-1.7	-1.9
Other.....	*	*	*	*	*
Federal sector, NIPA receipts	815.0	901.7	964.8	1,029.3	1,133.4
EXPENDITURES					
Total budget outlays ¹	990.3	1,003.8	1,064.0	1,137.0	1,151.8
Lending and financial transactions.....	-11.9	-3.9	-15.2	-18.3	-4.8
Government contributions for employee retirement (grossing) ..	33.7	35.4	38.8	40.5	42.4
Other netting and grossing.....	12.6	13.9	16.4	19.4	26.7
Defense timing adjustment.....	4.0	8.0	7.0	-0.3	-1.1
Bonuses on Outer Continental Shelf land leases.....	2.1	1.6	1.3	0.8	2.0
Geographic exclusions.....	-5.4	-5.4	-5.7	-6.0	-6.1
Other.....	2.4	5.5	-0.3	1.1	2.1
Federal sector, NIPA expenditures	1,027.8	1,058.9	1,106.3	1,174.2	1,213.0

¹ Includes off-budget amounts.

* \$50 million or less.

Lending and financial transactions.—The NIPAs conceptually measure the Nation's current income and production, and therefore do not include transactions, such as loans, that are an exchange of existing assets and liabilities rather than current income or production. Loan transactions have a significant economic impact, affecting the allocation and distribution of income and output, but they are analyzed more appropriately within a financial market framework, such as that provided by the flow-of-funds data of the Federal Reserve Board. Special Analysis E, "Borrowing and Debt", and Special Analysis F, "Federal Credit Programs", both contain information on the financial market implications of the budget.

Most of the lending and financial transactions included in Table B-10 are shown in Special Analysis F. However, this total differs from the total for direct loans shown in Special Analysis F principally because: (a) the NIPAs record nonrecourse agricultural commodity loans as purchases rather than loans; and (b) capital contri-

butions to international financial institutions are not loans, but are financial transactions excluded from the NIPAs.

In 1987, the administration began a pilot program to sell existing and newly made loan assets without recourse, or the right to make a claim against the Federal Government in the event of borrower default. In 1987, proceeds from the sale and prepayment of loans were \$5.6 billion. Proceeds from loan asset sales and prepayments are estimated to be \$7.4 billion in 1989 and \$4.3 billion in 1990. The net proceeds of all of these loans are excluded from the NIPAs.

The other major financial transaction excluded from the NIPAs was the sale of Conrail stock. In 1987, the Federal Government received \$1.9 billion from the sale of Conrail stock.

Government contributions for employee retirement.—The contributions of Government agencies to the retirement trust funds of their employees constitute the largest netting and grossing adjustment. Since these contributions are made by Government accounts to other Government accounts, they do not affect the unified budget receipt and outlay totals, which conceptually measure the Government's current transactions with the public. While the contributions are recorded as outlays of the agencies, they are offset by an intragovernmental deduction. However, the NIPAs have long counted Government payments for civilian employee retirement as part of the compensation paid to Government employees and, therefore, as Government expenditures. This treatment maintains comparability with the treatment of employee retirement contributions in the rest of the economy. Contributions for employee retirement by Government enterprises such as the Postal Service are recorded as an increase in the current deficit of enterprises. Contributions by other civilian accounts are recorded as purchases of goods and services. These retirement contributions are then treated as a governmental receipt in the NIPAs, as contributions for social insurance. Since receipts and expenditures are increased by identical amounts, this treatment has no net effect on the surplus or deficit. Around 80 percent of these payments go to the Federal retirement and disability trust funds, while most of the remainder are for social security and medicare.

The NIPA treatment of Government contributions for military retirement is also as a contribution for social insurance. In 1985, the budget began financing military retirement on an accrual basis akin to the financing of civil service retirement. A trust fund was created to pay retirement benefits to current and future military retirees. Benefits are financed by payments to the retirement trust fund from three sources: employing agencies, for services currently rendered (the "accrual charge"); the general fund, to cover the unfunded liability that existed when the new retirement trust fund

was created; and the interest earned on trust fund balances. These payments also do not affect the budget totals since they are offset by intragovernmental deductions. In the NIPAs, a social insurance fund and an employer contribution for military retirement are imputed. The imputed contribution is equal to benefits paid. Since an equal amount is added to both receipts and expenditures, imputed accruals have no impact on the surplus or deficit. However, the contributions imputed in the NIPAs differ significantly from the budget accruals in many years. The budget estimates are based on benefits earned in the time period when service was rendered, while the NIPAs use the cash benefits paid in one period as a proxy for the budget accruals.

Other netting and grossing.—The budget normally counts as receipts only income from taxation or similar sources that arises from the exercise of Governmental power to compel payment. Money received in the course of business-type transactions is normally shown as offsets against outlays. For instance, receipts from social insurance programs operated by the Veterans Administration (such as the National Service Life Insurance and U.S. Government Life Insurance) are netted against outlays in the budget since these programs are voluntary, commercial-type activities. However, in the NIPAs these insurance premiums are treated as social insurance receipts just as are receipts from compulsory Government programs. Likewise, noncompulsory insurance premiums under the supplementary medical insurance program and similar but much smaller noncompulsory hospital insurance premiums are classified as offsetting collections (negative outlays) in the budget, but are classified as social insurance contributions in the NIPAs.

Other netting and grossing includes some imputed contributions for social insurance for Federal employees for unemployment compensation (which adds an equal amount to purchases of goods and services) and workers' compensation (which adds an equal amount to domestic transfer payments). Social insurance contributions are imputed for medical care for military personnel and their dependents and for unemployment benefits for former military personnel.

One major element of netting and grossing in recent years has been due to budgetary collections arising from the Outer Continental Shelf leases. All such collections are recorded in the budget as negative outlays. The rents and royalties component—but not the bonuses—are recorded in the NIPAs as indirect business nontaxes; this converts the collections from an offset to outlays in the budget to a receipt in the NIPAs.

In the 1990 budget, the administration proposes to auction off rights to unassigned frequencies in the electromagnetic spectrum for \$2.3 billion and rights to emit chlorofluorocarbon pollutants for \$0.4 billion. The treatment of these transactions is similar to that

for outer continental shelf rents and royalties. They are recorded as undistributed offsetting receipts in the budget and business nontaxes in the NIPAs.

All netting and grossing items, including Government contributions for employee retirement, have an equal impact on receipts and expenditures, so they have no effect on the calculation of the NIPA deficit.

Timing adjustments.—The budget records receipts at the time the cash is collected regardless of when the liability is incurred. In contrast, the NIPAs attempt to record most receipts from the business sector in the time period in which the liability is incurred rather than when taxes are actually collected. Personal income taxes and social insurance contributions are recorded at the time of payment by the individual taxpayer rather than when the liability is incurred or the cash is received by Treasury. Hence, receipts recorded in the budget for one fiscal year are sometimes recorded in the prior fiscal year in the NIPAs due to the lags between the time when liability is incurred or payment made and time of collection. The timing adjustments made to budget receipts attempt to account for these time lags.

Receipts in the NIPAs are decreased by \$4.4 billion in 1989 and are increased by \$6.9 billion in 1990, relative to the budget, due to receipts timing. This timing adjustment is largely for corporate profits tax accruals and reflects the effects of legislated changes on the tax base and the timing of collections.

The principal timing adjustment made to expenditures is for defense purchases. The major defense timing adjustment normally involves procurement items (such as missiles and airplanes) purchased under fixed-price contracts. The Federal Government normally makes progress payments for work in process for major procurement programs. Progress payments are excluded from NIPA Federal sector expenditures, because work in progress is counted in the NIPAs as part of private business inventories until the goods are completed and delivered to the Government, when they are recorded as defense purchases. An additional defense timing adjustment is made to convert foreign military sales, which are recorded on a cash basis in the unified budget, to a basis consistent with net exports in the NIPAs. In addition, some accounting adjustments are included with the defense timing adjustment in this translation. Nondefense timing adjustments are normally small and are included in the “other” category in Table B-10.

Bonuses on Outer Continental Shelf land leases.—In recent years, bonuses paid on the Outer Continental Shelf oil leases have become a significant reconciliation item between the unified budget and

the NIPAs. As already noted, the budget records these bonuses as proprietary receipts and, therefore, deducts them from budget outlays. The NIPAs exclude these transactions as being a transfer of assets, because the payments are not included in calculating book profits under current corporate accounting practice.

Geographic exclusions.—Geographic exclusions arise because Puerto Rico, the Virgin Islands, and other U.S. territories are not included in the United States for purposes of computing the GNP and related data series (such as contributions for social insurance, domestic transfer payments, and grants-in-aid). Nor are they treated as foreign for purposes of producing data on exports, imports, and foreign transfer payments. Since the budget includes receipts from and payments to persons and local governments in these territories, and the NIPAs exclude such transactions, this constitutes a major reconciliation item between the two data series.

Other.—In 1990, the administration proposes to sell the naval petroleum reserves, yielding \$1.0 billion in offsetting receipts. The NIPAs exclude this transaction, along with other purchases and sales of land and existing natural assets. The administration also proposes to sell the Alaska power administration, the Southwest Power Administration, and the Department of the Interior's helium mining operations. The land portion of these sales is similarly excluded. Sales of structures and equipment are recorded as negative purchases by the Government in the NIPAs. This category also contains miscellaneous adjustments, such as foreign currency transactions that are included in the NIPAs but not in the budget.

Table B-11. FEDERAL TRANSACTIONS IN THE NATIONAL INCOME AND PRODUCT ACCOUNTS, 1979-1990

(In billions of dollars)

Description	Actual										Estimate	
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
RECEIPTS												
Personal tax and nontax receipts.....	222.9	250.7	289.6	310.0	292.5	302.5	340.4	357.0	401.6	413.1	436.8	470.5
Corporate profits tax accruals.....	75.7	70.2	69.4	52.1	55.7	75.3	74.6	80.7	101.7	109.9	118.5	140.7
Indirect business tax and nontax accruals....	29.0	35.3	53.4	50.0	50.2	54.9	55.9	51.2	53.2	57.0	57.5	65.7
Contributions for social insurance.....	163.6	182.3	211.4	231.1	247.3	279.2	305.8	326.0	345.2	384.8	416.5	456.5
Total receipts.....	491.2	538.6	623.8	643.3	645.7	711.9	776.8	815.0	901.7	964.8	1,029.3	1,133.4
EXPENDITURES												
Purchases of goods and services.....	173.1	199.9	231.8	264.4	287.4	297.2	341.5	368.4	375.4	378.3	398.4	413.0
Defense.....	(117.7)	(137.2)	(160.7)	(187.3)	(210.4)	(228.5)	(252.7)	(275.3)	(290.1)	(296.9)	(298.3)	(304.8)
Nondefense.....	(55.5)	(62.8)	(71.1)	(77.1)	(77.0)	(68.7)	(88.8)	(93.1)	(85.3)	(81.4)	(100.1)	(108.2)
Transfer payments.....	203.5	241.1	281.3	312.8	347.5	352.2	374.0	394.6	411.1	434.2	463.4	488.0
Domestic ("to persons").....	(198.5)	(235.4)	(274.6)	(305.6)	(339.8)	(342.2)	(360.6)	(380.4)	(399.4)	(421.3)	(450.1)	(474.5)
Foreign.....	(5.1)	(5.8)	(6.7)	(7.2)	(7.7)	(9.9)	(13.4)	(14.3)	(11.7)	(12.9)	(13.3)	(13.5)
Grants-in-aid to State and local govern- ments.....	79.1	86.7	90.1	83.4	85.7	90.7	97.8	107.4	103.1	108.5	116.9	117.5
Net interest paid.....	40.7	50.8	66.7	82.2	90.6	109.7	128.3	134.4	139.7	150.4	165.9	171.1
Subsidies less current surplus of Govern- ment enterprises.....	9.9	10.4	12.5	13.0	20.9	23.3	20.7	22.9	29.6	34.8	29.6	23.4
Wage disbursements less accruals.....	*		-0.1	*	0.4	-0.1	0.1		-0.1	0.1		
Total expenditures.....	506.4	589.0	682.4	755.9	832.4	873.0	962.3	1,027.8	1,058.9	1,106.3	1,174.2	1,213.0
Deficit (-).....	-15.2	-50.4	-58.5	-112.6	-186.7	-161.0	-185.5	-212.8	-157.2	-141.5	-144.9	-79.6

*\$50 million or less.

Note.—The estimates for 1989 and 1990 are preliminary; revisions will be published in the January 1989 issue of the *Survey of Current Business*.

PART 2

ANALYSES OF THE TOTALS

2-1

INTRODUCTION

Part 2 provides analyses and tabulations of the totals that cover the Federal Government's finances and operations as a whole and reflects the ways in which Government finances affect the economy. The data include both on-budget and off-budget amounts (i.e., transactions of the Federal old-age, survivors, and disability insurance trust funds). These special analyses are designated C through J.

Special Analysis C (Funds in the Budget) classifies on-budget and off-budget information by Federal fund and trust fund categories and shows additional detail by fund group.

Special Analysis D (Federal Investment Outlays) shows detailed definitions of Federal outlays for major public physical capital investment and other types of investment. Non-investment outlays are displayed by budget function.

Special Analysis E (Borrowing and Debt) describes current developments and past trends in Federal borrowing and debt. It also considers interest on the Federal debt, investment by Government accounts in Federal securities, the statutory debt limitation, and the total of Federal and federally assisted borrowing from the public. It includes a section explaining a conceptual revision in the measurement of borrowing and debt.

Special Analysis F (Federal Credit Programs) analyzes direct loan and loan guarantee programs from the perspective of the credit budget. It presents detailed data on these programs, and describes the activities of Government-sponsored enterprises and the Federal Financing Bank. It also analyzes credit subsidies, loan sales, defaults, and tax-exempt financing.

Special Analysis G (Tax Expenditures) provides a list and discussion of provisions of the Federal income tax laws that allow a special exclusion, exemption, or deduction from gross income or that provide a special credit, preferential rate of tax, or deferral of tax liability.

Special Analysis H (Federal Aid to State and Local Governments) contains information on Federal grants to State and local governments and assistance provided through loans and tax expenditures. It shows Federal aid for past years and compares it to the finances of both the Federal Government and State and local governments. This analysis provides a profile of Federal grants by region, a description of the State and local government sector of the national income and product accounts, and an identification of other grant information sources.

Special Analysis I (Civilian Employment in the Executive Branch) deals with the levels of civilian employment in the execu-

tive branch and the systems used to control civilian employment. It also contains data on total Federal personnel costs (including military personnel).

Special Analysis J (Research and Development) identifies Federal programs for the conduct of research and development and for all support facilities related to such activities.

SPECIAL ANALYSIS C

FUNDS IN THE BUDGET

This analysis provides information about Federal Government transactions. It includes breakouts of Federal and trust funds, receipts and outlays, surpluses and deficits, net obligations, and net balances.

Federal and trust funds.—All Federal Government receipt and expenditure accounts are in one of these two groups. Federal funds include the general fund, special funds, public enterprise revolving funds, and intragovernmental management and revolving funds. Trust funds include regular (non-revolving) trust funds and trust revolving funds.

Governmental receipts and outlays.—Governmental receipts include only payments by the public that result from exercise of the Government's sovereign powers (primarily taxes and other compulsory assessments). Income of a business-type nature (interest, loan repayments, sale of property or services, etc.) is *offset against outlays* (spending) rather than included in receipts. Similarly, any income to any Federal Government account arising from another Federal Government account's spending is also offset against Federal Government outlays. Thus, *receipts* measure the income of the government in its sovereign capacity, and *outlays* measure the net spending that must be financed from receipts. Calculating the difference between receipts and outlays yields the *surplus or deficit*.

Any income that is recorded as an offset to outlays rather than as governmental receipts is entitled "offsetting collections." Offsetting collections may be offset within the expenditure account that they finance (reimbursements to appropriations) or may be deposited within receipt accounts that are recorded as offsets to outlays rather than as on-budget or off-budget receipts (offsetting receipts). There is no substantive difference between reimbursements to appropriations and offsetting receipts—the differences are purely a matter of the legal status of the money. In almost all budgetary presentations, all offsetting collections are offsets to outlays rather than being included as on-budget or off-budget receipts. However, the tables in Special Analysis C show several presentations of receipt and outlay tabulations partially grossed, and then show the offsets, to arrive at the net receipts and net outlays. (A further

discussion of the nature and treatment of offsetting collections may be found in the "collections" section in Part 8 in the 1990 budget).

When the budget is disaggregated by fund group, payments from any account within a fund group to another account within the same fund group ("intrafund transactions") are deducted before arriving at total receipts and outlays for the fund group. However, when payments are made by Federal fund accounts to on-budget trust fund accounts, and from on-budget trust fund accounts to Federal fund accounts ("interfund transactions"), the income is normally included on the receipts side of the collecting fund group. As a result, these interfund transactions must be deducted when Federal fund and on-budget trust fund receipts are aggregated to arrive at total receipts; to arrive at a figure of total budget (governmental) receipts from the public. Likewise, the interfund transactions must be deducted when the Federal fund and on-budget trust fund outlays are aggregated to arrive at total budget outlays; to avoid double-counting. These deductions are shown in table C-1.

The Balanced Budget and Emergency Deficit Control Act of 1985 (Public Law 99-177) eliminated the off-budget status of former off-budget Federal entities, but it also required that the receipts and outlays of the two social security trust funds (the Federal old-age and survivors insurance and the Federal disability insurance trust funds) be moved off-budget. Beginning with the 1987 Budget, these changes were made retroactively for all years presented, to make the data comparable over time.

The movement of the previously off-budget Federal entities to on-budget status means that all Federal funds are now on-budget. However, the movement of the two social security trust funds off-budget means that there are now off-budget as well as on-budget trust funds. As a result, there are:

- trust intrafund payments from off-budget to on-budget accounts;
- interfund payments from on-budget Federal funds to off-budget trust funds; and
- interfund payments from off-budget trust funds to on-budget Federal funds.

While all of these amounts are included in the *gross* receipts of the receiving fund group, they are deducted from the receipts and offset against the outlays of that group to arrive at *net* receipts and outlays by fund group. This is done so that off-budget receipts can be added to on-budget receipts without requiring further deductions to arrive at total Federal Government receipts. In the same manner, off-budget outlays can be added directly to on-budget outlays to arrive at total outlays. These transactions, gross and net, are shown in table C-1.

Table C-1. FEDERAL GOVERNMENT RECEIPTS AND OUTLAYS BY FUND GROUP

(In millions of dollars)

Description	1988 actual	1989 estimate	1990 estimate
RECEIPTS			
On-budget:			
Federal funds:			
Total in receipt accounts.....	595,474	626,805	683,671
Intrafund transactions.....	-19,200	-17,632	-17,733
Interfund receipts from off-budget.....	-916	-934	
Proprietary receipts from the public.....	-15,175	-14,446	-22,290
Subtotal, Federal fund receipts.....	560,183	593,793	643,649
Trust funds:			
Total in receipt accounts.....	254,580	275,163	297,178
Intrafund receipts from on-budget.....	-16	-11	-13
Intrafund receipts from off-budget.....	-2,851	-2,865	-3,051
Proprietary receipts from the public.....	-19,491	-22,124	-23,566
Subtotal, Trust fund receipts.....	232,222	250,162	270,549
Interfund transactions.....	-124,942	-135,293	-143,752
Total on-budget receipts.....	667,463	708,662	770,446
Off-budget:			
Trust funds:			
Total in receipt accounts.....	259,056	289,278	315,492
Intrafund receipts from on-budget.....	-17,565	-22,406	-26,599
Proprietary receipts from the public.....	*		
Total off-budget (trust fund) receipts.....	241,491	266,872	288,893
Total receipts.....	908,954	975,534	1,059,339
OUTLAYS			
On-budget:			
Federal funds:			
Total in expenditure accounts.....	848,361	910,204	924,657
Intrafund transactions.....	-19,200	-17,632	-17,733
Interfund receipts from off-budget.....	-916	-934	
Proprietary receipts from the public.....	-15,175	-14,446	-22,290
Subtotal, Federal fund outlays.....	813,069	877,191	884,634
Trust funds:			
Total in expenditure accounts.....	195,583	209,272	217,478
Intrafund receipts from on-budget.....	-16	-11	-13
Intrafund receipts from off-budget.....	-2,851	-2,865	-3,051
Proprietary receipts from the public.....	-19,491	-22,124	-23,566
Subtotal, Trust fund outlays.....	173,225	184,271	190,848
Interfund transactions.....	-124,942	-135,293	-143,752
Total on-budget outlays.....	861,352	926,169	931,730
Off-budget:			
Trust funds:			
Total in expenditure accounts.....	220,257	233,268	246,717
Intrafund receipts from on-budget.....	-17,565	-22,406	-26,599
Proprietary receipts from the public.....	*		

Table C-1. FEDERAL GOVERNMENT RECEIPTS AND OUTLAYS BY FUND GROUP—Continued

(In millions of dollars)

Description	1988 actual	1989 estimate	1990 estimate
Total off-budget (trust fund) outlays	202,691	210,861	220,118
Total outlays	1,064,044	1,137,030	1,151,848
Surplus or deficit (—):			
On-budget:			
Federal funds	—252,887	—283,398	—240,985
Trust funds	58,997	65,891	79,701
Total on-budget deficit	—193,890	—217,507	—161,284
Off-budget (trust funds) surplus.....	38,800	56,011	68,775
Total deficit	—155,090	—161,496	—92,509

* \$500 thousand or less.

FEDERAL FUNDS

As stated above, the Federal fund group is composed of the *general fund*, *special fund*, *public enterprise (revolving) fund*, and *intragovernmental fund* accounts. Intragovernmental funds include both revolving funds and management funds. Collections received by the general fund and special fund accounts are normally deposited in receipt accounts, and outlays are made from expenditure accounts. In the case of revolving funds, collections are credited directly to the revolving funds. Thus, revolving funds outlays are net of collections at the account level. There are five types of expenditure (appropriation or fund) accounts and two types of receipt accounts associated with the Federal fund group, as follows:

- *General fund receipt accounts*.—Receipt accounts in which all collections not earmarked by law for a specific purpose are deposited. Receipt accounts, in turn, are categorized as being governmental or offsetting receipts. Offsetting receipts are stratified to identify the paying and receiving side of each transaction. For example, proprietary receipts from the public include all offsetting receipts collected from outside the Federal Government (“the public”). Intergovernmental offsetting receipts are collections in receipt accounts of money paid by the Government to itself. These are stratified into the categories “intrafund” receipts and “interfund” receipts in order to identify the fund group of both the paying and receiving accounts.
- *Special fund receipt accounts*.—Receipt accounts in which collections that are earmarked by law for a specific purpose are deposited and held until appropriated. Special fund receipts may be governmental or offsetting receipts. Special fund off-

setting receipts are stratified into the same categories as general fund offsetting receipts, in order to identify both the source of the payment and of the offsetting collection.

- *General fund appropriation accounts.*—Expenditure or fund accounts established to record amounts appropriated by law for the general support of Federal Government activities and the subsequent outlay of these funds.
- *Special fund expenditure accounts.*—Expenditure accounts established to record special fund amounts appropriated by law for specific programs and the subsequent outlay of the funds. Special fund income is deposited in receipt accounts as they are collected. When they are appropriated, they are credited to expenditure accounts.
- *Public enterprise revolving fund accounts.*—Expenditure accounts authorized to be credited with collections, primarily from outside the Government, that are earmarked to finance a continuing cycle of business-type operations, primarily with the public, and financed primarily by crediting the expenditure account with the income derived from the sale of its goods and services. No additional appropriation is required to obligate these funds.
- *Intragovernmental revolving fund accounts.*—Expenditure accounts authorized to be credited with collections, primarily from other agencies and accounts, that are earmarked to finance a continuing cycle of business-type operations; for example, working capital funds, industrial funds, stock funds, and supply funds. No additional appropriation is required to obligate these funds.
- *Management fund accounts.*—Expenditure accounts authorized by law to credit collections from two or more appropriations to carry a common purpose or project not involving a continuing cycle of business-type operations. These accounts facilitate the administration and accounting for intragovernmental activities. No additional appropriation is required to obligate these funds.

Federal fund receipts and outlays.—In 1990, the Federal fund receipts are estimated at \$644 billion and outlays are estimated at \$885 billion. Table C-2 presents the distribution of receipts by source and outlays by agency for the Federal fund group. As explained above, all Federal funds are on-budget. The Federal fund receipts shown in Table C-2 are composed of the amounts collected by the general and special funds that are governmental in nature, plus interfund receipts from on-budget trust funds. The interfund receipts included in the table are all in the category “miscellaneous receipts.” Proprietary receipts from the public of the general and

special funds are offset against outlays rather than being included in the receipts by source.

Table C-2. FEDERAL FUND RECEIPTS AND OUTLAYS

(In millions of dollars)

Description	1988 actual	1989 estimate	1990 estimate
RECEIPTS BY SOURCE			
Individual income taxes.....	401,181	424,642	460,183
Corporation income taxes.....	94,195	106,705	117,086
Excise taxes.....	16,185	13,368	14,448
Estate and gift taxes.....	7,594	7,850	8,084
Customs duties.....	16,024	16,062	17,754
Miscellaneous receipts.....	25,003	25,166	26,094
Total receipts, Federal funds.....	560,183	593,793	643,649
OUTLAYS BY AGENCY			
Legislative branch.....	1,850	2,235	2,180
The Judiciary.....	1,334	1,473	1,508
Executive Office of the President.....	121	127	135
Funds Appropriated to the President.....	7,153	5,452	11,337
Agriculture.....	43,550	52,288	42,398
Commerce.....	2,248	2,763	3,503
Defense—Military.....	281,919	289,785	293,804
Defense—Civil.....	13,171	12,834	14,117
Education.....	18,246	20,828	24,500
Energy.....	11,161	11,360	10,977
Health and Human Services, except social security.....	106,653	119,665	124,153
Housing and Urban Development.....	18,938	20,383	22,598
Interior.....	4,988	5,334	2,888
Justice.....	5,425	6,010	6,755
Labor.....	5,090	5,641	5,267
State.....	3,398	3,553	3,835
Transportation.....	8,751	9,677	8,127
Treasury.....	203,036	228,231	236,211
Veterans' Affairs.....	28,593	28,376	28,957
Environmental Protection Agency.....	4,325	4,201	4,165
General Services Administration.....	-281	-42	104
National Aeronautics and Space Administration.....	9,092	10,610	12,596
Office of Personnel Management.....	17,757	19,299	19,525
Small Business Administration.....	-54	153	-102
Other independent agencies.....	20,154	19,607	14,664
Allowances.....			-360
Undistributed offsetting receipts:			
Other interest.....	-1		-559
Rents and royalties on the Outer Continental Shelf.....	-3,548	-2,655	-3,710
Sale of major assets.....			-2,285
Other undistributed offsetting receipts.....			-2,652
Total outlays, Federal funds.....	813,069	877,191	884,634
Excess of outlays (-).....	-252,887	-283,398	-240,985

Obligations.—The obligations (net) for Federal funds are estimated at \$893 billion for 1990, as set forth in table C-3. These transactions flow largely from budget authority for Federal funds of \$915

billion for the year, although some flow from prior years' budget authority.

Table C-3. OBLIGATIONS INCURRED, NET, IN FEDERAL FUNDS

(In millions of dollars)

Department or other unit	1988 actual	1989 estimate	1990 estimate
Legislative branch	1,880	2,218	2,184
The Judiciary	1,371	1,496	1,519
Executive Office of the President	123	128	136
Funds appropriated to the President	7,762	5,883	12,146
Agriculture	43,095	52,618	40,875
Commerce	2,405	2,855	3,122
Defense—Military	289,819	291,227	303,171
Defense—Civil	13,107	12,968	14,215
Education	19,412	22,930	25,542
Energy	10,925	12,339	11,234
Health and Human Services, except social security	109,106	120,691	123,917
Housing and Urban Development	16,601	17,924	17,611
Interior	5,189	5,513	2,833
Justice	5,579	6,382	6,889
Labor	5,396	5,568	5,287
State	3,537	3,982	4,269
Transportation	8,369	9,486	6,749
Treasury	204,570	227,713	235,054
Veterans Affairs	28,430	29,054	29,174
Environmental Protection Agency	4,609	4,399	3,278
General Services Administration	— 286	249	399
National Aeronautics and Space Administration	9,951	12,285	13,463
Office of Personnel Management	17,649	19,296	19,602
Small Business Administration	— 38	202	— 209
Other independent agencies:			
Export-Import Bank	— 776	— 448	— 470
Federal Home Loan Bank Board	6,898	8,587	6,593
U.S. Postal Service	1,197	1,367	2,951
Railroad Retirement Board	3,020	3,106	2,850
All other independent agencies	8,055	8,067	7,886
Allowances			— 354
Undistributed offsetting receipts:			
Other interest	— 1		— 559
Rents and royalties on the Outer Continental Shelf	— 3,548	— 2,655	— 3,710
Sale of major assets			— 2,285
Other undistributed offsetting receipts			— 2,652
Total	823,407	885,431	892,708

Balances of Federal fund budget authority.—Table C-4 shows the balances of budget authority carried forward in Federal funds at the end of each fiscal year. To the extent that valid Government obligations have been incurred and remain unpaid, amounts sufficient to pay them (obligated balances) may be carried over into the next year. Unobligated balances may be carried forward only in accordance with specific provisions of law, usually in order to permit completion of major procurement or construction programs that are fully funded, to provide for long-term activities of a con-

tinuing nature (such as research and development), for loan programs, for standby emergency purposes or for reserves for losses and debt redemption.

Table C-4. FEDERAL FUND BALANCES OF BUDGET AUTHORITY ¹

(In millions of dollars)

Department or other unit	Start 1988		End 1988		End 1989		End 1990	
	Obligated	Unobligated	Obligated	Unobligated	Obligated	Unobligated	Obligated	Unobligated
Legislative branch	444	338	440	571	422	471	435	423
The Judiciary	146	58	185	11	208	1	219	1
Executive Office of the President	19		20	1	20	*	22	137
Funds Appropriated to the President	33,356	30,299	33,596	30,639	33,929	30,364	34,639	30,485
Agriculture	31,395	1,453	38,707	2,129	39,088	1,891	37,848	1,294
Commerce	1,539	243	1,612	279	1,697	160	1,276	166
Defense—Military	213,866	47,546	218,329	42,231	219,263	41,141	229,216	43,561
Defense—Civil	845	522	766	723	900	556	1,019	394
Education	13,637	2,241	14,397	2,824	16,493	1,814	17,536	1,829
Energy	7,124	1,954	6,864	1,776	7,820	1,091	8,064	1,352
Health and Human Services, except social security	9,148	582	11,238	751	12,266	311	12,025	194
Housing and Urban Development	207,997	48,160	198,280	44,922	183,350	41,568	165,950	39,748
Interior	1,981	699	2,026	641	2,205	457	2,150	418
Justice	1,671	456	1,671	495	2,043	518	2,177	511
Labor	3,714	1,987	3,976	2,052	3,894	2,346	3,904	2,709
State	1,007	1,245	1,166	1,007	1,596	422	2,030	62
Transportation	10,918	1,615	10,356	1,256	10,041	629	8,202	417
Treasury	1,754	20,030	3,140	19,898	2,625	19,983	2,897	30,205
Veterans Affairs	3,852	2,032	3,621	1,883	4,290	1,556	4,506	1,287
Environmental Protection Agency	7,492	1,399	7,546	1,128	7,744	557	6,857	315
General Services Administration	749	1,106	622	1,669	913	1,387	1,208	964
National Aeronautics and Space Administration	2,795	3,298	3,646	2,358	5,321	1,042	6,188	726
Office of Personnel Management	131	664	17	477	13	175	91	561
Small Business Administration	426	785	439	1,078	488	1,125	415	1,617
Other independent agencies;								
Export-Import Bank	1,561	1,093	1,546	717	1,640	597	983	386
Federal Home Loan Bank Board	2	1,181	*	3,097	*	4,249	2,960	1,433
Railroad Retirement Board	2	3	2	3	2	3	2	
All other independent agencies	15,092	4,107	14,305	4,494	15,048	4,979	15,961	4,851
Allowances							-6	
Total	572,664	175,094	578,513	169,111	573,320	159,396	568,773	166,044

* \$500 thousand or less.

¹ Excludes receivables in excess of obligations.

Public enterprise revolving funds.—Public enterprise funds are used to conduct a cycle of business-type operations, primarily with the public. These funds are usually provided from the general fund, directly or through the Federal Financing Bank (FFB), and, in a few cases, by borrowing from the public.

Data on public enterprise funds are displayed *net* of collections in tables C-1 through C-4. Information on the *gross* outlays and applicable collections is shown in table C-5. Collections of public enterprise funds are estimated at \$114 billion in 1990, and gross outlays are estimated at \$125 billion, resulting in a net outlay of \$11 billion.

Table C-5. PUBLIC ENTERPRISE FUND TRANSACTIONS

(In millions of dollars)

Description	Applicable collections			Gross outlays		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Funds Appropriated to the President:						
International Security Assistance.....	523	524	168	1,183	1,123	887
Overseas Private Investment Corporation.....	141	145	147	31	37	36
Military Sales Program.....	257	270	263	271	242	206
Agriculture:						
Commodity Credit Corporation.....	24,008	12,502	11,618	36,183	26,396	22,339
Farmers Home Administration:						
Agricultural credit insurance fund.....	3,035	2,872	2,713	5,653	6,307	3,988
Rural housing insurance fund.....	2,757	2,840	4,833	6,368	6,135	4,729
Rural development insurance fund.....	1,685	1,115	539	2,135	1,711	1,359
Federal Crop Insurance Corporation.....	322	407	400	544	1,456	771
Rural Electrification Administration.....	5,747	3,742	3,536	3,538	3,533	3,394
Commerce.....	133	69	38	65	43	23
Education:						
College housing loans.....	383	87	287	10	39	48
Energy:						
Bonneville Power Administration Fund.....	2,733	2,869	3,399	2,598	2,632	2,712
Colorado River Basins Power Marketing fund.....	58	159	211	52	109	87
Health and Human Services, except social security.....	58	57	127	67	96	89
Housing and Urban Development:						
Public and Indian Housing programs.....	129	42	44	1,302	964	679
Federal Housing Administration fund.....	6,417	6,688	5,962	7,551	8,135	7,644
Housing for the elderly or handicapped fund.....	599	604	1,134	921	944	991
Government National Mortgage Association.....	853	852	688	1,043	639	394

Table C-5. PUBLIC ENTERPRISE FUND TRANSACTIONS—Continued

(In millions of dollars)

Description	Applicable collections			Gross outlays		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Community Planning and Development	291	100	102	77	67	88
Other	127	102	52	98	108	41
Interior:						
Lower Colorado River Basin development fund	232	261	284	209	261	284
Upper Colorado River Basin fund	175	189	194	152	189	194
Other	52	37	198	45	46	179
Labor	560	1,082	1,209	283	851	867
Transportation	624	549	285	500	356	284
Treasury ¹	1,558	108	12,974	61	9	5,633
Veterans Affairs:						
Loan guaranty revolving fund ...	2,339	2,642	2,199	3,558	3,754	2,544
Other	520	501	513	412	479	518
General Services Administration	3	3	3	5	4	5
Small Business Administration:						
Business loan and investment fund	797	756	713	760	769	690
Disaster loan fund	654	576	644	306	367	280
Other independent agencies:						
Export-Import Bank	3,008	2,768	1,982	2,114	1,906	1,771
Federal Emergency Management Agency	461	622	658	261	561	635
Federal Savings and Loan Insurance Corporation fund ...	8,338	7,182	7,008	16,415	15,914	9,078
National Credit Union Administration	716	656	669	499	492	458
Postal Service	36,170	39,421	40,077	37,882	39,563	42,275
Tennessee Valley Authority	5,646	5,652	5,721	6,735	6,297	6,077
All other not included above	705	938	2,547	1,027	1,051	2,569
Total	112,811	99,988	114,142	140,912	133,588	124,846
Offsetting collections from the public	(104,318)	(91,291)	(97,279)			
Offsetting collections from other accounts	(8,494)	(8,697)	(16,863)			

¹ Includes two new Federal credit revolving funds in 1990.

TRUST FUNDS

As stated above, the trust fund group is composed of the *regular trust funds* and a few *trust revolving funds*. The regular trust funds collect certain earmarked taxes and other receipts to finance spending programs specified by law, such as payment of social security benefits, or in accordance with the terms of a trust agreement. There are two types of appropriation accounts and one type of receipt account associated with the trust fund, as follows:

- *Trust fund expenditure accounts.*—Appropriation accounts established to record amounts appropriated to finance programs specified by law as being trust funds.
- *Trust fund receipt accounts.*—Receipt accounts credited with collections generated by statute or a trust agreement. These receipts may be classified as either governmental or offsetting receipts.
- *Trust revolving fund accounts.*—Appropriation accounts authorized to be credited with collections and used to carry out a cycle of business-type operations in accordance with a statute.

Trust revolving funds are similar to intragovernmental revolving funds and public enterprise revolving funds in that they are used to conduct a cycle of business-type operations and their outlays are normally displayed *net* of collections. Trust fund receipts, outlays, and balances are presented in tables C-6 through C-9. Both on-budget and off-budget (social security) trust funds are shown.

Cash operations.—Trust fund receipts are estimated at \$559 billion in 1990, with outlays planned at \$411 billion, as shown in tables C-1 and C-6. This includes off-budget funds of \$289 billion in receipts and \$220 billion in outlays for transactions of the Federal old-age and survivors insurance and disability insurance funds.

In fiscal years 1988-90, estimated trust funds receipts exceed outlays by the following amounts:

(In millions of dollars)

	1988 actual	1989 estimate	1990 estimate
Total receipts, trust funds.....	473,713	517,034	559,442
On-budget.....	(232,222)	(250,162)	(270,549)
Off-budget.....	(241,491)	(266,872)	(288,893)
Total outlays, trust funds.....	375,916	395,132	410,966
On-budget.....	(173,225)	(184,271)	(190,848)
Off-budget.....	(202,691)	(210,861)	(220,118)
Excess of receipts or outlays (—), trust funds.....	97,797	121,902	148,476
On-budget.....	(58,997)	(65,891)	(79,701)
Off-budget.....	(38,800)	(56,011)	(68,775)

Trust fund balances.—Total balances of the trust funds continue to increase, as shown below:

	1987 actual	1988 actual	1989 estimate	1990 estimate
Open book balances.....	19,097	21,405	22,895	26,147
On-budget.....	(19,206)	(21,648)	(22,294)	(25,546)
Off-budget.....	(-109)	(-243)	(601)	(601)

	1987 actual	1988 actual	1989 estimate	1990 estimate
Investments in U.S. securities:				
Public debt	430,342	527,028	649,688	794,707
On-budget.....	(364,793)	(422,545)	(490,039)	(566,283)
Off-budget.....	(65,548)	(104,482)	(159,649)	(228,424)
Agency debt.....	715			
Total.....	450,155	548,432	672,581	820,853

Table C-6. OUTLAYS AND RECEIPTS OF TRUST FUNDS

(In millions of dollars)

Description	Outlays			Receipts		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
On-budget:						
Railroad retirement trust funds.....	8,977	9,332	9,630	10,012	10,017	10,032
Black lung disability trust fund.....	639	682	662	640	680	662
Veterans life insurance trust funds.....	1,134	1,198	1,230	1,423	1,436	1,432
Federal employees retirement funds.....	28,431	29,944	29,777	47,016	48,967	51,207
Military retirement fund.....	19,009	20,088	20,611	33,117	34,680	34,892
Unemployment trust fund.....	18,598	17,800	18,300	26,984	26,397	26,294
Health insurance trust funds.....	87,676	98,408	108,525	103,001	119,124	138,994
Highway trust funds.....	14,733	14,585	14,613	15,307	16,143	16,123
Airport and airway trust fund.....	2,896	2,790	4,549	4,081	4,690	5,074
Foreign military sales trust fund.....	9,057	8,719	8,450	8,964	8,594	8,330
Other trust funds (nonrevolving).....	3,439	3,545	3,871	4,035	4,436	4,138
Trust revolving funds.....	993	2,181	-2,741			
Subtotal.....	195,583	209,272	217,478	254,580	275,163	297,178
Intrafund receipts from on-budget.....	-16	-11	-13	-16	-11	-13
Intrafund receipts from off-budget.....	-2,851	-2,865	-3,051	-2,851	-2,865	-3,051
Proprietary receipts from the public.....	-19,491	-22,124	-23,566	-19,491	-22,124	-23,566
Total on-budget.....	173,225	184,271	190,848	232,222	250,162	270,549
Off-budget:						
Federal old-age, survivors, and dis- ability insurance trust funds.....	220,257	233,268	246,717	259,056	289,278	315,492
Interfund receipts from on-budget.....	-17,565	-22,406	-26,599	-17,565	-22,406	-26,599
Proprietary receipts from the public.....	*			*		
Total off-budget.....	202,691	210,861	220,118	241,491	266,872	288,893
Total.....	375,916	395,132	410,966	473,713	517,034	559,442

* \$500 thousand or less.

Trust fund receipts.—Table C-7 presents information classifying the trust fund receipts by major fund and by source for each such fund.

Table C-7. TRUST FUND RECEIPTS (in millions of dollars)

[Amounts under proposed legislation are shown separately.]

Description	1988 actual	1989 estimate	1990 estimate
On-budget:			
Railroad retirement trust funds:			
Social insurance taxes and contributions.....	3,743	3,650	3,593
Railroad debt repayment	158	57	104
Interest on Federal securities	573	685	684
Receipts from other trust funds.....	2,851	2,865	3,051
Other (mainly receipts of advances and Federal payments) ...	2,687	2,760	2,664
Proposed legislation			-64
Subtotal, railroad retirement trust funds	10,012	10,017	10,032
Black lung disability trust fund:			
Excise taxes	594	606	627
Advances from general fund	41	72	33
Other receipts	4	2	2
Subtotal, black lung disability trust fund.....	640	680	662
Veterans life insurance trust funds:			
Interest on Federal securities	998	1,031	1,038
Other receipts	425	405	395
Subtotal, veterans life insurance trust funds	1,423	1,436	1,432
Federal employees retirement funds:			
Social insurance taxes and contributions.....	4,658	4,736	4,710
Interest on Federal securities	17,717	18,778	19,991
Federal payment as employer for employee retirement (including payment on prior year liabilities)	24,641	25,451	26,545
Other receipts	1	*	*
Proposed legislation			-39
Subtotal Federal employees retirement funds	47,016	48,967	51,207
Military retirement fund:			
Federal payment as employer for employee retirement	18,382	18,798	16,608
Federal contribution	10,285	9,782	11,183
Interest on Federal securities	4,450	6,100	7,101
Subtotal, military retirement fund.....	33,117	34,680	34,892
Unemployment trust fund:			
Social insurance taxes and contributions.....	24,426	23,043	22,337
Interest on Federal securities	2,341	3,067	3,641
Advances from the general fund	216	290	322
Proposed legislation		-3	-6
Subtotal, unemployment trust fund	26,984	26,397	26,294
Health insurance trust funds:			
Social insurance taxes and contributions.....	59,859	65,515	69,850
Premiums and other charges	8,798	12,225	20,432
Interest on Federal securities	5,997	7,602	9,161
Federal payment as employer for employee retirement	1,884	2,010	2,131
Other (mainly receipts of special Federal payments)	26,463	31,772	36,261
Proposed legislation			1,159
Subtotal, health insurance trust funds.....	103,001	119,124	138,994
Highway trust funds:			
Excise taxes	14,114	14,919	14,804

Table C-7. TRUST FUND RECEIPTS (in millions of dollars)—Continued

[Amounts under proposed legislation are shown separately.]

Description	1988 actual	1989 estimate	1990 estimate
Interest on Federal securities	1,193	1,224	1,319
Subtotal, highway trust funds	15,307	16,143	16,123
Airport and airway trust fund:			
Excise taxes	3,189	3,688	2,745
Interest on Federal securities	893	1,002	1,139
Proposed legislation			1,189
Subtotal, airport and airway trust fund	4,081	4,690	5,074
Foreign military sales trust fund	8,964	8,594	8,330
Other trust funds (nonrevolving):			
Current law	4,035	4,436	4,250
Proposed legislation			-111
Subtotal, other trust funds (nonrevolving)	4,035	4,436	4,138
Subtotal	254,580	275,162	297,178
Intrafund receipts from on-budget	-16	-11	-13
Intrafund receipts from off-budget	-2,851	-2,865	-3,051
Proprietary receipts from the public	-19,491	-22,124	-23,566
Total on-budget receipts	232,222	250,162	270,549
Off-budget:			
Federal old-age, survivors, and disability insurance trust funds:			
Social insurance taxes and contributions	241,491	266,872	288,893
Interest on Federal securities	7,416	11,210	15,758
Federal payment as employer for employee retirement	4,071	4,514	5,051
Other (mainly receipts of special Federal payments)	6,079	6,682	6,660
Proposed legislation			-870
Subtotal, Federal old-age, survivors, and disability insurance trust funds	259,056	289,278	315,492
Interfund receipts from on-budget	-17,565	-22,406	-26,599
Proprietary receipts from the public	*		
Total off-budget receipts	241,491	266,872	288,893
Total receipts	473,713	517,034	559,442
On-budget	(232,222)	(250,162)	(270,549)
Off-budget	(241,491)	(266,872)	(288,893)

* \$500 thousand or less.

Trust fund outlays.—Corresponding information on trust fund outlays, classifying the data for the larger funds, is found in table C-8.

Table C-8. TRUST FUND OUTLAYS (in millions of dollars)

[Amounts under proposed legislation are shown separately.]

Description	1988 actual	1989 estimate	1990 estimate
On-budget:			
Railroad retirement trust funds:			
Benefit payments and claims	6,343	6,607	6,836
Repayment of benefit advances	2,540	2,659	2,674
Administrative expenses and other	94	67	68
Proposed legislation			52
Subtotal, railroad retirement trust funds	8,977	9,332	9,630
Black lung disability trust fund:			
Benefit payments	584	626	611
Federal administrative expenses	55	56	51
Subtotal, black lung disability trust fund	639	682	662
Veterans life insurance trust funds	1,134	1,198	1,230
Federal employees retirement funds:			
Benefit payments and claims	26,085	27,716	29,323
Refunds to former employees	2,286	2,156	3,204
Administrative expenses and other	60	72	77
Proposed legislation			-2,827
Subtotal, Federal employees retirement fund	28,431	29,944	29,777
Military retirement fund:			
Current law	19,009	20,088	21,228
Proposed legislation			-617
Subtotal, military retirement fund	19,009	20,088	20,611
Unemployment trust fund:			
Withdrawals for benefit payments	13,573	14,025	14,510
Repayment of advances from general fund	2,271	1,000	932
Administrative expenses and other	2,753	2,775	2,858
Subtotal, unemployment trust fund	18,598	17,800	18,300
Health insurance trust funds:			
Benefit payments	85,540	95,844	109,278
Administrative expenses and other	2,137	2,564	2,719
Proposed legislation			-3,471
Subtotal, health insurance trust funds	87,676	98,408	108,525
Highway trust funds (mainly grants to States)	14,733	14,585	14,613
Airport and airway trust fund	2,896	2,790	4,549
Foreign military sales trust fund	9,057	8,719	8,450
Other trust funds (nonrevolving):			
Current law	3,439	3,545	3,871
Proposed legislation			*
Subtotal, other trust funds (nonrevolving)	3,439	3,545	3,871
Trust revolving funds	993	2,181	-2,741
Subtotal	195,583	209,272	217,4789
Intrafund receipts from on-budget	-16	-11	-13

Table C-8. TRUST FUND OUTLAYS (in millions of dollars)—Continued

[Amounts under proposed legislation are shown separately.]

Description	1988 actual	1989 estimate	1990 estimate
Intrafund receipts from off-budget.....	-2,851	-2,865	-3,051
Proprietary receipts from the public.....	-19,491	-22,124	-23,566
Total on-budget outlays.....	173,225	184,271	190,848
Off-budget:			
Federal old-age, survivors, and disability insurance trust funds:			
Benefit payments.....	213,936	227,105	241,224
Payments to other trust funds.....	2,851	2,865	3,051
Administrative expenses and other.....	3,469	3,298	3,304
Proposed legislation.....			-862
Subtotal, Federal old-age, survivors, and disability insurance trust funds.....	220,257	233,268	246,717
Interfund receipts from on-budget.....	-17,565	-22,406	-26,599
Proprietary receipts from the public.....	*		
Total off-budget outlays.....	202,691	210,861	220,118
Total outlays.....	375,916	395,132	410,966
On-budget.....	(173,225)	(184,271)	(190,848)
Off-budget.....	(202,691)	(210,861)	(220,118)

* \$500 thousand or less.

A summary of the balances by fund is presented in table C-9. Included are amounts on deposit with the Treasury (open-book balances) and investments in U.S. securities. These balances include both obligated and unobligated balances. The balances on a budget authority basis differ from the cash balances because, for some accounts, contract authority (a form of budget authority) has been provided to a trust fund in advance of receiving money, while unappropriated receipts are included in the cash balances but are not a part of the budget authority balances. The note to table C-9 lists these accounts and reconciles the balances on a budget authority basis with the cash balances.

For 1990, the largest net investments are expected to be those of the Federal employees retirement funds and the Federal old-age, survivors, and disability insurance trust funds. The investments reported differ from the amounts reported by the Treasury Department. Special Analysis E, "Borrowing and Debt," provides further information.

Table C-9. TRUST FUND BALANCES

(In millions of dollars)

Description	As of Sept. 30			
	1987 actual	1988 actual	1989 estimate	1990 estimate
Railroad retirement trust funds	6,625	7,745	8,431	8,947
Black lung disability trust fund	3	3		
Veterans life insurance trust funds	10,133	10,444	10,702	10,924
Federal employees retirement funds	180,526	199,111	218,139	239,562
Military retirement fund	37,511	51,508	66,100	80,381
Unemployment trust fund	30,010	38,360	46,957	54,952
Health insurance trust funds	56,998	72,353	93,038	123,507
Highway trust funds	13,614	14,188	15,746	17,255
Airport and airway trust fund	9,935	11,120	13,020	13,545
State and local government fiscal assistance trust fund	183	183	183	183
Foreign military sales trust fund	5,100	5,007	4,882	4,769
Other trust funds (nonrevolving)	6,743	7,487	8,572	8,726
Trust revolving funds	27,333	26,685	26,563	29,078
Federal old-age, survivors, and disability insurance trust funds (off-budget)	65,440	104,239	160,250	229,025
Total	450,155	548,432	672,581	820,853
On-budget	(384,714)	(444,194)	(512,333)	(591,829)
Off-budget	(65,440)	(104,239)	(160,250)	(229,025)

Note: The following text table reconciles balances on a budget authority basis with the cash balances shown above.

	1987	1988	1989	1990
Balance available on an authorization basis	476,704	573,412	695,238	843,236
Unfinanced contract authority:				
Highway trust funds	-31,024	-31,488	-33,716	-34,232
Airport and airway trust fund	-1,651	-2,275	-2,725	-3,259
Foreign military sales trust fund	-12,365	-11,529	-10,947	-10,440
Other	-31	-30	-30	-20
Unappropriated receipts:				
Available for appropriation by Congress:				
Highway trust funds	10,574	11,057	13,739	14,776
Airport and airway trust fund	7,209	8,116	9,612	9,623
Inland waterways trust fund	295	315	317	268
Aquatic resources trust fund	175	206	248	241
Hazardous substance superfund		240	346	81
Leaking underground storage tank trust fund	24	144	246	305
Other	239	260	250	270
Retained as permanent endowment	5	5	5	5
Balance available on a cash basis	450,155	548,432	672,581	820,853

Trust revolving funds.—The activities of the trust revolving fund subgroup are shown in table C-10. The largest trust revolving funds are those used by the Office of Personnel Management to buy health and life insurance for Government employees.

Table C-10. TRUST REVOLVING FUND TRANSACTIONS

(In millions of dollars)

Description	Offsetting Collections			Gross outlays		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Office of Personnel Management (employees' life insurance and health benefits) ..	10,859	13,663	15,786	9,758	12,093	14,422
Federal Deposit Insurance Corporation.....	6,429	6,732	5,253	8,575	10,539	3,929
All other trust revolving funds	839	899	946	786	842	893
Total trust revolving funds ¹	18,126	21,294	21,985	19,119	23,475	19,244
Receipts from the public	(9,161)	(10,592)	(10,439)	.....	.....	.....
Receipts from other accounts.....	(8,965)	(10,702)	(11,546)	.....	.....	.....

¹ Excludes right-of-way revolving fund which is a part of the highway trust funds.

Trust fund obligations.—The obligations (net) for trust funds are estimated at \$413 billion for 1990, as set forth in table C-11. This includes \$242 billion in obligations (net) for transactions of the Federal old-age, survivors, and disability insurance trust funds that are off-budget.

Table C-11. OBLIGATIONS INCURRED, NET, IN TRUST FUNDS

(In millions of dollars)

Department or other unit	1988 actual	1989 estimate	1990 estimate
Legislative Branch.....	3	6	4
The Judiciary.....	4	9	9
Funds appropriated to the President.....	-833	-580	-500
Agriculture.....	-72	-181	43
Commerce.....	31	36	35
Defense—Military.....	66	33	21
Defense—Civil.....	19,424	20,532	21,129
Education.....	*	*	*
Energy.....	-6	9	
Health and Human Services, except social security.....	78,817	87,450	95,134
Health and Human Services, social security.....	216,285	228,928	241,895
Housing and Urban Development.....		*	*
Interior.....	213	329	139
Justice.....	1		
Labor.....	19,292	18,561	19,049
State.....	289	329	345
Transportation.....	17,631	18,548	20,332
Treasury.....	19	20	24
Veterans' Affairs.....	946	1,062	1,094
Environmental Protection Agency.....	1,474	1,561	1,758
General Services Administration.....	*		*
National Aeronautics and Space Administration.....		*	1
Office of Personnel Management.....	27,519	28,364	28,187
Federal Deposit Insurance Corporation.....	3,675	1,931	-1,792
Railroad Retirement Board.....	6,188	6,437	6,740
All Other Independent Agencies.....	26	25	26
Undistributed offsetting receipts:			
Employer share, employee retirement (off-budget).....	-4,382	-4,849	-5,551
Interest received by off-budget trust funds.....	-7,416	-11,210	-14,888
Total.....	379,194	397,350	413,234
On-budget.....	(162,909)	(168,422)	(171,339)
Off-budget.....	(216,285)	(228,928)	(241,895)

* \$500 thousand or less.

SPECIAL ANALYSIS D

FEDERAL INVESTMENT OUTLAYS

This special analysis classifies Federal spending into two categories: outlays for investment, which yield long-term benefits; and outlays for operating and other purposes, which yield current benefits. It focuses on Federal investment outlays, including grants to State and local governments for investment purposes, that reflect the President's budget proposals for 1990.

Data on historical trends in gross Federal outlays for public physical capital investment are provided in this analysis and, more extensively, in section 9 of the separate volume entitled *Historical Tables, Budget of the United States Government, Fiscal Year 1990*.

In accordance with the requirements of the Federal Capital Investment Program Information Act of 1984 (Title II of P.L. 98-501), a supplement to this special analysis is being prepared for separate transmittal to the Congress. This supplement will present 10-year current services projections of Federal physical investment spending in current dollars, 5-year projections in constant dollars, and assessments of civilian investment needs for selected purposes.¹

Federal investment outlays take several forms and are made for many purposes. They are in the form of grants to State and local governments and direct Federal outlays. They can be for investment in physical capital, which yields a stream of services over a period of years; and for investment in research, development, education, and training, which is less tangible but also provides long-term benefits. They can also be for loans, which yield a monetary return, although the loans usually provide a subsidy to the borrower as well.

Inherent in the classification of these data are two problems, one involving grants to others, and one involving spending that could be shown in more than one category.

- For some grants to State and local governments, the recipient jurisdiction, not the Federal Government, ultimately determines whether the money is used to finance investment or current programs. This analysis classifies all of the outlays in the category where the recipient jurisdictions are expected to spend most of the money. Hence, shared revenues are classi-

¹ The "Supplement to Special Analysis D" will be available at the Executive Office of the President Publication Services, Room 2200, 725 17th St. N.W., Washington, D.C. 20503.

fied as current spending although some may be spent by recipient jurisdictions on physical capital investments. Community development block grants are classified as investment although some may be spent for current purposes.

- Some spending could be classified into more than one category. For example, grants for construction of education facilities finance the acquisition of physical assets, but they also contribute to the provision of education and training. To avoid double counting, the outlays are classified in the category that is most commonly recognized as investment. Consequently the conduct of education and training does not include the cost of education facilities, because these facilities are included in the category of construction and rehabilitation of physical assets. Similarly, the purchase of equipment for research and development is included as acquisition of equipment, not conduct of research and development.

This analysis is organized in four sections:

- the composition of Federal investment outlays;
- historical trends in physical investment;
- nondefense physical investment outlays net of depreciation; and
- detailed data tables.

Information on most major programs and proposals is available in Part 5 of the main volume of the 1990 budget.

COMPOSITION OF FEDERAL INVESTMENT OUTLAYS

The composition of Federal investment outlays is shown in Table D-1. These outlays are estimated to be \$221.1 billion in 1990, \$7.5 billion or 3.5 percent more than the 1989 estimate of \$213.6 billion. This section initially discusses physical investment, such as construction, rehabilitation, and the acquisition of major equipment, and discusses the more marginal categories (in terms of classification) at the end, such as purchases of agricultural commodities and international development activities.

Outlays for *major public physical capital investment* (hereafter referred to as physical investment in the text) are estimated to be \$128.5 billion in 1990, a decrease of \$0.8 billion below the 1989 estimate of \$129.3 billion. This investment includes primarily outlays for construction, rehabilitation, and major equipment. Investment directly by the Federal Government is estimated to be \$103.7 billion in 1990, and grants to State and local governments for physical investment are estimated to be \$24.8 billion.

The direct physical investment by the Federal Government is primarily for national defense, estimated to be \$87.3 billion in 1990. Almost all of this, or an estimated \$80.5 billion in 1990, is for the procurement of weapons and other military equipment, and the

TABLE D-1. COMPOSITION OF FEDERAL INVESTMENT OUTLAYS

(In billions of dollars)

	1988	1989 estimate	1990 estimate
Major public physical capital investment:			
Direct:			
National defense	85.7	89.3	87.3
Nondefense	14.5	15.2	16.4
Subtotal, major public direct physical capital investment	100.2	104.5	103.7
Grants to State and local governments	24.6	24.8	24.8
Subtotal, major public physical capital investment.....	124.8	129.3	128.5
Other physical capital investment (nondefense, direct)	4.6	5.2	1.7
Conduct of research and development:			
National defense	38.0	40.3	42.4
Nondefense	18.1	20.4	22.4
Subtotal, conduct of research and development	56.1	60.6	64.8
Conduct of education and training:			
Direct	12.1	13.2	13.2
Grants to State and local governments	13.0	13.9	14.4
Subtotal, conduct of education and training	25.1	27.1	27.6
Loans and other financial investments	-12.7	-12.6	-8.0
Commodity inventories	-5.8	-2.0	-0.3
Other	5.0	5.9	6.8
Total, Federal investment outlays.....	197.2	213.6	221.1
MEMORANDUM			
National defense	124.2	130.1	130.1
Nondefense	73.0	83.6	91.0

remainder, \$6.9 billion, is primarily for construction of military bases and family housing for military personnel.

Outlays for direct physical investment for nondefense purposes are estimated to be \$16.4 billion in 1990, \$1.2 billion more than the 1989 estimate. The 1990 outlays include \$10.5 billion for construction and rehabilitation. These outlays are largely for water, power, and natural resources projects of the Corps of Engineers, the Department of Interior, the Tennessee Valley Authority and the power administrations, and the construction and rehabilitation of veterans hospitals and Postal Service facilities. Outlays for the acquisition of major equipment are estimated to be \$5.8 billion in 1990. This is largely for the space program, the air traffic control system, the Postal Service, energy research, the Coast Guard, and veterans hospitals.

Outlays for grants to State and local governments for physical investment are estimated to be \$24.8 billion in 1990, the same as the 1989 estimate. More than half of these outlays, or \$13.0 billion in 1990, are grants to assist with construction of the Interstate highway system and other major highways. Other major grants for

physical investment are for sewage treatment plants, community development, airports, and mass transit. Information on total grants-in-aid to State and local governments, both for investment and for other purposes, is available in Special Analysis H, "Federal Aid to State and Local Governments," in this volume.

Outlays for *other physical capital investment* (nondefense, direct) are estimated to be \$1.7 billion in 1990. This category includes conservation programs for the improvement of land, the purchase and sale of assets, and other activities. The decrease from 1989 to 1990 is due primarily to the proposed sale of the naval petroleum reserve and the power marketing administrations for \$2.3 billion.

Outlays for the *conduct of research and development*² are estimated to be \$64.8 billion in 1990, \$4.2 billion more than the 1989 estimate. These outlays are devoted to increasing our basic scientific knowledge and promoting related research and development activities. They increase our national security, improve the marginal productivity of capital and labor for both public and private purposes, and enhance the quality of life. About two-thirds of the outlays for the conduct of research and development, an estimated \$42.4 billion in 1990, are for national defense.

Nondefense outlays for the conduct of research and development are estimated to be \$22.4 billion in 1990, \$2.1 billion or 10 percent more than in 1989. This is almost entirely direct spending by the Federal Government, and is largely for the space programs, the National Science Foundation, health research, and research for nuclear and non-nuclear energy facilities. Research and development is discussed in detail in Special Analysis J, "Research and Development," in this volume.

Outlays for the *conduct of education and training*² are estimated to be \$27.6 billion in 1990, \$0.5 billion more than the 1989 estimate. These outlays are investment because they 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 \$14.4 billion in 1990, more than half of the total. They are primarily for the disadvantaged and the handicapped, and for vocational and adult education. Direct education and training outlays by the Federal Government are estimated to be \$13.2 billion in 1990, the same as the 1989 estimate. Programs in this category are primarily aid for higher education through student financial assistance, guaranteed student loan subsidies, the veterans GI bill, and health training programs.

Loans and other financial investments include direct loan disbursements for new loans, repayments of previous loans, the sale of

² Outlays for physical investment for these programs are included in the physical investment category.

loan assets, and related activities.^{3,4} For these investments, repayments, sales and other adjustments are expected to exceed disbursements by \$8.0 billion. The major loan activities are for the sale of military equipment to foreign countries, promotion of exports and housing, and assistance to farmers and college students.

The 1990 budget includes a major credit reform proposal, which involves a restructuring of the way the Federal Government budgets and accounts for direct and guaranteed loans. This proposal and other aspects of loans are discussed in considerable detail in Special Analysis F, "Federal Credit Programs," in this volume and in Part 6 of the main volume of the 1990 budget.

Sales of *commodity inventories* are estimated to exceed purchases by \$0.3 billion in 1990, \$1.6 billion less than the 1989 estimate. These are almost entirely for direct Federal nondefense purposes. A major portion of outlays in this category is for the purchase or sale of agricultural products pursuant to farm price support programs. Net receipts from sales of these commodities in 1990 are estimated to be \$0.5 billion. Other outlays in the category are for purchases of oil for the strategic petroleum reserve.

Other investment outlays are for the collection of information, such as by the Bureau of the Census, and for foreign economic assistance grants for general economic development or humanitarian needs. These outlays are estimated to be \$6.8 billion in 1990.

HISTORICAL TRENDS IN PHYSICAL INVESTMENT

This section presents data on physical investment for selected years from 1940 to 1990. Other sections of the budget documents contain historical information that can be used to analyze major trends in specialized segments of Federal investment spending. Besides *Historical Tables*, historical data for education and training outlays are available as part of the functional tabulations in the main budget volume, historical data on credit are shown in Special Analysis F, historical data on grants appear in Special Analysis H, and historical data on research and development are published in Special Analysis J.

Table D-2 shows Federal outlays for physical investment at 5-year intervals from 1940 to 1985 and annually from 1985 to 1990.

Table D-3 adjusts these trends for price changes by showing the data in constant fiscal year 1982 dollars. In constant dollars, national defense investment is estimated to be \$78.9 billion in 1990, an average annual increase of 7 percent from 1980 to 1990. This compares to 3 percent per year growth from 1975 to 1980, and an

³ The sale of loan assets with recourse is not defined as an offsetting collection but rather as a means of financing the budget deficit other than by borrowing from the public.

⁴ Includes offsets for writeoffs of defaulted loans, which do not directly affect outlays. In such cases, there is an offsetting adjustment in the non-investment category.

average decline of 10 percent per year from 1970 to 1975, as the Vietnam war was ending.

Direct nondefense investment in constant dollars is estimated to be \$15.0 billion in 1990, an increase on the average of 5 percent per year from 1980 to 1990, slightly more than the 4 percent average annual rate of increase from 1970 to 1980. In contrast, grants for investment are estimated to decline in real terms 2 percent per year from 1980 to the estimated 1990 level of \$19.3 billion. This compares to an average annual rate of increase of 2 percent from 1970 to 1980.

Most categories of grants for physical investment increased from 1975 to 1980 in terms of current dollars, which resulted in an increasing share of State and local capital spending financed by grants. In 1975, Federal capital grants financed 26 percent of total State and local capital spending. This share increased ten percentage points to 36 percent by 1980. In contrast, with the restraint in Federal grants since 1980 and increases in capital spending financed by State and local own source revenues, this share returned to 26 percent in 1988.

Table D-4 shows these data as a percent of GNP. As a percent of GNP, national defense investment is estimated to be 1.6 percent in 1990, higher than the 1980 percentage of 1.2 percent but below the 2.4 percent in 1970 during the Vietnam war or still higher percentages in the late 1950s. Direct nondefense capital spending as a percent of GNP has remained fairly steady from 1970 to 1990.

The trend for grants as a percent of GNP is similar to the trend for constant dollar grants described above. For 1990, grants are estimated to be 0.4 percent of GNP, a decrease from the 0.8 percent in 1980.

Table D-2. FEDERAL OUTLAYS FOR MAJOR PUBLIC PHYSICAL CAPITAL INVESTMENT IN CURRENT DOLLARS

(In billions of dollars)

	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1986	1987	1988	1989 est.	1990 est.
Direct Investment:															
National defense:															
Department of Defense-Military.....	0.8	56.3	1.6	14.6	15.5	13.1	22.9	17.8	31.5	74.7	81.6	86.8	83.1	86.6	84.3
Atomic energy defense.....			0.4	1.5	1.7	1.1	0.7	0.9	1.0	3.2	3.0	2.8	2.6	2.8	3.0
Total, national defense.....	0.8	56.3	2.1	16.1	17.2	14.2	23.6	18.7	32.5	78.0	84.7	89.5	85.7	89.3	87.3
Nondefense:															
Construction and rehabilitation:															
Water and power projects.....	N/A	0.2	0.9	0.8	1.0	1.4	1.5	3.0	4.6	4.6	4.3	4.6	4.8	4.9	4.9
Other.....	N/A	0.1	0.4	0.3	0.8	1.4	0.8	1.4	2.7	3.5	3.7	3.8	4.4	4.7	5.7
Acquisition of major equipment.....	N/A		*	*	0.1	0.2	0.2	0.4	0.7	3.6	3.3	4.2	5.4	5.6	5.8
Total, nondefense.....	2.0	0.2	1.3	1.1	1.9	3.0	2.5	4.8	8.1	11.7	11.3	12.5	14.5	15.2	16.4
Grants to State and local governments:															
Nondefense:															
Transportation:															
Highways.....	N/A	*	0.4	0.6	2.9	4.0	4.3	4.6	9.0	12.7	13.9	12.5	13.7	13.3	13.0
Mass transit.....	N/A					*	0.1	0.7	2.0	2.4	2.7	2.6	2.4	2.7	2.9
Airports.....	N/A		*	*	0.1	0.1	0.1	0.3	0.6	0.8	0.9	0.9	0.8	1.1	1.3
Community and regional development.....	N/A	0.1	*	*	0.1	0.6	1.6	2.5	5.8	5.0	4.5	4.0	4.0	4.1	4.0
Natural resources and environment.....	N/A	*	*	*	0.1	0.2	0.4	2.3	4.9	3.6	3.8	3.6	3.3	3.2	3.1
Other.....	N/A		*	0.2	0.1	0.1	0.5	0.5	0.2	0.3	0.3	0.2	0.3	0.3	0.3
Subtotal, nondefense grants.....	0.4	0.2	0.5	0.8	3.3	5.0	7.0	10.8	22.4	24.8	26.2	23.7	24.5	24.6	24.7
National defense.....				*	*	*	*	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total grants.....	0.4	0.2	0.5	0.8	3.3	5.0	7.1	10.9	22.5	24.9	26.3	23.8	24.6	24.8	24.8
Total outlays for major public physical capital investment.....	3.3	56.7	3.9	18.0	22.4	22.3	33.2	34.4	63.0	114.6	122.2	125.9	124.8	129.3	128.5

N/A indicates not available. * \$50 million or less.

SPECIAL ANALYSIS D

D-7

Table D-3. FEDERAL OUTLAYS FOR MAJOR PUBLIC PHYSICAL CAPITAL INVESTMENT IN CONSTANT FY 1982 DOLLARS

(In billions of dollars)

	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1986	1987	1988	1989 est.	1990 est.
Direct Investment:															
National defense:															
Department of Defense-Military.....	6.3	296.3	6.4	52.3	46.7	37.3	54.2	31.6	38.4	69.3	74.5	81.7	81.0	81.1	76.2
Atomic energy defense.....			1.6	5.5	5.1	3.1	1.6	1.5	1.2	3.0	2.8	2.6	2.5	2.6	2.7
Total, national defense.....	6.3	296.3	8.0	57.8	51.7	40.4	55.8	33.1	39.6	72.3	77.3	84.3	83.5	83.7	78.9
Nondefense:															
Construction and rehabilitation:															
Water and power projects.....	N/A	0.8	3.6	2.9	3.0	4.1	3.6	5.1	5.3	4.5	4.1	4.4	4.7	4.6	4.5
Other.....	N/A	0.4	1.6	0.9	2.4	4.1	1.9	2.3	3.1	3.4	3.6	3.6	4.3	4.5	5.2
Acquisition of major equipment.....	N/A		*	0.2	0.4	0.5	0.6	0.7	0.8	3.5	3.2	4.1	5.3	5.3	5.3
Total, nondefense.....	15.0	1.2	5.2	4.0	5.9	8.7	6.1	8.2	9.1	11.4	10.9	12.1	14.3	14.4	15.0
Grants to State and local governments:															
Nondefense:															
Transportation:															
Highways.....	N/A	0.2	2.1	2.5	10.8	13.9	11.8	7.7	9.8	11.7	12.5	11.1	11.8	10.8	10.3
Mass transit.....	N/A					*	0.3	1.2	2.2	2.3	2.5	2.3	2.1	2.2	2.3
Airports.....	N/A		0.2	*	0.2	0.2	0.2	0.5	0.6	0.7	0.8	0.8	0.7	0.9	1.0
Community and regional development.....	N/A	0.8	*	0.2	0.4	2.0	4.5	4.2	6.3	4.6	4.1	3.5	3.5	3.3	3.1
Natural resources and environment.....	N/A	*	*	0.1	0.3	0.6	1.0	3.8	5.4	3.3	3.4	3.2	2.8	2.6	2.4
Other.....	N/A		0.1	0.7	0.5	0.5	1.5	0.8	0.2	0.3	0.3	0.2	0.2	0.3	0.2
Subtotal, nondefense grants.....	3.8	1.0	2.3	3.4	12.2	17.3	19.3	18.2	24.5	22.9	23.5	21.1	21.0	20.1	19.2
National defense.....				*	*	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total grants.....	3.8	1.0	2.3	3.4	12.2	17.3	19.4	18.3	24.6	22.9	23.6	21.2	21.1	20.2	19.3
Total outlays for major public physical capital investment.....	25.1	298.4	15.5	65.2	69.8	66.4	81.3	59.6	73.3	106.6	111.8	117.6	118.9	118.3	113.2

N/A indicates not available. * \$50 million or less.

Table D-4. FEDERAL OUTLAYS FOR MAJOR PUBLIC PHYSICAL CAPITAL INVESTMENT AS A PERCENT OF GNP

	1940	1945	1950	1955	1960	1965	1970	1975	1980	1985	1986	1987	1988	1989 est.	1990 est.
Direct Investment:															
National defense:															
Department of Defense-Military.....	0.89%	26.51%	0.62%	3.77%	3.05%	1.95%	2.31%	1.17%	1.18%	1.89%	1.95%	1.96%	1.74%	1.69%	1.54%
Atomic energy defense.....			0.15	0.40	0.33	0.16	0.07	0.06	0.04	0.08	0.07	0.06	0.05	0.05	0.06
Total, national defense.....	0.89	26.51	0.77	4.17	3.39	2.12	2.38	1.23	1.22	1.97	2.02	2.02	1.79	1.75	1.59
Nondefense:															
Construction and rehabilitation:															
Water and power projects.....	N/A	0.07	0.34	0.20	0.20	0.21	0.15	0.20	0.17	0.12	0.10	0.10	0.10	0.10	0.09
Other.....	N/A	0.03	0.15	0.07	0.16	0.22	0.08	0.09	0.10	0.09	0.09	0.08	0.09	0.09	0.10
Acquisition of major equipment.....	N/A		0.01	0.01	0.02	0.02	0.02	0.03	0.02	0.09	0.08	0.09	0.11	0.11	0.11
Total, nondefense.....	2.09	0.10	0.50	0.28	0.38	0.45	0.26	0.32	0.30	0.30	0.27	0.28	0.30	0.30	0.30
Grants to State and local governments:															
Nondefense:															
Transportation:															
Highways.....	N/A	0.02	0.16	0.15	0.58	0.59	0.44	0.30	0.34	0.32	0.33	0.28	0.29	0.26	0.24
Mass transit.....	N/A					*	0.01	0.05	0.08	0.06	0.07	0.06	0.05	0.05	0.05
Airports.....	N/A		0.01	*	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Community and regional development.....	N/A	0.06	*	0.01	0.02	0.09	0.16	0.16	0.22	0.13	0.11	0.09	0.08	0.08	0.07
Natural resources and environment.....	N/A	*	*	0.01	0.02	0.02	0.04	0.15	0.18	0.09	0.09	0.08	0.07	0.06	0.06
Other.....	N/A			0.04	0.03	0.02	0.05	0.03	0.01	0.01		*	0.01	0.01	0.01
Subtotal, nondefense grants.....	0.46	0.07	0.18	0.21	0.65	0.74	0.71	0.71	0.84	0.63	0.62	0.54	0.51	0.48	0.45
National defense.....				*	*	*	*	*	*	*	*	*	*	*	*
Total grants.....	0.46	0.07	0.18	0.21	0.66	0.74	0.71	0.71	0.84	0.63	0.63	0.54	0.52	0.48	0.45
Total outlays for major public physical capital investment.....	3.44%	26.68%	1.45%	4.66%	4.42%	3.31%	3.35%	2.26%	2.36%	2.90%	2.92%	2.84%	2.61%	2.53%	2.35%

N/A indicates not available.
* .005 percent or less.

NONDEFENSE PHYSICAL INVESTMENT OUTLAYS NET OF
DEPRECIATION

This section presents data on physical investment in capital assets and estimates of the depreciation on these assets, which is the reduction in value due to wear and tear, obsolescence, and other factors. The difference between total (or gross) investment and depreciation is net investment. These data are presented in constant fiscal year 1982 dollars.

For many years, current and constant-dollar data on the value of most forms of both public and private physical capital—e.g., roads, factories, and housing—have been estimated by the Department of Commerce and published in the *Survey of Current Business*. (See, for example, pp. 35–36 of the October 1988 issue and the references therein.) These data include estimates of depreciation of defense capital. However, the Commerce data are not directly linked to the Federal budget and do not include estimates for the years covered by the budget. For budgetary purposes, OMB had to prepare separate estimates.

The estimates were developed first of all from the OMB historical data base for Federal nondefense physical investment and grants to State and local governments for physical investment. This extends back to 1940 and was supplemented by rough estimates of such spending during 1915–39.

The resulting series of physical investment outlays in current dollars was adjusted to constant fiscal year 1982 dollars using price deflators for Federal nondefense capital purchases. The resulting constant dollar series is shown as gross investment in Table D-5. These are the same nondefense physical investment outlays presented in the previous section. These constant dollar historical data were then depreciated on a straight-line basis over the following assumed useful lives: 40 years for investments financed by grants; 46 years for water and power projects; 30 years for other nondefense construction and rehabilitation; and 16 years for major equipment. The difference between gross investment and depreciation is shown as net investment.

Table D-5. COMPOSITION OF GROSS AND NET FEDERAL AND FEDERALLY FINANCED INVESTMENT IN NONDEFENSE PUBLIC PHYSICAL CAPITAL IN CONSTANT (1982) PRICES

(In billions of dollars)

Year	Total nondefense investment			Direct Federal investment					Investment financed by Federal grants-in-aid						
	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	18.1	7.5	10.6	5.9	4.1	1.8	1.2	0.6	12.2	3.4	8.8	9.0	-0.3	-0.2	0.3
1965	26.0	9.8	16.2	8.7	4.7	4.0	1.9	2.1	17.3	5.1	12.2	10.8	1.2	*	0.2
1970	25.4	12.1	13.3	6.1	4.9	1.2	0.9	0.2	19.3	7.2	12.1	7.5	3.3	0.3	1.0
Annual data:															
1975	26.4	14.9	11.5	8.2	5.7	2.5	2.1	0.5	18.2	9.3	8.9	3.3	2.5	2.9	0.3
1976	30.0	15.4	14.6	8.3	5.8	2.5	2.1	0.4	21.7	9.6	12.1	5.5	2.8	3.5	0.2
1977	33.5	15.9	17.6	8.8	6.0	2.8	2.5	0.3	24.7	9.9	14.8	5.0	4.6	5.0	0.2
1978	35.3	16.5	18.9	9.7	6.2	3.5	2.7	0.8	25.6	10.3	15.4	4.2	7.3	4.0	-0.2
1979	34.8	17.0	17.8	10.2	6.4	3.8	2.8	1.0	24.6	10.6	14.0	4.5	5.6	4.2	-0.3
1980	33.6	17.7	16.0	9.1	6.5	2.6	1.7	0.9	24.5	11.1	13.4	5.4	4.3	4.2	-0.5
1981	32.0	18.4	13.7	9.3	6.7	2.6	1.6	1.1	22.7	11.7	11.0	4.6	3.5	3.3	-0.5
1982	28.6	19.0	9.6	8.5	6.8	1.6	0.7	0.9	20.1	12.1	8.0	2.8	2.9	2.7	-0.4
1983	28.3	19.6	8.7	8.0	7.0	1.0	0.9	0.2	20.3	12.6	7.7	3.8	2.3	2.0	-0.5
1984	31.7	20.3	11.4	9.8	7.2	2.6	0.1	2.5	21.9	13.1	8.8	5.3	2.2	1.6	-0.4
1985	34.3	21.1	13.2	11.4	7.5	3.9	0.6	3.3	22.9	13.7	9.2	5.9	2.0	1.7	-0.4
1986	34.4	21.9	12.5	10.9	7.7	3.2	0.3	3.0	23.5	14.2	9.3	6.6	1.4	1.7	-0.4
1987	33.2	22.6	10.6	12.1	7.9	4.2	0.7	3.6	21.1	14.7	6.4	4.7	0.8	1.3	-0.4
1988	35.4	23.5	11.9	14.3	8.3	6.0	1.0	5.1	21.0	15.2	5.9	4.7	0.6	0.9	-0.4
1989 estimate	34.5	24.4	10.1	14.4	8.7	5.7	0.8	4.9	20.1	15.6	4.5	3.8	0.4	0.7	-0.4
1990 estimate	34.2	25.2	9.0	15.0	9.2	5.8	0.6	5.2	19.2	16.1	3.2	3.0	0.1	0.4	-0.4

* \$50 million or less.

These data should be viewed as approximations; they have substantial margins of estimating error. The sources of error include:

- *The extended historical outlay series.*—The historical data series was extended back from 1940 to 1915 using data from selected sources. There are no consistent outlay data on non-defense physical capital investment for this period, and the estimates are approximations.
- *Price adjustments.*—The replacement cost of the Federal stock of nondefense physical capital has increased through time, but the rate of increase is not known exactly. An estimate of replacement costs in fiscal year 1982 prices was made through the application of the National Income and Product Accounts deflator series for Federal, State, and local purchases of durables and structures indexed to fiscal year 1982 prices. There are no specific price indices for public purchases of durables and structures for 1915 through 1939, and estimates were made on the basis of Census Bureau historical statistics on constant price public capital formation.
- *Depreciation estimates.*—The useful lives of nondefense capital investments are very uncertain. Since they are for broad classes of investment, they do not apply to specific cases. Also, straight-line depreciation may not be the most accurate method.

The data in Table D-5 show that net investment, measured in constant dollars, increased between 1960 and 1970, largely due to investment in highways. Investment also increased during the 1970s, when depreciation was largely based on the relatively low investment of the 1940s and 1950s, so gross investment outlays primarily added to the capital stock rather than replaced capital. However, with the passage of time, the capital stock became larger, and consequently depreciation grew. More and more gross investment was required just to maintain the size of the capital stock. In the early 1980s, gross investment declined slightly and then increased. Depreciation continued to rise, because the new levels of investment were still high relative to the years before 1970. As a result, the pattern for net investment has been uneven in the 1980s, varying from \$16.0 billion in 1980 to \$8.7 billion in 1983.

The composition of nondefense public physical capital investment—on both a gross and a net basis—has changed substantially over time. Before the mid-1950s, direct nondefense gross investment exceeded grants for investment, on both a gross and a net basis. However, by the end of the 1950s, when construction of the Interstate highway system first began, grants-in-aid for investment substantially exceeded direct investment. This relationship has continued on a gross basis, but the trend on a net basis has changed. With increasingly higher depreciation relative to gross investment

for assets financed by grants-in-aid, net investment was estimated to be less for grants than for direct investment in 1988 for the first time since the mid-1950s.

DETAILED DATA TABLES

The remaining tables in this analysis provide detail on the composition of investment spending and current outlays. They provide two basic displays of Federal spending. Table D-6 is a summary table showing investment outlays divided between national defense spending and nondefense spending, and each of these divided between grant and nongrant (direct) outlays. Table D-7 shows additional detail for national defense and nondefense outlays, and Table D-8 shows additional detail for grants and nongrant outlays. Table D-9 shows non-investment outlays by budget function for grants and nongrants. Most non-investment outlays are in the functions for national defense, medicare, income security, social security, and net interest.

Table D-6. SUMMARY OF TOTAL OUTLAYS BY INVESTMENT CATEGORY

(In millions of dollars)

	1988 actual			1989 estimate			1990 estimate		
	Total	Nongrants	Grants	Total	Nongrants	Grants	Total	Nongrants	Grants
NATIONAL DEFENSE									
Investment outlays:									
Major public physical capital investment:									
Construction and rehabilitation	7,018	6,911	107	7,048	6,904	144	6,881	6,772	109
Acquisition of major equipment	78,789	78,787	2	82,439	82,439		80,537	80,537	
Subtotal, major public physical capital investment	85,807	85,698	109	89,487	89,343	144	87,417	87,309	109
Other investment outlays:									
Conduct of research and development	38,032	38,032		40,289	40,288	1	42,358	42,358	
Other investment outlays	332	322	10	289	283	6	313	307	6
Subtotal, other investment outlays	38,364	38,354	10	40,578	40,571	7	42,671	42,665	6
Total, investment outlays	124,171	124,052	119	130,065	129,914	151	130,088	129,974	115
Non-investment outlays	166,190	166,122	68	168,190	168,109	81	172,903	172,823	80
Total, national defense outlays	290,361	290,174	188	298,255	298,023	232	302,991	302,797	195
NONDEFENSE									
Investment outlays:									
Major public physical capital investment:									
Construction and rehabilitation	33,169	9,163	24,006	33,659	9,562	24,097	34,772	10,538	24,234
Acquisition of major equipment	5,369	5,369		5,630	5,630		5,841	5,841	
Other physical assets	503		503	523		523	443		443
Subtotal, major public physical capital investment	39,041	14,532	24,509	39,812	15,191	24,620	41,056	16,379	24,677

Other investment outlays:									
Other physical assets	4,597	4,597		5,207	5,207		1,746	1,746	
Conduct of research and development	18,068	17,590	478	20,352	19,832	520	22,443	22,041	402
Conduct of education and training	25,131	12,091	13,040	27,135	13,217	13,918	27,619	13,221	14,398
Loans and other financial investments	-12,711	-12,711		-12,529	-12,529		-7,933	-7,933	
Commodity inventories	-5,788	-5,788		-1,942	-1,942		-328	-328	
Other outlays	4,701	4,693	8	5,538	5,528	10	6,433	6,423	10
Subtotal, other investment outlays	33,998	20,472	13,526	43,761	29,313	14,448	49,980	35,170	14,810
Total, investment outlays	73,039	35,004	38,035	83,573	44,505	39,068	91,036	51,549	39,487
Non-investment outlays ¹	700,644	623,573	77,071	755,203	670,940	84,263	757,820	673,880	83,940
Total, nondefense outlays	773,683	658,577	115,106	838,775	715,445	123,330	848,856	725,429	123,427
Total outlays	1,064,044	948,750	115,294	1,137,030	1,013,468	123,562	1,151,848	1,028,226	123,622
RECAPITULATION:									
Major public physical capital investment	124,849	100,230	24,618	129,298	104,535	24,764	128,473	103,688	24,785
Other investment outlays	72,362	58,825	13,536	84,339	69,884	14,455	92,651	77,835	14,816
Subtotal, investment	197,210	159,056	38,154	213,637	174,419	39,219	221,125	181,523	39,601
Non-investment outlays ¹	866,834	789,694	77,139	923,393	839,049	84,344	930,723	846,703	84,020
Total outlays	1,064,044	948,750	115,294	1,137,030	1,013,468	123,562	1,151,848	1,028,226	123,622

¹ See Table D-9 for a distribution of non-investment outlays by function.

Table D-7. DETAIL OF FEDERAL INVESTMENT OUTLAYS BY DEFENSE AND NONDEFENSE

(In millions of dollars)

	1988 actual	1989 estimate	1990 estimate
NATIONAL DEFENSE			
Investment outlays:			
Major public physical capital investment:			
Construction and rehabilitation:			
Military construction	5,546	5,401	5,011
Family housing	563	643	633
Atomic energy defense activities and other	909	1,004	1,236
Subtotal, construction and rehabilitation	7,018	7,048	6,881
Acquisition of major equipment:			
Procurement	77,111	80,651	78,711
Atomic energy defense activities	1,678	1,788	1,826
Subtotal, acquisition of major equipment	78,789	82,439	80,537
Subtotal, major public physical capital investment	85,807	89,487	87,417
Other investment outlays:			
Conduct of research and development			
Defense military	35,605	37,864	39,592
Atomic energy and other	2,427	2,425	2,767
Subtotal, defense research and development	38,032	40,289	42,358
Other outlays	332	289	313
Subtotal, other investment outlays	38,364	40,578	42,671
Subtotal, national defense investment outlays	124,171	130,065	130,088
NONDEFENSE			
Investment outlays:			
Major public physical capital investment:			
Construction and rehabilitation of physical assets:			
Highways	13,723	13,291	13,071
Mass transportation	2,395	2,627	2,918
Rail transportation	82	85	69
Air transportation	892	1,199	1,348
Water transportation	133	93	76
Community development block grants	3,050	3,065	3,080
Urban development acton grants	216	310	252
Other community and regional development	881	808	776
Pollution control and abatement	3,042	3,196	3,314
Water resources	2,423	2,698	2,699
Other natural resources and environment	877	866	874
Energy	2,492	2,275	2,264
Veterans hospitals and other health	863	973	922
Postal Service	970	830	1,338
Other programs	1,130	1,343	1,771
Subtotal, construction and rehabilitation	33,169	33,659	34,772
Acquisition of major equipment:			
Air transportation	1,075	1,021	1,370
Other transportation	325	296	287
Space flight, control and data communications	1,979	2,157	2,034
General science and basic research	125	141	155
Postal Service	651	764	1,095

Table D-7. DETAIL OF FEDERAL INVESTMENT OUTLAYS BY DEFENSE AND NONDEFENSE—Continued

(In millions of dollars)

	1988 actual	1989 estimate	1990 estimate
Other	1,214	1,251	901
Subtotal, acquisition of major equipment	5,369	5,630	5,841
Other physical assets (grants)	503	523	443
Subtotal, major public physical capital investment.....	39,041	39,812	41,056
Other investment outlays:			
Other physical assets (direct)			
Sale of the naval petroleum reserves and other assets.....			-2,285
Other physical assets.....	4,597	5,207	4,031
Subtotal, other physical assets (direct)	4,597	5,207	1,746
Conduct of research and development:			
General science, space and technology			
NASA.....	3,252	4,085	5,404
National Science Foundation.....	1,513	1,655	1,778
Other general science.....	618	711	742
Subtotal, general science, space, technology	5,383	6,452	7,923
Energy	2,287	2,510	2,172
Transportation			
Department of Transportation.....	323	408	389
NASA.....	580	656	748
Subtotal, transportation	903	1,064	1,137
Health			
National Institutes of Health.....	6,022	6,387	6,616
All other health	849	1,169	1,927
Subtotal, health	6,872	7,556	8,543
Agriculture	838	891	906
Natural resources and environment.....	1,052	1,097	938
All other research and development.....	732	782	824
Subtotal, conduct of research and development	18,068	20,352	22,443
Conduct of education and training:			
Department of Education:			
Higher education	7,924	8,926	9,085
Elementary, secondary, and vocational education	8,041	8,805	9,318
Other	240	252	270
Subtotal, Department of Education	16,206	17,983	18,673
Veterans readjustment benefits.....	659	591	415
Training and employment programs	3,751	3,891	3,889
Health training.....	1,070	1,079	990
Other education and training	3,445	3,591	3,651
Subtotal, conduct of education and training.....	25,131	27,135	27,619
Loans and other financial investments:			
Loans:			
International affairs.....	-3,801	-6,752	-528
Agriculture.....	-8,697	-5,261	-4,481
Mortgage credit and deposit insurance.....	1,672	-1,818	-5,239
Aids to commerce	-377	-287	-410
Transportation	-502	-162	119

Table D-7. DETAIL OF FEDERAL INVESTMENT OUTLAYS BY DEFENSE AND NONDEFENSE—Continued

(In millions of dollars)

	1988 actual	1989 estimate	1990 estimate
Disaster relief.....	-459	-328	-574
Other community and regional development.....	-1,629	-756	-29
Education.....	237	927	585
Other.....	-383	435	1,145
Subtotal, loans.....	-13,938	-14,000	-9,413
Other financial investments:			
International development.....	1,099	1,302	1,326
Other.....	128	170	154
Subtotal, other financial investments.....	1,227	1,471	1,480
Subtotal, loans and other financial investments.....	-12,711	-12,529	-7,933
Commodity inventories:			
Agriculture.....	-6,147	-2,363	-491
Strategic petroleum reserve.....	359	421	163
Subtotal, commodity inventories.....	-5,788	-1,942	-328
Other outlays:			
Collection of information.....	1,774	2,272	3,138
International development.....	2,927	3,266	3,295
Subtotal, other outlays.....	4,701	5,538	6,433
Subtotal, other investment outlays.....	33,998	43,761	49,980
Subtotal, nondefense investment outlays.....	73,039	83,573	91,036
Total, investment outlays.....	197,210	213,637	221,125

Table D-8. **DETAIL OF FEDERAL INVESTMENT OUTLAYS BY GRANTS-IN-AID AND DIRECT FEDERAL PROGRAMS**

(In millions of dollars)

	1988 actual	1989 estimate	1990 estimate
GRANTS-IN-AID:			
Investment outlays:			
Major public physical capital investment:			
Construction and rehabilitation of physical assets:			
Highways	13,714	13,257	13,037
Mass transportation	2,395	2,627	2,918
Rail transportation	21	24	24
Air transportation	825	1,123	1,256
Pollution control and abatement	2,600	2,557	2,591
Other natural resources and environment	165	153	114
Community development block grants	3,050	3,065	3,080
Urban development action grants	216	310	252
Other community and regional development	780	686	657
Other construction	346	438	413
Subtotal, construction and rehabilitation	24,113	24,241	24,342
Acquisition of major equipment	2		
Other physical assets	503	523	443
Subtotal, major public physical capital investment	24,618	24,764	24,785
Other investment outlays:			
Conduct of research and development	478	521	402
Conduct of education and training:			
Employment and training assistance	2,958	3,070	3,039
Elementary and secondary education	7,813	8,459	8,934
Other	2,279	2,395	2,430
Subtotal, conduct of education and training	13,050	13,924	14,404
Collection of information	8	10	10
Subtotal, other investment outlays	13,536	14,455	14,816
Subtotal, grants-in-aid investment outlays	38,154	39,219	39,601
DIRECT FEDERAL OUTLAYS:			
Investment outlays:			
Major public physical capital investment:			
Construction and rehabilitation:			
National defense	6,911	6,904	6,772
Water resource projects	2,309	2,590	2,611
Other natural resources and environment	1,267	1,460	1,570
Energy	2,492	2,275	2,264
Transportation	269	264	248
Veterans hospitals and other health facilities	836	936	878
Postal Service	970	830	1,338
Other construction	1,020	1,208	1,629
Subtotal, construction and rehabilitation	16,074	16,466	17,310
Acquisition of major equipment:			
National defense	78,787	82,439	80,537
NASA, nondefense	1,979	2,157	2,034
Postal Service	651	764	1,095
Other	2,740	2,709	2,712
Subtotal, acquisition of major equipment	84,156	88,068	86,378

Table D-8. DETAIL OF FEDERAL INVESTMENT OUTLAYS BY GRANTS-IN-AID AND DIRECT FEDERAL PROGRAMS—Continued

(In millions of dollars)

	1988 actual	1989 estimate	1990 estimate
Subtotal, major public physical capital investment.....	100,230	104,534	103,688
Other investment outlays:			
Other physical assets:			
Sale of the naval petroleum reserves and other assets.....			-2,285
Other physical assets.....	4,597	5,207	4,031
Subtotal, other physical assets.....	4,597	5,207	1,746
Conduct of research and development.....	55,622	60,120	64,399
Conduct of education and training:			
Assistance to veterans.....	752	729	554
Higher education.....	7,923	8,825	9,031
Elementary and secondary education.....	502	615	653
Employment and training assistance.....	737	760	795
Health training.....	1,052	1,064	990
Other.....	1,134	1,230	1,202
Subtotal, conduct of education and training.....	12,099	13,222	13,226
Loans and other financial investments:			
Loans:			
International affairs.....	-3,801	-6,752	-528
Energy supply.....	145	350	35
Agriculture.....	-8,697	-5,261	-4,481
Commerce and housing credit.....	-377	-287	-410
Mortgage credit and deposit insurance.....	1,672	-1,818	-5,239
Transportation.....	-502	-162	119
SBA disaster loan fund.....	-459	-328	-574
Education.....	237	927	585
Veterans.....	-153	4	-65
Low-rent public housing.....	-37	-42	-44
Other.....	-1,994	-671	1,143
Subtotal, loans.....	-13,967	-14,038	-9,461
Other financial investments.....	1,227	1,471	1,480
Subtotal, loans and other financial investments.....	-12,741	-12,567	-7,981
Commodity inventories:			
Strategic Petroleum Reserve.....	359	421	163
Commodity Credit Corporation.....	-6,147	-2,363	-491
Other commodity inventories.....	16	-34	
Subtotal, commodity inventories.....	-5,772	-1,976	-328
Collection of information.....	1,766	2,263	3,128
International development.....	3,254	3,616	3,645
Subtotal, other investment outlays.....	58,825	69,884	77,835
Subtotal, direct Federal investment outlays.....	159,056	174,419	181,523
Total, investment outlays.....	197,210	213,637	221,125

Table D-9. SUMMARY OF NON-INVESTMENT OUTLAYS BY FUNCTION

(In millions of dollars)

	1988 actual			1989 estimate			1990 estimate		
	Total	Nongrants	Grants	Total	Nongrants	Grants	Total	Nongrants	Grants
Non-investment outlays:									
National defense.....	166,190	166,121	68	168,190	168,109	81	172,903	172,823	80
International affairs.....	9,957	9,957		12,737	12,737		12,888	12,888	
General science, space, and technology.....	2,965	2,965		3,390	3,390		4,233	4,233	
Energy.....	-3,407	-3,864	457	-1,904	-2,341	437	-2,370	-2,766	396
Natural resources and environment.....	3,504	3,168	336	2,856	2,500	356	1,162	796	366
Agriculture.....	30,758	29,309	1,449	27,105	26,087	1,018	19,405	18,643	762
Commerce and housing credit.....	14,679	14,679	1	19,390	19,390		9,647	9,647	
Transportation.....	8,153	7,069	1,084	8,416	7,313	1,102	7,788	7,195	593
Community and regional development.....	3,051	2,837	214	3,011	2,764	247	2,692	2,416	276
Education, training, employment, and social services.....	8,501	1,302	7,199	10,168	1,385	8,783	12,865	4,688	8,177
Health.....	37,039	4,453	32,586	41,662	5,047	36,615	43,353	4,985	38,369
Medicare.....	78,878	78,878		86,734	86,734		94,918	94,918	
Income security.....	129,242	97,731	31,511	136,894	103,578	33,316	136,737	104,041	32,696
Social security.....	219,320	219,320		232,312	232,312		246,703	246,703	
Veterans affairs and benefits.....	25,682	25,604	78	25,613	25,527	86	27,188	27,089	99
Administration of justice.....	9,014	8,692	323	9,187	8,844	343	10,267	9,853	415
General government.....	8,528	6,694	1,833	8,857	6,897	1,960	8,958	7,166	1,791
Central Federal credit activities.....							-8,607	-8,607	
Net interest.....	151,748	151,748		165,704	165,704		170,109	170,109	
Allowances.....							-360	-360	
Undistributed offsetting receipts.....	-36,967	-36,967		-36,931	-36,931		-39,757	-39,757	
Total, non-investment outlays.....	866,834	789,694	77,139	923,393	839,049	84,344	930,723	846,703	84,020

SPECIAL ANALYSIS D

D-21

SPECIAL ANALYSIS E

BORROWING AND DEBT

The major fiscal operations of the Federal Government include not only taxation and expenditure but also:

- borrowing cash to meet outlays not covered by receipts and to refinance maturing debt;
- investing balances that trust funds and other Government accounts do not currently need for outlays; and
- providing guarantees, sponsorship, and other types of assistance to certain borrowing by the public.

This analysis summarizes current developments in Federal borrowing. It also discusses the size and growth of the Federal debt and the interest on the Federal debt, the amount of U.S. Government debt held by foreign residents, Federal agency borrowing, investment in Federal securities by Government accounts, the statutory debt limitation, Government-guaranteed borrowing, and borrowing by Government-sponsored enterprises. The analysis concludes with a brief discussion of the trend in Federal and federally assisted borrowing and the relationship of this trend to the total borrowing by the nonfinancial sector of the economy. Excluded from this analysis are other types of Federal liabilities, which include insurance commitments for bank deposits and savings and loan association deposits, accounts payable, obligations for undelivered orders, long-term contracts, and the obligation for such future payments as social security and employee retirement.¹ Supplementary data on debt since 1940 are published in a separate volume, *Historical Tables, Budget of the United States Government, Fiscal Year 1990*.

The data for borrowing and debt since 1956 have been revised in concept this year from the figures previously published in the budget and in the Treasury reports. A separate section of this special analysis on pages E-5 to E-8 explains the revision.

Special Analysis F, "Federal Credit Programs," examines the related subject of Federal credit programs, which provide subsidies through direct loans, loan guarantees, and loans by Government-sponsored enterprises. The factors discussed in both Special Analy-

¹ Data on many of these liabilities are contained in "Statement of Liabilities and Other Financial Commitments of the United States Government," an annual report prepared by the Financial Management Service of the Department of the Treasury and published in the *Treasury Bulletin*. The 1987 data were published in the March issue, pp. 151-59.

ses E and F are significant in appraising the impact on financial markets and the economy of the programs contained in the 1990 Federal budget.

BORROWING AND REPAYING DEBT

The Federal Government issues debt for two principal reasons. First, it sells debt to the public, largely in order to finance the Federal deficit. Second, it issues debt to Government accounts, primarily trust funds, that accumulate surpluses. By law, trust fund surpluses must be invested in Federal securities. Nearly all of the Federal debt has been issued by the Treasury and is called "public debt," but a small portion has been issued by other Government agencies and is called "agency debt."²

The gross Federal debt thus includes both debt held by the public and debt held by Government accounts, such as the social security trust funds. Borrowing from the public—whether by the Treasury or by some other agency—has a significant impact on financial markets and the rest of the economy. It affects the volume of securities sold in the credit market, the size and composition of assets held by the private sector, and the taxes required to pay interest outlays on the Federal debt; it may be perceived by the public as part of their wealth; and in an approximate way it reflects the Federal deficit, which has to be financed by the other sectors of the economy or the rest of the world.³ It is therefore an important concern of Federal fiscal policy. The issuance of debt securities to Government accounts, while an essential element in accounting for the operation of these funds, does not have any of these effects. It is an internal transaction between two accounts, both within the Government itself, and does not represent either the current transactions with the public or the estimated amount of future transactions with the public. Debt held by the public is therefore a better concept than gross Federal debt for analyzing the effect of the budget on the economy.

Borrowing from the public includes borrowing from the Federal Reserve Banks as well as borrowing from commercial banks, foreign central banks, other financial institutions and businesses, and individuals. The term "borrowing from the Federal Reserve Banks" does not mean that the Treasury sells debt securities directly to the Federal Reserve. In fact, the Federal Reserve now buys securities only in the open market. The previous authority for the Feder-

² The term "agency debt" is defined more narrowly in the budget than in the securities market, where it may include not only the debt of the Government agencies listed in table E-7 but also certain Government-guaranteed securities and the debt of the Government-sponsored enterprises listed in table E-11.

³ The Federal sector of the national income and product accounts provides a better measure of the deficit for the purpose of analyzing Federal dissaving than does either the budget deficit or Federal borrowing from the public. The Federal sector and its difference from the budget are discussed in Special Analysis B, "Federal Transactions in the National Income and Product Accounts."

al Reserve to buy limited amounts of securities directly from the Treasury under exceptional circumstances expired in 1981.

For most purposes the purchase of debt by the Federal Reserve Banks should be distinguished from the purchase of debt by the rest of the public. Federal Reserve purchases of debt are undertaken to carry out monetary policy, not to earn income, and they affect the economy by expanding bank reserves and the money stock. They thus have a markedly different motivation and effect on financial markets than do purchases by other sectors of the public. Only the debt held outside the Federal Reserve Banks enters into investment portfolios of businesses and individuals and by this means affects interest rates, other financial conditions, and the size and composition of private assets. Almost all interest received by the Federal Reserve Banks is returned to the Treasury as receipts, called deposits of earnings, so the interest paid on debt held by the Federal Reserve has only a small direct effect on the budget surplus or deficit. The estimates in this analysis for the current and future years do not divide the debt held by the public between the Federal Reserve Banks and the rest of the public, despite the significance of this distinction, because the Federal Reserve's open market operations depend on future economic developments and on policy decisions not yet made.

Table E-1 summarizes Federal borrowing from 1988 through 1994. In 1988 the increase in gross Federal debt—i.e., the total issuances of new securities less the total redemptions of existing securities—was \$255.2 billion. The issue of debt to Government accounts was \$93.1 billion, and the sale of debt to the public was \$162.1 billion. The Federal Reserve Banks increased their holdings of Federal debt by \$17.2 billion, so the increase in debt held by the rest of the public was \$144.9 billion. As a result of this borrowing, Federal debt held by the public increased to \$2,050.2 billion at the end of 1988. Gross Federal debt was \$2,600.8 billion.

Borrowing from the public depends both on economic conditions and on the Federal Government's expenditure programs and tax laws. The sensitivity of the budget to economic conditions is analyzed in Part 3 of the *Budget*, "The Economy and the Budget." In recent years, the rapid expansion of real GNP and the sharp decline in the unemployment rate have increased receipts, reduced outlays, and thus decreased the Federal deficit and borrowing from what they otherwise would have been. These favorable economic factors have continued for a period that has now become the longest peacetime expansion in American history.

The steady and strong economic expansion assumed in this budget significantly reduces the estimated deficit and borrowing during the forecast period. As explained in Part 3 of the *Budget*, real GNP is assumed to increase at an average annual rate of 3.2%

Table E-1. FEDERAL BORROWING

(In billions of dollars)

Description	Borrowing or repayment (—) of debt							Debt outstanding, end of year	
	1988 actual	1989 estimate	1990 estimate	1991 estimate	1992 estimate	1993 estimate	1994 estimate	1990 estimate	1994 estimate
Gross Federal debt:									
Treasury debt	247.7	255.8	234.5	225.4	196.7	178.1	163.2	3,078.5	3,841.9
Agency debt	7.5	12.3	3.9	3.0	4.7	4.6	3.4	28.7	44.5
Gross Federal debt.....	255.2	268.0	238.4	228.4	201.5	182.7	166.6	3,107.2	3,886.4
Less debt held by Gov. accounts:									
Treasury debt	94.0	124.4	147.2	NA	NA	NA	NA	822.1	NA
Agency debt	-0.9	*	*	NA	NA	NA	NA	0.1	NA
Debt held by Gov. accounts ¹	93.1	124.4	147.2	162.1	169.8	185.7	200.6	822.2	1,540.4
Total, debt held by public.....	162.1	143.6	91.2	66.2	31.6	-3.0	-33.9	2,285.0	2,346.0
Composed of:									
Debt held by the Federal Reserve Banks	17.2	NA	NA	NA	NA	NA	NA	NA	NA
Debt held by others.....	144.9	NA	NA	NA	NA	NA	NA	NA	NA

* \$50 million or less.

¹ Investment by Government accounts during 1991-94 is estimated as equal to the total trust fund surplus.

NA = Not available.

from 1988 to 1994, and the total unemployment rate is assumed to decline to 5.0%. The estimated deficits and borrowing are also reduced by the deficit reduction policies proposed in the present budget. These economic conditions and deficit reduction policies are together estimated to reduce substantially the Federal deficit and the borrowing from the public. As shown in table E-1, borrowing from the public is estimated to decrease steadily from its 1988 level of \$162.1 billion, falling to \$91.2 billion in 1990 and turning into a \$3.0 billion repayment of debt in 1993. The estimated repayment of debt held by the public grows to \$33.9 billion in 1994.

The estimated borrowing based on the policies proposed in this budget may be compared with the estimated borrowing based on the current services deficit. The current services estimates of the budget, as explained in Special Analysis A, "Baseline Estimates," show the receipts, outlays, and deficit that would be realized under existing policies with regard to spending programs and taxes (and under the same economic assumptions as used for the budget). As shown in table E-2, they also show a substantial downward trend in borrowing, though clearly not as great as under the policies proposed in this budget.

Table E-2. COMPARISON OF CURRENT SERVICES AND POLICY ESTIMATES OF BORROWING AND DEBT

(Dollar amounts in billions)

Description	1989 estimate	1990 estimate	1991 estimate	1992 estimate	1993 estimate	1994 estimate
Borrowing from the public:						
Current services.....	142.1	125.6	101.0	69.1	36.6	8.1
Policy	143.6	91.2	66.2	31.6	-3.0	-33.9
Debt held by the public:						
Current services.....	2,192.3	2,318.0	2,419.0	2,488.0	2,524.4	2,532.5
Policy	2,193.8	2,285.0	2,351.2	2,382.9	2,379.9	2,346.0
Debt held by the public as percentage of GNP:						
Current services.....	42.8	42.3	41.4	40.1	38.5	36.8
Policy	42.9	41.7	40.2	38.4	36.3	34.1

MEASUREMENT OF BORROWING AND DEBT

The data for debt held by the public and gross Federal debt have been revised in concept this year from the figures previously published in the budget and in Treasury reports. Until this year, a Federal debt security held by the public was measured at the par value (or face value) of the security, which is the principal amount due at maturity. The only exception was savings bonds, which were measured at their current redemption value. Debt held by Government accounts was also measured at par.

However, the par value is not the most meaningful concept of borrowing or debt for either economic or budgetary analysis. Suppose, for example, that Treasury sells a bill with a \$10,000 par value at a price of \$9,300. Treasury thereby raises \$9,300 of cash, and this cash finances \$9,300 of the deficit; Treasury assumes a liability having a present value of \$9,300 at the time of the transaction, and the purchaser buys a bill having a market value of \$9,300 at the time of the transaction. The impact on the credit market and saving flows is \$9,300, not \$10,000. Therefore, for the purpose of analyzing economic effects, it is more meaningful to say that the Government has borrowed \$9,300 than to say it has borrowed \$10,000. In terms of economic significance, the debt held by the public has increased by \$9,300.

It is also more consistent with the measurement of budget outlays to say that the debt held by the public has increased by \$9,300. The interest outlays on public issues of Treasury debt are measured on the basis of when the interest accrues, not when the interest is paid in cash. Treasury bills are sold at a discount from par and pay their entire interest through the periodic amortization of the discount over the term of the security (which is one year or less). Treasury notes and bonds pay cash interest twice a year, but they are usually sold at a discount and sometimes at a premium. The periodic amortization of the difference between the initial

sales price and par value is a part of the effective interest on notes and bonds. The periodic amortization of the discount or premium is thus part or all of the budget outlays for interest on public issues of Treasury debt. A discount represents interest that will accrue as budget outlays, not part of the principal of the debt. A premium represents an offset to the coupon interest that will accrue.

Thus, for the purpose of measuring debt at the time of initial sale in a manner that is consistent with interest outlays, it must be calculated as the initial cash price, i.e., as the par value less the initial discount (or plus the initial premium). Likewise, for the purpose of measuring debt at subsequent times, the value of the debt must be calculated as the initial cash price plus the amount of the discount (or less the amount of the premium) that has been amortized up to that time. If debt is measured in this way, there is a direct and corresponding relationship between the accrual of interest outlays (other than coupon interest) and the recorded amount of the debt. As the discount is amortized, adding to the accrual of interest outlays and the deficit, the debt held by the public increases by an identical amount. The Government thus automatically finances this part of interest outlays (and the deficit) by implicitly borrowing an identical amount from the public.

Because of these economic and budgetary reasons, it is conceptually desirable to measure Federal debt as the par value less unamortized discount (and premium). At the time of initial sale, this is the same as the cash price of the security. Federal borrowing is correspondingly measured as the change in par value of the debt less the increase in unamortized discount (and premium). This has not been the conventional measure, in part because the adjustment is ordinarily not large compared to either the entire amount of debt outstanding or the year-to-year change in the debt. However, a year ago the budget assumed that Treasury would sell zero-coupon bonds to Mexico with a par value of \$10 billion at a cash price of \$2 billion. Since the initial unamortized discount would be so large, \$8 billion, the budget adjusted borrowing and debt for this factor even though an adjustment could not be made for any other securities.⁴

Shortly after the budget was issued, the Treasury Department added a new measure of Federal borrowing and debt to the series that it had been publishing. The new measure of debt was the par value of debt held by the public less the net amount of unamortized discounts and premiums on Treasury securities held by the public; the new measure of borrowing was the change in the new measure of debt held by the public.⁵ The adjustment included the

⁴ See Special Analysis E of the 1989 budget, pages E-30 to E-32. Fewer zero-coupon bonds were sold than had been assumed. The par value was \$2.6 billion, the cash price was \$0.5 billion, and the initial unamortized discount was \$2.1 billion.

⁵ *Monthly Treasury Statement of Receipts and Outlays of the United States Government*, table 6.

unamortized discount on the zero-coupon bonds sold to Mexico but was not limited to these securities alone. Special Analysis E last year described the Treasury plan for the new series and said:

It is expected that future budgets will apply this adjustment to their measures of debt held by the public and gross Federal debt. However, the data are not available to make this change for the present budget except for the projected sale of zero-coupon bonds to Mexico.⁶

The 1989 budget was updated in the *Mid-Session Review of the 1989 Budget* (July 28, 1988). In accordance with the previously stated expectation, debt held by the public and gross Federal debt were measured on the basis of the revised concept.⁷ This budget extends the use of the revised concept to the historical data and other presentations.

The most significant concept of Federal debt, as explained previously in this special analysis, is debt held by the public. Under the revised concept, all Treasury securities held by the public are recorded at par less the unamortized discounts (and premiums). Debt held by the public also includes agency securities, which continue to be measured at par, but they comprise less than 1.0% of the total debt held by the public. (Treasury reports debt held by the public on two bases: at par value and under the revised concept.)

The second major debt concept is gross Federal debt, which is defined as debt held by the public plus debt held by Government accounts. Debt held by Government accounts is measured only at par. Gross Federal debt is therefore revised by the same amount as debt held by the public. Gross Federal debt is thus only partially adjusted for unamortized discounts and premiums.⁸ (Treasury reports "total Federal securities," its corresponding series, only at par value.)

The third major debt concept is debt subject to statutory limit, which is discussed on pages E-28 to E-34. This debt concept is defined by law to be at par (except for savings bonds). It is therefore not affected by the revision in the method of measuring debt held by the public and gross Federal debt. Consequently, the unamortized discount (and premium) is one of the factors that constitutes a difference between debt held by the public (or gross Federal debt) and debt subject to statutory limit. Table E-9 shows the relationship between gross Federal debt and debt subject to statutory limit. It includes the unamortized discount or premium as one of the reasons for the difference. Table E-10 shows the relationship

⁶ Special Analysis E of the 1989 budget, page E-32.

⁷ See table 27, pages 56-57.

⁸ However, the budget and the Treasury accounts adjust for the unamortized discounts and premiums in calculating the total assets and interest income of two trust funds in the Department of Defense. See Special Analysis E for 1989, pages E-28 to E-29.

between the Federal funds deficit and the change in debt subject to statutory limit. It includes the change in unamortized discount or premium as one of the factors determining this relationship. These relationships are also shown in the corresponding tables in the *Budget*: the table on Federal funds financing in Part 7 and the derivation of debt subject to limit in table 4 of Part 10.

Various sections of this special analysis compare debt held by the public with other debt series or use debt held by the public to derive other series. In tables E-1 and E-4, debt held by the public other than Federal Reserve Banks is derived by subtracting the Federal Reserve holdings of Federal debt from debt held by the public. In table E-6, total Federal debt held by the public is compared with the Federal debt held by foreign residents. In table E-12 and the following chart, Federal borrowing from the public is added to federally assisted borrowing. The other debt or borrowing series are measured at par, so the calculations or comparisons are not strictly comparable. However, the advantages of using a more meaningful concept of debt held by the public—the most important series of Federal debt—outweigh the lack of strict comparability.

The debt series have been revised as far back as feasible, which was 1956, and the historical series are shown in table E-4 and the separate volume, *Historical Tables*. The unamortized discount (less premium) at the end of 1956 was \$0.1 billion, which was only 0.03% of the debt held by the public. By the end of 1988 it had grown to \$13.9 billion. While much larger, this was still only 0.7% of the par value of the debt held by the public. The percentage in 1988 was virtually the same as the average percentage over the past 10 years through clearly much more than it had been earlier.

The recorded borrowing from the public is affected by the yearly increase or decrease in the unamortized discount (less premium). This amount was \$4.2 billion in 1988, the largest in any year, but it was so large because of the sale of zero-coupon bonds to Mexico at an initial discount of \$2.1 billion. In only five years has the increase or decrease been more than \$1.0 billion, so the effect on the measure of annual borrowing has usually not been great. Thus, while the revision is a conceptual improvement for both economic and budgetary analysis, it does not significantly affect previous perceptions about the size of the debt and annual borrowing.

BORROWING AND GOVERNMENT DEFICITS

Table E-3 shows the relationship between borrowing from the public and the Federal deficit. The total deficit of the Federal Government includes not only the budget deficit but also the surplus or deficit of the off-budget Federal entities, which have been excluded from the budget by law. Under present law the off-budget Federal entities are the old-age and survivors insurance trust fund

and the disability insurance trust fund.⁹ Since they had a large combined surplus in 1988 and are estimated to have large and growing surpluses during 1989-94, they reduce the requirements for Treasury to borrow from the public by a substantial amount.

Table E-3. MEANS OF FINANCING THE DEFICIT¹

(In millions of dollars)

Description	1988 actual	1989 estimate	1990 estimate	1991 estimate	1992 estimate	1993 estimate	1994 estimate
Surplus or deficit (-)	-155,090	-161,496	-92,509	-66,802	-32,222	2,416	33,353
<i>On-budget</i>	-193,890	-217,507	-161,284	-147,567	-123,174	-102,194	-83,085
<i>Off-budget</i> ²	38,800	56,011	68,775	80,764	90,952	104,610	116,437
Means of financing other than borrowing from the public:							
Decrease or increase (-) in Treasury operating cash balance	-7,963	14,398					
Increase or decrease (-) in:							
Checks outstanding, etc. ³	519	2,894	1,658				
Deposit fund balances ⁴	-609	-34	-930				
Seigniorage on coins	470	590	584	581	574	568	562
Proceeds from the sale of loan assets with recourse	611	26	1	1	1	1	1
Total, means of financing other than borrowing from the public.	-6,972	17,874	1,313	582	575	569	563
Total, requirements for borrowing from the public.	-162,062	-143,622	-91,196	-66,220	-31,647	2,985	33,916
Change in debt held by the public	162,062	143,622	91,196	66,220	31,647	-2,985	-33,916

¹ Several amounts have been assumed to be zero during 1990-94 because they are usually small and cannot be estimated accurately.

² The off-budget Federal entities consist of the old-age and survivors insurance trust fund and the disability insurance trust fund.

³ Besides checks outstanding, includes accrued interest payable on Treasury debt, miscellaneous liability accounts, allocations of special drawing rights, and, as an offset, cash and monetary assets other than the Treasury operating cash balance, miscellaneous asset accounts, and profit on sale of gold.

⁴ Does not include investment in Federal debt by deposit funds classified as part of the public.

The total Federal deficit is financed either by borrowing from the public or by several other means. The other means of financing are:

- a decrease in Treasury's operating cash balance;
- an increase in monetary liabilities for checks outstanding, miscellaneous accounts, etc.;

⁹ Off-budget Federal entities are discussed in the *Budget*, Part 7, "Perspectives on the Budget."

- an increase in deposit fund balances (which are explained on pages E-26 to E-27, together with their effect on the means of financing);
- seigniorage, which is the face value of minted coins less the cost of their production; and
- proceeds from the sale of loan assets with recourse.¹⁰

Except for seigniorage and the proceeds from the sale of loan assets, all of these other means of financing can be either positive or negative. They are changes in the Government's balance sheet, either its asset or its liability account, and can move in either direction. In most years they add up to a positive total amount, in which case they finance part of the deficit. Sometimes, however, they add up to a negative total amount, in which case they, like the deficit, must themselves be financed by borrowing from the public. In 1988, the Government borrowed \$162.1 billion from the public. Most of this amount, \$155.1 billion, was used to finance the Government deficit. The remaining \$7.0 billion was used to finance the "other means of financing," which had a negative total amount.

The other means of financing are normally small relative to borrowing from the public. This is because they are limited by their own nature. Decreases in cash balances, for example, are necessarily limited by past accumulations, which themselves required financing when they were built up. Thus, the extent to which means other than borrowing can finance a deficit are limited in any single year and are still more limited over a longer period of time. When the total Government deficit is sizable, it is necessarily the principal determinant of borrowing from the public.

As a whole, these other accounts did not require a great deal of borrowing from the public in 1988 in order to be financed. In 1989, on the other hand, they are themselves estimated to finance \$17.9 billion of the deficit. This is due mostly to the large initial Treasury operating cash balance. Because the \$44.4 billion cash balance on September 30, 1988, was more than the \$30 billion needed for normal operations at that time of year, Treasury estimates a \$14.4 billion decrease in cash balance during 1989. Since a decrease in cash balance is a means of financing the Government, this will allow borrowing in 1989 to be appreciably less than the size of the deficit. As a result, the estimated borrowing from the public is \$18.4 billion less in 1989 than in 1988, whereas the estimated deficit is \$6.4 billion more.

In 1990, with the initial cash balance assumed to be a more routine \$30 billion, the "other means of financing" are estimated to finance only \$1.3 billion of the deficit. This is very much less than

¹⁰ This category is explained in Special Analysis E of the 1989 budget, pages E-29 to E-30.

in 1989, and the difference has to be made up by additional borrowing from the public. Consequently, whereas the estimated deficit decreases by \$69.0 billion, the estimated borrowing from the public decreases by \$52.4 billion.

The structure of table E-3 demonstrates that the off-budget Federal entities affect borrowing from the public in exactly the same way as the on-budget entities. An on-budget deficit does not require borrowing from the public so long as the off-budget Federal entities have a surplus that is as large as the on-budget deficit or larger. In 1993 and 1994 the off-budget entities are estimated to have a surplus that is larger than the on-budget deficit, and as a result the Federal Government repays some part of the debt held by the public. Likewise, balancing the budget as defined under current law is not enough to prevent an increase in the Federal debt held by the public if the off-budget entities have a deficit. The outlays of the entire Government must be in balance with receipts in order for the Government not to have to borrow from the public, regardless of whether particular Federal entities are defined as being included in the budget totals (aside from the relatively small effect of the other means of financing).

The amount of Federal debt issued to Government accounts depends largely on the surpluses of the trust funds, both on-budget and off-budget, which own over nine-tenths of the total Federal debt held by Government accounts. Investment by these accounts in Federal securities and the total trust fund surplus during 1987-90 are compared in the table below (in billions of dollars):

	<i>1987 actual</i>	<i>1988 actual</i>	<i>1989 estimate</i>	<i>1990 estimate</i>
Investment by Government accounts in Federal debt	73.5	93.1	124.4	147.2
Total trust fund surplus.....	72.7	97.8	121.9	148.5

Investment in Federal securities by Government accounts is roughly similar in size to the total trust fund surplus throughout this period. This relationship has historically been close, with the small differences accounted for by two factors. Certain accounts other than trust funds buy or sell Federal debt, as shown in table E-8, and the trust funds may change the amount of their cash assets not currently invested in debt.¹¹

SIZE AND GROWTH OF FEDERAL DEBT

Debt held by the public has risen substantially over the past half century, from about \$16.9 billion in 1929 to \$2,050.2 billion at the end of 1988. Table E-4 compares the trends since 1940 in gross

¹¹ These "open book balances" are very small relative to trust fund holdings of Federal debt, as shown in Special Analysis C, "Funds in the Budget."

Federal debt and the amounts of debt held by Government accounts, the public (including the Federal Reserve Banks), and the Federal Reserve Banks: every five years from 1940 to 1960 and every year since 1960.

During the period from 1955 to 1988, the gross Federal debt and debt held by the public increased by about nine times, and the amount of debt held in Federal Government accounts (primarily trust funds) rose by twelve times. The average annual growth rates of gross Federal debt, debt held by the public, and debt held by the public apart from the Federal Reserve Banks were all about the same: 7.0% or slightly less. In the latter part of the period, the growth of debt accelerated. Whereas the debt held by the public increased at an average annual rate of 2.8% from 1955 to 1975, it grew at a rate of 11.8% from 1975 to 1980 and at a rate of 14.2% from 1980 to 1988. It is estimated to grow at the much slower rate of 3.8% from 1988 to 1992 and then slightly decrease.

Table E-4. TRENDS IN FEDERAL DEBT¹

(Dollar amounts in billions)

Fiscal year	Debt outstanding, end of year					GNP	Debt held by public as percent of GNP
	Gross Federal debt	Held by					
		Federal Government accounts	The public				
			Total	Federal Reserve Banks	Other		
1940.....	50.7	7.9	42.8	2.5	40.3	95.8	44.6
1945.....	260.1	24.9	235.2	21.8	213.4	212.4	110.7
1950.....	256.9	37.8	219.0	18.3	200.7	266.8	82.1
1955.....	274.4	47.8	226.6	23.6	203.0	386.4	58.6
1960 ²	290.5	53.7	236.8	26.5	210.3	506.7	46.7
1961.....	292.6	54.3	238.4	27.3	211.1	518.2	46.0
1962.....	302.9	54.9	248.0	29.7	218.3	557.7	44.5
1963.....	310.3	56.3	254.0	32.0	222.0	587.8	43.2
1964.....	316.1	59.2	256.8	34.8	222.1	629.2	40.8
1965.....	322.3	61.5	260.8	39.1	221.7	672.6	38.8
1966.....	328.5	64.8	263.7	42.2	221.5	739.0	35.7
1967.....	340.4	73.8	266.6	46.7	219.9	794.6	33.6
1968.....	368.7	79.1	289.5	52.2	237.3	849.4	34.1
1969 ³	365.8	87.7	278.1	54.1	224.0	929.5	29.9
1970 ⁴	380.9	97.7	283.2	57.7	225.5	990.2	28.6
1971.....	408.2	105.1	303.0	65.5	237.5	1,055.9	28.7
1972.....	435.9	113.6	322.4	71.4	251.0	1,153.1	28.0
1973 ⁴	466.3	125.4	340.9	75.2	265.7	1,281.4	26.6
1974.....	483.9	140.2	343.7	80.6	263.1	1,416.5	24.3
1975.....	541.9	147.2	394.7	85.0	309.7	1,522.5	25.9
1976 ⁶	629.0	151.6	477.4	94.7	382.7	1,698.2	28.1
TQ.....	643.6	148.1	495.5	96.7	398.8	1,794.7	27.6
1977.....	706.4	157.3	549.1	105.0	444.1	1,933.0	28.4
1978.....	776.6	169.5	607.1	115.5	491.6	2,171.8	28.0
1979.....	828.9	189.2	639.8	115.6	524.2	2,447.8	26.1
1980.....	908.5	199.2	709.3	120.8	588.4	2,670.6	26.6
1981.....	994.3	209.5	784.8	124.5	660.3	2,986.4	26.3
1982.....	1,136.8	217.6	919.2	134.5	784.7	3,139.1	29.3
1983.....	1,371.2	240.1	1,131.0	155.5	975.5	3,321.9	34.0
1984.....	1,564.1	264.2	1,300.0	155.1	1,144.8	3,687.7	35.3
1985.....	1,817.0	317.6	1,499.4	169.8	1,329.6	3,952.4	37.9
1986.....	2,120.1	383.9	1,736.2	190.9	1,545.3	4,186.8	41.5
1987.....	2,345.6	457.4	1,888.1	212.0	1,676.1	4,433.8	42.6
1988.....	2,600.8	550.6	2,050.2	229.2	1,821.0	4,780.0	42.9
1989 estimate.....	2,868.8	675.0	2,193.8	NA	NA	5,119.7	42.9
1990 estimate.....	3,107.2	822.2	2,285.0	NA	NA	5,475.7	41.7
1991 estimate.....	3,335.6	984.3	2,351.2	NA	NA	5,847.6	40.2
1992 estimate.....	3,537.1	1,154.2	2,382.9	NA	NA	6,208.5	38.4
1993 estimate.....	3,719.7	1,339.8	2,379.9	NA	NA	6,555.1	36.3
1994 estimate.....	3,886.4	1,540.4	2,346.0	NA	NA	6,887.5	34.1

¹ Data from 1940 to 1994 in millions of dollars are published in *Historical Tables, Budget of the United States Government, Fiscal Year 1990*, section 7. Earlier historical data are presented on a different basis in *Statistical Appendix to Annual Report of the Secretary of the Treasury on the State of the Finances, Fiscal Year 1980*, table 19.

² Gross Federal debt and debt held by the public decreased \$0.1 billion in 1956 due to subtracting the unamortized discount on Treasury securities held by the public from the par value. In 1960 the unamortized discount was \$0.3 billion.

³ During 1969, three Government-sponsored enterprises became completely privately owned, and their debt was removed from the totals for the Federal Government. At the dates of their conversion, gross Federal debt was reduced \$10.7 billion, debt held by Government accounts was reduced \$0.6 billion, and debt held by the public was reduced \$10.1 billion.

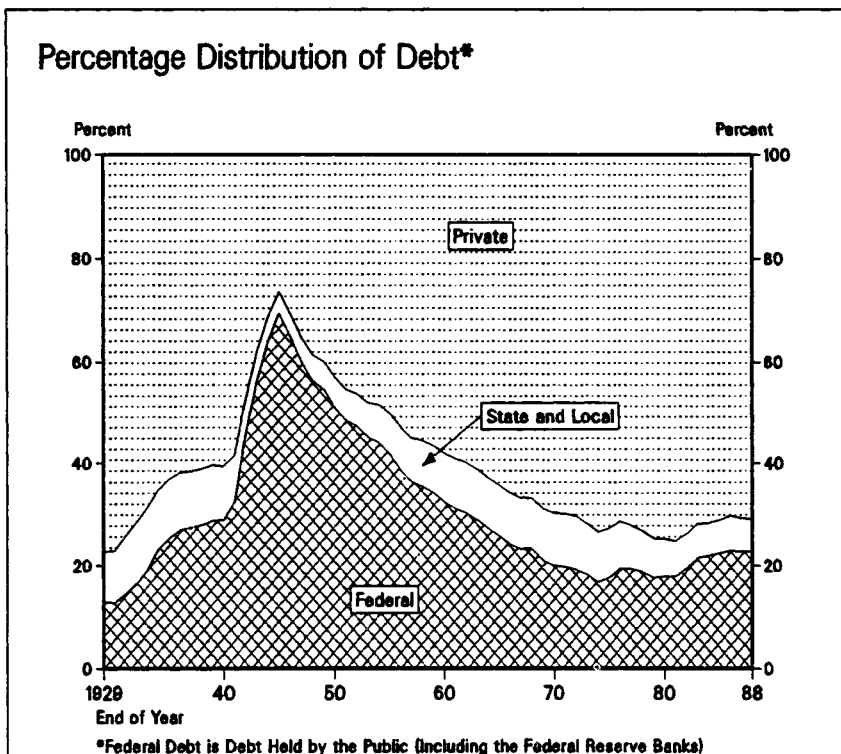
⁴ Gross Federal debt and debt held by the public increased \$1.6 billion due to a reclassification of the Commodity Credit Corporation certificates of interest from loan assets to debt.

⁵ A procedural change in the recording of trust fund holdings of Treasury debt at the end of the month increased gross Federal debt and debt held in Government accounts by about \$4.5 billion.

⁶ Gross Federal debt and debt held by the public increased \$0.5 billion due to a retroactive reclassification of the Export-Import Bank certificates of beneficial interest from loan assets to debt.

NA = Not available.

During the depression of the 1930s and during World War II, Federal debt held by the public increased greatly, not only in absolute amount but also, as shown in the chart below, as a proportion of the total credit market debt owed by nonfinancial sectors of the economy: Federal, State and local, and private.¹² Whereas Federal debt held by the public was only 13% of total debt at the end of calendar year 1929, it rose to 69% by the end of calendar year 1945. Federal borrowing was large during these years, especially to finance World War II, and borrowing by other sectors was restricted by low incomes and poor credit-worthiness during the depression and by controls and scarcities during the war.



From 1945 to 1974, however, in every single year but one, private debt increased as a proportion of total credit market debt and Federal debt held by the public decreased as a proportion. During this period the average annual rate of growth was 1.1% for Federal debt held by the public, 10.0% for State and local debt, and 9.7%

¹² The estimates for 1946 to the present are from the Federal Reserve Board flow-of-funds accounts; the estimates for earlier years are from the Bureau of Economic Analysis of the Department of Commerce and are linked to the flow-of-funds estimates on the basis of their respective 1946 levels. The data are for calendar years during 1929-51 and for fiscal years thereafter. The private sector debt includes debt of foreigners incurred in U.S. credit markets.

for private credit market debt. By 1974, Federal debt held by the public had declined to 16.7% of total credit market debt, and private debt had risen to 73.5% of the total. As a result of these trends, Federal debt, though still important, became a relatively much smaller part of the financial markets than it had been at the end of World War II.

This trend ended in 1974. A recession caused large Federal deficits in 1975 and 1976, and as a result the Federal debt held by the public rose as a percentage of total credit market debt in both years. After a short decline, Federal debt held by the public increased year-by-year from 17.6% of credit market debt in 1979 to 22.9% in 1986. This was the highest percentage since 1968. The counterpart to a higher proportion of Federal debt was a lower proportion of private debt. In 1987 and 1988, as a result of the much lower deficit, Federal debt declined slightly to 22.7% of total credit market debt. Private debt, in turn, rose slightly as a proportion.

During the same period following World War II, Federal debt decreased relative to GNP. Debt held by the public was 110.7% of GNP at the end of 1945 but, as shown in table E-4, declined to 58.6% of GNP by the end of 1955 and 24.3% by the end of 1974. For several years thereafter debt held by the public fluctuated as a percentage of GNP in about the same way as it fluctuated as a percentage of total credit market debt. In 1982, it rose very sharply from 26.3% of GNP to 29.3%, and it continued to rise significantly in the following years. In 1988, despite the stable deficit, it increased slightly further to 42.9%. This percentage is higher than in any other year since 1963. The reduction in borrowing estimated for 1989 is only enough to maintain debt held by the public at 42.9% of GNP, but thereafter the estimated ratio declines steadily to 34.1% in 1994.

The interest cost of the debt is more significant than the amount of the debt for some types of comparison designed to measure the importance of Federal indebtedness. Interest payments on the debt must be financed by either higher taxes or more borrowing, and more borrowing raises still further the debt and therefore the amount of interest that must be paid in the future. The interest on the debt held by the public has generally risen much faster than the debt itself, due to a strong upward trend for most of the period since World War II in the interest rates that must be paid on new borrowings and on refunded debt. The interest rate on 91-day Treasury bills, for example, averaged 2.0% in the 1950s, 4.0% in the 1960s, and 6.3% in the 1970s. It then averaged 12.1% in calendar years 1980-82 before falling step-by-step to 5.8% in 1987 and rising to 6.7% in 1988. Consequently, whereas the Federal debt held by the public increased at an average annual rate of 6.8%

Table E-5. TRENDS IN INTEREST ON FEDERAL DEBT

(Dollar amounts in billions)

Fiscal year	Interest on the gross Federal debt					Interest on debt held by the public as a percent of	
	Total ¹	Federal Government accounts	Paid to			GNP	Outlays ³
			Total	Federal Reserve Banks ²	Other		
1955.....	6.4	1.2	5.2	0.4	4.8	1.34	7.56
1956.....	6.8	1.3	5.6	0.5	5.1	1.33	7.90
1957.....	7.3	1.4	5.9	0.7	5.3	1.35	7.73
1958.....	7.8	1.4	6.3	0.7	5.6	1.41	7.68
1959.....	7.8	1.4	6.4	0.8	5.6	1.33	6.96
1960.....	9.5	1.5	8.1	1.0	7.1	1.59	8.73
1961.....	9.3	1.5	7.8	1.0	6.8	1.50	7.96
1962.....	9.5	1.6	7.9	1.0	6.9	1.42	7.40
1963.....	10.3	1.6	8.7	1.1	7.6	1.47	7.78
1964.....	11.0	1.8	9.2	1.2	8.0	1.47	7.80
1965.....	11.8	2.0	9.8	1.4	8.4	1.46	8.29
1966.....	12.6	2.1	10.4	1.7	8.7	1.41	7.75
1967.....	14.2	2.6	11.6	2.0	9.6	1.47	7.39
1968.....	15.6	3.0	12.6	2.4	10.2	1.49	7.09
1969.....	17.6	3.5	14.1	2.9	11.2	1.52	7.70
1970.....	20.0	4.4	15.6	3.5	12.2	1.58	7.99
1971.....	21.6	5.3	16.3	3.7	12.6	1.55	7.78
1972.....	22.5	5.8	16.6	3.7	12.9	1.44	7.20
1973.....	24.8	6.3	18.5	4.3	14.2	1.44	7.53
1974.....	30.0	7.7	22.4	5.5	16.9	1.58	8.30
1975.....	33.5	8.8	24.7	6.1	18.6	1.62	7.42
1976.....	37.7	9.0	28.7	6.3	22.5	1.69	7.73
TQ.....	8.3	0.6	7.6	NA	NA	1.70	7.96
1977.....	42.6	9.6	33.0	6.8	26.2	1.71	8.07
1978.....	49.3	10.2	39.2	8.0	31.2	1.80	8.54
1979.....	60.3	12.1	48.3	9.6	38.6	1.97	9.59
1980.....	75.2	14.8	60.4	12.5	47.9	2.26	10.22
1981.....	96.0	17.1	78.9	13.4	65.5	2.64	11.63
1982.....	117.5	19.9	97.7	15.4	82.4	3.11	13.10
1983.....	128.9	21.3	107.7	15.3	92.3	3.24	13.32
1984.....	154.1	25.2	129.0	16.3	112.7	3.50	15.14
1985.....	179.4	31.2	148.2	16.8	131.4	3.75	15.66
1986.....	191.5	36.2	155.4	16.3	139.1	3.71	15.69
1987.....	197.1	39.6	157.5	16.3	141.2	3.55	15.69
1988.....	216.5	46.7	169.8	NA	NA	3.55	15.96
1989 estimate.....	238.9	55.5	183.4	NA	NA	3.58	16.13
1990 estimate.....	251.4	63.9	187.4	NA	NA	3.42	16.27

¹ Total interest on gross Federal debt is significantly larger than the outlays for the net interest function in the budget, because the net interest function includes as deductions the interest paid to trust funds and Government collections of interest.

² These figures are very approximate. They are estimated as the average of calendar year amounts or as an adjustment to deposits of earnings.

³ Includes off-budget outlays. Historical series of outlays are published in the *Budget*, Part 10, table 24.

NA = Not available.

between 1955 and 1988, table E-5 shows that the interest paid on this debt increased at an average annual rate of 11.1%

As a result, interest payments to the public have tended to grow faster than GNP over the entire period, despite the decline of debt

as a percentage of GNP until the middle 1970s. In the latter half of the 1950s, interest paid to the public was equal to about 1.4% of GNP, whereas by 1970 it had risen to 1.6% and by 1980 to 2.3%. In 1985, interest paid on the debt held by the public reached a peak of 3.75% of GNP, which was more than twice as high a proportion as ten years earlier. This was due in very large part to the rapid expansion of debt, which increased sharply the ratio of debt to GNP. Interest as a percentage of GNP declined to 3.55% in 1987 and 1988, despite large Federal borrowing, because of lower market interest rates. It is estimated to fall a little further in 1990.

Interest paid to the public as a percentage of total Federal outlays does not show the same sustained trend over the period as a whole. From 1955 to the middle 1970s, interest averaged 7.7% of total outlays and tended neither to increase nor to decrease. The percentage of outlays paid in interest then began to increase, however, both steadily and substantially. It rose rapidly to 10.2% in 1980, 15.7% in 1985, and 16.0% in 1988. It is estimated to rise moderately further in 1989 and 1990. The importance of interest on the debt relative to either GNP or Federal outlays is thus much more now than in earlier years, although it is now leveling off to some extent.

Since the end of World War II the composition of the Federal debt has changed. Until some years ago an increasingly large proportion of marketable securities had a short maturity. One contributing factor was the statutory ceiling of 4¼% that had been maintained since 1918 on the interest rate for Treasury bonds. Long-term market rates exceeded 4¼% after 1965, so after that year the ceiling prevented the Treasury from selling long-term obligations.

This restriction on Treasury borrowing was relaxed in two ways. One method was to increase the maximum maturity of notes, which were not subject to the interest rate ceiling. The maximum maturity was raised by law from 5 to 7 years in 1967 and to 10 years in 1976. As of October 31, 1988, the amount of notes outstanding with an original maturity over 5 years was \$570.0 billion, of which \$337.1 billion had an original maturity over 7 years.

The other method of relaxing the restriction was to allow limited amounts of bonds to be sold at interest rates above the ceiling. In 1971, the Treasury was allowed by law to issue up to \$10 billion of bonds at interest rates above 4¼%. In 1973, the limit was expanded by exempting all bonds held by Government accounts and the Federal Reserve Banks, and beginning in 1976 the amount of the exemption for other bonds was raised in 11 steps. On the average, the exemption was increased once every year during this period. The last increase to the exemption was from \$250 billion to \$270 billion, enacted in December 1987. As of October 31, 1988, \$296.8 billion of the bonds outstanding had been sold since the change of

law in 1971, whereas only \$3.0 billion of bonds issued in earlier years were still outstanding. The public exclusive of the Federal Reserve Banks held \$268.3 billion of the bonds issued since 1971. The effective interest rate on bonds issued since 1971 has ranged from 6.8% to 15.8%.

The need to relax this restriction so frequently was inefficient, and at times the limitation interfered with Treasury's management of the Federal debt. After May 1988 the amount of bonds held by the public (excluding the Federal Reserve Banks) was only \$1.7 billion less than the statutory ceiling, so Treasury could not sell bonds as it normally would have done in its August and November quarterly refundings of the debt. However, in accordance with Treasury's recommendation, Congress repealed the limitation in the Technical and Miscellaneous Revenue Act of 1988. The President signed this legislation on November 11, 1988, and Treasury sold bonds later in that month.

Notwithstanding the initial relaxations of the interest rate ceiling, the average maturity of privately held, marketable Treasury debt decreased steadily from about 5 years at the end of 1967 to about 2½ years at the end of 1975. Since then, however, as the restriction has been relaxed further, the average maturity has gradually lengthened to 5¾ years.

DEBT HELD BY FOREIGN RESIDENTS

During most of American history the debt of the Federal Government was held almost entirely by individuals and institutions within the United States. In 1946, just after World War II, the debt held in foreign official balances and international accounts was about \$2 billion, less than 1.0% of the total debt held by the public. In the following years the debt held by foreign residents tended to grow gradually, and, as shown in table E-6, rose to just over \$10.0 billion by the late 1960s. This was still less than 5% of the total Federal debt held by the public. Interest paid to foreign residents was a correspondingly small proportion of the total interest paid on debt held by the public.

Foreign holdings began to grow much faster starting in 1970. This change arose in part out of decisions by foreign monetary institutions to intervene in foreign exchange markets. Because of the role of the dollar as an international currency, large amounts of the official reserves and other financial assets of foreign nations are held in dollar-denominated form. Thus, the exchange market intervention by foreign monetary institutions often acted to increase their official reserves of dollars. U.S. Government securities are the safest and one of the most liquid forms of holding dollar assets. Consequently, as foreign countries acquired more dollar-

Table E-6. FOREIGN HOLDINGS OF FEDERAL DEBT

(in billions of dollars)

Fiscal year	Debt held by the public		Borrowing from the public		Interest on debt held by the public	
	Total	Foreign ¹	Total ²	Foreign ¹	Total	Foreign ³
1965.....	260.8	12.3	3.9	0.3	9.8	0.5
1966.....	263.7	11.6	2.9	-7	10.4	0.5
1967.....	266.6	11.4	2.9	-2	11.6	0.6
1968.....	289.5	10.7	22.9	-7	12.6	0.7
1969.....	278.1	10.3	-1.3	-4	14.1	0.7
1970.....	283.2	14.0	3.5	3.8	15.6	0.8
1971.....	303.0	31.8	19.8	17.8	16.3	1.3
1972.....	322.4	49.2	19.3	17.3	16.6	2.4
1973.....	340.9	59.4	18.5	10.3	18.5	3.2
1974.....	343.7	56.8	2.8	-2.6	22.4	4.1
1975.....	394.7	66.0	51.0	9.2	24.7	4.5
1976.....	477.4	69.8	82.2	3.8	28.7	4.4
TQ.....	495.5	74.6	18.1	4.9	7.6	1.2
1977.....	549.1	95.5	53.6	20.9	33.0	5.1
1978.....	607.1	121.0	58.0	25.5	39.2	7.9
1979 ⁴	639.8	120.3	32.6	-7	48.3	10.7
1980.....	709.3	121.7	69.5	1.4	60.4	12.0
1981.....	784.8	130.7	75.5	9.0	78.9	16.1
1982.....	919.2	140.6	134.4	9.9	97.7	17.9
1983.....	1,131.0	160.1	211.8	19.5	107.7	18.0
1984.....	1,300.0	175.5	168.9	15.4	129.0	19.0
1985.....	1,499.4	209.8	199.4	34.3	148.2	21.2
1986.....	1,736.2	253.4	236.8	43.6	155.4	22.3
1987.....	1,888.1	267.0	152.0	13.7	157.5	23.6
1988.....	2,050.2	334.3	162.1	67.2	169.8	27.3

¹ Estimated by Treasury Department. These estimates exclude agency debt, the holdings of which are believed to be small. For the most part they are measured at par value and therefore are not strictly comparable with the revised data on debt held by the public. However, the zero-coupon bonds sold to Mexico in 1988 are measured net of the unamortized discount.

² Borrowing from the public is defined as equal to the change in debt held by the public from the beginning of the year to the end, except to the extent that the amount of debt is changed by reclassification. Reclassifications are identified in the footnotes to table E-4.

³ Estimated by Bureau of Economic Analysis, Department of Commerce. These estimates include small amounts of interest from other sources, including the debt of Government-sponsored enterprises, which are not part of the Federal Government.

⁴ A benchmark revision as of December 1978 reduced the estimated foreign holdings of Federal debt. As a result, the data on foreign holdings for 1965-78 are not strictly comparable with the data for later years, and the "borrowing" from foreign residents in 1979 reflects the benchmark revision as well as transactions in Federal debt securities.

denominated official reserves, they purchased a large amount of U.S. Government securities.

The second principal reason for the growth of foreign holdings was the massive current account surpluses of some countries, particularly the OPEC nations, beginning in 1974. The counterpart to their surpluses was their acquisition of financial assets, and the financial assets acquired in the United States largely took the form of U.S. Government securities.

In the early 1980s, both of these factors were reversed. Foreign countries drew down on their reserves to support their currencies against the dollar in the exchange markets, and the aggregate OPEC current account surplus shifted to a deficit. However, these reversals were more than offset by the large amount of private

capital inflow that accompanied the growing deficit in the U.S. current account. The net result was a large increase in holdings of dollar assets by foreigners, and this was reflected in the further increase in the Federal debt held by foreigners.

Private investors during the 1980s have accounted for a significant fraction of the purchases of Federal debt by foreign residents. This contrasts with the late 1970s, when almost all of the Federal debt held by foreign residents was owned by foreign central banks and other official institutions. In fiscal year 1985, private investors made about two-thirds of the net purchases by foreign residents, and during fiscal year 1986 they made about one-third. In fiscal year 1987, however, foreign commercial banks and other private investors reduced their holdings of Treasury securities. At the same time, foreign central banks increased their holdings considerably, using for this purpose part of the proceeds from their intervention in the foreign exchange market that was intended to support the dollar. During 1988 foreign central banks continued their intervention, increasing their holdings by a much larger amount, but private investors also bought Treasury securities and accounted for about one-fourth of the total purchases. At the end of 1988, private investors owned about 27% of the Federal debt held by foreign residents. All of the Federal debt held by foreign residents is currently denominated in dollars.

The increase in foreign holdings of U.S. Government securities since 1970 has therefore been primarily the product of foreign decisions, both official and private, rather than the direct marketing of these securities to foreign residents. By the end of fiscal year 1988 foreign holdings of Treasury debt had reached \$334.3 billion, which was 16% of the total debt held by the public. This was a slightly smaller proportion of total debt held by the public than during the period from the middle 1970s to the very early 1980s, because of the rapid growth recently in total Federal debt.

In the years before 1970, when debt held by foreign residents was relatively small, borrowing from the public was approximately the same as borrowing from the domestic public. Since 1970, though, borrowing from the domestic public has in some years been quite different from total borrowing. As table E-6 shows, borrowing from foreign residents was nearly all or a major part of total borrowing from the public during some years of the 1970s. For the period since 1970 as a whole, borrowing from foreign residents has been 18% of borrowing from the public. This percentage was higher during the 1970s than the 1980s, being 31% in the earlier period compared to 15% later. In 1988, the \$67.2 billion of Federal securities purchased by foreign residents was 41% of borrowing from the public.

The foreign purchases of Federal debt securities do not measure the full impact of the capital inflow from abroad on the market for Federal debt securities. The capital inflow supplied additional funds to the securities market generally, which affected the market for Federal debt. For example, the capital inflow included deposits in U.S. financial intermediaries that themselves buy Federal debt.

BORROWING BY FEDERAL AGENCIES

A few Government agencies are authorized to sell their own debt instruments to the public and to other Government accounts. This agency debt is part of the gross Federal debt, and the disbursement of the proceeds from borrowing is an outlay.

Agency borrowing was shown in total in table E-1 and is shown by agency in table E-7 for 1988-90. During 1988, \$7.5 billion more agency debt was newly issued than repaid. This was due to the notes issued by two depository insurance agencies—primarily the Federal Savings and Loan Insurance Corporation (FSLIC) but also the Federal Deposit Insurance Corporation (FDIC)—whose net issuances were much more than the repayments of GNMA participation certificates issued about 20 years ago. In 1989 and 1990, again due to FSLIC and FDIC, agency debt is estimated to increase a further \$16.2 billion to a level of \$28.7 billion. Despite this rapid growth, the agency debt outstanding will remain less than 1.0% of gross Federal debt.

Most agency borrowing is currently done by four agencies whose borrowing from the public is inherent in the way they operate certain programs. These agencies may issue special instruments in lieu of cash as a means of paying specified bills. As a rule, budget outlays are recorded when cash is used to pay the Government's bills for wages and salaries, equipment, social security benefits, and so forth (*i.e.*, when the Government liquidates its obligations). In these four cases, however, the agency pays specified bills by issuing notes, debentures, or monetary credits. This practice combines two transactions into one. Instead of separately borrowing from the public and then paying its bills by disbursing cash, the Government pays its bills by issuing these special instruments directly. Combining these two transactions into one does not change the nature of the transactions. Because the two methods of payment are equivalent, the issue of such special instruments is recorded under standard budget concepts as being simultaneously an outlay and a borrowing. The notes or other special instruments are classified as agency debt.¹³

One of these agencies, the Federal Housing Administration (FHA), has for many years issued both checks and debentures in

¹³ The definition of outlays and the relationship of outlays to obligations, budget authority, and borrowing are discussed in Part 7 of the *Budget*, "The Budget System and Concepts."

Table E-7. AGENCY BORROWING

(In millions of dollars)

Description	Borrowing or repayment (-) of debt			Debt end 1990 estimate
	1988 actual	1989 estimate	1990 estimate	
Borrowing from the public:				
Agriculture: Farmers Home Administration ¹	-138			
Defense	-3	-10	-1	8
Education:				
College housing loans ¹	-239			
Higher education facilities ¹	-47			
Health and Human Services ¹	-5			
Housing and Urban Development:				
Federal Housing Administration.....	-47	238	341	621
Housing for elderly or handicapped ¹	-52			
Government National Mortgage Association ¹	-202			
Revolving fund (liquidating programs) ¹	-32			
Interior				13
Veterans Affairs ¹	-309			
Small Business Administration:				
Participation certificates: SBIC and section 505 develop- ment company.....				74
Participation certificates: Other ¹	-25			
Federal Deposit Insurance Corporation.....	682	2,306	-194	2,994
Federal Savings and Loan Insurance Corporation.....	8,814	9,739	3,777	23,250
Postal Service.....				250
Tennessee Valley Authority.....				1,380
Total, borrowing from the public.....	8,396	12,274	3,923	28,591
Borrowing from other funds:				
Agriculture: Farmers Home Administration ¹	-121			
Defense	-*			
Education:				
College housing loans ¹	-208			
Higher education facilities ¹	-41			
Health and Human Services ¹	-5			
Housing and Urban Development:				
Federal Housing Administration.....	-12	3	5	86
Housing for elderly or handicapped ¹	-45			
Government National Mortgage Association ¹	-170			
Revolving fund (liquidating programs) ¹	-28			
Veterans Affairs ¹	-269			
Small Business Administration ¹	-31			
Total, borrowing from other funds.....	-927	3	5	86
Total, agency borrowing.....	7,469	12,277	3,928	28,677

* \$500 thousand or less.

¹ Certificates of participation in loans issued by GNMA on behalf of several agencies.

paying claims to the public that arise from defaults on FHA-insured mortgages. The FHA is estimated to have \$707 million of debentures outstanding at the end of 1990 (2% of total agency debt). A second agency, the Interior Department, is authorized to acquire certain lands and mineral rights from the public in exchange for a type of instrument generically termed "monetary credits." The recipients of monetary credits can use them for specified purposes such as payments for Federal coal or mineral leases. An estimated \$13 million of monetary credits will be outstanding at the end of 1990.

The FDIC began to issue notes in 1986 as part of some agreements with prospective purchasers to buy failing banks. An estimated \$3.0 billion of these notes will be outstanding at the end of 1990 (10% of total agency debt). FSLIC has likewise issued notes to prospective purchasers and others to help resolve the financial problems of troubled thrift institutions. It borrowed \$8.8 billion during 1988 in the course of these operations and is estimated in this budget to borrow \$9.7 billion in 1989 and \$3.8 billion in 1990. As a result, by the end of 1990 the FSLIC notes will amount to \$23.2 billion or 81% of total agency debt.¹⁴

For a number of years before 1986, when FSLIC and FDIC began to issue large volumes of notes, the agency debt outstanding normally declined each year. This pattern was profoundly influenced by the Federal Financing Bank (FFB), which was established as an entity within the Treasury Department in May 1974.¹⁵ One of its purposes is to substitute Treasury borrowing for agency borrowing from the public. It has the authority to purchase agency debt and to finance these purchases by borrowing from the Treasury. Since the FFB can borrow from the Treasury at lower interest rates than other agencies would have to pay in the market, this practice reduces the cost of borrowing for those agencies that would otherwise borrow from the public. FFB purchases of agency debt are thus an efficient means of financing agency outlays. Agency borrowing from the FFB is not included in gross Federal debt. It would be triple counting to add together the agency borrowing from the FFB, the FFB borrowing from Treasury, and the Treasury borrowing from the public that is necessary to provide the FFB with funds to lend to these agencies.

Several agencies that would otherwise have borrowed in the investment securities market have borrowed from the FFB instead. By the end of 1990, \$1.6 billion of agency debt, or 6% of the total, will be obligations of two of the agencies that in recent years have borrowed almost exclusively from the FFB: the Tennessee Valley Authority and the Postal Service. If the FFB had not been created, gross Federal debt would have included a larger component of agency debt than it does now both for these agencies and for others. The Treasury component would have been correspondingly less.

Almost all agency debt is thus accounted for by agencies whose borrowing is an inherent part of their program operations or whose borrowing is now entirely from the FFB. A total of \$2.0 billion of agency debt at the end of 1987 consisted of certificates of participation in pools of loans issued by the Government National Mortgage

¹⁴ The budgetary treatment of the FDIC and FSLIC notes is discussed further in Special Analysis E of the 1989 budget, pages E-25 to E-26; and Special Analysis E of the 1988 budget, pages E-27 to E-28.

¹⁵ The full scope of FFB activity is discussed more extensively in Special Analysis F.

Association on behalf of several agencies, which are identified in table E-7. However, these certificates have not been issued since 1968, and the remaining ones all matured in 1988. The Small Business Administration issued \$74 million of participation certificates in 1986 and 1987 but does not plan to issue any more. A further \$8 million of agency debt at the end of 1990 will be family housing mortgages assumed by the Department of Defense under two programs, much the larger of which terminated about two decades ago.

The Treasury directly supplies capital to business-type Government revolving funds in return for both capital stock and debt. The debt is shown as "borrowing from Treasury" on the statements of financial condition for the revolving funds in the *Budget Appendix*. However, the equity and the debt instruments are the same in substance; and it would be double counting to add together the borrowing by the funds from the Treasury and the Treasury borrowing from the public that was necessary to provide the funds with this capital. Therefore, agency borrowing by these funds from Treasury is excluded from the figures on agency borrowing and debt and from the discussion of this subject both in this special analysis and in all other parts of the budget documents.

INVESTMENT BY GOVERNMENT ACCOUNTS IN FEDERAL SECURITIES

Trust funds and some public enterprise revolving funds accumulate cash in excess of current requirements in order to meet future claims and demands. These cash surpluses are invested mostly in Treasury debt and, to a very small extent, in agency debt. Since this investment is a purchase of Federal debt, it is not counted as outlays for the account or for the budget, and redemptions are not counted as receipts.

Investment by trust funds and other Federal accounts declined from \$17.9 billion in 1979 to a range of \$8 to \$10 billion per year during 1980-82, due to recessions and to structural problems in social security financing. In 1983, as the result of the Social Security Amendments of 1983, investment by Government accounts increased to \$22.6 billion, the largest amount ever reached as of that time. Since then it has risen much further. It increased to \$93.1 billion in 1988 and, as shown in table E-8, it is estimated to reach \$147.2 billion in 1990.

This extraordinary rise of investment by Government accounts is concentrated among a few trust funds. The three trust funds financed by the social security payroll tax—old-age and survivors insurance (OASI), disability insurance (DI), and hospital insurance (HI)—had positive net investment as a whole in 1983 for the first time since 1975. This was due to the cash resources provided by the Social Security Amendments of 1983. As a result of this act and the

Table E-8. INVESTMENT BY GOVERNMENT ACCOUNTS IN FEDERAL SECURITIES

(In millions of dollars)

Description	Investment or disinvestment (—)			Holdings end of 1990 estimate
	1988 actual	1989 estimate	1990 estimate	
Investment in Treasury debt:				
Overseas Private Investment Corporation.....	112	106	110	1,437
Defense—Civil: Military retirement trust fund.....	10,673	18,705	14,281	74,296
Energy: Nuclear waste fund.....	256	406	363	2,532
HHS: Federal old-age and survivors insurance trust fund ¹	38,781	53,529	64,079	214,745
Federal disability insurance trust fund ¹	153	1,637	4,697	13,679
Federal hospital insurance trust fund.....	15,704	16,744	24,485	107,307
Federal HI catastrophic trust fund.....		553	—553	
Federal supplementary medical insurance trust fund.....	160	2,288	2,573	11,187
Federal SMI catastrophic trust fund.....		1,043	3,191	4,234
Federal catastrophic drug insurance.....			682	682
Housing and Urban Development:				
Federal Housing Administration.....	—277	—336	280	6,150
Government National Mortgage Association.....	—2,164			
Other.....	246	476	—154	2,162
Interior: Outer Continental Shelf deposit funds.....	—221	—1,020		
Labor: Unemployment trust fund.....	8,280	7,500	7,440	51,137
Pension benefit guaranty corporation.....	284	227	342	1,332
State: Foreign Service retirement and disability trust fund.....	450	434	450	4,809
Transportation:				
Highway trust fund.....	757	2,298	1,509	17,255
Airport and airway trust fund.....	1,194	1,878	525	13,535
Treasury: Exchange stabilization fund.....	—1,502	100	107	1,641
Veterans Affairs:				
National service life insurance trust fund.....	450	—610	167	9,997
Other trust funds.....	56	—71	30	1,350
Federal funds.....	8	—7	—17	611
Environmental Protection Agency: Hazardous substance trust fund.....	606	527	60	1,831
OPM: Civil Service retirement and disability trust fund.....	18,299	15,694	18,047	228,788
Other trust funds.....	1,122	511	1,388	12,307
Federal Deposit Insurance Corp.: Trust fund.....	—1,475	—1,150	1,144	15,559
Federal Home Loan Bank Board: FSLIC.....	813	1,043	1,730	4,413
National Credit Union Adm.: Share insurance fund.....	240	168	142	2,108
Postal Service fund.....	—640	491	—700	3,740
Railroad Retirement Board trust funds.....	1,095	786	513	9,083
Other Federal funds.....	197	98	—9	1,274
Other trust funds.....	381	364	311	2,924
Total, investment in Treasury debt.....	94,040	124,414	147,215	822,108
Investment in agency debt:				
HHS: Federal hospital insurance trust fund.....	—405			
Housing and Urban Development:				
Federal Housing Administration.....	—134			
Government National Mortgage Association.....	—24	3	5	86
Veterans Affairs: National service life insurance trust fund.....	—135			
OPM: Civil Service retirement and disability trust fund.....	—175			
Federal Home Loan Bank Board: FSLIC.....	—54			
Total, investment in agency debt.....	—927	3	5	86
Total, investment in Federal debt.....	93,113	124,417	147,220	822,194
MEMORANDUM				
Investment by Federal funds.....	—2,637	2,778	2,200	27,487
Investment by trust funds (on-budget).....	57,037	67,493	76,244	566,283
Investment by off-budget Federal entities (trust funds).....	38,934	55,167	68,775	228,424
Investment by deposit funds ²	—221	—1,020		

* \$500 thousand or less.

¹ Off-budget Federal entity.² Only those deposit funds classified as Government accounts.

expanding economy, these trust funds as a whole now have large surpluses and invest increasing amounts each year—a cumulative total of \$219.8 billion during 1988-90, which constitutes 60% of the total estimated investment by Government accounts.

In addition to these three funds, the largest investors in Federal securities are the civil service retirement and disability trust fund and the military retirement trust fund. The former accounts for 14% of the total investment by Government accounts during 1988-90, and the latter accounts for 12%. Altogether, these two retirement funds and the three funds financed by the social security payroll tax account for 86% of the estimated investment by all Government accounts during 1988-90.

As a result of the large investment by these trust funds and the net investment by other funds as well, the total holdings of Federal securities by Government accounts will reach an estimated \$822.2 billion at the end of 1990. This will comprise 26% of the gross Federal debt. Two major trust funds—the civil service retirement and disability trust fund and the OASI trust fund—will account for 28% and 26% of the total holdings, respectively; the HI trust fund will account for 13% of the total. All the trust funds together will account for 97% of the holdings. Nearly all of the holdings in Government accounts are Treasury debt.

Deposit funds.—A comparatively small amount of Federal debt is held by deposit funds. Deposit funds are amounts held by the Federal Government as an agent for others (such as State income taxes withheld from Federal employees' salaries and not yet paid to the States); cash collections awaiting determination as to their final disposition; and other sums held temporarily before being refunded or paid into some other fund. Deposit fund balances are thus normally not the property of the Federal Government. Therefore, changes in deposit fund balances are not included in the budget totals and do not affect the Federal deficit.

Most deposit funds consist of uninvested balances, but a few funds are invested in Treasury debt and collect interest on their investments. Since deposit funds are normally not Federal property, their holdings of Federal debt are normally treated as debt held by the public rather than as debt held by Government accounts.

However, the investments of two deposit funds are treated as debt held by Government accounts rather than as debt held by the public. They contain receipts from rents and bonuses on the Outer Continental Shelf, the title to which has been in dispute between the Federal Government and the States, and bonuses and rents from bids that the Government has not yet either accepted or rejected. When the title dispute is resolved or the bids accepted or rejected, the funds will be distributed. Until then, the amounts are held in deposit funds. The balances of these funds were first invest-

ed in Federal debt in 1980 and rose to \$7.4 billion by the end of 1985. The Treasury concluded that the Federal claim on these receipts was sufficiently strong that it would be more accurate to classify the balances as Government holdings of Federal debt rather than as debt held by the public. Under legislation enacted in 1986 one set of disputes was settled, with the respective amounts distributed to the Federal Government and the States in 1986 and 1987. It is assumed that the remaining dispute will be resolved and almost all the amounts distributed by the end of 1990.

Since increases in deposit funds normally raise Treasury cash balances, they are normally a means of financing the Government deficit. When the deposit funds are not invested in Federal debt (or private securities), an increase in deposit fund balances appears as one of the "means of financing other than borrowing from the public" in table E-3. The increase in deposit fund balances thus enables Treasury to reduce its borrowing from the public.

When a deposit fund invests in private securities, however, its balances are not available to finance any of the Federal deficit and thereby to reduce Treasury borrowing from the public. The Federal Employees Thrift Savings Fund is the only deposit fund that routinely invests part of its balances in private securities.

When the deposit funds are invested in Federal debt, their treatment depends on whether they are classified as part of the public or as Government accounts. Under the normal rule, according to which they are treated as part of the public, deposit fund investment in Federal debt is defined to be borrowing from the public. The counterpart to the increase in Federal debt held by the public is a decrease in the deposit fund balances available to finance the deficit by means other than borrowing from the public. This is shown as a decrease in the liabilities of the Government for deposit fund balances in table E-3. The ultimate effect of the increase in the deposit funds is thus for the Treasury borrowing from the public to come from the deposit funds rather than from some other sector of the public, with no net change in the means of financing other than borrowing from the public.

On the other hand, when deposit funds are classified as Government accounts, the investment of deposit fund balances in Federal debt is defined to be an increase in debt held by Government accounts rather than an increase in debt held by the public. Since the debt held by the public does not increase, this investment does not reduce the amount of deposit fund balances (as shown in table E-3) that are available to finance the deficit by means other than borrowing from the public. This investment does, however, increase the gross Federal debt and the debt subject to statutory limit (as shown in table E-10).

LIMITATIONS ON FEDERAL DEBT

Definition of debt subject to limit.—Statutory limitations have normally been placed on Federal debt. Until World War I, the Congress ordinarily authorized a specific amount of debt for each separate issue. Beginning with the Second Liberty Bond Act of 1917, however, the nature of the limitation was modified in several steps until it developed into a ceiling on the total amount of most Federal debt outstanding. The latter type of limitation has been in effect since 1941.¹⁶ The limit currently applies to the total of:

- most public debt issued by the Treasury since September 1917, whether held by the public or by the Government;
- agency debt in the form of participation certificates issued during fiscal year 1968 under the Participation Sales Act of 1966; and
- other debt issued by Federal agencies that, according to explicit statute, is guaranteed as to principal and interest by the United States.

The debt subject to statutory limit¹⁷ includes most Treasury debt but not all, as shown in table E-9. The largest part of the Treasury debt not subject to the statutory limit is debt issued by the Federal Financing Bank (FFB), which is established within the Treasury Department.¹⁸ The FFB is authorized to have outstanding up to \$15 billion of publicly issued debt, and this debt is not subject to the general statutory limitation under the Second Liberty Bond Act. The FFB borrowed \$1.5 billion in 8-month bills from the public in July 1974, but all of its subsequent borrowing until 1985 was from the Treasury because Treasury can borrow from the public at slightly lower interest rates than the FFB would have to pay. As explained previously, such “borrowing from Treasury” is not part of the Federal debt.

In October and November 1985, however, the pressure from the debt limit led Treasury to issue FFB securities to the civil service retirement and disability trust fund in place of regular Treasury securities that were subject to the debt limit. This enabled Treasury to raise needed cash by selling securities to the public that were subject to the debt limit. These FFB securities matured on June 30, 1986. In August and September 1986, because of new pressure from the debt limit, the Treasury issued \$15.0 billion of FFB securities to the civil service retirement and disability trust fund. Since that time, whenever FFB securities have matured,

¹⁶ The legislation on the level of the statutory limit since 1940 and the amount of debt subject to statutory limitation are shown in *Historical Tables, Budget of the United States Government, Fiscal Year 1990*, section 7. The legislation beginning in 1917 is shown in *Statistical Appendix to Annual Report of the Secretary of the Treasury on the State of the Finances, Fiscal Year 1980*, table 32.

¹⁷ The statutory debt limit is sometimes called the public debt limit. However, as explained in the text, the limit does not apply to all public debt and does apply to some debt other than public debt.

¹⁸ The FFB is discussed on page E-23 and in Special Analysis F.

Table E-9. DEBT SUBJECT TO STATUTORY LIMIT

(In millions of dollars)

Descriptions	End of year			
	1987 actual	1988 actual	1989 estimate	1990 estimate
Federal debt held by the public.....	1,888,134	2,050,196	2,193,818	2,285,014
Federal debt held by Government accounts.....	457,444	550,557	674,974	822,194
Total, gross Federal debt.....	2,345,578	2,600,753	2,868,792	3,107,207
Deduct:				
Treasury debt not subject to limit:				
Federal Financing Bank.....	15,000	14,845	15,000	15,000
Other.....	600	598	598	598
Agency debt not subject to limit:				
Department of Defense.....	22	19	10	8
Department of Interior.....	13	13	13	13
Small Business Administration.....	74	74	74	74
Federal Deposit Insurance Corp.....	200	882	3,188	2,994
Federal Savings and Loan Insurance Corp.....	920	9,733	19,473	23,250
Postal Service.....	250	250	250	250
Tennessee Valley Authority.....	1,380	1,380	1,380	1,380
Participation certificates ¹	830			
Total, Federal debt not subject to limit.....	19,289	27,796	39,986	43,568
Gross Federal debt subject to statutory limit.....	2,326,288	2,572,957	2,828,806	3,063,639
Unamortized discount or premium (—) on Treasury debt held by the public.....	9,702	13,902	16,549	20,329
Other debt subject to limit, and adjustments.....	23	10	*	*
Total, debt subject to statutory limit.....	2,336,014	2,586,869	2,845,355	3,083,970

* \$500 thousand or less.

¹ Certificates of participation in loans issued by the Government National Mortgage Association on behalf of several agencies (these amounts exclude the certificates issued during 1968, which are subject to the debt limitation).

Treasury has rolled them over into new FFB securities. On occasion, including September 1988, a small amount was redeemed in the course of normal disinvestment. The budget assumes that the FFB securities outstanding at the end of the fiscal year will be kept at the amount authorized by law.

The only other Treasury debt not subject to limit consists almost entirely of currencies no longer being issued, such as silver certificates and national bank notes, which were generally reclassified as Federal debt some time after being discontinued.

The debt subject to general statutory limit encompasses only a small part of agency debt. Essentially the only type now included is the debentures issued by the Federal Housing Administration. These securities are estimated to comprise only 2% of total agency debt at the end of 1990. Until this year the GNMA participation certificates sold in 1968 were also included in the amount of debt subject to limit, but the last remaining certificates matured during 1988.

Some of the agency debt not subject to the general statutory limit is, however, subject to separate statutory limits. For example,

the Tennessee Valley Authority was first authorized to issue revenue bonds to finance power facilities in 1959. The limit was \$750 million outstanding. Subsequently, in order to enable TVA to finance additional facilities, Congress raised the limit several times. It is now \$30 billion. The Postal Service is limited to \$10 billion of securities outstanding and \$2 billion of annual borrowing. To the extent that the Tennessee Valley Authority and the Postal Service have borrowed from the FFB, their debt is not shown in table E-9 because it is excluded from gross Federal debt to avoid double counting.

The final significant portion of the debt subject to statutory limit is the unamortized discount (less premium) on Treasury debt held by the public. As explained in the separate section on pages E-5 to E-8, the budget data were revised this year to measure gross Federal debt and debt held by the public net of this amount instead of at par. Debt subject to statutory limit, however, is defined by law at par value (except for savings bonds). Therefore, in order to derive debt subject to statutory limit from gross Federal debt, it is necessary to add the unamortized discount (less premium) on Treasury debt held by the public. (Because the tables published by Treasury that show the composition of debt subject to limit define all debt at par, this adjustment does not appear in Treasury publications.)

The only other debt subject to the general statutory limit is a very small amount of matured principal and interest. This is not classified as part of gross Federal debt. To derive the debt subject to limit from the gross Federal debt also requires a very small accounting adjustment.

The amount of debt subject to limit is compared in table E-9 with the gross Federal debt and the Federal debt held by the public. The debt subject to limit was \$2,586.9 billion at the end of 1988 and is estimated to rise to \$2,845.4 billion by the end of 1989. As shown in this table, the debt subject to limit is much larger than the debt held by the public and is almost as large as the gross Federal debt. The debt subject to limit is so much larger than the debt held by the public because it includes Federal debt held by Government accounts. The small difference between debt subject to limit and gross Federal debt is mostly accounted for by the FFB debt, the FSLIC notes, and the unamortized discount (less premium) on Treasury debt held by the public.

Methods of changing the debt limit.—The level of the statutory limit on the Federal debt has frequently been changed by Congress. During the 1960s Congress passed 13 separate acts to raise the limit or to extend the duration of a temporary increase in the limit, and during the 1970s Congress passed 18 such acts. During 1980–87 Congress passed two to four such acts each year.

These frequent changes have come about both because the Federal debt has grown steadily and substantially and because of the nature of the debt limit legislation. From 1971 to 1983, the statutory debt limit consisted of a permanent limit of \$400 billion plus a temporary increment that was usually scheduled to expire in a year or less. Because the debt subject to limit was more than \$400 billion, new legislation was required no later than the date when each temporary increment expired. Several times the temporary increment expired without having been extended, so for a few days on each occasion the Federal debt exceeded the statutory limit. The validity of debt issued prior to the expiration of the temporary ceiling was not affected, but the Treasury Department had to suspend all auctions and issuances of new securities, including savings bonds. Such a situation created uncertainty in the securities market and forced the Treasury to take costly administrative actions.

In May 1983, Congress changed the nature of the debt limitation. The permanent limit of \$400 billion and the temporary increment to that limit were combined into a single, higher limit without an expiration date. This prevented the Federal debt from exceeding the statutory limit, since Treasury would stop issuing new securities before that event would occur. The new type of limitation does not, however, avoid the costs of market uncertainty and administrative actions that formerly arose whenever the debt limit fell below the actual level of the debt. The same costs arise when the amount of debt approaches close to the limit and the timing of congressional action to raise the limit is uncertain. Treasury then has to take steps to avoid exceeding the limit, and the market is uncertain what will happen.

The principal difference arises from the fact that under the new type of limitation Treasury can ordinarily refund maturing securities from the proceeds of selling new securities, because this does not increase the amount of debt outstanding. In contrast, under the former type of limitation Treasury had to use up its existing cash balances to pay off maturing securities once the temporary increment to the debt limit had expired, because it could not sell new securities at all. In the few years that the new procedure has operated the debt limit has usually been set at amounts expected to be reached within a few months, so frequent increases in the limit still have been needed. Moreover, on several occasions temporary increments have been enacted.

The statutory debt limit at one time was raised only by normal legislative procedures. In September 1979, however, an alternative method of changing the debt limit was established by a statutory change in the rules of the House of Representatives. Under the new method, the House votes on the debt limit as a part of the

congressional budget process. The congressional budget resolutions establish targets for outlays, receipts, and the deficit and also recommend an appropriate level for the debt subject to limit. The recommendation as to the appropriate level of debt had not previously had the effect of law, nor had it been part of the direct process whereby the debt limit was established.

However, beginning with the resolutions adopted in calendar year 1980, the budget resolution that is adopted by both Houses of the Congress may be part of the process that establishes a debt limit. The vote in the House of Representatives is deemed to have been a vote in favor of a joint resolution setting the statutory limit. The joint resolution, having been deemed to have passed the House, is transmitted to the Senate for further legislative action.¹⁹ Upon final passage, it is sent to the President for his signature. This new procedure relates the decision on the debt limit to the congressional decision on the Federal deficit and the other factors, explained in the following section, that determine the change in the debt subject to limit.

The debt limit may still be changed by ordinary legislation, with one exception imposed by the Balanced Budget and Emergency Deficit Control Act of 1985 (the Gramm-Rudman-Hollings Act). It is not in order for either House to consider a change in the debt limit for a fiscal year until after the congressional budget resolution for that year has been adopted. Both methods of changing the debt limit have been used numerous times since the new procedure went into effect.

Recent changes in the debt limit.—The statutory debt limit was raised to \$2,111 billion on August 21, 1986, and on October 21 it was temporarily raised to \$2,300 billion through May 15, 1987. The course of the debt limit legislation during calendar year 1987 was closely tied to efforts by the Congress and the Administration to control the budget deficit.

Specifically, it was an outgrowth of the Gramm-Rudman-Hollings Act of 1985 (the Balanced Budget and Emergency Deficit Control Act of 1985). The Gramm-Rudman-Hollings proposal was designed to eliminate the deficit in a series of steps over several years by setting annual deficit targets and establishing a mechanism to enforce them. During the fall of 1985 this proposal was offered as an amendment to the debt limit bill before the Congress at that time. After lengthy consideration the debt limit bill was enacted incorporating a revised version of this amendment, but subsequently the Supreme Court declared a key part of the enforcement mechanism to be unconstitutional. Proposals were made to develop a substitute, and debt limit legislation again provided a vehicle.

¹⁹ The Senate has not adopted the same procedure as the House, so the Senate must approve changes in the debt limit separately from its approval of the congressional budget resolution.

The first critical date in 1987 was May 15, the expiration date for the temporary increase of the debt limit from \$2,111 billion to \$2,300 billion. Until that time the Treasury was able to conduct its normal debt financing operations, and on that date a new law was enacted temporarily increasing the limit to \$2,320 billion through July 17.

On June 24, 1987, Congress enacted a budget resolution for fiscal year 1988. The resolution stated that the appropriate level of debt subject to limit was \$2,565.1 billion. A joint resolution specifying this amount as the debt limit was deemed to have passed the House and was sent to the Senate for its consideration. This joint resolution became the vehicle for subsequent proposals to revise the budget process.

In the absence of further legislation, the debt limit dropped to \$2,111 billion on July 18. Treasury had to suspend the auction of bills and notes; to stop the sales of bills, notes, savings bonds, special issues of the State and local government series, and all other securities; and to cease the investment of trust funds and all other U.S. Government accounts. Treasury bills that matured had to be redeemed out of cash balances. In order to provide more time to consider budget control measures, Congress passed a bill on July 29 restoring the debt limit to \$2,320 billion through August 6. The President signed the bill on July 30, and the Treasury immediately rescheduled a large amount of auctions in order to raise needed cash.

Congressional deliberations on budget control were not completed in time to prevent this temporary debt limit increase from expiring. On August 7, 1987, the debt limit again reverted to \$2,111 billion. On the same day Congress voted to raise the debt limit to \$2,352 billion through September 23, and the President signed the legislation on August 10. Treasury thus had to suspend the sales of all securities very briefly. Treasury had previously not scheduled certain major auctions because of the uncertainty about the debt limit but scheduled them as soon as the temporary legislation was enacted.

On September 24 the temporary debt limit expired, and the limit fell for a third time to \$2,111 billion. As before, Treasury had to postpone the auctions and sales of all securities. However, on that same day, Congress passed the joint resolution on the debt limit amended to include several changes to the budget process. The principal provision—the Balanced Budget and Emergency Deficit Control Reaffirmation Act of 1987—revised the annual deficit targets and established a new enforcement mechanism in place of the one declared unconstitutional. The new debt limit itself was changed from the amount specified in the congressional budget resolution. Instead of the \$2,565.1 billion declared appropriate for

fiscal year 1988, the joint resolution was amended to raise the limit to \$2,800 billion in order to carry the Government into 1989. This limit has no expiration date. The President signed the legislation on September 29, 1987.

Because the increase in the debt limit was so large, 1988 was the first year since 1968 that Congress did not have to enact new debt limit legislation. The new limit of \$2,800 billion is, however, less than the \$2,845.4 billion of debt subject to statutory limit that is estimated to be outstanding at the end of fiscal year 1989. It is therefore estimated that a further increase in the limit will be necessary during fiscal year 1989 in order for the Federal Government to meet its obligations.

FEDERAL FUNDS FINANCING AND THE CHANGE IN DEBT SUBJECT TO STATUTORY LIMIT

The year-to-year change in debt subject to limit, unlike the change in debt held by the public, is not determined principally by the size of the total deficit of the Federal Government. This is because the trust fund surplus or deficit, which makes up part of the total surplus or deficit of the Federal Government, has no essential effect on the amount of debt that is subject to limit. The reason is explained below in a discussion that is more technical than most of this special analysis.

The budget consists of two major groups of funds: Federal funds and trust funds.²⁰ The Federal funds, in the main, are derived from tax receipts and borrowing and are used for the general purposes of the Government. The trust funds, on the other hand, are financed by taxes and other receipts earmarked by law for specified purposes, such as paying social security or unemployment insurance benefits. The social security trust funds (old-age and survivors insurance and disability insurance) are excluded from the budget by law and consequently are classified as off-budget Federal entities. However, the budgetary classification of these two trust funds does not affect Federal debt requirements or the following analysis.

When the Federal funds have a deficit, it must generally be financed by borrowing, regardless of whether the trust funds have a surplus. The trust fund surpluses are mostly invested in securities issued by Federal funds, and these securities are classified as Federal debt. For instance, if the trust funds receive \$1 billion more of tax receipts, the Treasury needs to sell \$1 billion less of debt to the public in order to obtain cash to finance the Government's outlays; but the Treasury also needs to issue \$1 billion more of debt to the trust funds in order to keep the trust funds fully

²⁰ Data for Federal funds and trust funds are presented in Special Analysis C, "Funds in the Budget."

invested. Therefore, gross Federal debt is unaffected. An increase in the trust fund surplus thus does not reduce the need for the Federal funds to issue debt in order to finance the Federal funds deficit—even though it does reduce the borrowing from the public. Federal funds borrowing is unchanged.

Federal funds borrowing consists almost exclusively of the Treasury issuing debt securities that are subject to the statutory limit. As a result, almost all of the debt that is used to finance the Federal funds deficit is subject to the statutory limit. While most of this debt is sold to the public or issued to trust funds, a comparatively small amount is issued to certain earmarked Federal revolving funds and deposit funds.

Table E-10 shows in detail the relationship of the change in debt subject to limit to the Federal funds deficit. This deficit is an amount that has to be financed. Some relatively small portion may be financed by means other than borrowing, such as seigniorage and a decrease in cash held by Federal funds. (However, if the sum of these other means of financing is negative, then these other means are a further amount that has to be financed.)²¹ A small portion may be financed by certain Federal funds (or certain deposit funds²²) selling their holdings of Federal debt. Another small portion may be financed by certain Federal funds selling debt that is not subject to the statutory limit; or, a trust fund may sell debt that is not subject to the statutory limit and thereby finance outlays without resorting to Federal funds borrowing or a depletion of Federal funds cash balances.

The remainder of the Federal funds deficit can only be financed by selling debt subject to the statutory limit. This ordinarily comprises most of the total amount to be financed. In addition to this financing, the debt subject to limit may also rise because of an increase in the unamortized discount on Treasury securities held by the public, as explained previously on pages E-5 to E-8 and page E-30. However, as shown in table E-10, these effects are all much smaller than the Federal funds deficit. Consequently, the Federal funds deficit approximately determines the increase in debt subject to statutory limit.

In 1988, for example, the total Federal funds deficit to be financed was \$252.9 billion. The “means of financing other than borrowing” required an additional \$5.1 billion of financing, primarily because of the increase in Treasury cash balances. Certain Federal funds and deposit funds decreased their holdings of Federal debt by \$2.8 billion, which reduced the need for borrowing; and

²¹ The amounts for means of financing other than borrowing in table E-10 exclude the amounts attributable to trust funds. It is not known how the trust fund open book balances (cash assets not currently invested) are divided between cash and the grouping labeled “checks outstanding, etc.” They are all assumed to be in checks outstanding, etc.

²² Only those deposit funds classified as Government accounts.

Table E-10. FEDERAL FUNDS FINANCING AND CHANGE IN DEBT SUBJECT TO STATUTORY LIMIT¹

(In millions of dollars)

Description	1988 actual	1989 estimate	1990 estimate	1991 estimate	1992 estimate	1993 estimate	1994 estimate
Federal funds surplus or deficit (-)	-252,887	-283,398	-240,985	-228,940	-202,066	-183,254	-167,197
Means of financing other than borrowing:							
Decrease or increase (-) in Treasury operating cash balance..	-7,963	14,398					
Increase or decrease (-) in:							
Checks outstanding, etc. ²	2,345	2,136	5,115				
Deposit fund balances ³	-609	-34	-930				
Seigniorage on coins.....	470	590	584	581	574	568	562
Proceeds from the sale of loan assets with recourse.....	611	26	1	1	1	1	1
Total, means of financing other than borrowing..	-5,146	17,116	4,770	582	575	569	563
Decrease or increase (-) in Federal debt held by Federal funds and deposit funds ⁴	2,858	-1,758	-2,200				
Increase or decrease (-) in Federal debt not subject to limit.....	8,507	12,190	3,582	2,995	4,742	4,633	3,441
Total, requirements for Federal funds borrowing subject to debt limit.....	-246,668	-255,850	-234,834	-225,362	-196,749	-178,052	-163,193
Increase or decrease (-) in unamortized discounts (less premiums) on Treasury debt held by the public.....	4,201	2,647	3,780				
Increase in other debt subject to limit but not part of Federal debt, and in adjustment.....	-13	-10					
Increase in debt subject to limit.....	250,855	258,486	238,615	225,362	196,749	178,052	163,193
ADDENDUM							
Debt subject to statutory limit.....	2,586,869	2,845,355	3,083,970	3,309,332	3,506,081	3,684,133	3,847,326

* \$50 million or less.

¹ Several amounts have been assumed to be zero during 1989-94 because they are usually small and cannot be estimated accurately.² Besides checks outstanding, includes accrued interest payable on Treasury debt, miscellaneous liability accounts, allocations of special drawing rights, and, as an offset, cash and monetary assets other than the Treasury operating cash balance, miscellaneous asset accounts, and profit on sale of gold.³ Does not include investment in Federal debt securities by deposit funds classified as part of the public.⁴ Only those deposit funds classified as Government accounts.

certain funds, notably FSLIC, increased their debt outstanding that was not subject to limit by \$8.5 billion, which in effect replaced an equal amount of debt that was subject to limit. Therefore, a total of \$246.7 billion had to be borrowed subject to the debt limit. In addition, the increase in the unamortized discount (less premium) on Treasury debt held by the public was \$4.2 billion, so the total increase in debt subject to limit was \$250.9 billion. The increase in debt subject to limit in 1988 was thus approximately equal to the Federal funds deficit.

The trust fund surplus, whether on-budget or off-budget, does not have an explicit effect in table E-10. If the trust fund surplus were always exactly invested in Federal debt securities subject to the statutory limit, it would not have any effect at all on the amount of debt subject to limit. Such an increase in invested balances would provide cash to finance Federal funds outlays but would increase the Federal debt by an identical amount.

However, to the extent that trust fund surpluses are uninvested—i.e., used to increase the trust fund holdings of cash assets—the debt subject to limit is reduced. This is because an increase in uninvested balances provides cash that can be used to finance Federal funds outlays without recording an increase in Federal debt. The increase in uninvested cash assets of the trust funds is recorded in table E-10 as an increase in the liabilities of the Federal funds for checks outstanding, etc. (in this case, an increase in the liabilities of Federal funds to trust funds). This increases the “means of financing other than borrowing” for the Federal funds, which in turn reduces the requirement for borrowing subject to the statutory limit. The uninvested cash assets of the trust funds do not usually change a great deal from year to year, and by law the trust fund surpluses must generally be invested in Federal debt. Consequently, the effect of the trust fund surplus on debt subject to limit is normally minor. The effect is important only in years when the statutory debt limit prevents the full investment of trust funds at the end of the fiscal year.²³

Since the trust fund holdings of Federal debt are included almost entirely in debt subject to limit, but not in debt held by the public, the amount of debt held by the public is much less than the amount of debt subject to limit. Since the trust funds as a group almost always have a surplus, the change in debt held by the public from one year to the next is almost always less than the change in debt subject to limit. For example, as can be found by comparing tables E-3 and E-10, during 1990 the debt subject to limit is estimated to increase by \$238.6 billion, whereas the debt held by the public is estimated to increase by \$91.2 billion.

²³ For a discussion of this effect at the end of 1986, see Special Analysis E of the 1989 *Budget*, page E-43.

The present analysis helps to demonstrate the difficulty in preventing a continual rise in the Federal debt subject to statutory limit. Table E-10 shows that the debt subject to statutory limit may continue to rise even if the total Federal Government deficit (including both on-budget and off-budget accounts) is exactly zero and, as a result, the debt held by the public remains constant (as an approximation, aside from the relatively small effect of the other items shown). In order for the debt subject to limit to remain constant, table E-10 shows that the Federal funds portion of the budget must be in balance (as an approximation). If this condition is met, the amount to be financed in table E-10 is zero, and the requirements for borrowing subject to the debt limit are zero (as an approximation).

However, the trust funds almost always have a surplus. Therefore, a Federal Government deficit of zero would imply that there would still be a deficit in the Federal funds and, as a result, that the debt subject to statutory limit would still increase. As a result, it is more difficult to achieve a balance in the Federal funds alone than it is to achieve a balance for the Government as a whole; and, in consequence, it is more difficult to prevent a rise in the debt subject to statutory limit than in the debt held by the public.

This is demonstrated by comparing the estimated financing requirements for 1994 that are shown in tables E-3 and E-10. In 1994 the Federal Government as a whole is estimated to have a \$33.4 billion surplus, which allows it to repay \$33.9 billion of debt held by the public. Nevertheless, the debt subject to limit increases by \$163.2 billion. The reason is that the Federal funds have a deficit of \$167.2 billion. The Federal Government as a whole is able to have a small surplus despite the large Federal funds deficit, because the trust funds have a surplus of \$200.6 billion, which is even larger.

The same conclusion can alternatively be illustrated by comparing the trends in borrowing from the public and borrowing subject to the debt limit. From 1988 to 1994, Table E-3 shows that annual borrowing from the public decreases by \$196.0 billion. This is in line with the \$188.4 billion shift from a large total Government deficit to a moderate surplus. Table E-10 shows, however, that the annual rise in the debt subject to limit decreases only by \$87.7 billion. The difference of \$108.3 billion is mostly because of a \$102.8 billion increase in the trust fund surplus. The rise in the trust fund surplus reduces borrowing from the public by an equal amount but does not reduce the need to issue debt subject to the statutory limit.

This analysis also pertains to the difficulty in preventing a continual rise in the gross Federal debt. Gross Federal debt is nearly the same as debt subject to statutory limit, as explained in the previous section. Therefore, in order to prevent a continual rise in

gross Federal debt, the Federal funds portion of the budget must be in balance (as an approximation).

FEDERALLY ASSISTED BORROWING

The effect of the Government on borrowing in the credit market arises not only from its own borrowing to finance Federal operations but also from its assistance to certain borrowing by the public. Federally assisted borrowing is of two principal types: Government-guaranteed borrowing and borrowing by Government-sponsored enterprises. The Federal Government also exempts the interest on some debt obligations from income taxation.

Government-guaranteed borrowing.—Guaranteed borrowing is another term for guaranteed lending. It consists of loans for which the Federal Government guarantees (or insures) the payment of the principal and/or interest in whole or in part. Guaranteed loans have diverse characteristics. The loans may be made to individuals, businesses, State and local governments, or foreign governments. The guaranteed obligation may be a loan made by a bank or other institutional lender, or it may be a security sold in the capital market.

Loan guarantees are designed to allocate economic resources toward particular uses by providing credit at more favorable terms than would otherwise be available in the private market. The major use of loan guarantees is to support housing, but they are also used for many other purposes. As shown subsequently in table E-12, primary guaranteed borrowing (which excludes double counting) was \$40.3 billion in 1988 and is estimated to be \$36.7 billion in 1989 and \$32.5 billion in 1990. Special Analysis F, "Federal Credit Programs," presents detailed data on guaranteed loans and estimates the subsidies that are provided by loan guarantees. Part 7 of the *Budget*, "Federal Credit," also discusses Federal credit and explains the Administration's reform proposal for the budgetary accounting and control of Federal credit.

Government-sponsored enterprise borrowing.—The other type of federally assisted borrowing is borrowing by Government-sponsored enterprises (GSEs), which are discussed extensively in Special Analysis F. These enterprises were established and chartered by the Federal Government to perform specific credit functions but are now, with one exception, entirely privately owned. Guidance for the budgetary classification of these enterprises was provided in 1967 by the President's Commission on Budget Concepts. The Commission, whose report led to the adoption of the unified budget, set forth several criteria for determining whether an activity should be included in the budget. Based on the characteristics of the GSEs that existed in 1967, the Commission recommended that the budget

exclude those GSEs that are entirely privately owned.²⁴ The transactions of entities classified as Government-sponsored enterprises are not included within the Federal budget, and their debt is not part of gross Federal debt. However, because they represent Federal programs, the Commission also recommended that their loans and borrowing be included at a prominent place in the budget documents and that their complete financial statements be published in the *Budget Appendix*.

A number of GSEs were created some years ago as financial intermediaries to assist private borrowers in housing, agriculture, and higher education. They borrow in the securities market and lend their borrowed funds for specifically authorized purposes either directly or by purchasing loans originated by the private groups that they were established to assist. The borrowing programs of these enterprises are subject to Federal supervision. In addition, they all consult the Treasury Department, either by law or by custom, in planning their market offerings. The Federal National Mortgage Association, the Federal Home Loan Banks, and the Student Loan Marketing Association are required to obtain Treasury approval of the terms and timing of specific offerings. The Farm Credit System, now composed of two GSEs regulated by the Farm Credit Administration—the Banks for Cooperatives and the Farm Credit Banks—borrows by issuing consolidated Farm Credit bonds and notes rather than securities under each enterprise's separate name.

Recent legislation has changed the structure of some of the previously established GSEs and has created four new ones. The Agricultural Credit Act of 1987, signed by the President in January 1988, was designed to assist the Farm Credit System in several ways. It merged two long established GSEs, the Federal Intermediate Credit Banks and Federal Land Banks, into one GSE, the Farm Credit Banks. It also created two new GSEs: the Farm Credit System Financial Assistance Corporation (FAC) and the Federal Agricultural Mortgage Corporation. A one-time assessment was imposed on the Banks for Cooperatives and Farm Credit Banks for them to buy stock in FAC. Legislation enacted in 1988 will partially rebate this assessment as of October 1, 1989, with the extent of the rebate depending on the amount of FAC bonds outstanding. As a result, FAC will be reclassified as of that date from a GSE to a Federal agency. However, this provision would be repealed under proposed legislation. Consequently, the budget schedules show FAC as a GSE in all years.²⁵

²⁴ *Report of the President's Commission on Budget Concepts* (Washington: U.S. Government Printing Office, 1967), pp. 29-30.

²⁵ The Agricultural Credit Act also created the Farm Credit System Insurance Corporation. It was initially considered to be a GSE but, upon further examination, was reclassified as a Federal agency as of its inception.

Two other GSEs were also created in the past two years. The College Construction Loan Insurance Association was established to insure loans made for college construction and renovation, a purpose similar to the purposes of the earlier GSEs though to be accomplished by a different method of assistance. The Financing Corporation (FICO) was created to recapitalize the Federal Savings and Loan Insurance Corporation, a Federal agency that insures deposits in savings and loan associations and has had severe financial problems of its own because of the financial problems of the thrift industry. Thus, unlike any of the previous GSEs, the four new enterprises were either established primarily to assist a Federal agency or an existing GSE or else will assist the public by insurance rather than financial intermediation.

Government sponsorship of these enterprises has traditionally given them various direct benefits. These benefits differ from one enterprise to another and from one type of debt security to another. In most cases, but not all, they have included such advantages as the following: their debt securities can be held by federally regulated financial institutions under a number of circumstances where other private securities or State and local securities are not eligible; their securities are eligible as collateral for public deposits; they are exempt from Federal, State, and local corporate income taxation; the interest on their debt securities is exempt from State and local income taxation; they are exempt from SEC registration; and they have authority to borrow from the Federal Government in amounts that range up to \$4 billion. In particular instances, one or another GSE may have a further specific benefit such as partial Federal or GSE ownership, a Federal guarantee of its securities, or the Federal Government paying part of the interest on its debt. Because of these specific advantages and the overall Federal sponsorship, the enterprises have been perceived by the securities market to have a special relationship with the Federal Government. As a result of all these factors and despite the absence of Federal guarantees (with one exception), the GSEs have borrowed at lower interest rates than they otherwise would have had to pay.

The operations of the GSEs are not subject to the Federal budget review process; and the economic assumptions on which their borrowing estimates are based for 1989-90 are not necessarily the same as the Administration's economic forecast, which is used for the budget. In order to show the borrowing by this sector as a whole from the rest of the market, the total borrowing figures for the sector in table E-11 are calculated net of the borrowing by one Government-sponsored enterprise from another. Estimates are not available for borrowing by the Federal Agricultural Mortgage Association and the College Construction Loan Insurance Association.

GSE borrowing has risen to much higher levels in the last few years than it was before. Until 1978 the largest amount of borrowing by this sector as a whole had been \$14.9 billion in 1974. Borrowing increased sharply to a range of \$24–\$27 billion during 1978–80, however, and then expanded almost continually to \$64.1 billion in 1985 and \$125.3 billion in 1987. It declined to \$94.4 billion in 1988. The GSEs estimate that it will be around \$74–76 billion in 1989 and 1990.

Table E-11. BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES ¹

(In billions of dollars)

Description	Borrowing or repayment (—)				Debt outstanding end 1990 estimate
	1987 actual	1988 actual	1989 estimate	1990 estimate	
Education: Student Loan Marketing Association	5.8	3.7	4.0	4.5	33.5
Housing and Urban Development: Federal National Mortgage Association.....	45.2	50.0	15.9	23.1	312.2
Farm Credit Administration:					
Banks for cooperatives ²	0.4	2.3	—0.1	0.5	11.7
Farm credit banks ²	—10.0	—2.2	—1.3	—0.1	42.0
Farm Credit System Financial Assistance Corporation.....		0.4	1.0	0.8	2.3
Federal Home Loan Bank Board:					
Federal home loan banks.....	17.0	21.6	18.3	15.0	160.0
Financing Corporation	0.5	3.2	3.8	3.3	10.8
Federal Home Loan Mortgage Corporation	66.1	15.4	34.0	26.6	301.9
Total	124.9	94.5	75.6	73.8	874.4
Less increase in holdings of debt issued by Government-sponsored enterprises	—0.4	0.1			0.9
Total, borrowing by Government-sponsored enterprises	125.3	94.4	75.6	73.8	873.4

* \$50 million or less.

¹ Because data are unavailable, this table excludes College Construction Loan Insurance Association and Federal Agricultural Mortgage Corporation.² The debt represented by consolidated notes and bonds is attributed to the respective institutions.

The largest Government-sponsored borrowers are currently the two enterprises that borrow in order to support housing through the purchase of mortgages, the Federal Home Loan Mortgage Corporation (FHLMC) and the Federal National Mortgage Association (FNMA). In 1988 they borrowed \$65.4 billion altogether; during 1989–90 they are estimated to borrow nearly \$50.0 billion each year. For these three years combined, their borrowing is 68% of total GSE borrowing. This high level of borrowing is almost entirely being carried out through their mortgage-backed security programs. Under these programs the GSE purchases conventional and Government-backed mortgages and finances the purchases by packaging the mortgages into pools and selling participation certificates in the pools to the public. By the end of 1990, FHLMC and FNMA are estimated to have raised their combined share of total Government-sponsored debt from 42% in 1980 to 70%.

Although the borrowing by FHLMC and FNMA currently dominates the Government-sponsored sector, the borrowing by the Federal Home Loan Banks is also large. They are estimated to borrow substantially in order to finance loans to savings and loan associations and thereby also support the housing sector. The Student Loan Marketing Association is also estimated to borrow significantly.

In contrast, the GSEs that comprise the Farm Credit System did little net lending and borrowing as a group in 1988. They are estimated to continue on this course during 1989 and 1990. These past results and projections of the future reflect in part the recent economic difficulties of the farm sector and of the Farm Credit System itself. The new GSEs designed to support the Farm Credit System and other agricultural lenders begin to contribute during this period.

Tax exemption.—The Federal Government provides a different kind of assistance to State and local government borrowing than it does to other borrowing. It exempts the interest on most State and local debt from Federal income tax. This reduces the interest rate these governments have to pay and thereby encourages them to borrow larger amounts.

Tax exemption has also been extended to certain bonds nominally issued by a State or local government to raise funds for private purposes. These private purpose bonds, such as industrial development bonds, comprised over half of all new long-term, tax-exempt issues each year from 1979 through 1985. The Tax Reform Act of 1986 limited to some degree the issuance of private purpose tax-exempt bonds and reduced the ability of issuers to earn arbitrage by investing the proceeds of tax-exempt bonds in taxable instruments. The issuance of private purpose bonds nevertheless remains significant.

In 1988 the total tax-exempt borrowing (net of repayments) estimated in the Federal Reserve flow-of-funds accounts was \$33.9 billion. This was slightly above the tax-exempt borrowing in 1987 but was less, for the most part substantially less, than during any of the years from 1982 through 1986. Tax-exempt borrowing is discussed further in Special Analysis F, "Federal Credit Programs," and, from a different perspective, in Special Analysis G, "Tax Expenditures."

TOTAL FEDERAL AND FEDERALLY ASSISTED BORROWING

Table E-12 summarizes Federal and federally assisted borrowing. Federal borrowing from the public is presented in total. Guaranteed borrowing and borrowing by Government-sponsored enterprises (GSEs) are presented both as total amounts for the sector as a whole and as net amounts. The net amounts include adjustments

that were made in order to remove double counting in the aggregation of total Federal and federally assisted borrowing. Double counting would otherwise occur when a Federal agency or a GSE bought (or sold) a Federal or federally assisted debt security. This is because borrowing would occur both when the security was initially sold and when the Federal agency or GSE borrowed in order to finance its purchase.

Table E-12. FEDERAL AND FEDERALLY ASSISTED BORROWING

(In billions of dollars)

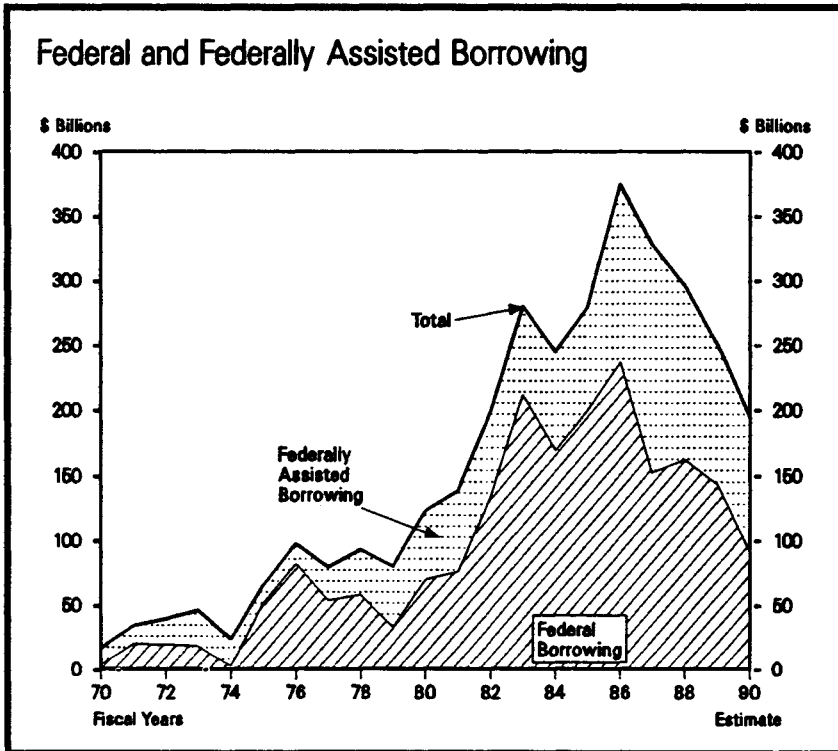
Description	Borrowing or repayment (-)			Debt outstanding end 1990 estimate
	1988 actual	1989 estimate	1990 estimate	
Federal borrowing from the public ¹	162.1	143.6	91.2	2,285.0
Guaranteed borrowing (net) ^{2 3}	39.8	36.6	32.5	619.1
Less increase in guaranteed loans held by Federal agencies: ³				
Government National Mortgage Association	- 0.4	- *		
Primary guaranteed borrowing ⁴	40.3	36.7	32.5	619.1
Borrowing by Government-sponsored enterprises ⁵	94.4	75.6	73.8	873.4
Less increase in holdings of Federal debt	- 0.1	2.6	0.6	8.3
Less increase in Government-sponsored debt held by Federal agencies:				
Federal Financing Bank	- *		- *	4.9
Tennessee Valley Authority				0.1
Less increase in Government-sponsored debt guaranteed by Federal agencies:				
Farm Credit System Financial Assistance Corporation	0.4	1.0	0.8	2.3
Less increase in holdings of guaranteed loans:				
Student Loan Marketing Association ⁶	2.8	3.0	3.3	21.9
Federal National Mortgage Association	- 1.2	- 1.7	- 1.7	27.3
Farm Credit System	- *			
Federal Home Loan Banks	- 1.0	- 0.1	- *	3.0
Federal Home Loan Mortgage Corporation				0.8
Government-sponsored borrowing	93.5	70.8	70.9	804.9
Total, Federal and federally assisted borrowing	295.9	251.1	194.6	3,709.1

* \$50 million or less.

¹ See table E-1.² "Guaranteed borrowing (net)" is the same as "guaranteed loans (net)" in table F-19 of Special Analysis F. To avoid double counting, it is calculated net of guarantees of loans previously guaranteed and guarantees of Federal agency debt.³ The increase in guaranteed loans held by the FFB is netted out in deriving guaranteed borrowing (net).⁴ "Primary guaranteed borrowing" in this table is the same as "primary guaranteed loans" in table F-19.⁵ From table E-11.⁶ The increase in holdings of guaranteed loans by the Student Loan Marketing Association is subtracted out on this line only to the extent that SLMA borrows from the public. To the extent that SLMA borrows from the FFB, the increase in holdings of guaranteed loans is ultimately financed by Federal borrowing and the loans are therefore classified as direct loans rather than guaranteed loans. This latter amount is subtracted out above as an increase in Government-sponsored debt held by Federal agencies.

Federal borrowing from the public to finance the deficit comprises about half of total Federal and federally assisted borrowing for all years during 1988-90. GSE borrowing is the major part of federally assisted borrowing, at over double the size of guaranteed borrowing. All three types of borrowing are estimated to decrease significantly from 1988 to 1990.

The following chart depicts the trends in Federal and federally assisted borrowing from 1970 to 1990. The total amount of borrowing has increased substantially, due to large increases in both Federal and federally assisted borrowing. Total borrowing has been volatile at times, with the fluctuations usually dominated by Federal borrowing, which is driven primarily by the Federal deficit.



Total Federal and federally assisted borrowing more than tripled from \$79.8 billion in 1979 to \$279.9 billion in 1983, a period of two back-to-back recessions that greatly raised the deficit. With a much lower deficit in 1984 as the economy recovered, and with federally assisted borrowing growing only moderately, the total of Federal and federally assisted borrowing decreased sharply in that year. However, in the next two years Federal borrowing increased despite continued expansion of the economy, and both guaranteed and GSE borrowing increased greatly. The result was a record \$374.5 billion of Federal and federally assisted borrowing in 1986. In 1987 a sharp decrease in Federal borrowing brought down the total despite a further increase in federally assisted borrowing; in 1988 a large decrease in federally assisted borrowing brought down the total despite a small rise in Federal borrowing. Total Federal

and federally assisted borrowing is estimated to decrease by \$101.3 billion or 34% from 1988 to 1990.

Much of the increase in Federal and federally assisted borrowing over the past two decades parallels the growth in the economy and in the total funds borrowed by the non-financial sector in the credit market. However, total Federal and federally assisted borrowing has increased as a proportion of the total funds borrowed. This proportion increased from 17% during 1960-69 to 22% during the first half of the 1970s and 27% during the second half. During 1980-88 the proportion was higher still, averaging 41%. Thus, Government programs have recently been a larger proportion of funds borrowed in credit markets than they were in the preceding years. However, the proportion has recently not trended either upward or downward, and the estimates for 1989 and 1990 in table E-12 suggest that the relative Federal participation in the credit market may decrease in these years.

Table 4. FEDERAL GOVERNMENT FINANCING AND DEBT ¹

(In billions of dollars)

	1988 actual	Estimate					
		1989	1990	1991	1992	1993	1994
FINANCING							
Surplus or deficit (—)	—155.1	—161.5	—92.5	—66.8	—32.2	2.4	33.4
On-budget	(—193.9)	(—217.5)	(—161.3)	(—147.6)	(—123.2)	(—102.2)	(—83.1)
Off-budget	(38.8)	(56.0)	(68.8)	(80.8)	(91.0)	(104.6)	(116.4)
Means of financing other than borrowing from the public:							
Decrease or increase (—) in Treasury operating cash balance	—8.0	14.4					
Increase or decrease (—) in:							
Checks outstanding, etc. ²	0.5	2.9	1.7				
Deposit fund balances	— .6	— *	— .9				
Seigniorage on coins	0.5	0.6	0.6	0.6	0.6	0.6	0.6
Proceeds from the sale of loan assets with recourse	0.6	*	*	*	*	*	*
Total, means of financing other than borrowing from the public	—7.0	17.9	1.3	0.6	0.6	0.6	0.6
Total, requirements for borrowing from the public	—162.1	—143.6	—91.2	—66.2	—31.6	3.0	33.9
Change in debt held by the public	162.1	143.6	91.2	66.2	31.6	—3.0	—33.9
DEBT, END OF YEAR							
Gross Federal debt:							
Debt issued by Treasury	2,588.3	2,844.0	3,078.5	3,303.9	3,500.6	3,678.7	3,841.9
Debt issued by other agencies	12.5	24.7	28.7	31.7	36.4	41.0	44.5
Total, gross Federal debt	2,600.8	2,868.8	3,107.2	3,335.6	3,537.1	3,719.7	3,886.4
Held by:							
Government accounts	550.6	675.0	822.2	984.3	1,154.2	1,339.8	1,540.4
The public	2,050.2	2,193.8	2,285.0	2,351.2	2,382.9	2,379.9	2,346.0
(Federal Reserve Banks)	(229.2)						
(Other)	(1,821.0)						

Table 4. FEDERAL GOVERNMENT FINANCING AND DEBT ¹—Continued

(In billions of dollars)

	1988 actual	Estimate					
		1989	1990	1991	1992	1993	1994
DEBT SUBJECT TO STATUTORY LIMITATION, END OF YEAR							
Debt issued by Treasury	2,588.3	2,844.0	3,078.5	3,303.9	3,500.6	3,678.7	3,841.9
Treasury debt not subject to limitation ³	-15.4	-15.6	-15.6	-15.6	-15.6	-15.6	-15.6
Agency debt subject to limitation	0.1	0.4	0.7	0.7	0.7	0.7	0.7
Unamortized discount (less premium) on Treasury debt held by the public	13.9	16.5	20.3	20.3	20.3	20.3	20.3
Total, debt subject to statutory limitation ⁴ .	2,586.9	2,845.4	3,084.0	3,309.3	3,506.1	3,684.1	3,847.3

* \$50 million or less.

¹ For further data on the debt and for discussion of the debt, see Part 7 of this volume and Special Analysis E, "Borrowing and Debt."² Besides checks outstanding, includes accrued interest payable on Treasury debt, miscellaneous liability accounts, allocations of special drawing rights, and, as an offset, cash and monetary assets other than the Treasury operating cash balance, miscellaneous asset accounts, and profit on sale of gold.³ Consists of Federal Financing Bank debt and other Treasury debt not subject to statutory limitation.⁴ The statutory debt limit is \$2,800 billion.

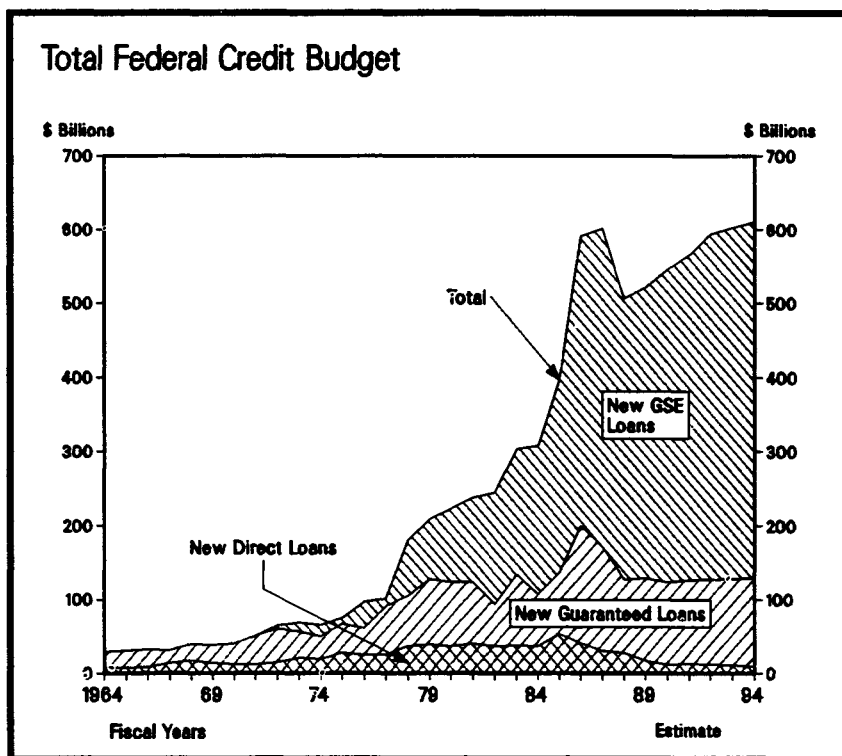
SPECIAL ANALYSIS F
FEDERAL CREDIT PROGRAMS

I. INTRODUCTION

The Federal Government is the Nation's largest financial intermediary. At the end of 1988, it held loans with a face value of \$222 billion in its direct loan portfolio, which was 61 percent larger than the loan assets of the largest commercial bank in the U.S. The Federal Government also had guaranteed loans with an outstanding balance of \$550 billion at the end of 1988. Government-sponsored enterprises had an additional \$666 billion of loans outstanding at the end of 1988. Thus, directly or indirectly, the Federal Government had influenced the allocation of \$1.4 trillion of outstanding credit to farmers, homeowners, small businesses, exporters, utilities, shipbuilders, and State, local, and foreign governments. The following chart details the pattern of growth in Federal and federally guaranteed lending over the last two decades with the most recent patterns and with estimates of future trends through 1994.

Federal credit is designed to meet various social or economic goals that, for whatever reason, the private sector does not meet on its own. Meeting these goals may entail the provision of a subsidy to a favored borrower or the correction of a perceived capital market imperfection.

The problems in directing or controlling Federal credit are enormous and systemic. The discipline that the private market imposes on private financial intermediaries is absent. The discipline that the current budget process imposes is not fully effective in controlling Federal credit programs. The Federal credit budget, while an improvement over the previous control and display mechanisms of the unified budget for credit programs, does not take into account explicitly the most important aspect of Federal credit—the economic subsidy offered to borrowers. In order to focus on that subsidy, the administration is again proposing a reform of budgeting for credit programs that would remedy the shortcomings of existing practices by incorporating into the unified budget and appropriations process the subsidies provided by credit programs. The credit reform proposal is outlined in Part 6, "Federal Credit," of the *Budget of the United States Government, FY 1990*.



This special analysis presents data and information on the broad spectrum of Government credit programs and policies from 1988 through 1994. It examines some of the problems in controlling Federal credit programs through existing budgetary processes and summarizes how the administration's credit reform proposal would address those problems. It also discusses the basis of the credit budget and how the credit budget relates to appropriation act limitations on direct loan obligations and guaranteed loan commitments. The major direct and guaranteed loan programs of the Government are presented in detail. Finally, it outlines the credit activity of Government-sponsored enterprises, describes trends in Federal credit, presents estimates of Federal credit subsidies, and includes discussions of other credit-related topics.

II. CONTROLLING FEDERAL CREDIT PROGRAMS

Comparisons with Private Financial Intermediaries.—The objectives of Federal credit programs are different from those of private financial institutions. While private financial institutions seek to make a profit on their lending, Federal credit programs normally

exist to offer credit to selected borrowers on terms and conditions that are more favorable than those available from private lenders. In some cases, the Government offers credit to borrowers for whom no private source of credit is available. Compared to fully private loans, the terms and conditions of Federal loans may include lower interest rates or loan guarantee fees, less stringent credit risk thresholds in making credit available, or more generous grace periods or repayment schedules. Legislation frequently defines the eligible pool of applicants, specifies the lending terms that an agency or program may offer, and otherwise restricts the discretion of Federal program managers to screen loan applications in a manner common for private lenders.

In addition to these differences in purpose, there are also differences in procedures between public and private financial intermediaries. Unlike a private financial intermediary, a Federal direct loan or loan guarantee program has no standard measure of performance, such as profit, for assessing its success. Federal credit programs were created to subsidize favored borrowers to varying degrees; therefore, net income does not measure success.

Moreover, the standards of the marketplace that restrict the growth and size of private lenders do not apply to Federal credit programs. Unlike commercial banks, Federal agencies need not worry about constraints on the volume or quality of new lending imposed by the inadequacy of primary capital. Federal agencies can continue to lend if they have little, no, or even negative equity. Federal lending agencies need not be concerned with the standards imposed on private banks by Federal regulatory agencies for assessing and reporting on the quality of loan portfolios. This makes alternative forms of discipline all the more important if Federal credit is to be directed in the most efficient manner.

The Unified Budget and the Appropriations Process.—The unified budget, with its focus on budget authority, outlays, and receipts, provides a comprehensive system for recording and controlling most receipts and outlays, but it is an incomplete mechanism for recording and controlling Federal credit programs. First, in the case of direct loans, the unified budget measures net outlays, not the full volume of new credit extended for direct loans. The appropriations process also treats credit in a limited way. The largest direct loan programs are currently financed by revolving funds in which disbursements for new direct loans are offset by repayments on existing loans. Congressional appropriations of budget authority for these revolving funds are generally necessary only when new disbursements exceed available fund balances, which can be augmented by loan repayments and asset sales. The appropriations acts do, however, set obligation limitations for most discretionary credit programs.

Second, guaranteed loan commitments, an important form of credit, do not constitute outlays and are not reflected in the unified budget except to the extent that defaults occur. While, in principle, they could be included under budget authority, commitments were excluded from the definition of budget authority by the Congressional Budget Act of 1974. The reason for the exclusion was that the loan guarantee, by itself, does not affect budget outlays and the deficit. The loan guarantee is only a contingent liability of the Government. However, by assuming that contingent liability, the Government induces lenders to invest in particular loans by making them "riskless" from the lender's standpoint, and thereby allocates capital for federally determined purposes. In this manner, a guaranteed loan commitment may provide as large a subsidy and redirect capital as effectively as a direct loan obligation.

The major shortcoming of the regular budget process for credit programs is that it neither measures nor controls the most salient aspect of Federal credit—the size of the subsidy offered the borrower. Because a primary purpose of Federal credit programs is to provide borrowers with a subsidy, this is a serious omission in effective budgetary control. Without some means of measuring and controlling this subsidy, neither the executive branch nor the Congress can make informed decisions about Federal credit programs, either in comparing one with another, or in comparing them with noncredit expenditure programs.

The Federal Credit Budget.—The Federal credit budget measures the direct loan obligations and guaranteed loan commitments, and, through the use of language in appropriation acts, limits these credit activities. The credit budget was a significant step forward because it provided a method of controlling new activity; however, even the credit budget has significant limitations—it does not measure subsidy costs, nor does it place any direct restriction on the level of subsidy that a program offers the borrower. Moreover, it is a separate system of different measures, thus discouraging the trade-offs among programs against an overall constraint which would occur if credit programs were appropriately included within the unified budget.

Credit Reform Initiative.—Under the administration's proposed credit reform, Federal agencies would be required to obtain appropriations from Congress to finance the subsidies implicit in all new direct loans obligated and guaranteed loans committed in 1990 and later years. The financing and payment of loans obligated or committed before 1990 would not be affected.

Two new Federal credit revolving funds would be established within the Department of the Treasury—one for the financing of direct loans, called the Direct Loan Fund, and the other for guar-

anteed loan insurance, called the Guaranteed Loan Fund. Agencies would continue to originate and close direct loans and make loan guarantees as they do now. Moreover, borrower's rights would not be changed.

As borrowers draw down direct loan obligations, the agency would pay the appropriated subsidy component of each loan into the Direct Loan Fund. This Fund would finance the balance of the loan—the non-subsidized portion—through borrowing from Treasury. The borrower would pay interest and repayments of principal to the agency that originated the loan; the agency would deposit these amounts in the Direct Loan Fund to repay the Treasury for its financing of the loan. For loan guarantees, the appropriated subsidy would be paid by the agency to the Guaranteed Loan Fund when the guaranteed loan is disbursed by the lender. All fees and premiums collected by the agency would be deposited in the Guaranteed Loan Fund. In turn, the Guaranteed Loan Fund would assume financial responsibility for payment of defaults.

Credit Vouchers.—This budget includes an innovative proposal that uses credit vouchers to address the shortcomings of the regular budget process for credit programs. Credit vouchers represent grants equal to the subsidy portion of Federal credit programs. Credit program recipients receive a voucher for financial assistance that can be used to obtain privately originated credit instead of a Federal direct or federally guaranteed loan. In other cases, credit vouchers could be used to lower the amount borrowers would need to obtain credit from private sources (compared with what the borrower would need without Federal assistance) and thereby lower borrowing costs. Alternatively, a credit voucher could be used to buy private loan insurance that, in turn, would enable a borrower to get a private loan at a lower cost.

Federal credit vouchers allow a direct subsidy similar to the proposal to appropriate the subsidy component of Federal loans—credit voucher amounts are budgeted and appropriated on an equal basis with other Federal grants, transfers, and purchases—and the Federal Government removes itself from the rest of the process. As a result, vouchers provide assistance to targeted borrowers while simultaneously encouraging the maximum amount of private sector involvement through private origination, risk bearing, and servicing of loans.

Using private sector expertise in the origination and servicing of loans is more efficient for the Government in two ways. First, private sector review of applicants' creditworthiness will ensure that the least risky among those eligible for subsidies will receive credit. This selection process will result in the least distorted allocation of credit as possible consistent with providing Federal assistance. Also, from the Government's perspective, vouchers are more

efficient than making direct loans and loan guarantees that typically have high administrative and servicing costs.

This budget proposes the use of credit vouchers to finance private loans for the development of housing for low-income elderly and handicapped households, including the mentally ill homeless. In this instance, the credit voucher provides a private lender with a cash grant whose value reflects both the interest subsidy and default risk associated with such projects. The subsidy value will be sufficient to assure the lender the same return that could be earned on a market-rate loan to a comparable project. Project sponsors will have an incentive to seek a lender willing to take a smaller subsidy.

From the perspective of the recipient of Federal credit assistance, borrowers holding credit vouchers are able to choose the least costly loan in a competitive environment. More importantly, borrowers are able to establish relationships with private lenders that could help them obtain unsubsidized credit in the future.

III. THE CREDIT BUDGET

Credit Budget Principles.—The credit budget measures direct loan obligations and guaranteed loan commitments. It is the sum of the credit authority provided by the Federal Government. The credit budget is based on three principles. First, it is intended to measure new credit at the point that the Government legally contracts to provide a loan or a loan guarantee. Usually, this is when a direct loan agreement or loan guarantee commitment is signed.

Second, the credit budget is based on credit authority—the authority to make new offers of credit. For many credit accounts in the unified budget, budget authority for direct loan programs is required only when collections are insufficient to finance new loans for those programs funded through revolving funds; budget authority for loan guarantees is needed only to pay for defaults when other resources are insufficient to fund those costs. In contrast, credit authority is measured on a gross basis and does not reflect repayments of loans or defaults on loan guarantees. As a result, credit authority is a needed tool because subsidies are incurred for all new direct loans and loan guarantees, regardless of the extent to which new loans are offset by the repayment of loans previously made.

Third, guaranteed loan commitments are measured as the full principal of the loan, even if the Government's contingent liability is less than the full loan principal. The full principal is included in the commitment because the entire loan, even if only partially guaranteed, is assisted by the guarantee. Moreover, in some programs that offer partial guarantees, the private lender is at risk only when the value of the collateral and the guarantee combined

are less than the full loan principal. There are a number of programs in which less than the full principal of the loan is guaranteed.

In the aggregate, of the \$550 billion of guaranteed loans outstanding in 1988, the Government's contingent liability was \$459 billion or 83 percent. Excluding the VA, the contingent liability was \$394 billion for \$400 billion of guaranteed loans outstanding, or 99 percent. The contingent liability and full principal of all guaranteed loans outstanding are shown in Table F-1.

Table F-1. CONTINGENT LIABILITY FOR GUARANTEED LOANS OUTSTANDING

(In billions of dollars)

	Actual 1988	Estimate	
		1989	1990
Veterans Affairs mortgage guarantees:			
Contingent liability	65.2	64.5	64.5
Full principal	149.7	148.5	148.0
All other loan guarantee programs:			
Contingent liability	393.7	430.5	460.8
Full principal	400.3	438.1	471.1
Total outstanding:			
Contingent liability	458.9	495.0	525.3
Full principal	550.0	586.6	619.1

Table F-2 provides the credit budget totals for 1985 through 1990. It also shows the major direct loan programs and loan guarantee programs.

For 1990, the administration's proposals are expected to decrease the credit budget by \$4 billion, or 3 percent below the 1988 level. The programmatic reasons for the changes in the credit budget totals since 1988 are discussed below in the sections on direct and guaranteed loans.

Congressional Credit Budget Controls.—The credit budget is included in the budget resolution and limitations for many programs are subsequently enacted in annual appropriations acts. The administration proposes annual limitations on direct loan obligations and guaranteed loan commitments for most credit programs. The limitations serve as ceilings on the volume of new credit that may be offered.

The President's 1990 budget proposes limitations for programs that account for 65 percent of the credit budget totals. Approximately 18 percent of direct loan obligations and 70 percent of primary guaranteed loans are proposed for limitation. (The relatively low percentage for direct loans results because the largest direct loan program—Commodity Credit Corporation commodity

Table F-2. CREDIT BUDGET TOTALS

(In billions of dollars)

	Actual 1988	Estimate			
		1989	1990	1991	1992
Direct loan obligations:					
Commodity Credit Corporation.....	13.3	6.1	8.0	8.8	8.1
Farmers Home Administration.....	3.9	4.5	1.6	1.4	1.3
Rural Electrification Administration.....	1.6	1.8			
P.L. 480 long-term export credits.....	0.8	0.8	0.7	0.8	0.8
Veterans Affairs.....	0.9	0.9	1.0	1.0	0.8
All other.....	6.7	2.8	0.9	0.8	0.8
Total obligations.....	27.2	16.9	12.3	12.8	11.8
Guaranteed loan commitments:					
Commodity Credit Corporation.....	4.6	5.5	5.5	5.5	5.5
Farmers Home Administration.....	1.4	3.6	3.2	3.2	3.2
Rural Electrification Administration.....	2.0	0.5	1.9	1.6	1.6
Guaranteed student loans.....	11.8	12.1	13.1	13.9	14.7
Federal Housing Administration.....	50.1	56.8	59.0	60.7	62.6
Veterans Affairs housing.....	17.7	13.5	13.9	14.3	13.7
Small Business Administration.....	3.6	3.7	3.5	3.5	3.5
Export-Import Bank.....	5.7	10.2	10.4	10.6	10.7
All other.....	3.8	6.9	1.2	0.8	0.8
Total commitments ¹.....	100.7	112.8	111.7	114.1	116.3
Total credit budget.....	127.9	129.8	123.9	126.9	128.1
MEMORANDUM					
Secondary guaranteed loan commitments.....	53.1	62.6	66.3	68.4	69.2

¹ Excludes commitments for guarantees of loans previously guaranteed (secondary guarantees) and commitments for guarantees by one Government account of direct loans made by another Government account. Totals for the former are shown in the memorandum. Totals for the latter are included as direct loans.

Table F-3. CREDIT BUDGET PROGRAMS SUBJECT TO AND EXEMPT FROM APPROPRIATIONS ACTS LIMITATIONS

(In millions of dollars)

	Direct loan obligations			Guaranteed loan commitments		
	1988	1989	1990	1988	1989	1990
Limitations enacted.....	12,402	8,392	2,764	258,147	193,817	160,950
Less: Unused balance of limitation, expiring.....	-1,777	-642	-580	-147,395	-60,656	-16,761
Loans subject to limitation.....	10,625	7,750	2,184	57,681	70,549	77,929
Loans exempt from limitation.....	16,596	9,183	10,071	42,607	42,270	33,760
Total.....	27,222	16,933	12,255	100,668	112,819	111,689
ADDENDUM						
Secondary guarantees subject to limitation.....				53,071	62,612	66,260

loans—is exempt from limitation.) Table F-3 shows the breakdown of loans subject to, and exempt from, appropriations act limitation.

The first stage of congressional action on the credit budget is the budget resolution. The resolution includes functional allocations for

direct loan obligations and primary loan guarantee commitments. The functional targets are then allocated to the Appropriations Committee and other committees.

After the budget is submitted to the Congress, the House and Senate Appropriations Committees begin working on the 13 appropriation bills. Three bills contain 21 of the 28 requested limitations: Rural Development, Foreign Assistance, and Housing and Urban Development/Independent Agencies. Over the past several years, Congress has enacted limitations for most of the programs for which limitations were requested. The administration continues to urge the Congress to enact limitations on guaranteed loans on the basis of the full principal amount of the loan rather than the contingent liability.

In general, limitation language in appropriation acts: (1) is a 1-year limitation; (2) sets a *ceiling* on direct loan obligations and/or guaranteed loan commitments; and (3) applies to an individual account, although limitations on specific programs within an account may also be provided. Table F-4 identifies the enacted limitations in 1988 and 1989, and proposed limitations in 1990 for credit programs.

Table F-4. CREDIT APPROPRIATIONS ACTS LIMITATION

(In millions of dollars)

	Actual 1988	Estimate	
		1989	1990
Limitations on direct loan obligations:			
Foreign military sales credit.....	4,049	410	
Overseas Private Investment Corporation (Credit Reform).....			17
Overseas Private Investment Corporation.....	23	23	
AID, private sector loans (Credit Reform).....			4
AID, private sector revolving fund.....	12	12	
Public Law 480 food aid (Credit Reform).....			747
Agricultural credit insurance (Credit Reform).....			700
Agricultural credit insurance fund.....	1,615	1,617	
Rural housing insurance fund (Credit Reform).....			100
Rural housing insurance fund.....	1,845	1,845	
Rural development insurance (Credit Reform).....			200
Rural development insurance fund.....	426	426	
Rural development loan fund (Credit Reform).....			14
Rural development loan fund.....	14	14	
Rural electrification and telephone revolving fund.....	2,159	1,794	
Rural telephone bank (Credit Reform).....			125
Rural telephone bank.....	80	177	
Education.....	62	30	
Bonneville Power Administration.....	10		
Health resources and services.....	4	7	6
FHA loans (Credit Reform).....			89
FHA fund.....	79	103	
Housing for elderly or handicapped (Credit Reform).....			32
Housing for elderly or handicapped.....	566	480	
Flexible subsidy fund loans (Credit Reform).....			36
Nonprofit sponsor assistance (Credit Reform).....			1
Nonprofit sponsor assistance.....	1	1	

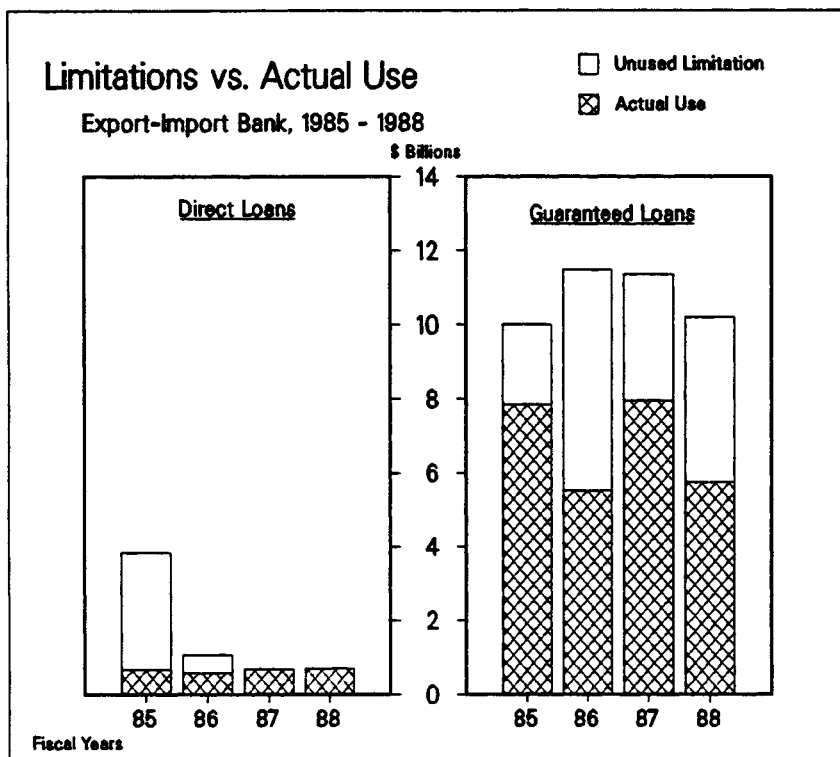
Table F-4. CREDIT APPROPRIATIONS ACTS LIMITATION—Continued

(In millions of dollars)

	Actual 1988	Estimate	
		1989	1990
Bureau of Reclamation, loan program.....	32	28	31
Bureau of Indian Affairs.....			13
Highways and mass transportation.....	45	46	48
Veterans Affairs, income security.....			1
Veterans Affairs, mortgage insurance & other.....	1	1	
Veterans Affairs, income security.....			1
Veterans Affairs, mortgage insurance & other.....	1	1	
SBA, business loan and investment fund.....	85	82	
Export-Import Bank.....	693	695	
National Credit Union Administration, central liquidity facility.....	600	600	600
Total, limitations on direct loan obligations.....	12,402	8,392	2,764
Limitations on guaranteed loan commitments:			
Overseas Private Investment Corporation (Credit Reform).....			175
Overseas Private Investment Corporation.....	200	175	
AID private sector revolving fund (Credit Reform).....			50
AID private sector revolving fund.....		50	
AID housing and other guarantee programs (Credit Reform).....			100
AID housing and other guarantee programs.....	125	125	
Agricultural credit insurance fund (Credit Reform).....			3,000
Agricultural credit insurance fund.....	2,793	2,777	
Rural development insurance fund (Credit Reform).....			196
Rural development insurance fund.....	96	296	
Rural electrification & telephone revolving fund (Credit Reform).....			1,365
Economic development assistance.....	188	188	
Health education assistance (Credit Reform).....			100
FHA loan fund (Credit Reform).....			67,000
FHA fund.....	96,000	96,000	
Community development and other.....	144	144	
Bureau of Indian Affairs.....			45
SBA, business loans (Credit Reform).....			3,535
Export-Import Bank (Credit Reform).....			10,384
Export-Import Bank.....	14,601	19,062	
Total, Guaranteed Loan Commitments.....	114,147	118,817	85,950
ADDENDUM			
Secondary guaranteed loan commitments:			
GNMA, guarantees of mortgage-backed securities.....	144,000	75,000	
GNMA, guarantees of mortgage-backed securities, (Credit Reform).....			75,000

While the appropriations act limitation is an effective control mechanism for new lending for some programs, there are many programs in which the actual demand for Federal credit assistance has been consistently less than the level enacted in annual appropriation bills. For example, the enacted limitations on direct and guaranteed loans for the Export-Import Bank consistently exceeded the actual demand for loans between 1985 and 1986. In 1987 and 1988, however, the Congress reduced the limitation on direct loans to better reflect actual program usage. The accompanying chart

illustrates the used and unused portions of the enacted limitations for 1985-1988.



There are several programs for which demand is often below the enacted limitation. Table F-5 compares the proposed and enacted limitations to the actual level of direct loan obligations and guaranteed loan commitments in 1988 for several credit programs for which the limitations equaled or exceeded use.

After enactment of appropriations bills, direct and guaranteed loan activity subject to limitation is controlled through the apportionment process. This is the mechanism by which the executive branch controls the rate at which new loans are obligated or guaranteed. While limitations are generally apportioned quarterly, a few are apportioned on an annual or project basis.

In the event of a sequestration under Gramm-Rudman-Hollings, credit authority—direct loan obligations and guaranteed loan commitments—are reduced by the general nondefense sequestration percentage.

For some programs, appropriations limitations on annual activities are deemed unsuitable for any of several reasons, and control is provided through other mechanisms. First, limitations are not

Table F-5. COMPARISON OF ENACTED LIMITATIONS WITH ACTUAL LOAN LEVELS FOR SELECTED PROGRAMS IN 1988

(In millions of dollars)

	Enacted limitation	Actual loan level	Unused balance of limitation
Direct loan obligations:			
Agricultural credit insurance fund (FmHA).....	1,615	1,049	566
Rural housing insurance fund.....	1,845	1,845	
Rural electrification and telephone revolving fund.....	2,159	1,590	568
Housing for the elderly or handicapped fund.....	566	565	1
National Credit Union Administration, central liquidity fund.....	600	63	537
Guaranteed loan commitments:			
Agricultural credit insurance fund.....	2,793	1,255	1,538
Economic development assistance.....	188		188
Federal Housing Administration fund.....	96,000	50,123	45,877
GNMA, guarantees of mortgage-backed securities.....	144,000	53,071	90,929
Export-Import Bank.....	14,601	5,739	8,862

proposed for programs in which the authorizing legislation provides a clear entitlement to qualified applicants, such as farm price support loans, credit assistance to veterans, and guaranteed student loans. These programs are similar to those expenditure programs considered entitlements or relatively uncontrollable, and the levels of new credit are restricted solely by substantive law.

Second, direct loans that arise from payment of claims on defaulted guaranteed loans are exempt from appropriations act limitation. Payment of these default claims is mandatory, as in the FHA mortgage insurance and the guaranteed student loan program. While these disbursements for guaranteed loan claims are considered direct loans, they are not "new" direct loan obligations. The effective point of control is earlier, at the time of the original guaranteed loan commitment.

Third, loan limitations are unnecessary for programs where other types of limitations exert effective control. For example, the appropriation language for the P.L. 480 food assistance loan program (Title I) sets a limitation on the total program level, allowing for a portion of the cost of shipping the commodities financed to be paid for with program funds. The program limitation serves as an effective ceiling on new loans while accommodating other requirements of the authorizing legislation.

Direct Loans.—Direct loans are financed from a variety of sources, including appropriations, borrowing, and repayments of previous loans. Direct loan programs are designed to redirect economic resources to particular uses by providing credit on more favorable terms than would otherwise be available from private sources. A direct loan is best justified when the Federal objective could not be met with financing from private sources, even with a

Government guarantee. The objectives of a direct loan program, for example, may require financing at interest rates that are lower than those available from private lenders, or loan maturities that are longer than otherwise available. Direct loans are made to individuals, businesses, and State, local, and foreign governments.

Direct loan obligations in a given year do not result in an equal volume of new direct loan disbursements in the same year for two major reasons. First, there is often a lag between the time of obligation and the actual disbursement of the loan. For example, prospective borrowers may seek financing for a project when it is in the design stage, but the financing will not be needed until the next year or even the next several years. As a result, some agencies, such as the Export-Import Bank and the Rural Electrification Administration, disburse many loans 4 to 7 years or longer after the time of the direct loan obligation. Second, some prospective borrowers will never convert the direct loan obligations into borrowing because the projects for which financing had been sought are subsequently cancelled or because the time to draw down the funds has expired. Third, some direct loan obligations do not involve any cash disbursements. For example, an agency may sell property in its inventory by financing the purchase, such as the Department of Veterans Affairs and Farmers Home Administration do.

As shown in Table F-6, direct loan obligations are proposed to decline from \$27.2 billion in 1988 to \$12.3 billion in 1990. Overall, the agricultural and business sectors will receive 16 percent and 13 percent, respectively, of the 1990 credit budget. Table F-18 in the back of this special analysis presents data for Federal direct loan programs from 1988 through 1994.

Table F-6. SUMMARY OF DIRECT LOAN TRANSACTIONS

(In billions of dollars)

	Actual		Estimated					
	1987	1988	1989	1990	1991	1992	1993	1994
Obligations	29.8	27.2	16.9	12.3	12.8	11.8	10.8	9.5
Loan disbursements.....	35.2	33.7	25.9	23.1	22.0	19.3	16.3	14.1
Change in outstandings.....	-19.0	-13.4	-12.6	-9.9	-6.1	-5.1	-5.6	-6.1
Outstandings.....	234.2	222.0	209.3	199.5	193.3	188.2	182.7	176.6

The *Commodity Credit Corporation* (CCC) provides short-term nonrecourse loans to producers of agricultural commodities. The loans provide subsidized financing for production costs and set a minimum price for individual commodities at which farmers may turn their crop over to the Government rather than repay the loan. The demand for CCC price support loans, therefore, depends on the

market price of the crop compared to the price support loan rate. When market prices are below the price support loan rate, farmers borrow large amounts from the CCC, forfeiting the crop as repayment to the Government if market prices have not risen above the price support loan rate by the time the loan comes due.

Demand for CCC price support loans decreased from \$13.3 billion in 1988 to an estimated \$6.1 billion in 1989. The reduction in loan obligations is primarily due to the 1988 drought which resulted in lower production and higher commodity prices reducing the demand for price support loans. In 1990, commodity loan obligations are estimated to increase to \$8 billion. The increase is projected to result from a return to normal levels of production. Obligations for price support loans in 1990 are expected to remain below the 1988 level because of the administration's plan to set support prices closer to market clearing levels. The reduction of artificially high price supports should reduce production levels and the demand for the nonrecourse loans that finance production. The Food Security Act of 1985 gave the Secretary of Agriculture the discretion to set price support loan rates closer to market prices. This provision was intended to reduce the demands for Government price support loans.

The *Farmers Home Administration* (FmHA) makes loans for purchasing and operating farms, natural disaster losses, rural housing, and rural community and water and waste treatment facilities. In 1990, limitations on FmHA direct loan obligations are proposed to total \$1.0 billion, which is significantly below the 1988 total of \$3.9 billion. This reflects a proposed shift from subsidized direct loans to guarantees of private market rate loans in the agricultural credit and rural development insurance funds. The administration also proposes to replace most FmHA housing direct loan programs with housing assistance provided through a voucher program similar to the program now administered by the Department of Housing and Urban Development. Rural housing loans have proven to be a costly form of assistance. Housing vouchers would be targeted to very low income residents and would give them a wider range of housing choices and a portable subsidy.

The *Export-Import Bank* (Eximbank) provides direct loans to finance U.S. exporters in meeting competition supported by foreign official export credit agencies. The successful negotiations within the Organization for Economic Cooperation and Development to reduce export subsidies have reduced the demand for Eximbank credits in recent years. As a result, the administration proposes that Eximbank's direct loan program be terminated in 1990.

Rural Electrification Administration (REA) direct lending to rural electric cooperatives is proposed to be terminated in 1990. The administration proposes to increase the reliance of rural elec-

tric and telephone cooperatives on private financing through the use of partial REA guarantees of privately originated loans. The goals of the REA program have largely been accomplished and deeply subsidized direct lending to financially healthy borrowers is very costly to the taxpayer.

Starting in 1990, the administration proposes to effect this shift to private financing by making 90 percent guarantees of private loans to power supply borrowers instead of the 100 percent guaranteed REA loans disbursed by the Federal Financing Bank (FFB). In addition, direct loans to electric distribution and telephone borrowers previously made at 5 percent from the rural electrification and telephone revolving fund would be made by private lenders with a 70 percent REA guarantee. Also, the administration proposes to take the necessary steps to privatize the Rural Telephone Bank in 1996. This includes charging interest rates adequate to build reserves sufficient to repurchase Treasury-owned Class A stock of over \$530 million (that pays only a 2 percent annual dividend).

In addition, the administration encourages privatization by proposing that any borrower with outstanding REA guaranteed loans disbursed by the FFB have the opportunity to prepay them using an 80 percent REA guarantee and without paying the required prepayment premium. Similarly, the administration proposes to permit Rural Telephone Bank borrowers to prepay their loans with the usual prepayment penalty waived. Overall, the administration's proposed reforms would result in outlay savings of \$697 billion in 1990, while continuing to provide a comparable level of REA guarantees of private loans comparable with the direct lending programs in 1989.

Foreign military sales (FMS) financing provides funds to foreign governments and international organizations for the procurement of U.S. military equipment and services. Although the overall program increased from \$4.3 billion in 1989 to \$5.0 billion in 1990, the direct loan portion dropped from \$410 million in 1989 to zero in 1990. This reflects the consolidation of all military assistance in this account; the amounts requested in the military assistance account are for the cost of administering the military assistance program. All FMS financing in 1990 will be grants, thereby reducing the debt service problems of recipient countries.

Because of the proposal to use credit vouchers instead of direct loans, direct loan obligations for *elderly or handicapped housing* decrease from \$566 million in 1988 to \$32 million in 1990, which will be used to amend prior loan commitments only.

The *Small Business Administration (SBA)* provides direct loans to small businesses and to businesses and homeowners that suffer uninsured losses as a result of physical disasters. The 1990 budget proposes to rely on SBA's guaranteed loan programs to assist small

businesses for business credit needs. Therefore, the budget proposes to terminate new direct business lending in 1990. The budget also proposes to eliminate the disaster assistance lending program. Disaster insurance for businesses and homeowners is available on the private market.

The *Department of Veterans Affairs* (VA) offers direct loan financing with a minimal down payment, called a vendee loan, to creditworthy individuals purchasing properties that VA has acquired through the default of a guaranteed home loan. The vendee loan program is similar to real estate owned (REO) programs managed by many banks and lending institutions that acquire properties from foreclosed mortgages. In 1990, the amount of vendee loans is estimated to be \$949 million.

Loan Guarantees.—A guaranteed loan is an agreement by the Government to pay the principal and, in some cases, interest on a loan should the borrower default. The guarantee can cover all or part of the loan, and therefore transfers all or some of the risk of default from the lender to the Government. Guaranteed loans include insured loans, where the Government collects insurance premiums from lenders, and then pledges the use of the accumulated premiums to cover defaults.

When the Government guarantees 100 percent of the loan, the private loan is transformed into something approximating a Government direct loan financed by Government borrowing. Although the economic effects of such a loan are essentially the same as a direct Government loan, the guaranteed loan may not have all the attributes of a direct loan. This is because a private lender may negotiate different terms and conditions for the loan than would a Government agency.

The guaranteed loan will also not have all of the attributes of a U.S. Treasury security, since it will be less liquid and will involve higher transaction costs. The great volume of Treasury securities, their regular issuance in a range of maturities, and the specialized institutions and trading facilities that deal in those securities produce an efficient market that cannot be matched by the market for guaranteed loans. The Government guarantee, for example, may not be transferred from one lender to another as readily as a U.S. Treasury security may be traded. In addition, legal counsel may be required to determine the extent to which a lender is assured of repayment and under what circumstances. This requirement is a transaction cost not associated with a U.S. Treasury security. For these and other reasons, guaranteed loans bear coupon rates above the yields on otherwise comparable U.S. Treasury securities.

Loan guarantees, like direct loans, redirect economic resources by providing credit to borrowers at more favorable terms than

would otherwise be available in the private market, and therefore contain a subsidy. The degree to which the guarantee reallocates credit will depend on the degree of the subsidy. At one extreme, the potential transaction being financed may be considered so risky that no financing would be available without the guarantee. For example, it is unlikely that private lenders would make student loans available as widely as they are currently without Federal guarantees because of the inherent, and significant, uncertainty about the future income of many borrowers. In this case, the subsidy is quite large and should have a significant effect on the reallocation of credit. The degree of credit reallocation will also depend on the price elasticity of demand of the good being financed. A small change in the price (i.e., the subsidy) of the good being financed may result in a considerable change in the amount of good actually bought and sold. However, this special analysis does not estimate demand and supply elasticity effects.

At the other extreme, the guarantee may result in only a small subsidy and, other conditions being equal, may not significantly change the allocation of credit. Some beneficiaries of loan guarantee programs would have been able to secure the funds privately—without Government support—albeit at a higher cost. For example, guaranteed mortgage credit might be used to finance, at a lower cost, a house that would have been purchased in the absence of a Federal guarantee. In such a case, the borrower benefits from a small subsidy and the guarantee does not significantly alter the allocation of credit resources.

In both cases, although to different degrees, the guarantee reallocates credit toward federally selected uses, increasing the total volume of credit channeled into these uses. This leaves a smaller supply of credit available to those potential borrowers who do not receive Government assistance, and increases the interest rates on financing available to these borrowers.

Loan guarantees are used in a wide variety of programs. Loan guarantees may be made to individuals, to businesses, and to State, local, and foreign governments. The guaranteed loan commitment may be used for a loan made by a bank or other institutional lender or an investment security sold in the capital market. Guaranteed loans, for the purposes of the credit budget, do not include other contractual agreements, such as guarantees of private leases, contracts to make subsidy payments over extended periods, or debt service grants that the recipients may use as collateral for borrowing.

Data for guaranteed loans for 1987 through 1994 are summarized in Table F-7. As with direct loans, guaranteed loan commitments in a given year do not always result in new guaranteed loans in that year due to lags between the time of commitment and the

actual disbursement of the loan, and because some prospective borrowers will never convert the loan commitment into actual borrowing. Table F-19 in the back of this special analysis provides data for guaranteed loan programs for 1988 through 1994.

Table F-7. SUMMARY OF PRIMARY GUARANTEED LOAN TRANSACTIONS

(In billions of dollars)

	Actual		Estimated					
	1987	1988	1989	1990	1991	1992	1993	1994
Commitments.....	142.1	100.7	112.8	111.7	114.1	116.3	118.0	120.0
New guaranteed loans.....	151.7	96.4	95.5	95.3	97.9	100.5	102.2	104.0
Change in outstandings.....	60.4	40.3	36.7	32.5	29.9	31.9	30.6	29.8
Outstandings.....	507.0	550.0	586.6	619.1	649.0	680.9	711.6	741.4

Guaranteed loan commitments are estimated to increase from \$100.7 billion in 1988 to \$111.7 billion in 1990. The major programmatic changes are discussed below.

Guaranteed loan commitments in 1988 for the *Federal Housing Administration* (FHA) decreased by 37 percent from 1987. Commitments, which were \$80.0 billion in 1987, declined to \$50.1 billion in 1988, but are expected to rise to \$56.8 billion in 1989 and to \$59.0 billion in 1990. One source of budgetary concern over the past few years has been FHA's claims experience, which has depleted FHA fund reserves by \$1.1 billion. Annual claims are estimated to leap from \$2.9 billion in 1986 to \$6.6 billion in 1989. These higher claims, which have resulted primarily from the economic downturn in the Southwest, increased FHA outlays by \$1.7 billion from 1987 to 1988.

The *Department of Veterans Affairs* (VA) offers a mortgage guarantee that is similar in effect to the FHA mortgage insurance program, but does not require veterans to make downpayments on their housing purchases. Guaranteed loan commitments by VA in 1988 were \$18 billion and are expected to be \$14 billion in 1989. As with the FHA loans, VA loan activity is returning to pre-1988 levels; the 1988 levels rose due to low interest rates and refinancing. In 1990, new commitments are estimated to remain at about \$14 billion.

The *Commodity Credit Corporation* (CCC) provides loan guarantees for export sales that might not otherwise occur without Federal credit assistance. CCC guaranteed loan commitments for U.S. exports are estimated to rise from \$4.6 billion in 1988 to \$5.5 billion in 1989. The increase is a result of the Food Security Act of 1985 which established the CCC loan program level at \$5.5 billion in 1987. For 1990, the amount requested remains at \$5.5 billion reflecting continued strong demand for those loans.

The *guaranteed student loan program* (GSL) provides guarantees of education loans to graduate and undergraduate students and to parents of dependent students. Even though the cost of a student's education should ultimately be borne primarily by the student, the Government has always paid significant interest subsidies as well as virtually all the costs of borrower defaults on GSLs, which are expected to exceed \$1.8 billion in 1989. The administration is proposing to increase risk-sharing with lenders and State guarantee agencies and to pursue other reforms to reduce the incidence of default and reduce the cost of defaults that do occur.

The Export-Import Bank (Eximbank) provides guarantees to facilitate U.S. exports. Guaranteed loan commitments dropped from \$8.0 billion to \$5.7 billion between 1987 and 1988. In 1989, Eximbank estimates that commitments will be \$10.2 billion, as risk protection continues to be important to U.S. exporters. The proposed level in 1990 is \$10.4 billion. Within the \$10.4 billion ceiling, Eximbank offers long-term financial guarantees (\$1.8 billion), medium-term guarantees (\$0.5 billion) and short and medium-term export insurance (\$8.0 billion), which is provided by the Foreign Credit Insurance Association (FCIA). Eximbank is the sole owner of the FCIA and approves most of FCIA's policy decisions.

The *Rural Electrification Administration* (REA) reform proposal would make available a new program of 90 percent REA guarantees of private loans for power generation starting in 1990. Existing 100 percent REA guaranteed FFB direct loans would be phased out at the end of 1989. In addition, a new program of 70 percent REA guarantees of private loans would be available in 1990 to replace the existing 5 percent interest direct loans for telephone and electric distribution borrowers. Total guaranteed loans of \$1.4 billion are requested for REA programs in 1990, with an additional estimated \$500 million in 80 percent guarantees provided for refinancing FFB loans.

As a result of the growing debt service problems of many countries that had previously received *foreign military sales* (FMS) financing and as a partial offset to the reduction in military assistance since 1985, the 1990 FMS financing program contains grant funds only. This policy initiative means that countries that barely meet creditworthiness criteria will not be burdened with additional debt for the procurement of essential military equipment and services. This will not only reduce FMS debt collection problems, but will also increase the political benefit of the programs in many countries.

The *Maritime Administration* has the authority to provide guarantees for construction mortgage loans to build U.S.-flag vessels in the United States. New commitments totaling \$27 million were made in 1988. Consistent with prior budget proposals, the adminis-

tration is again proposing that this program be terminated starting in 1990. The proposed termination reflects the administration's position that the maritime industry should be encouraged to rely on the private credit market, without Federal intervention, as the source for capital.

The *Small Business Administration* (SBA) provides credit assistance to small businesses through a variety of guaranteed loan programs. Beginning in 1990, the budget proposes to reduce the amount of subsidy provided to borrowers by increasing guarantee fees and lowering levels of Federal contingent liability. The SBA share of the loan guarantee will be reduced. The budget proposes \$3.5 billion in new loan commitments accompanied by a total of \$2.9 billion in SBA guaranteed originations in 1990. This amount of new originations includes \$2.5 billion in guaranteed general business loans; \$332 million for development company loans; \$118 million for Small Business Investment Company (SBIC) obligations; and \$36 million in guarantee authority for Minority Enterprise Small Business Investment Companies.

About 90 percent of all single-family mortgages insured by FHA or VA are sold subsequently in the secondary mortgage market using the *Government National Mortgage Association* (GNMA) mortgage-backed securities program. This program provides guarantees for securities issued by private mortgage originators and backed by pools of FHA-insured and VA-guaranteed mortgages. The GNMA guarantees enhance the liquidity of trading these securities. GNMA's issuance of new securities is closely tied to the amount of FHA insurance and VA mortgage guarantees. Commitments for GNMA mortgage-backed securities dropped from \$140 billion in 1987 to \$53 billion in 1988. An increase to about \$63 billion is estimated for 1989 and \$66 billion for 1990.

The administration recently issued a notice of intent to deregulate the fee that issuers of GNMA mortgage-backed securities earn for servicing the FHA and VA mortgages underlying GNMA's securities. The servicing fee issuers currently earn is set by GNMA at 44 basis points per annum (44/100 of one percent) of the outstanding mortgage amount. This minimum fee was originally established to assure that lenders could profitably service the GNMA mortgage pools. However, the fee may be in excess of that needed to protect the Government's interest and may in fact lead to higher mortgage rates for borrowers. In addition to deregulating the servicing fee paid to securities' issuers, the administration is also proposing to increase the fee paid to the Government by those issuers. The new fee, which would become effective in FY 1991, would be increased from the current 6 basis points to 10 basis points in 1991 and to 15 basis points in 1992 and thereafter.

IV. GOVERNMENT-SPONSORED ENTERPRISES

The Federal Government influences the allocation of credit in many different ways: through direct loans; loan guarantees; credit vouchers; insurance for deposits in commercial banks, savings and loans, and mutual savings banks; and various other methods. One of the primary methods of influencing the allocation of credit has been through the creation and use of Government-sponsored enterprises (GSEs). GSEs typically act as financial intermediaries directing capital to particular sectors of the economy. Due to their perceived "special relationship" with the Federal Government, GSEs historically have been able to borrow in the credit markets at yields carrying only slight premiums above those of Treasury securities of comparable maturity. The special relationship has arisen both from the intangible nature of Government sponsorship and through direct benefits that have been available to most GSEs. Table F-8 lists some of the benefits that have historically been available to GSEs.

Table F-8. SOME BENEFITS ENJOYED BY GOVERNMENT-SPONSORED ENTERPRISES

Type of Benefit	FCS	FCSFAS	FAMC	FHLB	FHLMC	FICO	FNMA	SLMA	CCLIA
CHARACTERISTICS									
Ostensible ownership.....	Private	Federal & Private	Private	Private	Private	Federal & Private	Private	Private	Federal
Principal source of capital.....	Private	Federal & Private	Federal & Private	Private	Private	Federal & Private	Private	Federal & Private	Federal & Private
Who bears ultimate financial risk.....	Federal & Private	Federal	Federal & Private	Private	Private	Private	Federal & Private	Private	Federal & Private
Selection of top managers.....	Private	Private	Federal & Private	Federal & Private	Federal & Private	Federal & Private	Federal & Private	Federal & Private	Federal & Private
Control over budget/personnel.....	Board	Board	Board	Board	Federal	Board	Board	Board	Board
Subject to GAO audit.....	No	No	Yes	Yes	No	Yes	No ¹	No	No
Subject to Federal pay limits.....	No	No	No	No	No	n/a ²	No	No	No
Obtain financing through exercise of sovereign power.....	No	No	No	No	No	No	No	No	No
Subject to OMB apportionment.....	No	No	No	No	No	No	No	No	No
BENEFITS ENJOYED									
Use of credit at Treasury.....	Yes	Yes	Yes	Yes	Yes ³	No	Yes	Yes	No
Exemption of corporate earnings from Federal income tax.....	Yes ⁴	Yes	No	Yes	No	No	No	No	No
Exemption of interest income of investors from State and local income taxes.....	Yes	Yes	n/a ⁵	Yes	No	Yes	No	Yes	n/a ⁵
Eligibility for Federal Reserve open market purchases.....	Yes	n/a ⁵	n/a ⁵	Yes	Yes	n/a ⁵	Yes	Yes	n/a ⁵
Equal standing with Treasury debt as investments for most banks.....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a ⁵
Exemption from SEC registration and various State banking laws.....	Yes	Yes	No ⁶	Yes	Yes	Yes	Yes	Yes	n/a ⁵
Eligibility as collateral for public deposits.....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a ⁵

¹ Except for GNMA.

² No staff.

³ Indirect line of credit through the FHLBs.

⁴ Federal Land Banks and Farm Credit Banks.

⁵ Entity newly created.

⁶ Mortgage-backed securities may be exempt from State banking laws.

Four new entities created within the past 2 years have been designated as GSEs. This designation is subject to change as these entities are more closely examined, both as to their structure and as to their actual operations. Furthermore, legislation enacted in 1988 changed the authorizing statute for one of the new GSEs, the Farm Credit System Financial Assistance Corporation, sufficiently to require it to be recorded in the budget as of the date when the change will become effective. The budget proposes legislation to maintain the corporation in its present status as a GSE.

The financial transactions of GSEs are not included in either the unified or the credit budgets. However, since they were designed to further Government objectives and since most continue to enjoy special benefits not received by other privately owned financial intermediaries, their financial statements are shown, to the extent feasible, in Part IV of the Budget Appendix. Table F-9 summarizes the lending and borrowing of GSEs for 1988-1990; Table F-20 in the back of this analysis presents details of their activity. The new entities, however, in most cases have provided only a narrative description with limited or no financial information.

Table F-9. SUMMARY OF LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES

(In billions of dollars)

	Actual 1988	Estimate	
		1989	1990
Total net lending:			
Obligations	378.1	391.1	422.4
New transactions	377.3	374.7	405.7
Net change	82.5	53.3	64.8
Outstandings	666.1	719.5	784.3
Total borrowing:			
Net change	94.0	70.8	70.8
Outstandings	663.2	734.0	804.9

GSEs have traditionally operated in three major areas: (1) to assist farmers and associated rural borrowers to have better access to the credit markets, (2) to facilitate credit operations for the housing industry, and (3) to facilitate the financing of higher education. While the focus on these areas has not changed in the past few years, the contingent liability of the Federal Government has grown dramatically, due to the greater governmental involvement in the newly created GSEs.

Agricultural Assistance.—The Federal Farm Credit System (FCS) has traditionally been composed of four elements: the Farm Credit Administration, a Federal agency, and three separate but related lending institutions that constituted the FCS; Banks for Cooperatives, Federal Intermediate Credit Banks, and Federal Land Banks.

Prior to 1988, only the Farm Credit Administration, which is the regulatory arm of the System, was included in the unified budget. It is financed by user charges assessed on the banks that it regulates. The other three institutions were treated as GSEs in the budget. These three entities will be consolidated into two different kinds of financial intermediaries in the 1990 budget, each operating in twelve districts throughout the U.S.:

- The *Banks for Cooperatives*, which provide loans to farmer-owned marketing, supply, and service cooperatives and rural utilities; and
- The *Farm Credit Banks*, formed from the merger in each district of the Federal Intermediate Credit Banks, which provide short and intermediate term farm loans, with the Federal Land Banks, which provide long-term loans secured by real estate. These mergers were required by the Agricultural Credit Act of 1987.

Each System bank operates through regional banks. The banks obtain funds through the sale of securities to investors in the private credit markets. This borrowing is aggregated by the Farm Credit System Funding Corporation, which acts as a conduit through which the System banks issue FCS debt to the credit markets. These securities are "joint and several," meaning that default by one System bank requires all others to honor the obligations of the security. As of September 30, 1988, there were \$53.6 billion in outstanding consolidated, systemwide notes and bonds.

In recent years the depressed condition of farming in many areas led to massive losses being incurred by the FCS—\$1.9 billion in calendar year 1986, \$17 million in calendar year 1987, and \$434 million in the first nine months of 1988. However, the System can still borrow at rates substantially lower than those that would have been charged to other privately owned intermediaries with similar low net worth.

Legislation enacted in 1985 attempted to remedy the unequal erosion in asset quality experienced by some of the System banks due to the persistent agricultural crisis. The Act established the Farm Credit System Capital Corporation, a GSE to provide assistance to troubled FCS banks. The Corporation was to provide technical assistance as well as administer a controversial asset sharing plan, whereby available surplus capital and reserves were to be transferred from strong banks to insolvent or nearly insolvent banks to improve their balance sheets. Mandatory assessments were imposed on System Banks to fund the Corporation's activities. However, the functioning of the Capital Corporation was significantly impaired due to lawsuits challenging the asset sharing requirement.

As a result of the inadequacies of the 1985 legislation as well as continuing problems plaguing the farm sector, the Farm Credit System formally submitted a request to Congress for financial assistance on May 6, 1987. The request was spurred by the continuing decline in System surplus funds, perceived erosion of borrower confidence, and widening spreads on System obligations over comparable Treasury issues.

As a remedy, on January 6, 1988, the President signed a law requiring sweeping changes in the System that was envisioned to provide a long-term solution to the System's troubled financial condition. The charter of the Farm Credit System Capital Corporation was revoked. A new federal instrumentality, the Farm Credit System Assistance Board, was chartered to assume some of the Capital Corporation's duties, chiefly to assist in guiding FCS institutions to economic viability so that they could continue to provide credit. The Board is charged with carrying out a program to provide assistance to, and protect the stock of borrowers of, the institutions of the Farm Credit System. The Act created two additional GSEs:

- *The Farm Credit System Financial Assistance Corporation (FAC)*, was created to provide the financing mechanism through which the System can receive needed capital. Obligations issued by FAC will carry the guarantee of the Federal Government and Treasury will pay all or part of the interest cost on most of the Corporation's debt for the next ten years.
- *The Federal Agricultural Mortgage Corporation (FAMC)*, was created to guarantee the timely repayment of principal and interest on pools, or obligations backed by pools, of qualified loans.

In 1988, the Farm Credit System Financial Assistance Corporation began to issue U.S. guaranteed 15-year bonds. It is estimated that from \$2 to \$3 billion of the \$4 billion in bonds authorized will be issued before FAC authority terminates at the end of 1992.

The U.S. Treasury is, with one exception, obligated to pay the entire interest cost of the FAC bonds in the first five years after issuance and half of the interest cost in the second five years. The System is responsible for all interest costs on bonds issued for "capital preservation agreements" as well as the full repayment of principal for all bonds. More specifically, at maturity, the banks receiving non-capital preservation assistance will be required to repay principal by repurchasing preferred stock from FAC. FAC debt issued for capital preservation and other FAC and Assistance Board expenses will be repaid by all system institutions on the basis of a formula using performing loan volume per bank. The Farm Credit System is required to repay the U.S. Treasury for all FAC associated federal outlays when this entity is financially able

to do so. In addition, System institutions were required to make a one-time Assistance Corporation stock purchase of \$177 million to establish a loss reserve against any late payment or default on FAC debt and to ensure private ownership of the FAC.

However, legislation enacted in 1988 changed this risk capital contribution from system institutions sufficiently that it would cause FAC's obligations, and resulting outlays, to be scored on-budget beginning in 1990. The administration will seek legislation to repeal this provision and maintain FAC in its present status as a GSE.

The purpose of the Federal Agriculture Mortgage Corporation (FAMC), which some have dubbed Farmer Mac, is to establish a secondary market for farm mortgages and certain rural housing loans similar to the role created for the Government National Mortgage Association in the late 1960s. In 1988, FAMC sold stock to banks, insurance companies, System institutions and other financing entities to raise over \$20 million in initial capital. Voting stockholders will elect a board of directors early in calendar year 1989 and FAMC is expected to begin issuing guarantees of qualified pools in the summer or fall of 1989. The Corporation has a line of credit of \$1.5 billion from the U.S. Treasury should it become necessary to honor guarantee claims. Ongoing operations of FAMC will be financed through fees charged to participating institutions for its guarantees and through occasional additional stock offerings. The loan pools guaranteed by FAMC will be originated largely by Farm Credit System banks, commercial banks, thrifts, and insurance companies.

The Act also created the Farm Credit System Insurance Corporation. It was initially considered to be a GSE but, upon further examination, was classified as a Federal agency at its inception. The Insurance Corporation will, starting in January 1989, insure all bonds, notes, debentures, and other obligations issued by System institutions excluding those issued by the Financial Assistance Corporation. It will be capitalized initially in January 1989 with funds from the on-budget Farm Credit Revolving Fund and beginning in January 1990 through annual insurance premiums charged System institutions. The annual premiums are based on the risk and volume of their outstanding loans. Those banks wishing to maintain their Federal charter must purchase insurance from the Corporation. Insurance fund balances are also authorized to be used in the case of System default on FAC principal or interest payments before the Federal guarantee is triggered.

Restructuring of the System's banks was also mandated by the Act. The Federal Land Banks (FLB) and Federal Intermediate Credit Banks in each district are required to merge (except for the Jackson District where the FLB is in receivership); ten of the

district Banks for Cooperatives recently voted to merge into one National Bank for Cooperatives; and the 12 districts are required to vote on whether to merge into six. Additionally, the Act improves borrowers' rights and expands procedures for restructuring loans.

Housing Assistance.—The major elements of the Government's support to the housing industry include the on-budget, federally owned Federal Savings and Loan Insurance Corporation (FSLIC) and two GSEs that have been providing assistance to the housing sector for many years: the Federal Home Loan Mortgage Corporation and the Federal National Mortgage Association. In 1985, the Federal Asset Disposition Association was chartered to help liquidate the property troubled and failed thrift institutions had acquired through defaults. A fourth GSE, the Financing Corporation, was created in 1987 to provide assistance in funding the operations of FSLIC. The Federal Home Loan Bank Board (FHLBB), an independent agency in the executive branch, has served primarily as the regulator of the system.

Federal Home Loan Bank System.—The Federal Home Loan Bank System was established in 1932 as the first permanent Government-sponsored intermediary for housing. Its original charge was to supervise federally chartered savings and loan associations and to promote home ownership through the extension of credit to savings and other home financing institutions. The Bank Board and the 12 regional Federal Home Loan Banks (FHL Banks) comprised the original system.

The primary purpose of the Federal Home Loan Banks is to ensure the liquidity of member savings and loans and mutual savings banks, which historically have lent primarily to the housing market. The FHL Banks accomplish this infusion of liquidity by providing advances to help individual institutions meet short term liquidity needs and by providing longer term loans to enable institutions to expand long-term lending. The FHL Banks provide member thrifts with access to national capital markets and eliminate regional barriers to the flow of mortgage funds. Advances are an attractive source of funds for members largely because they are the least expensive source of funds available after savings deposits. Each of the 12 FHL Banks is regulated by the FHLBB but establishes its own policies within FHLBB guidelines. FHL Banks finance their advances primarily by selling debt securities in the money and capital markets and, to a much lesser extent, by accepting both demand and time deposits from member institutions and through the issuance of additional capital stock. As of September 30, 1988, \$126.7 billion of these debt securities were outstanding.

Federal insurance for the deposits at the member savings and loans and mutual savings banks is provided by FSLIC which is

overseen by the FHLBB and is authorized to borrow from the U.S. Treasury should it become necessary. An explanation and examination of FSLIC is detailed in the Contingent Liabilities and Federal Deposit Insurance section of this analysis. Due to persistent losses experienced by FSLIC-insured institutions and the necessary intervention by FSLIC to provide funds to merge institutions or to liquidate them, FSLIC's liabilities (including contingent liability) exceeded its assets at the end of calendar years 1986 and 1987. In 1988, expenses exceeded revenues by \$22.3 billion.

The FSLIC Recapitalization Act, which was passed in 1987, created a new entity to provide a financing mechanism for FSLIC. The Financing Corporation (FICO) was created to assist in raising capital in the credit markets. FICO has the authority to borrow up to \$10.8 billion through the issuance of debt obligations to the public and in turn to purchase stock in FSLIC. The repayment of principal on FICO debt is guaranteed through the use of a segregated account within the corporation which invests funds in non-interest bearing Treasury securities (zero-coupon bonds) whose face value at maturity is equal to the face value of the FICO bonds at maturity. The funds to buy these zero-coupon bonds are provided by the FHL Banks through a mandatory FICO stock purchase plan. Interest on the FICO debt will be paid by an assessment-sharing plan with FSLIC and, if necessary, a special assessment on FSLIC-insured institutions. In calendar year 1988, FICO issued \$4.6 billion of these bonds. The authorizing statute specifically states that the bonds are *not* direct obligations of the United States Government. FICO is controlled and staffed by the FHLBB and the FHL Banks. All administrative expenses are paid by the FHL Banks.

Federal Home Loan Mortgage Corporation (FHLMC, or Freddie Mac).—Freddie Mac was created in 1970 by Congress to provide mortgage lenders with an organized national secondary market in which to sell conventional mortgages and to obtain additional funds to meet new demands for mortgages. Freddie Mac serves as a conduit to facilitate the flow of investment dollars from capital market investors to mortgage lenders. Freddie Mac is a publicly chartered corporation whose preferred stock is owned by savings institutions across the Nation. Typically, Freddie Mac purchases mortgages originating from mortgage bankers, savings institutions, commercial banks, and other primary lenders. These institutions sell mortgages to enhance the liquidity of their assets.

Freddie Mac finances most of its purchases of mortgage loans by pooling the mortgages together and issuing pass-through certificates backed by these loans. It guarantees the timely repayment of interest at the certificate rate and the ultimate repayment of principal on the mortgages. By issuing pass-through certificates, the ownership of the underlying mortgage pool is transferred to a

trustee, thereby removing the loans from Freddie Mac's balance sheet. Thus, generally accepted accounting principles for private businesses greatly understate Freddie Mac's participation in the secondary market.

Federal National Mortgage Association (FNMA, or Fannie Mae).—Fannie Mae was established by Congress in 1938 to provide supplementary assistance to the secondary market for home mortgages by supplying a degree of liquidity for mortgage investment. In 1968, it became a privately owned corporation, and its stock is now fully transferable and is listed on major stock exchanges.

Fannie Mae performs functions similar to Freddie Mac, purchasing mortgages from originators. These mortgages are then either packaged, guaranteed by Fannie Mae, and sold to investors; or, unlike Freddie Mac, kept by Fannie Mae in its portfolio for investment purposes. Because Fannie Mae finances the purchases of mortgages by issuing its own debt, Fannie Mae's profitability is much more sensitive to movements in interest rates than is Freddie Mac's. In recent years, the company has attempted to decrease its sensitivity to interest rate fluctuations by using various methods, including matching more closely the duration of the securities it holds in portfolio with the duration of its debt issues; increasing fee income; increasing the issuance of its guaranteed mortgage-backed securities; and repurchasing some high coupon debt.

Fannie Mae, Freddie Mac, and the Government National Mortgage Association (Ginnie Mae), an on-budget Federal agency that guarantees federally insured or guaranteed mortgages, have long dominated the secondary market for mortgages, particularly the mortgage-backed securities portion of the market. Recently, however, totally private firms have begun to issue mortgage-backed securities, in competition with Fannie Mae and Freddie Mac. Privatization of Fannie Mae and Freddie Mac would eliminate major hurdles that private mortgage-backed securities issuers face in playing a significant role in the Nation's housing credit markets. To mitigate the effects of this unfair competition, the administration is proposing legislation to impose user fees on FNMA and FHLMC, and to increase the fees paid to GNMA by issuers of mortgage-backed securities. The fees would be the same for both FNMA and FHLMC and would be phased in over three years. Beginning in 1990, new debt issued by the agencies to purchase mortgages would be charged 10 basis points, rising to 20 basis points in 1991 and to 30 basis points in 1992. New mortgage-backed securities issued would be assessed a fee of 5 basis points in 1990, increasing to 10 basis points in 1991 and to 15 basis points in 1992.

Educational Assistance.—The Student Loan Marketing Association, created in 1972, provides the major secondary market for student loans. In 1987, the College Construction Loan Insurance

Association was created to provide insurance for facilities loans to postsecondary institutions.

Student Loan Marketing Association (SLMA or Sallie Mae).—Sallie Mae was created to expand the amount of funds available for insured student loans. It does so by providing liquidity to lenders, which include savings and loan associations, commercial banks, mutual savings banks, educational institutions, and State and non-profit agencies.

One method that Sallie Mae uses to provide liquidity is the operation of a secondary market for student loans through its purchase of existing insured student loans from lenders. Another method is through the provision of “warehousing” advances—Sallie Mae loans to lenders that are secured by student loans or certain types of obligations guaranteed by the Government. In such cases, the lenders continue to hold title to the loans and pay Sallie Mae interest on the funds borrowed. Advances are also available to State agencies making student loans as a taxable source of funds for their operations.

Sallie Mae borrowing was carried out entirely through the Federal Financing Bank (FFB), an arm of the U.S. Treasury, from May 1974 until January 1982; since then, all of Sallie Mae’s new borrowings have been in the private credit markets. It will borrow an estimated \$4.1 billion in 1989 and \$4.5 billion in 1990. Sallie Mae is able to borrow at rates only slightly higher than Treasury bills, and virtually all of the student loans that it holds as assets are 100 percent federally insured. Since GSL loans are guaranteed to yield the holder of the loan 325 basis points over 13- or 52-week Treasury bills, depending on the particular GSL component, Sallie Mae has maintained a profitable interest rate spread on its student loan portfolio even after its expenses in servicing student loans are taken into account. Sallie Mae’s profit margins on its warehousing advances, however, are considerably lower.

The continued profitability of Sallie Mae’s operations ought to attract competitors to Sallie Mae’s market and eventually drive down the yield associated with guaranteed student loans. However, such competition has not developed on a national basis. Like Fannie Mae and Freddie Mac in the secondary mortgage market, Sallie Mae’s dominance of the secondary market for guaranteed student loans can apparently be attributed partly to the low-cost source of funds it enjoys as a GSE and, more importantly, to significant economies of scale.

College Construction Loan Insurance Association (CCLIA or Connie Lee).—Connie Lee was authorized by Public Law 99-498 and incorporated in February 1987. It was organized as a private, for-profit insurance corporation to guarantee and insure loans and bonds made for college construction and renovation. The authoriz-

ing statute explicitly states that "no obligation which is insured, guaranteed, or otherwise backed by the corporation, shall be deemed to be an obligation which is guaranteed by the full faith and credit of the United States." In order to provide the initial capitalization, the Secretary of Education, the Student Loan Marketing Association, and other investors are authorized to purchase stock in Connie Lee. The Secretary of Education purchased \$19 million in stock using funds appropriated for this purpose in 1988. Sallie Mae purchased \$2 million of Connie Lee's stock in 1987.

The Board of Directors currently consists of eleven members, four of whom are appointed by the Federal Government, three by Sallie Mae, and the rest by the voting stockholders. The statute authorizes the Secretary of Education to sell the Department's stock in Connie Lee after five years, and requires the Secretary to offer the stock to Sallie Mae prior to offering it to any other party. If the Federal Government sells its stock in Connie Lee and if Sallie Mae owns more than 50 percent of the voting common stock, the entire eleven members would be elected by the voting stockholders.

V. CONTINGENT LIABILITIES AND FEDERAL DEPOSIT INSURANCE

Contingent Liabilities.—The Federal Government provides guarantees and insurance against several types of risk for many sectors of the economy. If a given situation occurs, such as borrower default or natural disaster, the Government assumes a liability and makes payment to the insured party. However, if the specified situation does not occur, the Government is not liable for any loss.

Table F-10 shows the current contingent liability of the Federal Government. Unlike an annual corporate financial statement, the data presented in the table do not represent the Government's expected loss contingency for 1988 alone, but rather the overall contingent liability or exposure of the Government resulting from all potential insurance claims and guaranteed loan defaults. As can be seen in the table, the Government bears risk from a variety of sources, including deposit insurance, loan guarantee programs, foreign political risk, flood and crop insurance, and pension insurance.

The credit budget encompasses all loan guarantee programs, but only a small part of the transactions of Federal deposit insurance programs, and only the lending activity of the Pension Benefit Guaranty Corporation and Overseas Private Investment Corporation. Table F-10 also shows these and other programs that expose the Government to significant risk that are outside the scope of the credit budget; furthermore, there are additional, but smaller insurance programs not in the table that increase the Federal contingent liability.

Table F-10. CONTINGENT LIABILITY OF THE FEDERAL GOVERNMENT

(In billions of dollars)

	Actual	
	1987	1988
Government-sponsored enterprises:		
Farm Credit System Financial Assistance Corporation ¹	NA	0.3
Deposit Insurance:		
Federal Deposit Insurance Corporation	1,605.7	1,680.8
Federal Savings and Loan Insurance Corporation	836.0	893.0
National Credit Union Administration.....	152.9	157.0
Subtotal, deposit insurance.....	2,594.6	2,730.8
Other:		
Loan guarantee programs ²	816.5	869.8
National flood insurance.....	159.0	169.0
Overseas Private Investment Corporation insurance program	9.4	8.4
Federal Crop insurance.....	6.1	6.9
Pension Benefit Guaranty Corporation	3.8	7.0
Subtotal, other.....	994.8	1,061.1
Total, contingent liabilities	3,589.4	3,791.9

¹ Newly created GSE² Gross basis.

The Federal Government, it can be argued, has additional contingent liabilities as a result of an implicit Federal guarantee of loans made by off-budget Government-sponsored enterprises (see section on GSEs). GSE loans outstanding, which increased from \$71 billion in 1975 to \$666 billion in 1988, are projected to increase to \$784 billion in 1990. However, because the Government does not offer an explicit guarantee of GSE loans (except for the Financial Assistance Corporation), these contingent liabilities can be considered "moral" rather than legal obligations of the Government.

Deposit Insurance.—Federal deposit insurance programs account for the largest portion of the Government's contingent liability. The Federal Government insures depositors through the Federal Deposit Insurance Corporation (FDIC), the Federal Savings and Loan Insurance Corporation (FSLIC), and the National Credit Union Administration (NCUA). FDIC and FSLIC are currently experiencing varying degrees of financial distress as a result of recent bank and thrift failures. Consequently, ensuring the solvency of deposit insurance programs, particularly FSLIC, has become a major economic priority.

Congress first introduced Federal deposit insurance as part of the Banking Act of 1933, which sought to stabilize the nation's financial and monetary system by separating the securities and commercial banking industries and by providing protection for bank depositors through the FDIC. In the event that an insured bank fails, the FDIC promises to repay its depositors' losses up to a maximum

of \$100,000 per account. The FDIC relies on its reserve fund and on its \$3 billion credit line at the U.S. Treasury to fulfill its guarantees. In return for this insurance coverage, each insured bank pays the FDIC a fixed-rate premium. By the end of 1988, 98 percent of all banks were insured by FDIC, while insured deposits accounted for approximately 75 percent of total bank deposit balances in the U.S.

FSLIC provides deposit insurance for Federal savings and loan associations, Federal mutual savings banks, and certain other State-chartered institutions of the savings and loan type. FSLIC provides deposit insurance up to \$100,000 per account and operates in a similar way to FDIC: it uses insurance premiums collected from thrifts, other income, and statutory borrowing authority from both the Treasury (\$750 million) and the Federal Home Loan Banks to protect federally insured depositors by liquidating or otherwise resolving financial problems of insolvent thrifts. Government-insured deposits currently constitute 65 percent of all thrift liabilities and 87 percent of all deposits.

Federal deposit insurance programs can pursue three main options in order to protect depositors at insolvent financial institutions. They can: (1) liquidate the institution and pay insured depositors directly; (2) merge the troubled institution with a healthy institution, usually providing financial assistance to the acquiring partner (to compensate them for taking over "bad assets"); or (3) provide financial assistance directly to the troubled institution (in cases where the institution is considered vital to providing adequate financial service to the community). From the depositors' standpoint, a merger is clearly preferred to a deposit payoff because all funds, including uninsured deposits, receive the same protection. However, the FDIC and other deposit insurers are bound by law to select an option on the basis of minimum expected cost or risk to the deposit insurance fund.

The Federal deposit insurance system suffers from a number of structural weaknesses. Fixed-rate premiums are of particular concern to many industry analysts and policy officials because, as long as the public believes in the insurers' ability to make payments, deposit costs are the same no matter how risky the asset portfolio. Private insurance companies, by contrast, charge variable-rate premiums which vary according to the risk of the activity being under-written. Fixed-rate premiums create a private incentive to bear high levels of risk because (1) riskier assets offer higher expected returns and (2) fixed-rate premiums reduce the increase in deposit costs that would normally accompany greater bank portfolio risk. Consequently, many banks and S&L's attempt to maximize expected profits by assuming high interest-rate and credit risk and by increasing their leverage.

In addition, deposit insurance programs have not in the past assessed and priced the risk associated with the off-balance-sheet activities (OBSAs) of financial institutions. OBSAs include standby letters of credit, foreign exchange transactions, asset sales with recourse, and interest-rate swaps. Because until recently regulators have not required banks to set aside capital against these activities, many banks have been rapidly increasing their involvement in OBSAs and have not charged sufficiently high fees to compensate for their contingent liabilities. In turn, FDIC's exposure to potential losses from banks heavily engaged in OBSAs has increased.

FSLIC in Crisis.—Since 1980, the thrift industry has experienced a series of shocks, causing large numbers of thrift failures that have overwhelmed the FSLIC insurance fund. Initially, interest rate problems were the predominant cause of thrift failures: a combination of surging interest rates and the removal of regulatory controls on deposit interest rates exposed the vulnerability of an industry that funded long-term fixed-rate mortgages with short-term deposits. Since the early 1980s, the recession in the agricultural sector, the deterioration of energy state economies, mismanagement, fraud, and credit risk have replaced excessive interest rate risk as leading causes of thrift failures. While the majority of thrifts remain profitable and viable, the severity of the thrift crisis and FSLIC's vulnerability are underscored by the following:

- In the first half of 1988, the amount by which the liabilities of insolvent thrifts exceeded the book value of their tangible assets, increased from \$22.4 billion to \$30.8 billion.
- Estimates of the potential cost to FSLIC of dealing with the insolvent thrifts have increased dramatically, with both FSLIC and GAO doubling their case resolution estimates in recent months.
- The aggregate ratio of capital to assets in the thrift industry is 3 percent, well below the 6 percent capitalization of FDIC-insured commercial banks.
- Because of FSLIC's limited financial resources, the number of insolvent thrifts has remained well above 400 since 1984.

In 1987, the Financing Corporation (FICO) was established by the Competitive Equality Banking Act to help recapitalize FSLIC. FICO is an instrument of the Federal Home Loan Bank Board. The \$10.8 billion recapitalization passed in August 1987 allowed the Bank board to announce in February 1988 its plan to consolidate and sell over 100 troubled Texas thrifts, as well as to set a goal of 75 other closures per year through 1992.

Moreover, the 1990 budget proposes that FSLIC spend \$16 billion in 1989 and \$9 billion in 1990 (\$8.7 billion and \$2.1 billion, respectively, in excess of receipts to the FSLIC) to address the most serious thrift institution problems. The Secretary of the Treasury

has been directed to develop a comprehensive plan to resolve the savings industry's problems, and reform the financial institution regulatory structure and deposit insurance system to prevent a reoccurrence of these problems. The Treasury is expected to submit its proposals to the new President shortly.

FDIC Insurance Reserves Decline.—In calendar year 1988, the FDIC insurance fund experienced its first operating loss ever, reducing reserves. Over 200 banks failed or were assisted using fund resources. However, in 1988, the number of banks on the insurer's problem list—an indicator of future insurance losses—continued to decline from its 1987 peak.

U.S. banks recorded healthy profits in 1988, after a year of extraordinary losses. Nevertheless, concerns remain. Increased levels of nonperforming bank assets in 1988 represent a potential future danger sign. In addition, the FDIC has become increasingly concerned as banks and other institutions appear to be increasing their concentration in high-yield, high risk ("junk") bonds and highly leveraged loans used to pay for risky corporate restructurings, particularly leveraged buyouts. In a leveraged buyout, managers of a public company borrow money to buy out the stockholders, using the company's assets for collateral, with the intention of paying off the debt with future profits. According to L. William Seidman, chairman of the FDIC, banks have already invested approximately \$150 billion in leveraged buyout loans, and nearly 10 percent of money-center banks' new business loans are for buyouts. The concern is that if interest rates rise or if an economic downturn occurs, many highly leveraged businesses may default on their loans, thereby saddling the banks that financed them with losses.

On the other hand, the financing of highly leveraged transactions is a legitimate and profitable banking activity as long as a bank's board of directors and management follow prudent banking principles to guard against unnecessary credit and legal risks. Should a leveraged buy-out end in bankruptcy, a bank is typically secured in two ways: it has a claim on the company's assets and as a senior debtor, it would be paid first from any available funds.

VI. CHANGES IN THE QUANTITY AND PRICE OF FEDERAL CREDIT

This section discusses some of the trends and policy initiatives in Federal credit activity that cut across programs. After a brief introduction to administration credit initiatives, this section examines the quantity of new Federal and federally assisted credit, including that of Government-sponsored enterprises (GSEs), and concludes with a brief discussion of issues concerning the price of Federal credit.

The major trend in Federal credit activity relates to the administration's success in cutting, and in some instances reversing, the rate of growth in new direct loans. The administration has had less success, however, in reducing new loan guarantees. The reduction in the rate of growth in Federal credit activity results from measures taken by the administration to reduce Federal intervention in domestic credit markets. Reduced intervention has been accomplished through:

- cuts in the volume of new credit authority;
- specific credit program eliminations or drastic reductions; and
- increases in interest rates, loan guarantee fees, loan origination fees, and delinquency fees.

In addition, the administration has worked to improve the management of existing credit programs. By implementing modern business practices, the Government seeks to extend loans more prudently, service accounts more effectively, and collect payments more aggressively and in a more timely fashion. The goal of improved credit management is advanced by loan asset sales and the privatization of collection activities. The policies related to the better management of Federal credit programs are detailed in OMB Circular A-70, "Policies and Guidelines for Federal Credit Programs," and OMB Circular A-29, "Managing Federal Credit Programs."

The Office of Management and Budget (OMB) reissued Circular No. A-70, "Policies and Guidelines for Federal Credit Programs," on August 24, 1984. The circular places two sets of requirements on agencies. The first is to provide information on the costs and benefits of Federal credit programs. This includes estimates of the alternative credit available from relevant private financial institutions, Federal subsidies, and net default costs. The second requirement is that new legislation or policies for credit programs be consistent with sound credit policies set out in the circular. If current legislation does not conform to those policies, agencies are generally required to prepare proposals for recommendation to the Congress to change the legislation so the programs will conform to standards enunciated in Circular A-70.

A Second OMB Circular, No. A-129, "Managing Federal Credit Programs," expands on many of A-70's principles. This circular, which is intended to be a comprehensive guide on servicing and collecting all Government receivables, including those arising from direct and guaranteed loans, grants and contracts, was recently revised. The changes made to the circular to improve credit administration include:

- More definitive requirements for loan documentation that are comparable to private sector practices;

- A requirement for agencies to evaluate options of cross-servicing and contracting-out rather than continue to operate in-house systems;
- Explicit standards of systems supporting account servicing activities.

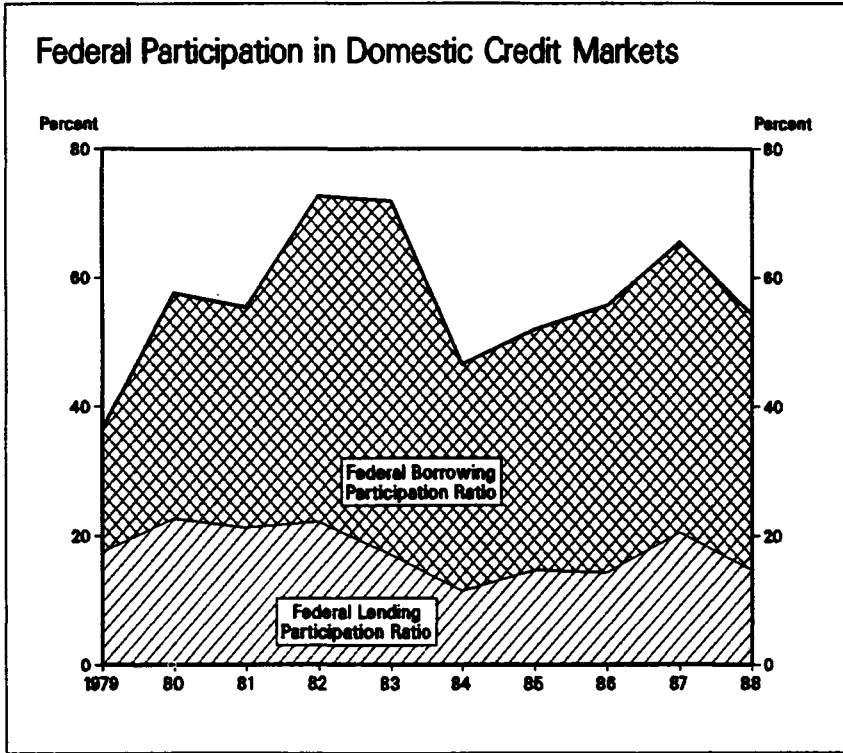
In 1989, a major effort will be undertaken to evaluate agency compliance with these and other requirements of A-129. Agencies not in compliance will be directed to undertake appropriate corrective action.

Changes in the Quantity.—Changes in the quantity of credit activity in the economy are measured through the Federal Reserve Board's flow-of-funds accounts. Flow-of-funds accounts measure total net lending and borrowing between various sectors of the U.S. economy. Accordingly, comparing net Federal and federally assisted lending to total net lending (to non-financial sectors) in the U.S. economy provides a means for quantifying the amount of net lending directly influenced by Federal programs. The flow-of-funds accounts allow a comparison of changes in the degree of Federal influence over time.

The accompanying chart summarizes these relationships during the last decade. Federal and federally assisted lending in a given year is the sum of direct, guaranteed and GSE loans outstanding at the beginning of the year minus the sum outstanding at the end of the year. The net amount of Federal and federally assisted lending was \$109.4 billion in 1988. Total net funds loaned in credit markets to non-financial sectors was \$745.5 billion in 1988. The participation ratio of Federal and federally assisted lending to total lending, therefore, was 14.7 percent in 1988. This is below the peak for this decade of 22.7 percent in 1980.

These ratios should be used with caution for two reasons. First, and most importantly, the participation ratios measure volume and therefore do not indicate the full extent of Federal influence in allocating credit to favored borrowers. That influence is reflected in a more meaningful way by the degree of subsidy. A loan guarantee with a small degree of subsidy does not allocate capital to the same degree as a direct loan with a high degree of subsidy. Yet, the lending participation ratios do not distinguish between a dollar of thinly subsidized loans and a dollar of heavily subsidized loans; they weigh both dollars equally.

Second, the participation ratios are shown on an aggregate basis for the entire economy and so do not reveal the Federal influence on borrowing by particular sectors, such as households, corporate businesses, or farms. This means that some sectors may be more affected by changes in Federal credit program levels than others, even when the overall lending participation ratio remains the same.



The Federal Government not only lends to various sectors of the economy, but it also borrows. The scope and details of Federal borrowing are discussed in Special Analysis E ("Borrowing and Debt"). The net amount of Federal and federally assisted borrowing in 1988 was \$295.9 billion. The borrowing participation ratio, therefore, was 39.7 percent in 1988. As shown in the accompanying chart, the borrowing participation ratio is more volatile than the lending participation ratio, ranging from 19.1 percent to 54.9 percent of total borrowing between 1979 and 1988. The volatility is due primarily to swings in the budget deficit. Again, a cautionary note is in order. The full impact of Federal borrowing on the U.S. economy and the credit markets depends on competing demands from other borrowing sectors, as well as changes in the supply of credit available. Table F-22 at the back of this analysis provides additional details on participation ratios.

Table F-11 summarizes outstanding Federal and federally assisted loans from 1987 to 1990. Total direct loans outstanding at the end of 1988 were \$222 billion and total guaranteed loans outstanding were \$550 billion. In 1988, Federal and federally assisted loans

outstanding increased by 9 percent over 1987. Increases of nearly 5 percent in 1989 and and 6 percent 1990 are estimated.

Table F-11. SUMMARY OF OUTSTANDING FEDERAL AND FEDERALLY ASSISTED CREDIT

(In billions of dollars)

	Actual		Estimates	
	1987	1988	1989	1990
Direct loans	234.2	222.0	209.3	199.5
Primary guaranteed loans	507.0	550.0	586.6	619.1
Loans by Government-sponsored enterprises	581.1	666.1	719.5	784.3
Total, Federal and federally assisted loans	1,322.3	1,438.1	1,515.4	1,603.0
Federal debt held by the public	1,888.1	2,050.2	2,193.8	2,285.0
Primary guaranteed debt (same as guaranteed loans above)	507.0	550.0	586.6	619.1
Debt of Government-sponsored enterprises	569.2	663.2	734.0	804.9
Total, Federal and federally assisted debt	2,964.3	3,263.4	3,514.4	3,709.1

Changes in the Price.—As part of the administration goal of reducing Federal intervention in credit markets, interest rates and fees have been increased where possible and further increases are proposed for 1990. For example, in 1990, the administration proposes to increase origination fees on loans guaranteed by the Department of Veterans Affairs, the Commodity Credit Corporation, Farmers Home Administration, Rural Electrification Administration, and Small Business Administration. Interest rates and guarantee fees typically do not cover all the costs to the Federal Government of many credit programs. These costs include default risks for both direct and guaranteed loans, as well as servicing and administrative costs.

VII. FEDERAL CREDIT SUBSIDIES

Federal credit programs provide more favorable terms than borrowers could otherwise obtain in the private market, and thus result in a subsidy to the borrower. For direct loans, a subsidy results when one or all of the following terms of Federal credit are in place: interest rates below commercial levels; longer maturities than fully private loans; deferral of interest; allowance of grace periods; waiver or reduction of loan fees; higher loan amount in relation to the value of the underlying enterprise than a fully private loan; and availability of funds to borrowers for purposes for which the private sector would not lend—at virtually any interest rate under virtually any repayment terms.

For guaranteed loans, an interest rate subsidy occurs because the Government guarantee removes some or all risk of default or loss facing the lender and because the Government does not charge what a private insurer would charge for the same degree of guar-

antee. In a few cases, notably guaranteed student loans, there is an additional, explicit payment by the Government of a portion of the borrower's interest. The lender is willing to lend to the guaranteed borrower at rates lower than the market rate since no premium, or less than a normal premium, for default risk is required.

In many cases, large interest rate subsidies may be intended. The economic support fund, for example, used to extend loans at interest rates of about 3 percent per annum in order to meet its objective of aiding foreign countries. In other cases, the extent of the subsidy may be unintentional, as when a direct loan program's interest rate is initially set at a level comparable to a market interest rate but is not changed to keep pace with changes in market interest rates over time. For example, in 1944 Congress set the interest rate on some loans of the Rural Electrification Administration at 2 percent, which was slightly higher than the cost of Treasury borrowing at that time. But while the cost of long-term Treasury borrowing has increased to higher levels through the years, REA's lending rate for its direct loans increased only to 5 percent.

However, neither the unified budget nor the credit budget adequately takes into account the subsidy that results from interest rate spreads and other loan terms characteristic of Government credit. The cash outlays of the direct loan or loan guarantee program are reflected in the unified budget, while the new levels of annual loan activity (direct loan obligations and guaranteed loan commitments) are summarized in the credit budget.

The administration's credit reform proposal, summarized above and in Part 6 of the budget, would estimate the subsidy cost of Federal credit programs, require the appropriation of those subsidies, and incorporate them in the unified budget. Under this proposal, subsidies would be estimated using the same method used to estimate subsidies in this special analysis. The direct loan subsidy is calculated as the discounted or present value of the additional payments that the borrower would have been required to pay for the loan if it had been a purely private loan. This method requires an estimate of the interest rate and other terms on which a private lender would have lent to a representative borrower from that Federal program.

To derive the rate of return on a representative private loan, estimates have been made of the private loan terms according to the purpose of the loan (e.g., to buy a house or to provide a small business with working capital) and the type of borrower (e.g., a high-risk company versus a low-risk company) typically associated with the particular direct loan program. The estimates take into account not only the differences in interest rates, but also the differences in loan fees, maturities, and repayment schedules that

would normally be expected for the type of loan being compared. A simplifying assumption used in these calculations is that a single example can adequately represent the array of loans in a given program. This assumption is not always a good approximation. Several agencies (e.g., the Export-Import Bank or the Small Business Administration) have programs where loans are made to a variety of borrowers with widely dissimilar risk characteristics. In these cases, separate subsidy calculations should be made and a weighted average subsidy calculated.

The discount rate used to evaluate the present value of the Government loan is the internal rate of return on the private loan. This rate is a more appropriate discount rate than the simple interest rate on the private loan, because that interest rate does not reflect the return that lenders receive from commitment commissions and other loan fees, nor does it reflect the maturity and repayment schedule.

Table F-12 shows subsidy values for the obligations of direct loan programs in 1990. The present value of the total estimated subsidies is \$1.0 billion.

The above method of evaluating direct loan subsidies measures the cost of Federal credit by comparing the terms and conditions of a similar loan from the private sector. This method is therefore the same as evaluating the subsidy as the difference between the face value of the loan and the proceeds from promptly selling the loan without recourse in the market. This difference measures the subsidy as the equivalent of a grant that the Government provides to the borrower. The subsidy is therefore equivalent to direct budget outlays for grants made to individuals or businesses. In this manner the economic or programmatic effects of direct loans can be reasonably compared to the effects of budget outlays.

Guaranteed loan subsidies are calculated by the same method as direct loan subsidies. The guaranteed loan subsidy is the present value of the additional payments that borrowers would have paid if the loan had not been guaranteed by a Federal agency, and, in a few cases, if the agency had not made explicit interest payments. In some cases, private insurance or guarantee coverage of a type offered by Federal programs is available from private insurers. An example is private mortgage insurance, which is comparable to the mortgage insurance or guarantees offered by the FHA and VA. In these instances, the subsidy can be measured by calculating the present value of the difference in the fees charged by the Federal Government and the fees that a private insurer would have charged to provide an identical guarantee. In other cases, private insurers simply do not offer insurance or guarantee coverage similar to that offered by Federal programs. The absence of private insurance may be because the credit risks of the guaranteed loans

Table F-12. ESTIMATED SUBSIDY COSTS FOR 1990 DIRECT LOAN OBLIGATIONS

Agency and Program	Present value of subsidy	
	Percent of direct loan obligations	Millions of dollars
Funds Appropriated to the President:		
AID private sector revolving fund.....	3.3	0.1
OPIC.....	15.4	2.6
Agriculture:		
Agricultural credit insurance fund.....	20.8	187.3
Rural development insurance fund.....	17.6	35.2
Rural development loan fund.....	67.4	9.4
Rural housing insurance fund.....	17.9	98.4
Public Law 480 export credits.....	71.2	531.9
Rural Electrification Administration:		
Electric and telephone revolving fund.....	15.3	0.3
Rural Telephone Bank.....	15.3	19.2
Health and Human Services:		
Health resources and services.....	14.0	*
Housing and Urban Development:		
Federal Housing Administration.....	3.1	2.7
Housing for the elderly and handicapped.....	20.0	6.4
Nonprofit sponsor assistance.....	22.0	0.2
Flexible subsidy fund.....	22.1	8.1
Interior:		
Bureau of Reclamation.....	52.0	18.4
Bureau of Indian Affairs.....	24.4	3.2
State Department:		
Emergencies in the diplomatic service.....	27.7	0.3
Transportation:		
MarAd federal ship financing fund.....	1.9	0.1
Veterans Affairs:		
Vendee loans.....	6.6	64.0
Direct loans.....	11.6	0.1
Vocational rehabilitation.....	15.0	0.1
Federal Savings and Loan Insurance Corporation.....	3.0	1.0
National Credit Union Administration:		
Central liquidity facility.....	3.0	0.6
Share insurance fund.....	50.0	15.0
Tennessee Valley Authority:		
Power program.....	0.1	0.4
Total, direct loan subsidies.....		1,004.8

are so large or so immeasurable that private insurers will not undertake to offer guarantees; sometimes, it may be because potential private insurance has been preempted by a Federal guarantee program, which inherently has an immensely larger capacity to bear risk and to charge guarantee fees below those the private insurer would charge. In these circumstances, the subsidy is calculated in terms of the interest rate and fees a private lender would have charged the borrower in the absence of a Federal guarantee.

In both of these cases, as in the case of direct loans, the subsidy is equivalent to a grant paid by the Government to the borrower. The subsidy is thus equivalent to direct budget outlays for grants

made to individuals or businesses. In this manner, economic or programmatic effects of loan guarantees can be reasonably compared to the effects of budget outlays.

Table F-13 presents these subsidy calculations for the gross commitments that loan guarantee programs are estimated to make in 1990. The present value of the total estimated subsidies is \$8.3 billion.

Table F-13. ESTIMATED SUBSIDY COSTS FOR 1990 GUARANTEED LOAN COMMITMENTS

Agency and program	Present value of subsidy	
	Percent of guaranteed loan commitments	Millions of dollars
Funds Appropriated to the President:		
AID private sector loans.....	8.2	4.1
AID housing and other credit.....	21.5	21.5
Overseas Private Investment Corporation.....	14.7	25.7
Agriculture:		
Agricultural credit insurance fund.....	4.2	124.9
Commodity Credit Corporation: Export credits.....	14.5	798.0
Rural development insurance fund.....	2.0	3.4
Rural Electrification Administration.....	4.2	77.8
Education:		
Guaranteed student loans.....	32.3	4,043.7
Health and Human Services:		
Health education assistance loans.....	14.4	14.4
Housing and Urban Development:		
Federal Housing Administration fund.....	1.2	804.0
GNMA secondary mortgage guarantees.....	1.9	1,425.0
Interior:		
Bureau of Indian Affairs.....	25.0	11.2
Indian loan guaranty and insurance fund.....	3.0	1.3
Veterans Affairs:		
Vendee loans.....	5.2	769.1
Small Business Administration:		
Business loans.....	0.7	25.6
Export-Import Bank.....	1.3	136.4
Federal Savings and Loan Insurance Corporation.....	25.0	4.8
Total, guaranteed loan subsidies.....		8,290.8

VIII. DEFAULTS

Federal credit programs have markedly different objectives than private lending institutions, which seek profits. Several Government credit programs, such as the Small Business Administration, are designed to play the role of "lender of last resort." Federal loans, therefore, often bear more risk than private lenders are willing to bear. Partially as a result, some Government loan programs have high default rates. The diverse characteristics of Federal credit programs, each with its own legislative mandate and a variety of different borrowers, make it difficult to compare default rates among Federal programs.

Table F-14 shows the amount of direct loans written off and the amount of guaranteed loans terminated for defaults. Of all direct loans outstanding, only 1 percent are recorded as write-offs in 1988. Of total guaranteed loans outstanding, 2 percent are reported to be terminated in 1988.

Table F-14. DIRECT LOAN WRITE-OFFS AND GUARANTEED LOAN TERMINATIONS FOR DEFAULTS

	In millions of dollars			As percentage of outstanding loans ¹		
	Actual 1988	Estimated		Actual 1988	Estimated	
		1989	1990		1989	1990
Direct loans:						
FmHA agricultural credit insurance.....	1,282	2,900	2,900	4.83	12.11	14.17
Rural housing insurance fund.....	50	70	80	0.19	0.26	0.32
Economic development revolving fund.....	147	25	12	32.13	7.49	4.01
Guaranteed student loans.....	52	97	214	1.00	1.62	3.17
Other education loans.....	20	8	5	0.46	0.12	0.08
Federal Housing Administration.....	32	32	35	0.66	0.57	0.55
MARAD ship financing fund.....	359			24.68		
Small business assistance:						
Business loans.....	366	344	336	13.26	13.32	14.07
Disaster loan fund.....	127	115	102	3.64	3.71	3.86
Other.....	97	92	91	0.06	0.07	0.07
Total write-offs.....	2,532	3,683	3,775	1.11	1.71	1.85
Guaranteed loans:						
Commodity Credit Corporation.....	272	208	202	6.29	3.24	2.23
FmHA agricultural credit insurance.....	94	117	169	3.14	2.68	2.82
Rural development insurance fund.....	52	50	47	2.88	3.05	3.03
Economic development revolving fund.....	3	10	4	2.75	8.06	3.36
Guaranteed student loans.....	1,438	1,885	2,038	3.28	3.78	3.77
Federal Housing Administration fund.....	6,178	6,664	6,046	2.14	2.14	1.81
MARAD ship financing fund.....	181	198	148	4.45	5.37	4.40
VA loan guarantee revolving fund.....	2,322	2,408	2,184	1.57	1.61	1.47
Small business assistance.....	465	471	435	4.97	4.70	4.05
Other.....	190	55	142	0.73	0.17	0.39
Total terminations.....	11,195	12,066	11,415	2.12	2.12	1.89

¹ Average of loans outstanding over year.

The agriculture housing, education, and business loan programs have the highest estimated default or termination rates in 1988. Delinquencies and defaults in various agricultural programs can be traced to depressed market conditions. Starting in the early 1980s, the U.S. farm economy was characterized by declining income and asset values. As a result of the depressed conditions, delinquency, liquidation, and bankruptcy rates rose in the sector. At the same time, the Federal Government was prevented by court order from foreclosing on its agricultural loans in default. The Agricultural Credit Act of 1987 provided the FmHA with the authority to restructure farm loans when an ability to pay can be demonstrated. In November 1988, the court order barring FmHA foreclosures was lifted and the backlog in defaults will result in write-offs of from \$5 to \$9 billion over the next few years. Near record levels of farm

income, including Government support payments, in 1988, and the decline in farm debt that is projected for the sixth straight year should help mitigate the high rate of defaults.

Default rates for home mortgages have increased substantially in the 1980s. Appreciation of real estate prices is no longer an offset to poor credit screening. The VA loan guaranty revolving fund is experiencing a significant increase in the home loan guarantees terminated due to default in 1988. The FHA fund is also experiencing higher default rates, with delinquencies of 60 days or more rising from 2 percent in 1979 to over 5 percent in the third quarter of 1988. Although many of the terminations are occurring in Texas and other Southwestern States, defaults have risen elsewhere as well.

Guaranteed student loan terminations for default have been trending sharply upwards in recent years. The increase is the result of increased loan volume as well as a greater borrower propensity to default.

The high business loan write-off and termination rates are attributable to the nature of these loans—to small businesses that are unable to obtain private financing. The failure rate is quite high for small businesses that are deemed creditworthy by private financial institutions; it is higher still for Federal borrowers who can not obtain private financing.

Finally, there has been a growing awareness that losses in both direct and loan guarantee programs are higher than reported. In recognition of this problem, agencies have been instructed to periodically review their existing portfolios and to write-off accounts that are determined to be uncollectible within a reasonable period of time. In 1988, \$11.3 billion in uncollectible accounts were written off by agencies. However, further improvements in this area of credit management are needed. The agencies that have not already done so were directed to complete an initial review of their portfolios in 1989. Also, Treasury's Financial Management Service will issue a guidance paper to assist agency portfolio managers in determining whether, when, and how to write off uncollectible accounts.

IX. FEDERAL FINANCING BANK

The Federal Financing Bank (FFB) began operation in May 1974 as an agency of the Treasury Department to coordinate the financing of marketable Federal agency securities and to ensure that Federal agency borrowings are financed in a manner least disruptive of private financial markets and institutions; it has been a significant factor in financing Federal credit activities since then.

The FFB was designed to serve as a financial intermediary for the efficient financing of obligations issued, sold, or guaranteed by Federal agencies. Use of the FFB by Federal agencies leads to

lower debt financing costs than if the agencies or the guaranteed borrowers were to sell their obligations or seek credit individually in the credit market. Without the FFB, agency obligations would trade at premiums significantly above Treasury securities. These premiums would be due to the relative illiquidity, smaller size of issue, and unique financial terms of agency debt, which distinguish them from Treasury securities and each other.

The FFB performs three functions: (1) it purchases guaranteed loan assets from Federal agencies; (2) it disburses loans directly to borrowers when the loans are 100 percent guaranteed by a Federal agency; and (3) it buys debt from Federal agencies that are otherwise authorized to borrow from the public. In all cases, the operation of the programs financed through the FFB remain with the agencies. None of the three forms of FFB lending are recorded immediately as outlays; instead, outlays are recorded when the proceeds of borrowing are spent by the agencies.

Prior to passage of the Balanced Budget and Emergency Deficit Control Act of 1985, the outlays of the first two types of transactions were considered to be outlays of the FFB and were "off-budget" from the perspective of the agencies involved. The third type of FFB transaction was considered to be a means of financing agency outlays. Under Section 214 of the Act, *all* transactions by the FFB on behalf of a Federal agency are now considered to be a means of financing for the agency. As a result, FFB transactions formerly presented as a separate line item in this analysis and elsewhere in the budget have been incorporated into the account of the agency originating the transaction.

Table F-15 summarizes the activities of the FFB on behalf of the agencies it serves for 1988 through 1994. Table F-21 at the end of this document shows the activities of the FFB over the same period by agency and account.

Table F-15. SUMMARY OF AGENCY BORROWING FROM THE FEDERAL FINANCING BANK

(In millions of dollars)

	Actual 1988	Estimates					
		1989	1990	1991	1992	1993	1994
Credit related:							
New borrowing.....	1,045	5,374	4,573	4,045	3,027	2,164	1,394
Net lending.....	-13,346	-8,908	-5,701	-3,399	-7,015	-6,275	-7,138
Loans outstanding.....	121,349	112,441	106,740	103,340	96,325	90,050	82,912
Other:							
New borrowing.....	3,919	2,025	4,833	2,156	1,548	807	948
Net lending.....	2,323	1,178	1,937	1,578	789	-3	90
Loans outstanding.....	24,886	26,064	28,001	29,579	30,368	30,365	30,455
Total, all FFB							
New borrowing.....	4,963	7,399	9,406	6,201	4,575	2,972	2,342
Net lending.....	-11,024	-7,730	-3,764	-1,821	-6,226	-6,278	-7,048
Loans outstanding.....	146,235	138,500	134,740	132,919	126,693	120,415	113,367

The Omnibus Budget Reconciliation Act of 1986 authorized that refinancing be accomplished using full Government guarantees in the private credit markets. Refinancing in this manner (1) is contrary to the ongoing role and effectiveness of the FFB; (2) interferes with the administration of Federal credit policy; (3) competes with the Treasury financing of the national debt; and (4) provides a further subsidy to borrowers. This subsidy would be provided to borrowers that have already received the lowest available rate at the time that they originally borrowed funds, and this subsidy would be provided outside of the normal appropriations process, without the determination of the need of the borrower for the subsidy. Prepayments of Rural Electrification Administration (REA) loans are proposed for 1990 using 80 percent guarantees for refinancing. This is estimated to yield \$500 million in prepayments.

The Omnibus Budget Reconciliation Act of 1987 authorized rural electric borrowers to prepay up to \$2.0 billion of their REA guaranteed loans from the FFB, without premium or penalty. Prepayments of \$2.0 billion were made in 1988, with an associated taxpayer cost of \$473 million. The taxpayer cost due to prepayments represents losses that occur when prepayment proceeds are reinvested at prevailing interest rates that are lower than the interest rates earned on the original loans. An additional \$0.5 billion in premium-free prepayments, authorized by the 1987 Continuing Resolution, are expected to take place in 1989.

The Continuing Appropriations Resolution for 1988 also included a provision that allows the FFB borrowers under foreign military sales (FMS) guarantees to prepay at par their debt with interest rates of 10 percent or higher. In 1988, the FFB received FMS prepayments of \$2.5 billion, with an associated loss of \$814 million. For 1989, FMS prepayments are estimated to be \$4.2 billion.

For 1990, the administration is proposing to sell loan assets that were financed by agency borrowing from the FFB. The proceeds from the sales are expected to be significantly less than what is necessary for the agencies to repay their debt to the FFB. In order to make the FFB "whole", that is, to ensure that the bank receives the full principal owed plus any prepayment premiums, the administration is proposing legislation that would create a Central Loan Accounting Account (CLAA), which would receive an appropriation to cover the losses to the FFB associated with the loan asset sales program. The CLAA account is expected to compensate the FFB for \$0.7 billion in losses from loan asset sales in 1990. Because this is an intragovernmental transaction, it has no effect on the deficit.

X. LOAN ASSET SALES TO THE PUBLIC

The administration proposes to continue its program of selling existing and newly originated loan assets to the public without

recourse or the right to make a claim against the Federal Government in the event of borrower default. The program was first proposed in the President's FY 1987 budget with the following four objectives: (1) reducing the Government's cost of administering credit by transferring portfolio management to the private sector; (2) providing an incentive for agencies to improve loan origination and documentation; (3) determining the actual subsidies of Federal credit programs; and (4) generating proceeds from the sale. The loan asset sales program is actually part of a larger strategy for managing Federal loan assets, which is discussed in a separate report, "Management of the U.S. Government."

Table F-16. LOAN ASSET SALES AND PREPAYMENTS

(In millions of dollars)

Agency or program	1988			1989		1990		Total 1988-90	
	Face value	Gross Proceeds	Net Proceeds	Face value	Gross Proceeds	Face value	Gross Proceeds	Face value	Gross Proceeds
PROCEEDS THAT REDUCE THE DEFICIT FOR GRH PURPOSES									
Routine and Ongoing in 1986:									
Sales:									
VA-Vendee loans ¹	543	305	296	895	510	939	535	2,377	1,350
Enacted by Legislation that counts for GRH purposes:									
Sales:									
Education-college housing	524	292	291					524	292
Ed-college housing (junior cert.)					32				32
Agric-RHIF junior certificates							275		275
Subtotal, sales	1,067	597	587	895	542	939	810	2,901	1,949
Prepayments:									
Agriculture-RDIF	1,644	1,062	1,062	513	328			2,157	1,390
Transportation	181	112	112	329	200	27	15	537	327
Ex-Im Bank	643	643	643	525	525			1,168	1,168
Subtotal, prepayments	2,468	1,817	1,817	1,367	1,053	27	15	3,862	2,885
Subtotal, GRH	3,535	2,414	2,404	2,262	1,595	966	825	6,763	4,834
PROCEEDS THAT DO NOT REDUCE DEFICIT FOR GRH PURPOSES									
Sales:									
Agriculture:									
RHIF						4,510	1,692	4,510	1,692
RDIF				400	256	120	77	520	333
Commerce-EDA						80	55	80	55
Education-college housing						475	261	475	261

SPECIAL ANALYSIS F

F-49

Table F-16. LOAN ASSET SALES AND PREPAYMENTS—Continued

(In millions of dollars)

F-50

THE BUDGET FOR FISCAL YEAR 1990

Agency or program	1988			1989		1990		Total 1988-90	
	Face value	Gross Proceeds	Net Proceeds	Face value	Gross Proceeds	Face value	Gross Proceeds	Face value	Gross Proceeds
HHS-HMO/Medical facilities.....						162	87	162	87
HUD:									
Elderly & handicapped.....						634	500	634	500
Public facilities.....	236	174	169					236	174
FHA (single family).....	30	23	23	114	90			144	113
FHA (multi-family).....	80	64	64						
GNMA ²	389	209	208	34	24			423	233
Small Business.....						299	182	299	182
Subtotal, sales not in base.....	346	261	256	514	346	6,280	2,854	7,060	3,397
Prepayments:									
FAP-FMS.....	3,152	3,152	3,152	5,000	5,000			8,152	8,152
REA.....	2,000	2,000	2,000	500	500	500	500	3,000	3,000
RTB.....	131	131	131			75	75	206	206
Interior-Bureau of Reclamation.....	629	154	154					629	154
HUD-FHA (single family).....	27	25	25					27	25
Subtotal, prepayments not in base.....	5,939	5,462	5,462	5,500	5,500	575	575	12,014	11,537
Total, all sales.....	1,413	858	843	1,409	888	7,219	3,664	9,961	5,346
Total, all prepayments.....	8,407	7,279	7,279	6,867	6,553	602	590	15,876	14,422
Grand total, sales and prepayments ³	9,820	8,137	8,122	8,276	7,441	7,821	4,254	25,837	19,768

¹ Non-recourse sales that cannot be carried in GRH baseline for 1990 until authorization extending non-recourse sales is approved.² Recourse sale. Proceeds are not included in either GRH or budget.³ Estimates in the budget for loan asset sales are larger than above totals because budget includes debt service calculations.

In 1987, the government sold loan assets with a face value of \$4.4 billion and received proceeds of \$3.4 billion. In 1988, loans with a face value of \$6.6 billion were sold or prepaid by borrowers, yielding \$4.9 billion in net receipts. In 1989, loans having a face value of \$8.3 billion are estimated to generate \$7.4 billion in offsetting collections. Additional sales were proposed but have been blocked by the Congress. For 1990, the administration is proposing sales and prepayments from nine different portfolios. The loans involved have a face value of \$7.8 billion and are estimated to yield collections of \$4.3 billion.

The Federal Government's loan asset sales can be divided into two categories: (1) sales that reduce the fiscal year deficit for GRH purposes (i.e., in the GRH baseline), and (2) sales that do not reduce the deficit for GRH purposes. In order for sales to be included in the GRH baseline, they must have been routine and ongoing in FY 1986 or have been enacted by legislation before September 18, 1987. Proceeds from these loan asset sales can be applied against the deficit in order to help meet deficit reduction targets set by GRH. Sales that do not meet either of the above criteria do not reduce the current year deficit for GRH purposes.

Although loan asset sales reduce current budget deficits, they may increase future deficits by moving to the present the anticipated future streams of principal and interest payments from the loans. However, long-term administrative savings that are not explicitly reflected in the budget are being realized from the transfer of the servicing function to the private sector. In addition, major savings resulting from reduced delinquencies and defaults are anticipated. Finally, to the extent that newly made loans are sold without recourse, the difference between the face and market values provides an objective measure of the subsidy implicit in loan programs.

The nonrecourse requirement of loan asset sales is an important part of the pilot program. Although selling with recourse would yield a higher initial price than selling loans without recourse, the primary reason behind loan asset sales is to improve the Government's credit management practices. Because Federal credit programs have emphasized loan origination as a means of achieving social objectives, agencies have often not implemented standard commercial practices with regard to collection and servicing. As a result, delinquency and default rates for Federal credit programs are frequently much higher than in the private sector. In addition, prior to the current loan sales program, agency procedures and standards varied and many field offices had inadequate documentation of their loans.

If loans are sold with recourse, there is no incentive for Federal programs to improve the origination and documentation of loans

because investors will rely on the Federal guarantee rather than demand improved management of the underlying loans. Also, selling loan assets to the public with a Government guarantee is a form of Federal borrowing from the public in the sense that a contingent liability is created. Because this type of borrowing from the public is more costly than issuing Treasury securities—purchasers of the guaranteed loan assets typically offer prices well below the face value of the loans because the assets may be relatively illiquid or have unique characteristics that reduce their value to the purchaser—it is inefficient.

A number of management improvements have already occurred as a result of the loan asset sales program. First, loan originations have been improved by including more rigorous legal review to ensure the enforceability of each loan contract. Second, deficiencies in loan documentation, as well as in computer support systems, have been identified and corrected. Third, in an effort to bring Federal agency account servicing more in line with private sector standards, agencies are now required to consider *selling* servicing rights to outside servicers, who would then receive a percentage of collections. Selling loan servicing rights is a new option for agencies to evaluate along with cross-servicing and contracting out.

Future sales will benefit from past sales in two additional ways. First, if default and recovery experience on the portfolios sold turn out to be better than expected, the Government will benefit to the extent that more optimistic assumptions will raise the proceeds from future sales. Second, the continuing sale of similar assets develops buyer familiarity with the Government assets and enhances the salability of future issues.

To the extent possible, the sale of new loans will be emphasized in the 1989 and 1990 sales. This goal is in keeping with the credit reform initiative objective of measuring the subsidy element of Federal credit programs as the difference between the face and market value of a loan. The sale of loans as they are originated, as opposed to the sale of existing loan assets, not only provides information on the subsidy inherent in Federal programs, but it more directly encourages improvement in loan origination and documentation practices. Loans sell at a higher price if screening and documentation are up to private sector standards. The sale of loans close to the time of origination would make this connection between improved credit management and higher asset prices more direct than if the assets were to be sold at some indefinite point in the future.

XI. LEASING

The Federal Government is both a lessor and a lessee in hundreds of leases involving billions of dollars every year. As a lessor,

the Government allows private entities to contract for the use of on-shore and off-shore acreage for oil and gas exploration, and lands for grazing and timber harvesting. Federal leases raise about \$6 billion annually in proprietary receipts, primarily from rents and royalties on the Outer Continental Shelf.

As a lessee, the Federal Government uses both operating and capital leases to contract with private enterprises to use office facilities, computers, telecommunications equipment, satellites, ships, cars, planes, and other equipment. Operating leases are normally short term and do not involve a transfer of title to the asset. That is, the lessor holds title to, performs maintenance on, and regains the asset after the lease period.

Operating leases can be used to overcome peak load problems when the use of the asset is not needed indefinitely. Also, the lessee may not wish to take on the ownership risks of upkeep or may find that the lessor can provide more efficient maintenance services. Finally, the lessee may wish to avoid the purchase of an asset likely to be obsolete in a relatively short period of time.

In contrast, a capital lease arrangement is long term and involves a change in the basic ownership of an asset. In essence, capital leases are a means by which lessees can purchase an asset by borrowing from the lessor. This is obviously true in the case of lease-purchases, where the Government ends up holding title to the property at the end of the lease period. But even when this does not occur, if the lease covers a large part of the operating life of the asset, it has much the same economic impact as a front-end purchase that is eventually resold.

From a budgetary standpoint, capital leases can be more attractive than purchasing assets. Leasing entails lower outlays in the short-term and, under some circumstances, less budget authority. When capital assets are purchased, their entire purchase price requires budget authority and is recorded as an outlay in the year of purchase. When capital assets are leased, only the annual lease payment is recorded as an outlay and, under certain lease contracts, there is no recognition of obligations to make payments in future years.

A number of agencies and committees of Congress have proposed financing schemes involving lease-purchase arrangements that enable agencies to purchase capital assets without having to score the full cost of the purchase in the current budget year. Such arrangements understate the true cost of capital acquisitions in the budget and allow the appearance of lower near-term outlays and budget authority at the expense of higher long-term costs.

The President recently approved recommendations by the Domestic Policy Council to oppose the use of lease-purchase arrangements. The only exception to this is proposals to lease-purchase

special purpose facilities, which may be considered on a case-by-case basis, as part of the annual budget review process.

Lease-purchase arrangements are leases of capital assets where material ownership in the asset—i.e., most of the risks and rewards of ownership—is transferred from the lessor to the lessee. Essentially, lease-purchase is an arrangement which provides a Federal agency with the authority to acquire effective ownership of existing facilities or to sign contracts with private developers to construct buildings or other facilities and pay the developers over an extended period of time as opposed to paying the developer as the construction is completed.

Lease-purchase arrangements are more costly to the Federal Government than outright purchases, because agencies must pay the cost of the lessor's borrowing, which is more expensive than the cost of Treasury borrowing. Lease-purchase arrangements also create secondary markets for Federal Government borrowing, which compete with Treasury's borrowing and drive up the cost. Furthermore, unlike assets that are purchased directly, property acquired under lease-purchase is encumbered with respect to disposal by the Federal Government. In considering whether to use leasing in place of direct Government purchase and ownership as a means of acquiring the use of capital assets, OMB Circular No. A-104 requires agencies to conduct a lease-versus-buy analysis.

Like all contracts of the Federal Government, leases are subject to the requirements of the Anti-Deficiency Act (31 U.S.C. 1341). The Act requires the lessee agency to obligate sufficient funds to cover the Federal Government's maximum current liability unless Congress specifically says otherwise. Many proposed lease-purchase arrangements include specific language exempting the transactions from the Anti-Deficiency Act to allow agencies to enter into multi-year contracts and obligate only annual costs. Exemptions from the Anti-Deficiency Act violate the fundamental principle that the full cost of all government activity be publicly displayed.

Another objectionable method used to circumvent the requirements of the Anti-Deficiency Act and avoid front-end scoring of budget authority is to enter into lease-purchases that are clearly intended to be long-term but are written to limit the Federal Government's liability. The administration strongly opposes such methods. In the event lease-purchase arrangements do contain contract clauses that expressly condition the Federal Government's obligation to pay on the availability of appropriations, they must be fully-funded and require sufficient budget authority in the first year to cover the full lifetime cost of the lease.

XII. TAX-EXEMPT CREDIT

Since the adoption of the tax code in 1913, State and local governments have issued bonds exempt from Federal taxation to finance public investments such as schools, highways, and water and sewer systems. In the past 20 years, these governments have also issued a large and rapidly growing number of "private-purpose" tax-exempt bonds to finance both quasi-public facilities, such as ports and airports, and private sector projects, such as housing and shopping centers. Federal tax exemption increases the demand for these obligations, since it results in higher after-tax interest rates for the lenders and investors. This increase in demand reduces the pre-tax interest rates of these bonds relative to the pre-tax interest rates of taxable securities. Tax-exempt interest rates have historically averaged about 75 percent of taxable interest rates on obligations of comparable risk and maturity (89 percent since the 1986 Tax Reform Act). Thus, tax-exempt financing provides benefits to both the borrower of funds and the investor in tax-exempt bonds.

Tax exemption reallocates scarce credit resources, just as do Federal direct loans and loan guarantees. Borrowers aided by tax-exempt status have access to credit resources at preferential interest rates over competing borrowers without tax-exempt status. The Federal subsidy transferred to tax-exempt borrowers can be measured by the interest rate differential between tax-exempt and taxable bonds. However, whereas under a direct subsidy the benefits go entirely to the borrower, tax-exempt financing allocates a portion of the subsidy to the investor—in the form of higher after-tax returns. Borrowers who benefit from both tax-exemption and Federal guarantees have an advantage over all other borrowers, including the Federal Government, since the interest on Federal debt is taxable under Federal income tax (which requires the Government to pay higher interest rates to investors).

Although tax-exempt financing alters the allocation of credit and has costs similar to other Government financing programs, it is not included in the credit budget. Tax-exempt credit is not controlled by the budget process in the same manner as direct loans or guaranteed loans. Effective control of tax-exempt financing can only be achieved through legislated changes to the tax code.

A relatively small portion of tax-exempt financing is guaranteed by the Federal Government, and is therefore included in the credit budget as guaranteed loan commitments. This occurs when the Federal Government guarantees the financial assets that underlie the tax-exempt obligation. Examples include State and local government bonds that finance home mortgages guaranteed by the Federal Housing Administration or the Department of Veterans

Affairs, or bonds that finance student loans guaranteed by the Department of Education.

Another example of a tax-exempt bond that is indirectly guaranteed by the Federal Government is tax-exempt bond issues backed by special Treasury obligations, the State and local government series (SLGS). The bulk of these tax-exempt bonds have originated in connection with advance refundings. In an advance refunding, State and local governments purchase SLGS securities, which are used as collateral for an outstanding bond issue of the entity. The original issue is now "guaranteed" by the Federal Government.

Advance refundings generally occur so that issuers of tax-exempt bonds can get out of restrictive covenants or realize debt service savings. An example of a restrictive covenant might be a limit on the dollar volume of bonds that an institution can issue. By using an advance refunding, the institution can issue a new series of bonds and exceed the limit originally agreed upon.

In recent years, tax-exempt bonds collateralized by SLGS bonds have been growing in importance. At the end of 1987, approximately 140 billion of these bonds were outstanding, which represents nearly 20 percent of all outstanding tax-exempt issues.

This administration and previous ones have believed that Federal agencies should not offer direct or indirect guarantees for securities that benefit from tax-exempt status. First, tax-exempt financing is an inefficient means of financing, since the tax loss to the Treasury is greater than the savings from the lower financing costs available to the borrower. Therefore, it should not be stimulated by benefitting from a Government guarantee. Second, the guarantee of tax-exempt financing confers double benefits on investors in those securities: they pay no Federal income tax and they bear no default risk. This class of debt obligation is therefore superior to Treasury securities.

Private Purpose Tax-Exempt Bonds.—In contrast to public purpose bonds, private purpose bonds are issued by State and local governments for nongovernmental purposes, to provide benefits to private businesses, organizations, or individuals. There are four main categories of private purpose bonds: (1) mortgage revenue bonds, issued for the development of rental and owner-occupied housing for low-income households, (2) industrial development bonds (IDBs), used by private firms for a wide variety of purposes, (3) student loan bonds, issued by State authorities to increase funds available for guaranteed student loans, and (4) bonds for non-profit institutions, such as hospitals and universities.

Private purpose tax-exempt financing is typically handled through authorities established by State and local governments to act as financial institutions. These authorities use their tax-exempt status to either (1) finance the purchase of an asset, which in turn,

is purchased or leased from them by the borrower, or (2) simply lend the proceeds of a bond issue to a private borrower. In general, the private borrower is solely responsible for the payment of interest and principal even in the event of default. The State or local government, in some cases, can benefit from investment earnings on funds held for short periods and from fees paid by borrowers.

Starting with the 1968 and 1969 tax acts and most recently in the Tax Act of 1986, various prohibitions have been enacted against private purpose bonds. Tax-exempt private-purpose bonds are still permitted for the financing of "public" activities or facilities, but most of the business or private purpose types of bonds are now taxable.

Table F-17 shows the growth in the volume of long-term, tax-exempt bonds. In anticipation of restrictions on tax-exempt bonds being incorporated into the 1986 Tax Act, the growth in volume in tax-exempt securities was unusually high in 1985. In 1986 and 1987, the volume of new issues dropped off markedly as a result of the large volume issued in 1985 and the effects of tax reform.

Table F-17. TAX-EXEMPT FINANCING

(In billions of dollars)

	Actual								Preliminary		Estimated	
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Private purpose tax-exempts.....	28.1	32.5	30.9	49.6	57.1	74.0	124.2	32.5	32.0	35.8	37.7	30.8
Housing bonds.....	12.1	14.0	4.8	14.6	17.0	20.5	42.3	7.9	10.2	12.3	12.1	4.8
Single-family mortgage subsidy bonds.....	7.8	10.5	2.8	9.0	11.0	12.8	14.6	5.3	7.8	10.1	10.0	2.8
Multi-family rental housing bonds.....	2.7	2.2	1.1	5.1	5.3	5.5	25.5	2.3	2.2	2.0	1.9	1.8
Veterans general obligation bonds.....	1.6	1.3	0.9	0.5	0.7	2.2	2.2	0.3	0.2	0.2	0.2	0.2
Private exempt bonds ¹	3.2	3.3	4.7	8.5	11.7	11.7	39.1	6.6	12.7	13.5	14.4	15.4
Student loan bonds.....	0.6	0.5	1.1	1.8	3.3	1.2	0.1	2.6	1.7	2.1	2.2	2.2
Pollution control industrial bonds.....	2.5	2.5	4.3	5.9	4.5	8.1	8.0	2.4	2.6	2.6	2.7	2.7
Small-issue industrial development bonds.....	7.5	9.7	13.3	14.7	14.7	18.3	18.4	7.9	2.8	2.9	3.2	0.9
Other industrial development bonds ²	2.2	2.5	2.7	4.1	6.0	14.1	16.4	5.1	2.0	2.4	3.1	4.8
Public purpose tax-exempts ³	20.3	22.0	24.2	35.3	36.2	41.7	99.6	114.4	68.9	69.5	76.5	84.1
Total new issues, long-term tax-exempts ⁴	48.4	54.5	55.1	84.9	93.3	115.7	223.8	146.9	100.9	105.3	114.2	114.9

¹ Private exempt entity bonds are obligations of the Internal Revenue Code Section 501(c)(3) organizations such as private non-profit hospitals and educational facilities.

² Other IDBs include obligations for private businesses that qualify for tax-exempt activities such as sewage disposal airports, and docks.

³ While most of these are commonly referred to as governmental bonds some may be nongovernmental.

⁴ Includes long-term refunding bonds including advance refundings.

Source: Office of Tax Analysis

The pattern of growth in new issues of private purpose tax-exempt bonds was similar to the pattern of issuance for all bonds. In 1985, the volume of private purpose bonds issued rose dramatically and then dropped off considerably in 1986 and 1987.

In 1976, private purpose tax-exempt bonds accounted for one-third of total tax-exempt, long-term issues. This percentage rose to 60 percent by 1980, and remained fairly constant until 1986 when the percentage dropped back to 20 percent of the total. Again, the change in the proportion of private purpose versus public purpose bonds reflects the 1986 Tax Act prohibitions against this type of tax exemption.

During the 1980s, congressional restrictions on the use of tax-exempt bonds have included limiting the volume of new issues of tax-exempt bonds for some activities and setting expiration dates on the use of tax-exempt financing for other activities. Most recently, the Tax Reform Act of 1986 (TRA) made the alternative minimum tax applicable to interest earned on newly issued private-purpose bonds and placed a single state-by-state limit on the volume of new issues of IDBs, student loan bonds, and housing and re-development bonds. The new volume limits for States, which are more restrictive than prior law limits, are the greater of \$50 per resident or \$150 million a year. Bonds for publicly owned airports, ports, and solid waste disposal facilities, and for non-profit 501(c)(3) organizations (primarily hospitals and educational institutions) are exempt from the new volume limits. With the exception of hospitals, however, non-profit institutions may not issue bonds if they have more than \$150 million in tax-exempt debt outstanding. This provision will primarily affect large universities. Tax exemption for mortgage revenue bonds and for small-issue IDBs (under \$10 million) used for manufacturing facilities will terminate at the end of 1989.

Owing to the specific provisions of the 1986 Tax Act, the supply and the demand for municipal bonds are both expected to decrease. The volume of new, private purpose bonds over the next five years will be about 20 percent less than it would have been under previous law. In addition, the type of bonds issued as well as the type of investors purchasing bonds are expected to change.

On the demand side of the municipal bond market, the outlook is less predictable. The across-the-board reduction in marginal tax rates for both individuals and corporations, the alternative minimum tax provision that could be triggered for certain taxpayers investing in industrial development bonds that are still exempt under the regular tax, and the elimination of the tax deduction on interest that commercial banks used to enjoy when they borrowed money to buy municipal bonds are three provisions that will tend to reduce the demand for tax-exempt bonds. Still, the Tax Act also

included provisions that will tend to increase the demand for tax-exempt bonds. Individuals who have not previously purchased tax-exempt bonds may turn to the municipal market as other means for sheltering income from Federal income tax are sharply curtailed. Similarly, the base-broadening measures aimed at business will tend to increase taxable income in certain sectors of the economy and may increase the demand for municipals.

XIII. SUMMARY

To gain better control over Federal credit, since January 1980 the budget has included a credit control system, composed of the credit budget and credit limitations proposed in individual appropriations bills. This system has been strengthened by Gramm-Rudman-Hollings, which requires Congress to establish aggregate limits on new direct loan obligations and guaranteed loan commitments in the budget resolution process, and incorporates credit in the budget reconciliation process. The management of Federal credit programs has been improved through the application of the administration's management improvement program.

Control over credit programs would be further improved by adoption of the administration's credit reform initiative. Under this reform, Federal agencies would obtain appropriations equal to the subsidy component of direct loans and loan guarantees they make each year. The subsidy costs of operating these programs could then be compared to the cost of grants and other Federal spending programs. Policy makers would thus have information to choose the form of Federal activity that is most cost effective in delivering economic and social benefits.

XIV. APPENDIX: ADDITIONAL DISCUSSION OF FEDERAL CREDIT PROGRAMS AND RELATED ISSUES IN THE 1989 BUDGET DOCUMENTS

- Special Analysis E ("Borrowing and Debt") contains information on Federal borrowing, borrowing by Government-sponsored enterprises, and the Federal Financing Bank.
- Special Analysis G ("Tax Expenditures") contains information on tax-exempt borrowing.
- Special Analysis H ("Federal Aid to State and Local Governments") contains information on Federal loans to State and local governments.
- Part 5 of the Budget ("Meeting National Needs: The Federal Program by Function") contains a discussion of major credit programs by budget function (e.g., Agriculture, Commerce and Housing, International Affairs).
- Part 6 of the Budget ("Federal Credit") presents an outline of the credit reform initiative and a summary of much of the material in this special analysis.

-
- Part 10 of the Budget (“Summary Tables”) contains summary tables of the credit budget totals (Tables 20 and 21) and summaries by agency and function of direct loan obligations, guaranteed loan commitments, and program subsidies (Tables 22 and 23).
 - The Budget Appendix contains detailed information for each credit program by budget account. Part I of the Appendix (“Detailed Budget Estimates”) provides credit program information for Federal agencies. Part IV (“Government-Sponsored Enterprises”) provides information on these enterprises.
 - The Historical Tables contain data on total direct loan obligations by sector—agriculture, business, education, and housing—and by agency or program for the period 1951–1994.
 - Management of the United States Government, contains discussions of credit program management issues, the debt collection report, and agency credit management goals.

Table F-18. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
Funds Appropriated to the President:								
Economic support fund.....	Obligations.....	98						
	Loan disbursements.....	95	125	125	125	50		
	Change in outstandings.....	58	9	9	6	-37	-91	-104
	Outstandings.....	6,368	6,377	6,385	6,391	6,354	6,263	6,159
Foreign military sales.....	Obligations.....	4,049	410					
	Loan disbursements.....	4,324	4,208	2,524	2,126	1,236	431	
	Change in outstandings.....	-2,901	-4,899	466	322	-461	-1,054	-1,231
	Outstandings.....	22,034	17,135	17,601	17,923	17,462	16,408	15,176
Guarantee reserve fund (foreign military sales defaults).....	Obligations.....							
	Loan disbursements.....	1,183	1,118	887	725	725	725	725
	Change in outstandings.....	638	594	720	523	489	473	478
	Outstandings.....	1,963	2,557	3,276	3,799	4,288	4,761	5,239
OPIC loan subsidies.....	Obligations.....			17	17	17	18	18
	Loan disbursements.....			1	7	11	11	11
	Change in outstandings.....			1	7	11	10	9
	Outstandings.....			1	8	19	29	38
OPIC.....	Obligations.....	23	23					
	Loan disbursements.....	11	15	12	8	2	2	2
	Change in outstandings.....	2	5	4	*	-7	-7	-6
	Outstandings.....	51	57	61	61	53	46	41
AID functional development assistance.....	Obligations.....	49						
	Loan disbursements.....	220	200	200	200	200		
	Change in outstandings.....	212	175	166	157	146	-70	-80
	Outstandings.....	3,867	4,041	4,207	4,364	4,510	4,440	4,360

AID development loans revolving fund.....	Obligations.....							
	Loan disbursements.....							
	<i>Change in outstandings</i>	-346	-364	-371	-373	-381	-360	-364
	Outstandings	8,544	8,180	7,809	7,436	7,055	6,695	6,331
AID private sector loan subsidies.....	Obligations.....			4				
	Loan disbursements.....				1	1	*	
	<i>Change in outstandings</i>				1	1	*	*
	Outstandings				1	2	2	2
AID private sector revolving fund.....	Obligations.....	9	5					
	Loan disbursements.....	6	8	5	2	*		
	<i>Change in outstandings</i>	5	5	*	-5	-8	-7	-5
	Outstandings	23	28	28	24	16	9	4
AID housing & other credit guarantees.....	Obligations.....							
	Loan disbursements.....	59	69	75	49	52	51	52
	<i>Change in outstandings</i>	26	26	34	21	19	15	11
	Outstandings	119	145	179	199	218	233	244
AID miscellaneous appropriations.....	Obligations.....							
	Loan disbursements.....							
	<i>Change in outstandings</i>	-1	-8	-8	-9	-10	-10	-11
	Outstandings	316	308	300	291	281	272	261
Agriculture:								
Farmers Home Administration:								
Agricultural credit insurance fund subsidies.....	Obligations.....			900	700	650	600	550
	Loan disbursements.....			662	510	452	402	352
	<i>Change in outstandings</i>			862	649	543	371	303
	Outstandings			862	1,512	2,054	2,425	2,729
Agricultural credit insurance fund.....	Obligations.....	1,168	1,767					
	Loan disbursements.....	1,064	1,611	95	14	11	6	9
	<i>Change in outstandings</i>	-2,119	-3,081	-4,733	-4,553	-2,377	-2,160	-2,040
	Outstandings	25,481	22,400	17,666	13,113	10,736	8,575	6,536

Table F-18. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
Rural housing insurance subsidies	Obligations			550	520	465	435	380
	Loan disbursements			10	64	84	84	76
	<i>Change in outstandings</i>			<i>458</i>	<i>470</i>	<i>446</i>	<i>397</i>	<i>328</i>
	Outstandings			458	928	1,374	1,771	2,099
Rural housing insurance fund	Obligations	2,319	2,325					
	Loan disbursements	2,013	1,856	728	233	80	3	5
	<i>Change in outstandings</i>	<i>587</i>	<i>335</i>	<i>-5,812</i>	<i>-2,181</i>	<i>-2,189</i>	<i>-2,125</i>	<i>-1,972</i>
	Outstandings	27,098	27,432	21,620	19,439	17,250	15,125	13,153
Rural development insurance subsidies	Obligations			200	200	200	200	200
	Loan disbursements			8	52	120	160	170
	<i>Change in outstandings</i>			<i>8</i>	<i>52</i>	<i>118</i>	<i>154</i>	<i>159</i>
	Outstandings			8	60	178	332	491
Rural development insurance fund	Obligations	426	426					
	Loan disbursements	537	441	371	294	154	77	69
	<i>Change in outstandings</i>	<i>-1,289</i>	<i>-631</i>	<i>111</i>	<i>51</i>	<i>-91</i>	<i>-64</i>	<i>-70</i>
	Outstandings	5,141	4,510	4,622	4,673	4,582	4,518	4,448
Rural development loan fund subsidies	Obligations			14	14	14	14	14
	Loan disbursements			1	6	11	14	14
	<i>Change in outstandings</i>			<i>1</i>	<i>6</i>	<i>11</i>	<i>13</i>	<i>13</i>
	Outstandings			1	8	19	32	45
Rural development loan fund	Obligations	14	14					
	Loan disbursements		8	10	8	3		
	<i>Change in outstandings</i>	<i>-1</i>	<i>6</i>	<i>8</i>	<i>6</i>	<i>1</i>	<i>-2</i>	<i>-2</i>
	Outstandings	32	38	46	52	53	51	49

Commodity Credit Corporation:								
Export loan subsidies.....				8	96	180	259	264
				8	96	180	259	264
				8	103	283	542	805
Short and medium term export loans.....								
				-8	153	81	11	11
	-45	-1	-33	-125	-212	-312	-323	
	733	732	699	575	362	51	-273	
Commodity loans.....								
	13,302	6,095	8,040	8,829	8,092	7,149	5,852	
	13,302	6,095	8,040	8,829	8,092	7,149	5,852	
	-6,779	-2,568	-911	-396	-373	-321	-342	
	8,329	5,761	4,849	4,453	4,080	3,759	3,417	
Storage facility loans.....								
	1							
	1							
	-41	-18	-5	-2				
	25	7	2					
Rescheduled guaranteed loans.....								
	289	231	232					
	287	407	338	306	227	224	202	
	2,912	3,320	3,658	3,964	4,191	4,415	4,617	
Public Law 480 loan subsidies.....								
			747	759	770	779	786	
			747	759	770	779	786	
			740	731	758	776	767	
			740	1,471	2,229	3,004	3,771	
Public Law 480 long-term export credits.....								
	837	791						
	762	791						
	413	582	-191	-176	-197	-207	-201	
	11,632	12,214	12,024	11,847	11,651	11,444	11,243	
Rural elec & telephone loan subsidies.....								
			1	1	1	1	1	
			*	*	*	1	1	
			*	*	*	*	*	
			*	1	1	1	1	

SPECIAL ANALYSIS F

F-65

Table F-18. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
Rural electrification and telephone revolving fund	Obligations	1,590	1,795					
	Loan disbursements	959	1,195	1,057	841	614	411	350
	<i>Change in outstandings</i>	-222	30	-147	-152	-421	-411	-514
	Outstandings	34,354	34,384	34,237	34,084	33,663	33,252	32,738
Rural telephone bank subsidies	Obligations			125	125	125	125	125
	Loan disbursements			8	34	59	76	89
	<i>Change in outstandings</i>			8	34	59	76	88
	Outstandings			8	41	100	176	265
Rural telephone bank	Obligations	80	177					
	Loan disbursements	119	116	112	90	69	53	43
	<i>Change in outstandings</i>	-33	92	11	64	40	21	8
	Outstandings	1,413	1,505	1,517	1,580	1,620	1,641	1,649
Commerce:								
Economic development revolving fund	Obligations							
	Loan disbursements	12	10	4	3	2	1	*
	<i>Change in outstandings</i>	-197	-50	-19	-21	-16	-14	-12
	Outstandings	359	309	290	269	253	238	227
EDA miscellaneous appropriations	Obligations							
	Loan disbursements							
	<i>Change in outstandings</i>	-2	-2	-80				
	Outstandings	83	80					
ITA operations and administration	Obligations							
	Loan disbursements							
	<i>Change in outstandings</i>	-7						
	Outstandings							

NOAA coastal energy impact fund.....	Obligations.....							
	Loan disbursements.....							
	<i>Change in outstandings</i>	-1	-2	-2	-2	-2	-2	-2
	Outstandings	87	85	83	81	79	77	75
NOAA Federal ship financing (fishing).....	Obligations.....							
	Loan disbursements.....	5	6					
	<i>Change in outstandings</i>	-11	3	-3	-3	-3	-2	
	Outstandings	7	11	8	5	2		
Defense: Navy industrial fund.....	Obligations.....							
	Loan disbursements.....							
	<i>Change in outstandings</i>	-29	-38	-48	-48	-48	-48	-49
	Outstandings	1,759	1,721	1,672	1,624	1,576	1,528	1,480
Education: Guarantees of SLMA obligations.....	Obligations.....							
	Loan disbursements.....							
	<i>Change in outstandings</i>	-30		-30	-30	-30	-30	-30
	Outstandings	4,910	4,910	4,880	4,850	4,820	4,790	4,760
Guaranteed student loan subsidies.....	Obligations.....							
	Loan disbursements.....			16	96	338	892	1,142
	<i>Change in outstandings</i>			16	78	281	744	886
	Outstandings			16	94	374	1,119	2,005
Guaranteed student loans.....	Obligations.....							
	Loan disbursements.....	1,336	1,750	1,896	1,883	1,680	1,146	1,007
	<i>Change in outstandings</i>	801	806	682	399	-28	-719	-992
	Outstandings	5,593	6,399	7,081	7,480	7,452	6,734	5,742
National direct student loans.....	Obligations.....							
	Loan disbursements.....							
	<i>Change in outstandings</i>	-53	-15	-9	-5	-6	-8	-6
	Outstandings	604	588	579	574	568	560	554

Table F-18. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
College housing & academic facilities.....	Obligations.....	62	30					
	Loan disbursements.....	4	39	46	39	18	6	
	Change in outstandings.....	4	39	46	39	18	4	-2
	Outstandings.....	4	43	89	128	145	149	147
College housing loans.....	Obligations.....							
	Loan disbursements.....	36	32	30	20	24	9	12
	Change in outstandings.....	-489	-15	-430	8	11	-6	-5
	Outstandings.....	705	690	260	268	279	273	268
Higher education.....	Obligations.....							
	Loan disbursements.....							
	Change in outstandings.....	-22	-8	-5	-15			
	Outstandings.....	28	20	15				
Higher education facilities loans and insurance.....	Obligations.....							
	Loan disbursements.....							
	Change in outstandings.....	-108	-13	-53	-3	-3	-3	-3
	Outstandings.....	111	98	45	42	39	37	34
Energy: Geothermal resources.....	Obligations.....							
	Loan disbursements.....	50						
	Change in outstandings.....	34						
	Outstandings.....	50	50	50	50	50	50	50
Bonneville Power Administration.....	Obligations.....							
	Loan disbursements.....							
	Change in outstandings.....	*	*	*	*	*	*	*
	Outstandings.....	4	4	4	4	4	3	3

Health and Human Services:							
Medical facilities guarantees and loan fund.....	Obligations.....	3	7	6	1	1	1
	Loan disbursements.....	3	7	6			
	<i>Change in outstandings</i>	-6	-2	-122			
	Outstandings	124	122				
Health maintenance organization loan fund.....							
	Obligations.....						
	Loan disbursements.....						
	<i>Change in outstandings</i>	-10	-10	-72			
	Outstandings	82	72				
Health resources and services.....							
	Obligations.....		*				
	Loan disbursements.....		*				
	<i>Change in outstandings</i>	73	-2	-2	-2	-3	-3
	Outstandings	514	512	510	507	505	499
Health professions graduate student insurance fund.....							
	Obligations.....	34	39	41	45	48	52
	Loan disbursements.....	21	21	22	21	20	16
	<i>Change in outstandings</i>	30	31	33	31	28	22
	Outstandings	79	110	144	174	203	225
Housing and Urban Development:							
Flexible subsidy fund loan subsidies.....							
	Obligations.....			36			
	Loan disbursements.....			9	37	38	38
	<i>Change in outstandings</i>			9	37	37	38
	Outstandings			9	46	83	121
Flexible loan subsidy program.....							
	Obligations.....						
	Loan disbursements.....		52	40			
	<i>Change in outstandings</i>	68	52	40			
	Outstandings	68	121	161	161	161	161
Low-rent public housing.....							
	Obligations.....						
	Loan disbursements.....						
	<i>Change in outstandings</i>	-37	-42	-44	-47	-50	-52
	Outstandings	2,037	1,995	1,951	1,904	1,853	1,801
							1,747

Table F-18. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
Housing for the elderly or handicapped subsidies.....	Obligations.....			32	30	28		
	Loan disbursements.....					8	16	30
	<i>Change in outstandings</i>					8	16	30
	Outstandings					8	24	54
Housing for the elderly or handicapped.....	Obligations.....	565	480					
	Loan disbursements.....	335	339	360	449	498	278	
	<i>Change in outstandings</i>	298	301	-313	-225	-177	236	-43
	Outstandings	6,863	7,165	6,851	6,626	6,449	6,685	6,641
GNMA emergency mortgage purchases.....	Obligations.....							
	Loan disbursements.....	2						
	<i>Change in outstandings</i>	-422	-34					
	Outstandings	34						
Mortgage-backed securities subsidies.....	Obligations.....							
	Loan disbursements.....				4	7	10	13
	<i>Change in outstandings</i>				1	3	4	5
	Outstandings				1	4	8	13
Payments on mortgage-backed securities.....	Obligations.....							
	Loan disbursements.....	413	367	209	33	26	23	20
	<i>Change in outstandings</i>	176	-33	-43	-47	-52	-58	-20
	Outstandings	278	245	201	155	103	45	25
FHA subsidies.....	Obligations.....			89	139	203	203	203
	Loan disbursements.....			48	103	170	244	317
	<i>Change in outstandings</i>			37	75	118	170	230
	Outstandings			37	113	231	401	631
Federal Housing Administration fund.....	Obligations.....							
	Loan disbursements.....	988	1,363	928	1,097	1,093	999	937
	<i>Change in outstandings</i>	478	931	528	669	607	492	586
	Outstandings	5,123	6,054	6,582	7,252	7,858	8,351	8,936

Rehabilitation loan fund.....	Obligations.....	102	20					
	Loan disbursements.....	58	45	65				
	<i>Change in outstandings</i>	-21	-46	-18	-573			
	Outstandings	637	591	573				
Revolving fund for liquidating programs.....	Obligations.....							
	Loan disbursements.....							
	<i>Change in outstandings</i>	-299	*	*	*	*	*	*
	Outstandings	31	31	31	30	30	30	30
Nonprofit sponsor assistance subsidies.....	Obligations.....			1	1	1	1	1
	Loan disbursements.....				*	1	1	1
	<i>Change in outstandings</i>				*	*	*	*
	Outstandings				*	1	1	1
Nonprofit sponsor assistance.....	Obligations.....	*	1					
	Loan disbursements.....	*	1	1	*	*	*	*
	<i>Change in outstandings</i>	*	*	*	*	*	*	*
	Outstandings	2	2	2	2	2	1	1
Interior:								
Loan subsidies.....	Obligations.....			31	2	3	3	
	Loan disbursements.....			13	12	1	1	
	<i>Change in outstandings</i>			13	12	1	1	
	Outstandings			13	25	27	28	28
Bureau of Reclamation loans.....	Obligations.....	25	28					*
	Loan disbursements.....	28	22		9	-1		
	<i>Change in outstandings</i>	-452	21	-2	7	-4	-3	-3
	Outstandings	60	80	79	85	82	79	76
BIA loan subsidies.....	Obligations.....			13	13	13	13	13
	Loan disbursements.....			13	13	13	13	13
	<i>Change in outstandings</i>			13	12	11	10	10
	Outstandings			13	25	36	47	56
BIA revolving fund.....	Obligations.....	9	13					
	Loan disbursements.....	9	14	*	*	*	*	*
	<i>Change in outstandings</i>	-7	6	-8	-7	-6	-5	-5
	Outstandings	101	107	99	92	86	80	76

Table F-18. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
BIA loan guaranty & insurance fund	Obligations							
	Loan disbursements	16	5	5	7	8	8	9
	Change in outstandings	-1	2	1	1	-2	-3	-4
	Outstandings	15	17	20	20	19	16	12
Transportation: Railroad rehabilitation and improvement financing	Obligations	11						
	Loan disbursements	7	13	11	*			
	Change in outstandings	-175	-318	-16	-128			
	Outstandings	462	144	128				
Federal-aid highways trust fund	Obligations							
	Loan disbursements	*	*					
	Change in outstandings	-19	-19					
	Outstandings	19						
Right-of-way revolving fund	Obligations	45	46	48	48	48	48	48
	Loan disbursements	27	46	48	48	48	48	48
	Change in outstandings	-3						
	Outstandings	101	101	101	101	101	101	101
Miscellaneous expired accounts	Obligations							
	Loan disbursements							
	Change in outstandings	*	*					
	Outstandings	*						
Aircraft purchase loan guarantees	Obligations							
	Loan disbursements	9						
	Change in outstandings	8	-9					
	Outstandings	49	40	40	40	40	40	40

MarAd ship loan subsidies.....	Obligations.....			5	5	5	5	5
	Loan disbursements.....			5	5	5	5	5
	<i>Change in outstandings</i>			4	3	2	1	
	Outstandings			4	7	9	10	10
MarAd Federal ship financing fund.....	Obligations.....		5					
	Loan disbursements.....	183	205	150	100	100	100	100
	<i>Change in outstandings</i>	- 317	184	130	81	82	83	84
	Outstandings	1,294	1,478	1,608	1,689	1,771	1,854	1,938
Veterans Affairs: Vendee loan and repurchase subsidies.....	Obligations.....			969	999	759	751	738
	Loan disbursements.....			969	1,004	774	774	754
	<i>Change in outstandings</i>			200	11	- 95	- 4	- 7
	Outstandings			200	211	116	112	105
Vendee loans and loans repurchased from the public.....	Obligations.....	849	909					
	Loan disbursements.....	1,079	1,105	127	96	51	13	7
	<i>Change in outstandings</i>	84	29	- 207	10	18	*	4
	Outstandings	1,288	1,317	1,110	1,119	1,138	1,138	1,142
Direct loan subsidies.....	Obligations.....			1	1	1	1	1
	Loan disbursements.....			1	1	1	1	1
	<i>Change in outstandings</i>			*	1	1	*	*
	Outstandings			*	1	2	2	3
Direct loan revolving fund.....	Obligations.....	1	1					
	Loan disbursements.....	1	1					
	<i>Change in outstandings</i>	- 22	- 20	- 16	- 12	- 10	- 7	- 6
	Outstandings	76	57	41	28	19	11	6
Other veterans programs.....	Obligations.....	1	1	1	1	1	1	1
	Loan disbursements.....	1	1	1	1	1	1	1
	<i>Change in outstandings</i>	- 19	- 5	- 5	- 1	- 1	- 1	- 1
	Outstandings	19	14	10	8	7	6	4

Table F-18. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
Environmental Protection Agency:								
Abatement, control, and compliance.....	Obligations.....	15	32					
	Loan disbursements.....	9	53	53				
	<i>Change in outstandings</i>	7	48	47	-7	-8	-8	-8
	Outstandings	34	82	130	123	115	107	100
NASA.....	Obligations.....							
	Loan disbursements.....	316	569	617	665	548	392	198
	<i>Change in outstandings</i>	84	96	-126	-142	-160	-175	-194
	Outstandings	899	995	869	727	567	392	198
Small business:								
Business and investment loans.....	Obligations.....	82	82					
	Loan disbursements.....	559	559	459	393	265	163	85
	<i>Change in outstandings</i>	-222	-125	-263	-189	-262	-292	-294
	Outstandings	2,645	2,520	2,257	2,068	1,806	1,514	1,220
Small business investment companies.....	Obligations.....							
	Loan disbursements.....							
	<i>Change in outstandings</i>	-108	-110	-90	-70	-60	-50	-40
	Outstandings	633	523	433	363	303	253	213
Small business development companies.....	Obligations.....							
	Loan disbursements.....	13						
	<i>Change in outstandings</i>	-29	-55	-60	-60	-55	-55	-50
	Outstandings	871	816	756	696	641	586	536
Disaster loans.....	Obligations.....	185	280					
	Loan disbursements.....	158	218	140				
	<i>Change in outstandings</i>	-459	-328	-574	-673	-551	-448	-686
	Outstandings	3,260	2,932	2,358	1,685	1,134	686	

Loans to the District of Columbia.....	Obligations.....							
	Loan disbursements.....							
	<i>Change in outstandings</i>	-30	-34	-33	-35	-37	-39	-37
	Outstandings	685	652	619	584	547	508	471
Export-Import Bank.....	Obligations.....	693	695					
	Loan disbursements.....	512	548	517	328	148	76	25
	<i>Change in outstandings</i>	-1,308	-1,376	-658	-738	-775	-782	-817
	Outstandings	9,905	8,530	7,871	7,133	6,358	5,577	4,760
Federal Deposit Insurance Corporation ¹	Obligations.....							
	Loan disbursements.....	1,919						
	<i>Change in outstandings</i>	559	-3,283	-4	-50	-50	-50	
	Outstandings	3,649	366	361	311	261	211	211
Federal Savings and Loan Insurance Corporation ¹	Obligations.....	84	75	35	20	20	20	20
	Loan disbursements.....	84	75	35	20	20	20	20
	<i>Change in outstandings</i>	83	66	26	10	10	10	10
	Outstandings	1,852	1,918	1,944	1,954	1,964	1,974	1,984
National Credit Union Administration:								
Share insurance fund.....	Obligations.....	3	5	30				
	Loan disbursements.....	3	5	30				
	<i>Change in outstandings</i>	*	2	24	-5	-5	-4	
	Outstandings	5	7	31	26	21	17	17
Central liquidity facility.....	Obligations.....	63	68	20	20	20	20	20
	Loan disbursements.....	61	68	20	20	20	20	20
	<i>Change in outstandings</i>	7	5	-52	-5	-5	-5	-5
	Outstandings	118	123	71	66	61	56	51
Tennessee Valley Authority:								
Power program.....	Obligations.....	73	74	66	59	53	47	42
	Loan disbursements.....	73	74	66	59	53	47	42
	<i>Change in outstandings</i>	-6	-13	-16	-13	-21	-25	-34
	Outstandings	260	248	232	219	198	173	139

Table F-18. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
Seven States	Obligations	348	214	233	242	292	270	389
	Loan disbursements	348	214	233	242	292	270	389
	<i>Change in outstandings</i>	<i>339</i>	<i>108</i>	<i>37</i>	<i>75</i>	<i>20</i>	<i>-3</i>	<i>90</i>
	Outstandings	2,162	2,271	2,308	2,383	2,404	2,401	2,491
Area and regional development	Obligations							
	Loan disbursements							
	<i>Change in outstandings</i>	*	*	*	*	*	*	*
	Outstandings	3	3	3	3	2	2	2
Other agencies and programs	Obligations	1	1	1	2	2	2	2
	Loan disbursements	45	32	22	18	3	3	3
	<i>Change in outstandings</i>	<i>-20</i>	<i>-69</i>	<i>-71</i>	<i>-78</i>	<i>-85</i>	<i>-75</i>	<i>-60</i>
	Outstandings	894	825	754	676	591	516	456
Grand total, net direct loans	Obligations	27,222	16,933	12,255	12,793	11,832	10,758	9,462
	Loan disbursements	33,667	25,943	23,125	22,050	19,328	16,338	14,131
	<i>Change in outstandings</i>	<i>-13,359</i>	<i>-12,648</i>	<i>-9,866</i>	<i>-6,148</i>	<i>-5,068</i>	<i>-5,559</i>	<i>-6,111</i>
	Outstandings	221,973	209,325	199,460	193,312	188,244	182,684	176,573

* \$500,000 or less.

¹ Direct loan obligations and disbursements for these programs represent increases in their holdings of loan assets rather than cash disbursements.

Table F-19. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
Funds Appropriated to the President:								
Foreign military sales	Commitments	2,480	5,000					
	New guaranteed loans	2,480	5,000					
	Change in outstandings	2,460	4,980	-223	-229	-237	-234	-266
	Outstandings	2,600	7,580	7,357	7,128	6,892	6,658	6,392
OPIC loan subsidies	Commitments			175	178	180	182	183
	New guaranteed loans			12	69	115	117	118
	Change in outstandings			12	69	114	107	94
	Outstandings			12	81	195	302	396
Overseas Private Investment Corporation	Commitments	200	175					
	New guaranteed loans	90	104	143	136	18	18	18
	Change in outstandings	58	72	92	64	-70	-75	-72
	Outstandings	366	437	529	594	523	449	377
AID private sector loan subsidies	Commitments			50	75	100	125	125
	New guaranteed loans			1	8	24	49	81
	Change in outstandings			*	6	22	47	77
	Outstandings			*	7	29	76	153
AID private sector revolving fund	Commitments		50					
	New guaranteed loans		25					
	Change in outstandings		25					
	Outstandings		25	25	25	25	25	25
AID housing & other guarantee subsidies	Commitments			100	100	100	100	100
	New guaranteed loans			20	60	90	100	100
	Change in outstandings			20	60	90	100	100
	Outstandings			20	80	170	270	370

Table F-19. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
AID housing and other credit guarantees	Commitments	125	125					
	New guaranteed loans	112	145	140	115	86	76	76
	Change in outstandings	81	109	98	67	30	10	-14
	Outstandings	1,409	1,518	1,616	1,683	1,713	1,723	1,709
Agriculture: Rural electric and telephone loan subsidies	Commitments			1,865	1,615	1,615	1,365	1,365
	New guaranteed loans			636	660	1,001	1,024	1,228
	Change in outstandings			629	648	982	1,001	1,196
	Outstandings			629	1,277	2,259	3,260	4,456
Rural electric and telephone revolving fund	Commitments	2,000	500					
	New guaranteed loans	2,000	500					
	Change in outstandings	1,435	485	-15	-15	-15	-15	-15
	Outstandings	2,868	3,353	3,338	3,323	3,308	3,293	3,278
Farmers Home Administration: Agricultural credit insur subsidies	Commitments			3,000	3,000	3,000	3,000	3,000
	New guaranteed loans			1,300	2,670	2,850	2,995	3,000
	Change in outstandings			1,300	2,410	2,043	1,711	1,365
	Outstandings			1,300	3,710	5,753	7,464	8,829
Agricultural credit insurance fund	Commitments	1,255	3,325					
	New guaranteed loans	1,741	2,653	1,687	340	252	87	17
	Change in outstandings	1,018	1,703	263	-1,260	-1,118	-1,052	-949
	Outstandings	3,507	5,209	5,472	4,212	3,094	2,043	1,093
Rural housing insurance fund	Commitments							
	New guaranteed loans	*						
	Change in outstandings	-127	-4	-5	-9	-9	-5	-6
	Outstandings	50	46	41	31	22	17	11

Rural development insurance subsidies	Commitments		196	196	196	196	196	
	New guaranteed loans		28	85	132	164	178	
	Change in outstandings		28	82	120	142	145	
	Outstandings		28	111	231	373	518	
Rural development insurance fund	Commitments		96	296				
	New guaranteed loans		101	174	138	72	19	14
	Change in outstandings		-231	-92	-114	-166	-194	-169
	Outstandings		1,688	1,596	1,483	1,317	1,123	954
CCC export loan subsidies	Commitments				5,500	5,500	5,500	5,500
	New guaranteed loans				5,500	5,500	5,500	5,500
	Change in outstandings				5,500	3,783	2,067	350
	Outstandings				5,500	9,283	11,350	11,700
Commodity Credit Corporation export credits	Commitments		4,557	5,500				
	New guaranteed loans		3,651	5,500				
	Change in outstandings		1,187	3,018	-3,223	-2,516	-1,775	-80
	Outstandings		4,919	7,937	4,714	2,198	423	342
Commerce: Economic development programs	Commitments			20				
	New guaranteed loans			20				
	Change in outstandings		28	2	-12	-11	-10	-9
	Outstandings		123	125	113	102	92	84
ITA operations and administration	Commitments							
	New guaranteed loans							
	Change in outstandings		-25					
	Outstandings							
National Oceanic and Atmospheric Administration	Commitments		93	75				
	New guaranteed loans		93	75				
	Change in outstandings		65	55	-25	-25	-25	-25
	Outstandings		315	370	345	320	295	270
Education: Guaranteed student loan subsidies	Commitments				13,080	13,861	14,682	15,571
	New guaranteed loans				12,476	13,224	14,012	14,865
	Change in outstandings				12,459	13,118	13,650	13,913
	Outstandings				12,459	25,577	39,227	53,139

SPECIAL ANALYSIS F

F-79

Table F-19. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
Guaranteed student loans	Commitments	11,812	12,090					
	New guaranteed loans	11,273	11,528					
	Change in outstandings	4,875	4,433	-8,310	-8,989	-9,629	-10,040	-10,723
	Outstandings	47,610	52,043	43,733	34,744	25,115	15,075	4,352
Energy: Geothermal resources development fund	Commitments							
	New guaranteed loans							
	Change in outstandings	-57						
	Outstandings							
Health and Human Services: Medical facilities guarantees and loan fund	Commitments							
	New guaranteed loans							
	Change in outstandings	-138	-107	-106	-113	-121	-126	-41
	Outstandings	654	547	441	328	207	81	40
Health professions graduate student insurance fund	Commitments	229	230					
	New guaranteed loans	229	230					
	Change in outstandings	545	192	-41	-42	-42	-41	-41
	Outstandings	1,850	2,042	2,001	1,959	1,917	1,876	1,836
Health education assistance loan subsidies	Commitments			100	100	75	50	25
	New guaranteed loans			100	100	75	50	25
	Change in outstandings			100	100	75	50	25
	Outstandings			100	200	275	325	350
Housing and Urban Development: Low-rent public housing	Commitments							
	New guaranteed loans							
	Change in outstandings	-255	-300	-325	-350	-375	-400	-425
	Outstandings	5,998	5,698	5,373	5,023	4,648	4,248	3,823

Revolving fund (liquidating)	Commitments							
	New guaranteed loans							
	Change in outstandings	-5	-10	-12	-16	-14	-1	-1
	Outstandings	59	49	37	21	7	6	5
FHA loan subsidies	Commitments			58,979	60,690	62,566	64,343	65,897
	New guaranteed loans			32,950	49,822	51,365	52,829	54,189
	Change in outstandings			32,754	44,622	44,445	42,994	41,447
	Outstandings			32,754	77,376	121,821	164,815	206,261
Federal Housing Administration (FHA)	Commitments	50,123	56,762					
	New guaranteed loans	48,618	45,212	15,254				
	Change in outstandings	25,341	21,046	-9,791	-23,304	-19,212	-17,556	-16,057
	Outstandings	300,758	321,804	312,013	288,709	269,497	251,941	235,884
GNMA mortgage securities subsidies	Commitments			66,260	68,438	69,233	70,065	70,682
	New guaranteed loans			44,173	57,032	57,694	58,388	58,901
	Change in outstandings			43,290	54,566	53,504	52,453	51,205
	Outstandings			43,290	97,856	151,360	203,813	255,017
GNMA mortgage-backed securities	Commitments	53,071	62,612					
	New guaranteed loans	57,135	52,177	11,043				
	Change in outstandings	24,448	27,592	-18,609	-35,707	-36,609	-33,881	-32,709
	Outstandings	333,445	361,037	342,428	306,721	270,112	236,231	203,522
Interior:								
BIA guaranteed loan subsidies	Commitments			45	45	45	45	45
	New guaranteed loans			45	45	45	45	45
	Change in outstandings			43	42	40	39	37
	Outstandings			43	85	125	164	201
BIA loan guaranty & insurance fund	Commitments	38	45					
	New guaranteed loans	38	45					
	Change in outstandings	1	34	-11	-15	-15	-15	-17
	Outstandings	170	204	193	178	163	148	131

Table F-19. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program		Actual 1988	Estimate					
			1989	1990	1991	1992	1993	1994
Transportation:								
MarAd Federal ship financing fund.....	Commitments.....	26						
	New guaranteed loans.....	26						
	Change in outstandings.....	-415	-348	-298	-249	-249	-249	-249
	Outstandings.....	3,864	3,516	3,218	2,970	2,721	2,472	2,223
Aircraft purchase loan guarantees.....	Commitments.....							
	New guaranteed loans.....							
	Change in outstandings.....	-84	-16	-18	-13	-11	-6	-3
	Outstandings.....	115	99	82	69	58	52	49
Miscellaneous expired accounts.....	Commitments.....							
	New guaranteed loans.....							
	Change in outstandings.....							
	Outstandings.....	997	997	997	997	997	997	997
Treasury:								
Payments to the Financial Assis Corp.....	Commitments.....	450	1,000	810	270	270		
	New guaranteed loans.....	450	1,000	810	270	270		
	Change in outstandings.....	450	1,000	810	270	270		
	Outstandings.....	450	1,450	2,260	2,530	2,800	2,800	2,800
Biomass energy development.....	Commitments.....							
	New guaranteed loans.....							
	Change in outstandings.....	-75	-7	-10	-13	-13	-13	-13
	Outstandings.....	502	495	485	472	459	446	433
	New guaranteed loans.....			13,851	14,342	13,694	13,168	12,553
	Change in outstandings.....			13,824	12,869	10,741	8,863	7,186
	Outstandings.....			13,824	26,693	37,434	46,297	53,483
	New guaranteed loans.....	17,302	13,486					
	Change in outstandings.....	3,386	-1,179	-14,313	-11,950	-10,627	-9,335	-8,157
	Outstandings.....	149,705	148,526	134,213	122,263	111,636	102,301	94,144

Small business:								
Business and investment loan subsidies	Commitments			3,535	3,535	3,535	3,535	3,535
	New guaranteed loans			1,450	2,900	2,900	2,900	2,900
	Change in outstandings			1,208	2,180	1,405	465	-35
	Outstandings			1,208	3,388	4,793	5,258	5,223
Business and investment loans	Commitments	3,552	3,740					
	New guaranteed loans	2,939	2,900	1,450				
	Change in outstandings	697	609	-368	-1,677	-967	-108	322
	Outstandings	9,711	10,320	9,952	8,275	7,308	7,200	7,522
Pollution control equipment guarantees	Commitments	1						
	New guaranteed loans		1					
	Change in outstandings	-16	-14	-248				
	Outstandings	262	248					
Disaster loans	Commitments							
	New guaranteed loans							
	Change in outstandings	*	*	*	*	*	*	*
	Outstandings	1	1	1	1	*	*	*
Export-Import Bank subsidies	Commitments			10,384	10,555	10,703	10,826	10,934
	New guaranteed loans			3,959	5,678	7,166	7,678	7,929
	Change in outstandings			1,779	1,356	1,296	1,031	871
	Outstandings			1,779	3,135	4,431	5,463	6,334
Export-Import Bank	Commitments	5,739	10,200					
	New guaranteed loans	5,144	6,701	3,224	1,749	878	456	245
	Change in outstandings	624	960	-968	-801	-650	-510	-417
	Outstandings	5,703	6,664	5,696	4,895	4,245	3,735	3,318
Federal Savings and Loan Insurance Corporation	Commitments	64	55	19	20	20	20	20
	New guaranteed loans	64	55	19	20	20	20	20
	Change in outstandings	-985	-73	-34	-30	-30	-30	-30
	Outstandings	3,077	3,005	2,971	2,941	2,911	2,881	2,851
National Credit Union Administration	Commitments	1						
	New guaranteed loans	1						
	Change in outstandings	*	*	-1	*			
	Outstandings	2	2	*				

Table F-19. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or Program	Actual 1988	Estimate					
		1989	1990	1991	1992	1993	1994
Tennessee Valley Authority:							
Power program.....							
Commitments.....							
New guaranteed loans.....	1	*	*	2	1	1	*
Change in outstandings.....	*	-1		1	*	*	*
Outstandings.....	1			1	1	1	1
Other agencies and programs.....							
Commitments.....	144	144					
New guaranteed loans.....	85	101	100				
Change in outstandings.....	-4	64	54	-62	-80	-113	-86
Outstandings.....	666	730	783	721	641	528	442
Subtotal, guaranteed loans (gross).....							
Commitments.....	153,739	175,431	177,949	182,519	185,514	188,090	190,699
New guaranteed loans.....	153,576	147,634	150,510	154,898	158,207	160,542	162,925
Change in outstandings.....	64,284	64,230	57,183	48,752	48,798	49,186	48,328
Outstandings.....	883,445	947,674	1004,857	1053,609	1102,408	1151,593	1199,921
Less secondary guaranteed loans: ¹							
GNMA guarantees of FHA/VA/FmHA pools.....							
Commitments.....	53,071	62,612					
New guaranteed loans.....	57,135	52,177	11,043				
Change in outstandings.....	24,448	27,592	-18,609	-35,707	-36,609	-33,881	-32,709
Outstandings.....	333,445	361,037	342,428	306,721	270,112	236,231	203,522
GNMA guarantees subsidies.....							
Commitments.....			66,260	68,438	69,233	70,065	70,682
New guaranteed loans.....			44,173	57,032	57,694	58,388	58,901
Change in outstandings.....			43,290	54,566	53,504	52,453	51,205
Outstandings.....			43,290	97,856	151,360	203,813	255,017
Subtotal, guaranteed loans (net).....							
Commitments.....	100,668	112,819	111,689	114,081	116,281	118,025	120,017
New guaranteed loans.....	96,441	95,457	95,293	97,866	100,513	102,155	104,024
Change in outstandings.....	39,836	36,637	32,501	29,894	31,903	30,614	29,832
Outstandings.....	550,000	586,637	619,138	649,032	680,935	711,550	741,382

Less guaranteed loans held as direct loans:²

By GNMA	Commitments							
	New guaranteed loans	2						
	Change in outstandings	- 422	- 34					
	Outstandings	34						
Total, primary guaranteed loans	Commitments	100,668	112,819	111,689	114,081	116,281	118,025	120,017
	New guaranteed loans	96,439	95,457	95,293	97,866	100,513	102,155	104,024
	Change in outstandings	40,258	36,671	32,501	29,894	31,903	30,614	29,832
	Outstandings	549,966	586,637	619,138	649,032	680,935	711,550	741,382

* \$500,000 or less.

¹ Loans guaranteed by the Federal Housing Administration, the Veterans Administration, or the Farmers Home Administration are included above. GNMA places a secondary guarantee on these loans, so they are deducted here to avoid double counting.

² When guaranteed loans are acquired by a budget account, they are counted as direct loans and shown in the direct loan table. Consequently, they are deducted from the totals in this table.

Table F-20. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES

(In millions of dollars)

Enterprise	Actual 1988	Estimate		
		1988	1989	1990
LENDING				
Student Loan Marketing Association.....	Obligations.....	5,936	6,529	7,183
	New transactions.....	5,936	6,529	7,183
	Net change.....	2,732	3,005	3,306
	Outstandings.....	20,461	23,466	26,772
Federal National Mortgage Association: Corporation Accounts.....	Obligations.....	25,796	14,879	16,622
	New transactions.....	23,524	13,367	14,936
	Net change.....	8,787	-2,754	5,909
	Outstandings.....	104,716	101,962	107,871
Mortgage-backed securities.....	Obligations.....	50,672	36,060	39,663
	New transactions.....	52,161	35,519	39,068
	Net change.....	36,630	18,103	20,432
	Outstandings.....	167,170	185,273	205,705
Farm Credit: Banks for cooperatives.....	Obligations.....	65,894	67,267	68,347
	New transactions.....	65,894	67,267	68,347
	Net change.....	906	302	473
	Outstandings.....	9,724	10,026	10,499
Farm Credit Banks.....	Obligations.....	14,659	13,427	13,523
	New transactions.....	14,659	13,366	14,890
	Net change.....	-1,692	-1,434	79
	Outstandings.....	42,145	40,712	40,791
Federal Home Loan Bank system: Federal home loan banks.....	Obligations.....	175,551	200,000	225,000
	New transactions.....	175,551	185,718	209,491
	Net change.....	21,470	5,718	9,491
	Outstandings.....	142,335	148,053	157,543
Federal Home Loan Mortgage Corporation: Corporation accounts.....	Obligations.....	4,195	1,902	1,895
	New transactions.....	4,195	1,902	1,895
	Net change.....	2,517	628	707
	Outstandings.....	15,442	16,070	16,776
Participation certificate pools ¹	Obligations.....	35,359	51,000	49,900
	New transactions.....	35,359	51,000	49,900
	Net change.....	11,812	31,988	26,815
	Outstandings.....	220,683	252,671	279,486
Subtotal, lending (gross).....	Obligations.....	378,062	391,065	422,432
	New transactions.....	377,279	374,668	405,709
	Net change.....	83,162	55,556	67,211
	Outstandings.....	722,676	778,232	845,443
Less loans between sponsored enterprises.....	Obligations.....			
	New transactions.....			
	Net change.....	-370	79	
	Outstandings.....	939	939	939
Less secondary funds advanced from Federal sources: Student Loan Marketing Association from FFB ²	Obligations.....			
	New transactions.....			
	Net change.....	-30		-30
	Outstandings.....	4,910	4,910	4,880

Table F-20. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES—Continued

(In millions of dollars)

Enterprise	Actual 1988	Estimate		
		1988	1989	1990
Tennessee Valley Authority to Fannie Mae	Obligations.....			
	New transactions.....			
	Net change.....			
	Outstandings.....	80	80	80
Less guaranteed loans held as direct loans by: Federal National Mortgage Association ³	Obligations.....			
	New transactions.....			
	Net change.....	-1,182	-1,740	-1,683
	Outstandings.....	30,695	28,955	27,272
Federal home loan banks	Obligations.....			
	New transactions.....			
	Net change.....	-986	-72	-34
	Outstandings.....	3,077	3,005	2,971
Federal Home Loan Mortgage Corporation ³	Obligations.....			
	New transactions.....			
	Net change.....			
	Outstandings.....	839	839	839
Farm Credit Banks.....	Obligations.....			
	New transactions.....			
	Net change.....	-11		
	Outstandings.....			
Student Loan Marketing Association ²	Obligations.....			
	New transactions.....			
	Net change.....	2,762	3,005	3,336
	Outstandings.....	15,551	18,556	21,892
Less federally guaranteed loans to: Financial Assistance Corporation	Obligations.....			
	New transactions.....			
	Net change.....	450	1,000	810
	Outstandings.....	450	1,450	2,260
Total lending	Obligations.....	378,062	391,065	422,132
	New transactions.....	377,279	374,668	405,709
	Net change.....	82,529	53,284	64,812
	Outstandings.....	666,135	719,498	784,310
BORROWING				
Student Loan Marketing Association.....	Net change.....	3,698	4,045	4,465
	Outstandings.....	25,027	29,072	33,537
Federal National Mortgage Association ⁴	Net change.....	49,998	15,934	23,130
	Outstandings.....	273,156	289,090	312,220
Farm Credit System: Farm Credit System Financial Assistance Corpora- tion.....	Net change.....	450	1,000	810
	Outstandings.....	450	1,450	2,260
Banks for cooperatives	Net change.....	2,306	-60	520
	Outstandings.....	11,196	11,136	11,656
Farm credit banks.....	Net change.....	-2,178	-1,342	-53
	Outstandings.....	43,362	42,020	41,967

Table F-20. LENDING AND BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES—Continued

(In millions of dollars)

Enterprise	Actual 1988	Estimate		
		1988	1989	1990
Federal Home Loan Bank system:				
Federal home loan banks	Net change.....	21,631	18,289	15,000
	Outstandings.....	126,711	145,000	160,000
The Financing Corporation.....	Net change.....	3,229	3,751	3,325
	Outstandings.....	3,725	7,476	10,801
Federal Home Loan Mortgage Corporation	Net change.....	15,357	33,996	26,632
	Outstandings.....	241,287	275,283	301,915
Subtotal, borrowing (gross).....	Net change.....	94,491	75,613	73,829
	Outstandings.....	724,914	800,527	874,356
Less borrowing from other sponsored enterprises	Net change.....	-370	79	
	Outstandings.....	939	939	939
Less borrowing from Federal sources:				
Student Loan Marketing Association from FFB ²	Net change.....	-30		
	Outstandings.....	4,910	4,910	4,880
Tennessee Valley Authority to Fannie Mae.....	Net change.....			
	Outstandings.....	80	80	80
Total borrowing from the public.....	Net change.....	94,891	75,534	73,829
	Outstandings.....	718,985	794,598	868,457
Less investments in Federal securities.....	Net change.....	-127	2,582	553
	Outstandings.....	5,169	7,751	8,304
Less borrowing for guaranteed loans held as direct loans by:				
Federal National Mortgage Association.....	Net change.....	-1,182	-1,740	-1,683
	Outstandings.....	30,695	28,955	27,272
Federal home loan banks.....	Net change.....	-986	-72	-34
	Outstandings.....	3,077	3,005	2,971
Federal Home Loan Mortgage Corporation.....	Net change.....			
	Outstandings.....	839	839	839
Farm Credit Banks.....	Net change.....	-11		
	Outstandings.....			
Student Loan Marketing Association ²	Net change.....	2,762	3,005	3,336
	Outstandings.....	15,551	18,556	21,892
Less federally guaranteed loans to:				
Financial Assistance Corporation.....	Net change.....	450	1,000	810
	Outstandings.....	450	1,450	2,260
Total borrowed.....	Net change.....	93,985	70,759	70,847
	Outstandings.....	663,204	734,042	804,919

¹ All new transactions are loans purchased from FHLMC corporation accounts.² All SLMA lending financed through the FFB has been counted in Table F-18 as direct loans. All SLMA loans are student loans guaranteed by the Federal Government and, therefore, counted in Table F-19 as guaranteed loans. The first deduction eliminates the overlap of this table with the direct loan table; the second deduction removes the non-FFB financed remainder of SLMA to eliminate overlap with the guaranteed loan table.³ The estimates for 1989 and 1990 are made by OMB.⁴ Loans purchased at discount are recorded at their acquisition cost.

Table F-21. AGENCY BORROWING FROM THE FEDERAL FINANCING BANK

(In millions of dollars)

Agency and Program	Actual 1988	Estimates					
		1989	1990	1991	1992	1993	1994
CREDIT RELATED ACTIVITY							
Funds Appropriated to the President:							
Foreign military sales credit:							
New Borrowing	848	4,208	2,524	2,126	1,236	431	.....
Net Lending	-3,076	-1,899	1,766	1,297	189	-729	-1,231
Loans Outstanding	16,088	14,189	15,955	17,252	17,441	16,712	15,481
Overseas Private Investment Corp.:							
Net Lending	-1	.....	.....	.....	.....	.....	.....
Loans Outstanding .....	.....	.....	.....	.....	.....	.....	.....
Department of Agriculture:							
Farmers Home Administration:							
Agricultural credit loans:							
Net Lending	-385	-3,960	-3,322	-1,975	-5,510	-3,950	-2,845
Loans Outstanding	27,625	23,665	20,343	18,368	12,858	8,908	6,063
Rural housing loans:							
Net Lending	-2,980	-1,000	-2,990	-1,848	-674	-795	-2,015
Loans Outstanding	25,971	24,971	21,981	20,133	19,459	18,664	16,649
Rural development loans:							
Net Lending	-3,148	-500	-120	-100	-100	.....	-150
Loans Outstanding	4,900	4,400	4,280	4,180	4,080	4,080	3,930
Rural Electrification Administration:							
Loan asset purchases (CBO):							
New Borrowing	68	189	273	4	.....	.....	.....
Net Lending	-102	121	273	4	.....	.....	.....
Loans Outstanding	4,139	4,260	4,534	4,538	4,538	4,538	4,538
Originations:							
New Borrowing	12	324	342	386	324	221	210
Net Lending	-1,992	-349	-361	-91	-180	-58	-100
Loans Outstanding	19,205	18,857	18,496	18,405	18,225	18,167	18,067
Department of Defense:							
Navy Ship Leases:							
Net Lending	-29	-38	-48	-48	-48	-48	-48
Loans Outstanding	1,759	1,721	1,672	1,624	1,576	1,528	1,480
Department of Education:							
Student Loan Marketing Association - Guarantees:							
Net Lending	-30	.....	-30	-30	-30	-30	-30
Loans Outstanding	4,910	4,910	4,880	4,850	4,820	4,790	4,760
Department of Energy:							
Geothermal resources development fund:							
Net Lending	50	.....	.....	.....	.....	.....	.....
Loans Outstanding	50	50	50	50	50	50	50
Department of Health and Human Serv- ices:							
Health maintenance organizations:							
New Borrowing .....	.....	7	6	.....	.....	.....	.....
Net Lending	-5	2	-6	.....	.....	.....	.....
Loans Outstanding	85	88	82	82	82	82	82
Medical facilities guarantees:							
Net Lending	-6	-96	.....	.....	.....	.....	.....
Loans Outstanding	96	.....	.....	.....	.....	.....	.....

Table F-21. AGENCY BORROWING FROM THE FEDERAL FINANCING BANK—Continued

(In millions of dollars)

Agency and Program	Actual 1988	Estimates					
		1989	1990	1991	1992	1993	1994
Department of Housing and Urban Development:							
Low rent public housing:							
Net Lending	-37	-42	-44	-47	-50	-52	-54
Loans Outstanding	2,037	1,995	1,951	1,904	1,853	1,801	1,747
Revolving fund for liquidating programs:							
Net Lending	-31						
Loans Outstanding							
Section 108 guaranteed loans:							
Net Lending	-6						
Loans Outstanding	318	318	318	318	318	318	318
Department of Interior:							
Territories of Guam and the Virgin Islands:							
Net Lending	-2	-2	-2	-2	-2	-2	-3
Loans Outstanding	59	57	55	53	51	48	46
Department of Transportation:							
R.R. and Revitalization Act:							
Net Lending	-9	-9	-7	-5	-6	-2	-2
Loans Outstanding	46	37	30	25	19	17	15
General Services Administration:							
Federal building fund:							
Net Lending	-8	-9	-11				
Loans Outstanding	387	378	367	367	367	367	367
National Aeronautics and Space Administration:							
Space flight, control, and data communications:							
New Borrowing	90	569	617	665	548	392	198
Net Lending	90	96	-126	-142	-160	-175	-194
Loans Outstanding	899	995	869	727	567	392	198
Small Business Administration:							
Loan asset purchases (Development Corp.):							
Net Lending	-7	-5	-5	-5	-*		
Loans Outstanding	15	10	5	*			
Originations (SBIC + Section 503):							
New Borrowing	1						
Net Lending	-134	-165	-150	-130	-115	-105	-90
Loans Outstanding	1,506	1,341	1,191	1,061	946	841	751
Other Independent Agencies:							
Export-Import Bank:							
New Borrowing	19	17	817	864	919	1,121	986
Net Lending	-1,506	-1,059	-446	-252	-304	-327	-376
Loans Outstanding	10,958	9,899	9,453	9,201	8,897	8,570	8,194
National Credit Union Administration:							
New Borrowing	7	68					
Net Lending	7	5	-72	-25	-25	-1	
Loans Outstanding	118	123	51	26	1		
Washington Metropolitan Area Transit Authority:							
Net Lending							
Loans Outstanding	177	177	177	177	177	177	177

Table F-21. AGENCY BORROWING FROM THE FEDERAL FINANCING BANK—Continued

(In millions of dollars)

Agency and Program	Actual 1988	Estimates					
		1989	1990	1991	1992	1993	1994
Subtotal, credit related:							
New Borrowing	1,045	5,374	4,573	4,045	3,027	2,164	1,394
Net Lending	-13,346	-8,908	-5,701	-3,399	-7,015	-6,275	-7,138
Loans Outstanding	121,349	112,441	106,740	103,340	96,325	90,050	82,912
OTHER ACTIVITIES							
Postal Service:							
New Borrowing	1,239	900	1,837	1,911	1,256	537	559
Net Lending	1,239	639	1,500	1,500	769		
Loans Outstanding	5,592	6,231	7,731	9,231	10,000	10,000	10,000
Tennessee Valley Authority:							
Originations (and Power programs):							
New Borrowing	339	1,125	2,996	245	292	270	389
Net Lending	339	539	437	78	20	-3	90
Loans Outstanding	2,162	2,701	3,138	3,217	3,237	3,234	3,324
Aquisition of securities:							
New Borrowing	2,341						
Net Lending	745						
Loans Outstanding	17,131	17,131	17,131	17,131	17,131	17,131	17,131
Subtotal, other activities:							
New Borrowing	3,919	2,025	4,833	2,156	1,548	807	948
Net Lending	2,323	1,178	1,937	1,578	789	-3	90
Loans Outstanding	24,886	26,063	28,000	29,579	30,368	30,365	30,455
Total, all FFB Financing:							
New Borrowing	4,963	7,399	9,406	6,201	4,575	2,972	2,342
Net Lending	-11,024	-7,730	-3,764	-1,821	-6,226	-6,278	-7,048
Loans Outstanding	146,235	138,504	134,740	132,919	126,693	120,415	113,367

*\$50 million or less.

Table F-22. FEDERAL PARTICIPATION IN DOMESTIC CREDIT MARKETS

(In billions of dollars)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Total funds loaned in U.S. credit markets ¹	416.8	351.4	405.4	394.0	509.8	697.4	748.8	904.3	727.9	745.5
Direct loans	19.6	24.2	26.1	23.4	15.3	6.3	28.0	11.2	-19.0	-13.4
Guaranteed loans	25.2	31.6	28.0	20.9	34.1	20.1	21.6	34.6	60.4	40.3
Government-sponsored enterprise loans ²	28.1	24.1	32.4	43.3	37.1	53.1	60.7	83.3	107.8	82.5
Total, Federal and federally assisted lending	72.9	79.9	86.5	87.6	86.5	79.5	110.3	129.1	149.2	109.4
Federal lending participation ratio (percent)	17.5	22.7	21.3	22.2	17.0	11.4	14.7	14.3	20.5	14.7
Total funds borrowed in U.S. credit markets ¹	416.8	351.4	405.4	394.0	509.8	697.4	748.8	904.3	727.9	745.5
Borrowing from the public	32.6	69.5	75.5	134.4	211.8	168.9	199.4	236.8	152.0	162.1
Borrowing for guaranteed loans	25.2	31.6	28.0	20.9	34.1	20.1	21.6	34.6	60.4	40.3
Government-sponsored enterprise borrowing ²	21.9	21.4	34.8	43.6	34.1	55.5	57.9	103.2	115.5	93.5
Total, Federal and federally assisted borrowing	79.8	122.5	138.3	198.9	280.0	244.5	278.9	374.6	327.9	295.9
Federal borrowing participation ratio (percent)	19.1	34.9	34.1	50.5	54.9	35.1	37.2	41.4	45.0	39.7

¹ Funds loaned to and borrowed from nonfinancial sectors excluding equities.² The data in table F-22 for total funds loaned are defined as excluding financial sectors. Nonetheless, the Government sponsored enterprises (GSEs), as well as Federal and federally assisted lending, are properly compared with total funds loaned. GSE lending is a proxy for the lending by non-financial sectors that are intermediated by the GSEs. It assists the ultimate non-financial borrowers whose loans are purchased or otherwise financed by the GSE.

Source: Federal Reserve Board Flow-of-Funds Accounts for total funds loaned and borrowed.

SPECIAL ANALYSIS G

TAX EXPENDITURES

The Congressional Budget Act of 1974 (Public Law 93-344) requires that a list of tax expenditures be included in the Budget. The Act defines tax expenditures as "revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of liability."

The definition of a tax expenditure draws a distinction between the baseline provisions of the tax structure and special or preferential provisions that are exceptions to the baseline structure. Public Law 93-344 does not, however, specify the baseline provisions of the tax law, so deciding which provisions are special or preferential is necessarily a matter of judgment.

Prior to 1983, the list of tax expenditures in Special Analysis G was almost identical to the list published by the Congressional Budget Office and the Joint Committee on Taxation. Both the executive branch and congressional staffs used the same concept—a "normal tax"—as the baseline. This concept is a variant of a comprehensive income tax.

After 1982, tax expenditures in Special Analysis G were identified using an alternative baseline, the "reference tax law." This year's Special Analysis G again displays tax expenditures identified by both the reference tax baseline and the normal tax baseline. In the following sections both baselines are described in general terms, then the conceptual and practical differences between them are discussed, and finally the major categories of tax expenditures are reviewed.

The annual preparation of the tax expenditure budget provides an opportunity for improving its scope and content. This year, the scope of the tax expenditure budget is expanded to include expenditures that are made by means of special and preferential provisions of the Federal estate and gift tax laws. These are described and tabulated in a section following the tables that traditionally have listed entries drawn from the income tax laws alone. Similar expansion of the scope of the tax expenditure budget is contemplated in future editions of Special Analyses G. These will include entries drawn from the full array of Federal excise taxes, user charges, and payroll taxes, all of which, with the income, estate and gift

taxes, constitute the "Federal tax laws" referred to in the Budget Act of 1974, cited above.

PRE-1983 BUDGET CONCEPTS

The "normal tax" structure used for identifying expenditures is quite similar to a comprehensive income tax. Such a tax defines taxable income as the sum of consumption, income taxes, and the change in net wealth in a given period of time. The normal tax is not limited to a particular structure of tax rates, or by a specific definition of the taxpaying unit (as between families and individuals). It also permits personal exemptions and a standard deduction. In addition, the normal tax, like a pure comprehensive income tax, allows deductions from gross income to arrive at a measure of taxable income when these are expenses incurred to earn income. Examples are the deductions for interest incurred in financing income-producing assets and for employee business expenses. The normal tax structure, however, does make several major departures from a truly comprehensive income tax. For example:

- Under the normal tax structure, income is taxed when realized, not as it is accrued. Thus, for example, the tax deferral of unrealized capital gains is not regarded as a tax expenditure.
- The current tax system taxes only cash income, and this is reflected in the normal tax structure. The benefits that households receive from using their own capital to produce goods and services for their own consumption are not included in taxable income. Thus, the exclusion from tax of imputed income from owner-occupied homes or the tax-free consumption by farmers of products grown on their farms, is not a tax expenditure.
- The normal tax structure includes a separate tax on corporation income. The additional revenue resulting from the nonintegrated corporation tax could well be considered a negative tax expenditure if the normal tax base were defined as the comprehensive income of individuals, with corporate retained earnings attributed to individual shareholders.
- The normal tax structure does not adjust the basis of capital assets or debt for changes in the price level during the time assets are held. Thus it overstates real capital gains, interest income or interest costs, and understates depreciation when there is inflation. If the normal tax were a comprehensive income tax, failure to take account of inflation in measuring depreciation, capital gains, and interest income would be regarded as a negative tax expenditure. A failure to take account of inflation in measuring interest costs would be regard-

ed as a positive tax expenditure, or subsidy for borrowing; and a negative tax expenditure, or penalty on lending.

Notwithstanding these exceptions, the normal tax concept can be thought of as a practical compromise with the ideal of a comprehensive income tax, one that avoids certain complexities while preserving the general idea. Nevertheless, one could use a truly comprehensive income tax as a standard where the failure to include accrued but unrealized income in the tax base would be a tax expenditure. Alternately, the standard could be a comprehensive personal tax on consumption. Here the failure to tax income that is accrued but not realized would not be a tax expenditure, because under a consumption based tax income earned but not consumed is not taxable.

POST-1982 BUDGET CONCEPTS

Both definition and measurement of tax expenditures have undergone major changes in recent years. Two types of items had been identified as tax expenditures in previous budgets: deviations from general rules that could be compared to the subsidy and transfer programs on the outlay side of the budget, and more general deviations from some normative, comprehensive tax standard. The second group is no longer considered as tax expenditures.

To identify the special provisions that substitute for outlay expenditures, tax expenditure budgets since fiscal year 1983 were constructed using a revised baseline with an added selection criterion. Under this procedure, a provision in the tax laws is listed as a tax expenditure if: (a) the tax law would enable a taxpayer to determine his tax liability in the absence of the provision, i.e., the particular provision is an exception to a general rule that is part of the reference tax law; and (b) the provision is sufficiently narrow in scope that it could be replaced by an expenditure program administrable by a Federal agency other than the Internal Revenue Service. The operational effect of these two criteria is to identify tax law provisions that function like the "authorizing and appropriation" authority for specific expenditure programs.

Beginning with the fiscal year 1983 budget, tax expenditures have also been estimated in terms of taxable "outlay equivalents." This allows a comparison of the resource cost of tax expenditure programs with direct Federal Government expenditures, which are pre-tax magnitudes.

In some, but not all, instances the, "outlay equivalent" tax expenditure estimate differs from the "revenue loss" estimate for the same tax subsidy. This difference arises when the tax subsidy functions as a government payment for service, and when this is the case, the outlay equivalent estimate is always larger than the revenue loss estimate.

Revenue loss estimates are lower in these situations because such payments for services are treated as a reduction in tax that increases the taxpayer's after-tax income. Under either a normal or reference income tax law standard such payments would instead enter the taxpayer's pre-tax income as government payments for services. This difference is clearly demonstrated by the outlay equivalent and revenue loss estimates for the Research and Experimentation Tax Credit (R&ETC).

To encourage increases in business R&E expenditures, the Federal Government provides a credit against business income tax otherwise due equal to 20 percent of the amount by which certain R&E expenditures exceed a prescribed threshold. Suppose a corporation is subject to tax and has a \$100 R&E threshold. Each dollar spent on R&E in excess of \$100 will generate 20 cents in Federal refunds. This incentive is a subsidy that reduces the cost of privately undertaken R&E. Under the R&ETC, the R&E expenditure refund is provided as a credit against income tax otherwise due. If the exact same incentive program had been authorized as an expenditure program administered by the National Science Foundation (NSF), the R&E expenditure refund would have been received in the form of a check, and the corporation would pay its income tax in full.

Current tax accounting rules allow R&E expenditures to be deducted from a taxpayer's gross income to derive taxable income. Suppose, for example, that the corporation with a \$100 threshold, influenced by the Federal incentive program, decides to spend \$110 on R&E, thereby qualifying for a \$2 R&E expenditure refund. If the \$2 refund is received as a NSF check, it is taxable income unless there is a specific provision in the tax laws to the contrary. The corporation would report its gross income for the year but deduct only \$108, its own R&E expenditure net of the NSF subsidy. Accordingly, although under current law the \$2 subsidy is paid as a R&ETC, the corporation would be expected to reduce its deduction for R&E expenditures from \$110 to \$108.

Had Congress decided to increase the incentive value, whether paid for by NSF check or R&ETC, it could have declared the \$2 tax-exempt. In this case, the corporation would deduct the full \$110 of its R&E expenditures as if it had not received the \$2 subsidy either by check or the tax credit. The corporation spends \$110, but its net-of-subsidy cost now is reduced to \$106.97. It still receives \$2, which are supplemented by a total tax saving of \$1.03 due to the fact it may now deduct the full \$110. The additional \$2 deduction generates a further \$1.03 reduction in the private cost of R&E because the tax saved from the additional deduction is, itself, tax-exempt. An extra \$2 deduction produces a 68 cents tax saving.¹

¹ At a 34 percent corporate marginal income tax rate.

This tax saving, because it is tax-exempt (does not reduce the deduction for R&E expenditures) produces an additional tax saving of 23 cents. This, in turn, produces an additional tax saving of 8 cents, and so on, totaling \$1.03. In effect, exempting the nominal 20 percent R&E subsidy rate (\$2) from tax transforms it into the equivalent of a taxable government subsidy rate of 30.3 percent (\$3.03).

Prior to 1989, the R&ETC was a fully tax-exempt subsidy. Consequently, the outlay equivalent tax expenditure estimate for the example's \$2 credit was \$3.03. This was necessary to fully account for the tax-exempt status of the payment that enhanced its value. It also increased the budgetary cost. In contrast, the revenue loss estimate for the R&ETC was \$2 because the R&ETC is viewed simply as a reduction in tax notwithstanding the fact its allowance is conditional on a taxpayer making R&E expenditures in excess of a threshold.

Only half the R&ETC is now tax-exempt. The Technical and Miscellaneous Revenue Act of 1988 requires taxpayers to reduce their R&E expenditure deduction by half the amount of the R&ETC. In the above example, the outlay equivalent estimate for a \$2 credit would be reduced from \$3.03 to \$2.52.² For the revenue loss estimate, the \$1 reduction in the R&E expenditure deduction is viewed as a 34 cents increase in tax that partially offsets the \$2 R&ETC revenue loss, yielding a net revenue loss of \$1.66.

In other instances, when the tax subsidy is not in the form of a tax-exempt payment for services performed, the outlay equivalent and revenue loss estimates are the same. Such instances include, for example: accelerated cost recovery deductions which result in tax deferrals, the amounts of which are the principal of interest-free loans; and deductions allowed with respect to consumption expenditures, the tax benefits of which function as price reductions. Since neither the principal of a loan nor a price reduction enters taxpayers' pre-tax incomes, the issue of tax-exemption does not arise.

Neither the Congressional Budget Office nor the Joint Committee on Taxation has adopted the reference tax law standard. Both continue to use the above described modified income tax norm, as their basis for identifying tax expenditures. As a consequence, the list of tax expenditures in the 1983 and 1984 Special Analysis G did not fully correspond to these other lists of tax expenditures. Some have found these discrepancies confusing. Beginning with the 1985 budget, therefore, both groups of tax expenditures have been listed in Special Analysis G. The discussion below sets out in greater detail the reference tax law used to identify the narrower set of tax

² The \$2 credit, plus 52 cents resulting from allowing a gratuitous \$1 deduction.

expenditures and identifies some of the differences between this reference tax law and the normal income tax standard used prior to 1983.

REFERENCE TAX RULES AND COMPARISON TO NORMAL TAX STANDARD

The reference tax rules from which departures represent expenditure-like government programs include:

1. *Definition of the taxpaying unit.* The taxpaying units are the same in the normal and reference tax structures with one major exception.³ In the normal tax, controlled foreign corporations are not regarded as entities separate from their controlling U.S. shareholders. Therefore, the deferral of tax on income received by controlled foreign corporations is regarded as a tax expenditure. In contrast, except for tax haven activities, the reference tax rules follow the current tax system in treating controlled foreign corporations as separate taxable entities whose income is not subject to U.S. tax until distributed to U.S. taxpayers. Under that definition of the tax unit, deferral of tax on controlled foreign corporation income is not a tax expenditure because U.S. taxpayers generally are not taxed on accrued, but unrealized income.

2. *Tax rate schedules.* Separate schedules apply to the various taxpaying units. These schedules are all included in the reference tax system. The normal tax system is similar, except that it specifies a single rate (the current maximum rate) on corporate income. The lower tax rates applied to the first \$75,000 of corporate income are thus regarded as a tax expenditure.

Since 1987, an alternative minimum tax (AMT) has been in effect. This tax, levied at a flat rate on a tax base derived by specific tax accounting rules, is payable whenever the AMT exceeds income tax liability, as determined by regular applicable income tax accounting rules.

3. *General accounting rules for determining income subject to the tax.* Income subject to tax is defined as gross income less the costs of earning that income. The Federal income tax has always defined gross income to include: (1) consideration received, both within the United States and abroad, in the exchange of goods and services, including labor services, or property; and (2) the taxpayer's share of gross, or net income earned and/or reported by another entity.⁴ Under the reference tax rules, therefore, gross income does not

³ The Internal Revenue Service code identifies as taxpaying units individuals (single, married, head of household), corporations (except those electing subchapter S treatment), cooperatives, real estate investment trusts, and other financial organizations that attribute their income to members in whose hands it is taxable, as well as trusts and estates (to the extent income is not distributed to beneficiaries). Certain otherwise taxable corporations and associations whose activities and ownership meet the requirements of section 501 are exempt from income tax, as are government-owned enterprises encompassed by section 115.

⁴ Such as interest, dividends, rents, royalties, and profits of partnerships, subchapter S corporations, and cooperatives.

include gifts, defined as receipts of money or property that are not consideration in an exchange, or most transfer payments, which can be thought of as gifts from the Government. Gross income does, however, include transfer payments associated with past employment, such as social security benefits. The normal tax baseline also excludes from gross income gifts between individuals. Under the normal tax baseline used prior to 1983, all cash transfer payments from government to private individuals are counted in gross income, and exemptions of such transfers from tax are identified as tax expenditures.

The costs of earning gross income are deductible in determining taxable income under the reference tax rules. These costs include: (1) expenses incurred in earning income from personal service (not including expenditures on goods and services for personal use); (2) costs of earning income incurred by a taxpayer's trade or business including costs of goods sold ⁵ and an allowance for physical capital used up in producing the output that generates the gross income of the business; ⁶ and (3) interest paid creditors who have advanced funds to help finance the ownership and use of assets by the trade or business.

For purposes of the alternative minimum tax (AMT), a number of these general accounting rules are modified, particularly those relating to the times when certain gross incomes must be reported and costs may be deducted. The AMT rules aim to accelerate the reporting of AMT income (subject to minimum tax rates) relative to taxable income derived by application of regular accounting rules. For this reason, virtually all AMT payments are later creditable against regular income taxes when they exceed the AMT liability.

In the particular cases of individuals who hold "passive" equity interests in businesses for which they report pro rata shares of sales and expenses, the Tax Reform Act of 1986 imposed restrictions limiting the amounts of the above deductions reportable in a year. For these purposes, a passive business activity is defined to be one in which the holder of the interest, usually a partnership interest, does not actively perform managerial or other participatory functions. For all his interests in passive activities the taxpayer may generally report no larger deductions for a year than will reduce his taxable income from such activities to zero. Deductions in excess of the limitation may be taken in subsequent years, or when the interest is liquidated.

With one exception, both the reference and normal tax law standards have incorporated the general statutory provisions gov-

⁵ Such as compensation of employees, goods and services purchased from other firms, royalties paid.

⁶ Depreciation in the case of machinery, equipment, and structures and depletion in the case of mineral deposits.

erning these allowable deductions. The exception is the rule for determining tax depreciation allowances. Under the reference tax law standard, the accelerated cost recovery system (ACRS) allowances for property placed in service before January 1, 1987, serve as the baseline. The system of depreciation allowances provided by the Tax Reform Act of 1986 (see below) is the reference tax law baseline for investments placed in service beginning with January 1, 1987. Thus, under the reference tax law standard, there are no tax expenditures from accelerated depreciation.

Under the normal tax standard baseline, however, the depreciation allowance for personal property is determined by using statutory accelerated methods⁷ over tax lives equal to mid-values of the asset depreciation range (ADR).⁸ The depreciation baseline for real property is computed using 40-year straight line depreciation. Consequently, from 1981 through 1986, the ACRS depreciation provisions generated tax expenditures under the normal tax baseline. Since the Tax Reform Act of 1986 provides depreciation allowances approximately equal to those in the normal tax baseline for machinery and equipment, post-1986 investment will no longer generate tax expenditures under either standard for investments of this type.

In addition to determining what must be included in gross income and what can be deducted, an operational income tax system also stipulates rules for valuing the exchange of goods and services and specifies when gross income is reportable and when deductions may be taken. On these matters, both the reference and normal tax law standards embody the provisions of enacted law including: (1) valuation is determined at the time transactions occur (realization as opposed to accrual accounting); (2) the market value of services from owner occupied housing and other durable goods or self-produced income, such as do-it-yourself repairs and maintenance, are excluded; (3) historical costs determine allowable deductions for capital cost recovery and the gain on the sale of an asset (no inflation adjustments); (4) current expenses are deductible from gross income in the period when the transaction is completed, while capital expenditures are recovered by depreciation or depletion deductions over the asset's productive life; and (5) the accounting period to determine income subject to tax, computing tax due and payable, and the dates when tax must be paid, are as specified.

Both the reference and normal tax law standards accept, without classifying it as a tax expenditure, a tax credit for foreign income taxes paid up to the amount of U.S. income taxes that would otherwise be due. This prevents the double taxation of income earned abroad.

⁷ Declining balance at double the straight-line rate or sum-of-years digits.

⁸ A statutory system in effect from 1971 through 1980.

MAJOR DEPARTURES FROM THE REFERENCE RULES

Beginning with the 1983 budget, the reference tax law standard has been used to identify as tax expenditures provisions that can be thought of as substitutes for budget outlays. For example:

- Current law excludes some forms of employee compensation, such as certain military housing and food allowances or employer-paid fringe benefits, from employees' gross income although they are clearly part of an employee's total compensation and are properly deductible from the gross income of the trade or business of employers who are taxable entities.
- The interest payments on State and local tax-exempt government bonds are no less income than interest, dividends, rents, and royalties received from other sources, but they are not included in the bondholder's gross income.
- The dividend and interest receipts of pension funds, are not included, as they accrue, in the gross income of the taxable beneficiaries who will ultimately receive them; they are reported only when they are paid out as retirement benefits after compounding, perhaps for many years, at pre-tax interest rates.

Defense Department outlays for military personnel are lower because part of military compensation takes the form of tax-free housing and food allowances. Excluding this compensation from tax substitutes for the higher direct outlays which would otherwise be required to maintain an equivalent level of compensation. Compensation in this form, if received from another employer, would be subject to tax. Similarly, the tax exclusion for interest paid by State and local governments enables them to obtain funds at lower rates. This exclusion is, therefore, equivalent to an interest subsidy or capital grant to State and local governments on the outlay side of the budget. The tax exclusion of employer-paid pension, health, and other insurance premiums and the preferred treatment of pension trust income are equivalent to direct Federal Government subsidies that would partly pay for private retirement, health, and insurance plans.

The tax laws also permit many deductions from gross income in the derivation of taxable income that have no apparent relation to the cost of earning the reported gross income, as the general rule would require. For example:

- Individuals may deduct contributions to charitable, educational, scientific, or religious organizations.
- Some oil, gas, and mineral producers may deduct a percentage depletion allowance that is not limited to recovery of the cost of acquiring the deposit. In addition, some investments in this type of property may be deducted in the year incurred, rather than capitalized and recovered as production ensues.

These special rules permit investment costs to be recovered more rapidly than the reference tax rules generally allow. They, in fact, often permit more than the full investment to be recovered tax free.

- Individuals are allowed to deduct mortgage interest from their pre-tax incomes, although they have not reported the (imputed) gross income they receive from the housing that the mortgages finance.

These particular exceptions to the general rules for computing taxable income have direct incentive effects that could just as well be obtained with outlay programs. Matching grants to qualified organizations based on contributors' support could replace the charitable deductions. Direct subsidies paid to mineral producers could replace the preferential treatment of oil and mineral investments. Expanded Federal mortgage interest subsidy programs could substitute for the deductibility of mortgage interest.

Finally, there are special exceptions to the general rules for determining net income tax due and payable. After a taxpayer has determined his pre-tax income, taking into account all preferential exclusions from gross income and all the special deductions, and has applied the appropriate tax rate schedule, there are still other exceptions to consider before arriving at the amount he must pay. For example, the taxpayer may take as credits against his tax otherwise due and payable amounts determined by expenditures during the tax year on:

- Child and dependent care.
- Newly constructed or substantially rehabilitated low-income housing.
- Incremental research and experimentation.
- Rehabilitating old and historic structures.

It is not difficult to imagine equivalent outlay programs that would subsidize these activities directly.

All of these examples are tax expenditures using either the reference tax rules or the normal tax rules. The major tax expenditures defined according to the normal tax baseline that are not tax expenditures according to the reference tax rules are: deferral of income of controlled foreign corporations, expensing of research and development expenditures, progressive corporation income tax rates, the tax exemption for certain government transfer payments, and the difference between statutory depreciation rules (ACRS) for investments made between 1981 and 1986 and rules providing a more accurate measure of economic income.

MEASURING TAX EXPENDITURES

Presenting budget outlays along functional lines, as in Part 5 of the Budget, is a way of showing how the Federal Government

influences the allocation of resources. The functions may be broadly categorized as: (1) the provision of public goods and services; (2) the provision of subsidies; and (3) the payment of transfers. The budget outlays for public goods, such as national defense, are used to acquire the labor and capital services needed to produce such goods. Subsidies, such as those for school lunches, are used to reduce the effective price of the subsidized item. Transfers, such as aid to families with dependent children, are intended to provide a level of income to recipients they would not otherwise achieve.

These Government activities alter the composition of national output. This occurs as a result of taxation or through the effects of borrowing. There also will be direct effects because of the changes in income and relative prices that these activities cause. Functional budget outlay figures measure the resource cost to the Federal Government of accomplishing the program objectives. Because GNP measures the total market value of goods and services, the ratio of total budget outlays to GNP is commonly used as an indicator of the size of Government relative to the private economy.

When functional budget outlay figures are used to evaluate the costs of specific programs, it is essential that the outlay figures be both consistent and comprehensive. In particular, these costs should reflect the pre-tax price of the resources. The market value of the goods and services included in GNP covers indirect taxes (sales and property taxes) as well as before tax incomes of wage earners and property owners.⁹ Consistency requires that all budget outlay measures also be stated in pre-tax magnitudes. Outlays for the purchase of goods and services are generally gross of taxes.¹⁰ Similarly, subsidy outlays in the budget generally enter the gross incomes of sellers of subsidized goods. In some instances government purchases (outlays) or subsidies are exempted from tax by a special tax provision. When this occurs, the outlay figure understates the resource cost of the program and is, therefore, not comparable with other outlay amounts. For example, as noted above, the outlays for certain military personnel allowances are not taxed. If this form of compensation were treated as income taxable to the employee, the Defense Department would have to make larger cash payments to its military personnel to leave them as well off after tax as they are now. The tax subsidy must be added to the tax-exempt budget outlay to make this element of national defense expenditures comparable with other outlays.

All tax expenditure estimates that are being reported were prepared by the Treasury Department and are based upon income tax

⁹ The income of property owners is usually received in the form of rent, interest and profit.

¹⁰ The payments to vendors and Government employees are gross income to the sellers out of which taxes will be paid as determined by the reference tax law in effect.

law enacted as of December 31, 1988. In estimating tax expenditures, it is assumed—as is true for estimates of out-year budget outlays—that the existing tax structure is unchanged. Aggregate output and income estimates are the same as those used for the 1990 budget estimates. The estimates of tax expenditures in the tables conform to the functional budget classification for outlays.

In table G-1 are shown, side-by-side, both the outlay equivalent and the revenue loss estimates of each special tax provision by fiscal year. The outlay equivalent estimates are comparable to the taxable outlay figures in the budget. These entries represent amounts that could be added to the other functional budget outlays while at the same time being added to budget receipts to provide a more consistent and comprehensive display of the resource reallocations produced by Federal fiscal measures. The revenue loss estimates are not consistent with direct budget outlays because they do not adjust for the implicit tax liability on certain of the items as was noted above. In table G-2, the outlay equivalent estimate for each special tax provision is displayed separately for corporations and individuals—also by fiscal year. Except for providing revenue loss rather than outlay equivalent estimates, table G-3 is identical to table G-2.

The tax expenditure estimates presented in this Special Analysis are similar to outlays and should not be interpreted as estimates of the increase in Federal receipts or the reductions in budget deficits that would accompany the repeal of the special provisions. There are four reasons why such an interpretation is not possible.

First, repeal of some provisions could affect levels of income and rates of economic growth. Consequently, large changes in tax expenditures could be expected to alter projected growth rates for aggregate national income and product and thus, the tax base over the forecast period. All receipts and expenditures in the budget are based, however, on projections of income and growth that assume all existing laws will continue.¹¹

Second, many individual tax expenditures, like some subsidy programs financed by outlays, are not independent of each other. If one subsidy program is repealed or severely curtailed, it is frequently the case that the demand for, and cost of, other Federal subsidy programs will be increased. For example, if the exclusion of employer-paid medical insurance from the gross income of employees were repealed, other tax-exempt forms of compensation, such as employer-paid pensions, would probably expand. Thus, the net effect on the budget of repealing the exclusion of employer-paid medical insurance would not equal the estimated cost of that tax expenditure, but a smaller amount after subtracting some increase

¹¹ Except as amended by proposals made in the budget.

in tax expenditures for pensions or other fringes. Similarly, a cut in support prices for one farm commodity might very well result in an increase in outlays for other price-supported commodities.

Third, tax expenditures are all cleared through individual and corporation tax accounts and, for this reason, their values become interdependent. For example, excluding interest received from State and local governments lowers a taxpayer's taxable income, and in a tax system with progressive tax rates, this can reduce the value of other tax deductions, such as charitable contributions. If the interest exclusion alone were repealed, some taxpayers could be thrust into higher tax brackets, automatically increasing the value of charitable contributions and their budget cost, even if taxpayers did not make larger contributions. On the other hand, if both the interest exclusion and the charitable deduction were repealed simultaneously, the increase in tax liability would be greater than the sum of the two separate tax expenditures, since each is estimated assuming that the other remains in force.

Finally, the annual value of tax expenditures for tax deferrals, like the outlay figures for government lending programs, is highly time-dependent while the unified budget is largely prepared on a strict cash receipts and disbursement basis. For example, the annual budget cost of tax deferrals due to the exclusion from employees' gross income of employers' contributions to employee pension plans is the sum of two items: the employers' current year pension plan contributions and the current year pension fund asset earnings. Both accrue to the current benefit of employees but are not currently included in their gross incomes. If the tax expenditure composed of these two exclusions were repealed, the immediate budget impact would be to tax only the employees on the employers' current year contributions and the current year pension fund asset earnings. Only as the existing population of covered employees retired and received their annuities, thereby depleting the stock of asset reserves previously accumulated with untaxed dollars, would the remaining deficit-reducing impact of repealing this tax expenditure be fully registered in the budget.

TAX EXPENDITURES BY FUNCTION

The 1988-90 outlay equivalent and revenue loss estimates of tax expenditures are displayed by functional category in tables G-1, G-2 and G-3. Whenever an item is identified as a tax expenditure under the normal tax rules, but not the reference tax rules, it is indicated by the designation, "Pre-1983 budget method" in the table. In these cases a line also appears, designated as "Post-1982 budget method" showing that tax expenditures for this item would be zero using the reference tax rules. The headings are the functional categories used in Part 5 of the Budget.

Because the sources of data for estimating tax expenditures are largely corporation and individual income tax returns, the estimates are arrayed by type of return in tables G-2 and G-3. It must be emphasized, however, that listing estimates under the corporation and individual headings does not imply that these categories of filers benefit from the special tax provisions in proportion to the respective tax expenditure amounts shown. Rather, these breakdowns principally show the specific tax accounts through which the cost of the program is cleared. Corporations as such neither pay tax nor receive Government payments. They are the institutional conduit through which their employees, creditors, and stockholders engage in exchanges with customers and the Government. Thus, the reduction in taxes of corporations resulting from minerals tax preferences makes possible higher wages and more employment for mineral workers, higher royalties payable to mineral land owners, and lowers the price of minerals. Little, if any, of the subsidy remains in the pockets of the corporations' creditors and equity holders in the form of higher interest rates or excessive rates of return. Similarly, the exemption from Federal income tax of interest paid by State and local governments provides a subsidy to those governments in the form of lower borrowing rates. Individual and corporate holders of such debt only benefit from the tax exemption to the extent their marginal tax rates exceed the percentage spread between taxable and nontaxable interest rates.

With these caveats in mind, a review follows of the tax expenditure estimates by functional category, as shown in tables G-1 through G-3, that are departures from both the reference and normal tax law unless otherwise specifically identified.

NATIONAL DEFENSE

Benefits and allowances to armed forces personnel.—The housing and meals provided military personnel, either in cash or in kind, are excluded from income subject to tax.

INTERNATIONAL AFFAIRS

Income earned abroad.—A U.S. citizen or resident alien who resides in a foreign country or who stays in one or more foreign countries for a prescribed period is allowed tax relief on foreign earnings. Beginning in 1982, the prescribed period is a minimum of 11 out of the past 12 months.

Eligible taxpayers may exclude \$70,000 per year of foreign earned income and may exclude or deduct reasonable housing costs in excess of one-sixth of the salary of a civil servant at grade GS-14, step 1. These provisions do not apply to persons who are employed by the U.S. Government. However, they do apply to some persons paid from public funds. The tax expenditure estimate also

reflects another provision that excludes from their taxable income certain allowances received by Federal employees working abroad. The effect of these two provisions is to reduce the employers' cost of employing U.S. taxpayers abroad.

Income of Foreign Sales Corporations (FSC).—The Foreign Sales Corporation (FSC) provisions exempt from tax a portion of U.S. exporters' foreign trading income to reflect the FSC's sales functions as foreign corporations. These provisions conform to the General Agreement on Tariffs and Trade (GATT).

Income of U.S. controlled foreign corporations.—With certain limited exceptions, the income of foreign corporations controlled by U.S. shareholders is not subject to U.S. taxation because, under the reference tax rules, corporations chartered and operating in foreign countries are not subject to U.S. income reporting and taxation. The income of those foreign corporations becomes taxable only when the controlling U.S. shareholders receive dividends or other distributions from their foreign stockholding.

The normal income tax standard defines a controlling interest in a foreign corporation as ownership of more than 50 percent of the foreign corporation's common stock by U.S. shareholders when each holds 10 percent or more of the stock. Under the normal tax accounting rules, the currently attributable foreign source pre-tax income from such an interest is subject to U.S. taxation, whether or not distributed. Thus, when the normal tax rule is taken as a baseline, the excess of controlled foreign corporation income over the amount distributed to a U.S. shareholder gives rise to a tax expenditure in the form of a tax deferral, that is, an interest-free loan.

Source rule exceptions.—The worldwide income of U.S. persons is taxable by the United States and a credit for foreign taxes paid is allowed. The amount of foreign taxes that can be credited is limited to the pre-credit U.S. tax on the foreign source income. An accurate "sourcing" of domestic and foreign gross incomes and deductions is required, therefore, to determine the size of the credit and the U.S. tax owed.

The Tax Reform Act of 1986 revised the sourcing rules extensively and provided two exceptions. The first is an exception for sales of inventory property that reduces the U.S. tax of exporters. The second exception is for financial institutions and certain financing operations of nonfinancial enterprises from the rules that require allocation of interest expenses between domestic and foreign activities of a U.S. taxpayer.

GENERAL SCIENCE, SPACE, AND TECHNOLOGY

Expensing R&E expenditures.—Research and experimentation (R&E) expenditures are commonly referred to as investments be-

cause their benefits continue to accrue for several years, when they are successful. The characteristics of R&E, however, are such that it is difficult to identify completed, discrete R&E projects, to determine whether the completed project is successful and, if it is successful, what its expected life will be. For these reasons, the statutory provision that these expenditures may be currently deducted (expensed) is considered part of the reference law. Notwithstanding, however, the absence of objective bases for determining whether R&E projects are completed and successful and, if successful, what their economic depreciation pattern might be, the normal tax standard views the expensing of R&E expenditures as the source of a tax expenditure entry. To measure the income and tax deferral expenditures under the pre-FY 1983 method, the "norm" assumed is that all R&E expenditures are successful and have an expected life of 8 years.

R&E credit.—In 1981, a tax credit for certain "incremental," statutorily defined R&E expenditures was introduced. As described earlier, the tax credit is 20 percent of the qualified expenditures each year in excess of a threshold, where the threshold is the average qualified expenditures of a taxpayer during the three preceding years. A similar credit for taxpayers' basic research grants to universities (with its own, separate threshold) has been provided since 1986. Prior to 1989, the otherwise deductible qualified R&E expenditures was not reduced by the amount of the credit; beginning in 1989, the R&E expenditure deduction is reduced by half of the credit. The R&E credit, which is a tax expenditure under both the reference and normal law standards, is scheduled to expire at the end of 1989.

Allocation of R&E expenditures.—As is discussed above, both the reference and normal tax rules for taxing foreign income require an accurate "sourcing" of deductions. Regulations issued in 1977 were designed to achieve a reasonable allocation of R&E expenses as between corporations' domestic and foreign activities, but successive legislative enactments suspended the requirement to allocate R&E expenses to foreign income until August 1, 1986. The Tax Reform Act of 1986 then substituted for one year a statutory allocation rule which reduced by half the benefit enjoyed by taxpayers during the suspension period. The Technical and Miscellaneous Revenue Act of 1988 required that 64 percent of both U.S. and foreign based R&E expenses must be allocated to their respective income sources. The remaining R&E expenses must then be allocated on the basis of gross sales or gross income. These rules were made effective for the first four months of the first taxable year beginning after August 1, 1987. Currently, corporations are again required to follow the 1977 rules which contain no tax expenditure element.

ENERGY

Exploration and development costs.—Certain expenditures for discovering fuel mineral properties may be deducted as current expenses rather than be capitalized and amortized over the productive life of the property. The tax treatment of a number of expenditures in this category departs from both the reference and normal tax rules.

In the case of oil and gas investments, the intangible drilling costs (IDCs) of successful wells, such as wages, the costs of using machinery for grading and drilling, and the cost of unsalvageable materials used in constructing wells, may be expensed. This provision is restricted to successful domestic wells.

Integrated oil companies may currently deduct only 70 percent of such costs and amortize the remaining 30 percent over five years. Other oil producers may deduct 100 percent of their IDCs, but if their IDCs less the amount which could be deducted had the IDCs been capitalized and amortized over ten years exceed 65 percent of the taxpayer's oil and gas income, the difference is subject to the minimum tax. The exploration and development costs of surface stripping and the construction of shafts and tunnels for other fuel minerals are also partially expensed; 70 percent of these costs may be currently deducted. The remaining 30 percent are deductible over five years.

Percentage depletion.—Fuel mineral producers are generally allowed to take percentage depletion deductions rather than cost depletion as provided by the reference and normal tax rules. Under cost depletion, outlays not recovered immediately through expensing are deducted over the productive life of the property, much as other businesses take deductions for the depreciation of the capital goods they use. Unlike depreciation or cost depletion allowances, however, percentage depletion deductions are not limited to the cost of the investment. Taxpayers instead deduct a percentage of gross income from mineral production at rates of 22 percent for uranium, 15 percent for oil, gas and oil shale, and 10 percent for coal. The deduction, however, is limited to 50 percent of net income from the property and also to 65 percent of total taxable income in the case of oil and gas. Percentage depletion for oil and natural gas is available only for limited quantities of output produced by independent producers and royalty owners. Production from geothermal deposits is eligible for percentage depletion at the same rate as allowed for oil and gas, but with no limit on output and no limitation with respect to qualified producers.

Capital gains on coal royalties.—In lieu of taking percentage depletion, holders of royalties from coal deposits could treat their payments as capital gains rather than ordinary income. This could reduce their tax liability because capital gains were taxed at pref-

erential rates prior to the Tax Reform Act of 1986. Since 1987, capital gains earned by individuals and corporations have been taxed as ordinary income. A more detailed discussion is provided in the commerce and housing credit section.

Tax-exempt bonds for energy facilities.—Tax-exempt bond financing for small scale hydroelectric generating facilities expired at the end of 1985. If an application for the licensing of such a facility had been filed with the Federal Energy Regulatory Commission (FERC) before January 1, 1986, tax-exempt financing was available through 1988. Another provision authorizing tax-exempt financing for steam generating or alcohol production facilities was repealed by the Tax Reform Act of 1986. The budget cost of this type of tax-exempt financing will continue, however, until the bonds are retired.

Conservation and new technology credits.—A variety of tax incentives have been available to stimulate energy conservation and encourage conversion to alternative energy sources. The incentives were in the form of investment tax credits: (a) to homeowners for improving the energy efficiency of their residences and for the installation of solar energy and geothermal devices; (b) to businesses for investment in a wide-ranging list of energy conserving and alternative energy-producing facilities; and (c) for investment in added intercity passenger bus capacity. By the end of 1988, all but three of these investment credit programs had expired, and these have been extended to the end of 1989 by the Technical Corrections and Revenue Act of 1988. The three surviving investment credits are: two, at 10 percent, for investment in solar and geothermal energy facilities; and one, at 15 percent, for investment in ocean thermal facilities. Notwithstanding their expiration, some of these incentive programs continue to have a budget effect as qualified projects not constructed before the cut-off date, but subject to binding construction contracts are placed in service and, as credits which were earned but not taken due to insufficient tax liabilities, are carried forward.

Alternative fuel production credit.—A nontaxable \$3 per barrel of oil-equivalent production credit is provided for several forms of alternative fuels. As a general rule, it is available as long as the price of oil stays below \$29.50 (in 1979 dollars).

Alcohol fuel credit.—Gasohol is exempt from 6 of the 9 cents per gallon Federal excise tax on gasoline.¹² There is a corresponding income tax credit for alcohol used as a fuel in applications where the excise tax is not assessed. This credit, equal to a subsidy of 60 cents per gallon for alcohol used as a motor fuel, is intended to encourage substitution of alcohol for petroleum-based gasoline.

¹² A motor fuel composed of at least 10 percent alcohol.

Gas and oil exception to passive loss limitation.—Although owners of working interests in oil and gas properties are subject to the alternative minimum tax, they are exempted from the “passive income” limitations. A working interest is one that requires the holder to manage, on behalf of himself and all other owners of interests, the development of wells and to incur all the costs of their operation. Exemption from the passive income limitations means that the working interest holder may, in all cases, aggregate negative taxable income from such interests with his incomes from all other sources. Thus, he will be relieved of the minimum tax rules limit on tax deferrals.

NATURAL RESOURCES AND ENVIRONMENT

Exploration and development costs.—As is true for fuel minerals, certain capital outlays associated with exploration and development of nonfuel minerals may be expensed rather than depreciated over the life of the asset.

Percentage depletion.—Most nonfuel mineral extractors also make use of percentage depletion rather than cost depletion, with percentage depletion rates ranging from 22 percent for sulphur down to 5 percent for sand and gravel. A more detailed discussion is provided in the energy function.

Tax-exempt bonds for pollution control and waste disposal.—Interest on State and local government debt issued to finance private pollution control and waste disposal facilities was excludable from income subject to tax. This authorization was repealed for pollution control equipment and a cap placed on the amount of debt that could be issued for waste disposal facilities by the Tax Reform Act of 1986.

Historic preservation.—Expenditures to preserve and restore historic structures qualified for a 25 percent investment credit prior to 1987. Furthermore, taxpayers were permitted to depreciate 87.5 percent of the investment notwithstanding the 25 percent capital grant implicit in the credit. Annual depreciation amounts were determined by the 18-year straight-line method. Beginning in 1987, the credit was reduced to 20 percent and the depreciable basis now must be reduced by the full amount of the credit taken. Annual depreciation deductions must be determined by the straight-line method over 27.5 years for residential structures and 31.5 years otherwise.

Capital gains on sale of timber and iron ore.—Income derived from cutting timber or iron ore royalties was taxed at the capital gains rate which was lower than the tax rates on ordinary income prior to passage of the Tax Reform Act. The act repealed the capital gain distinction except that, in 1987, the maximum capital

gains rate was restricted to 28 percent. A more detailed discussion is provided in the commerce and housing credit function.

Expensing multiperiod timber growing costs.—The Tax Reform Act of 1986 codified and made uniform the definition of the costs that must be capitalized when goods are produced for inventory for use in one's own trade or business, or under contract to another party. When the production takes more than two years, the producer is required to capitalize interest he might have paid to the extent that the production costs he had incurred could have been used to retire debt. These new cost accounting rules are effective with respect to all such production begun after December 31, 1986. However, timber production was specifically exempted from these "multiperiod" cost capitalization rules. The new special benefit thus derived from this taxable income deferral is especially important in forestry due to the extremely long period of production.

Credit and seven year amortization for reforestation.—Private forestry is also encouraged by two related provisions. Under one provision, a 10 percent investment tax credit is allowed for up to \$10,000 invested annually in clearing land and planting trees for the ultimate production of timber. Under the other, the same amount of forestation investment as is eligible for the investment credit may be amortized over a 7 year period. Without this preference, the amount would be capitalized under reference law accounting rules and be recovered (deducted) only when the trees were sold or harvested 20 or more years later. Moreover, the amount of forestation investment that is amortizable is not reduced by any of the investment credit that had been allowed.

AGRICULTURE

Expensing certain capital outlays.—Farmers, except for certain agricultural corporations and partnerships, currently are allowed to deduct certain expenditures for feed and fertilizer as well as for soil and water conservation measures. The latter are limited to projects conforming to state and federal plans. Expensing is allowed, even though these expenditures are for inventories held at the end of the year or for capital improvements that would otherwise be capitalized.

Expensing multiperiod livestock and crop production costs.—Farmers were exempted from application of the uniform cost capitalization rules enacted in 1986 with respect to the production of livestock and crops with a production period of less than two years. The Technical and Miscellaneous Revenue Act of 1988 extended the exemption to all livestock. Additionally, farmers engaged in establishing orchards, the construction of farm facilities for their own use, or the production of any goods for sale with a production period of two years or more may elect not to capitalize costs. If

they make such an election, they must use straightline depreciation allowances for all depreciable property they use in farming.

Loans "forgiven" solvent farmers.—In 1986, farmers were also granted special tax treatment by being forgiven the tax liability on certain forgiven debt.¹³ Normally, the amount of loan forgiveness is accounted for as a gain (income) of the debtor and he must either report the gain, or reduce his recoverable basis in the property to which the loan relates. If the debtor elects to reduce basis and the amount of forgiveness exceeds his basis in the property, the excess forgiveness is taxable. However, in the case of insolvent (bankrupt) debtors, the amount of loan forgiveness never results in an income tax liability.¹⁴ The act provides that any farmer with forgiven debt will be considered insolvent for tax purposes and thus qualify for income tax forgiveness.

Capital gains on sale of livestock.—The profit from the sale of livestock and certain other agricultural products has been treated as capital gains in the past but now ordinary tax rates apply. Further details on the treatment of capital gains are provided in the commerce and housing credit function.

Drought-related relief payments.—Government payments to farmers are part of their taxable incomes in the year received, as are all other payments for their services. The Technical Corrections and Miscellaneous Revenue Act of 1988 provides a special exception for drought relief payments. The reporting of payments received in one year may be deferred until the following year.

COMMERCE AND HOUSING CREDIT

This category includes a number of tax expenditure provisions that also affect economic activity in other functional categories. In general, provisions related to investment, such as accelerated depreciation, could as well have been classified under the natural resources and environment, energy, agriculture, or transportation categories.

Credit union income.—The earnings of credit unions not distributed to members as interest or "share dividends" are exempt from income tax.

Bad debt reserves.—Since 1986, only commercial banks with less than \$500 million in assets, mutual savings banks, and savings and loan associations are provided a subsidy. They are permitted to deduct additions to bad debt reserves in excess of actually experienced losses. Under prior law, all commercial banks were eligible for such treatment. Under the Tax Reform Act of 1986, the deduction for additions to loss reserves, allowed qualifying mutual sav-

¹³ Settlement of a debt for an amount less than the principal of a loan.

¹⁴ The insolvent taxpayer's carryover losses and unused credits are extinguished first, and then his basis in assets reduced to no less than amounts still owed creditors. Finally, the remainder of taxable income is itself forgiven.

ings banks and savings and loan associations, was reduced from 40 percent of otherwise taxable income to 8 percent. To qualify, the thrift institutions must maintain a specified fraction of their assets in the form of mortgages, primarily residential.

Special merger rules for financial institutions.—When a corporation becomes insolvent (the claims of its creditors exceed the value of its assets), it may reorganize under special bankruptcy rules. Generally, when such a reorganization occurs, one of the results is that the previous tax accounts of the bankrupt corporation are cancelled. This includes previous claims to tax refunds with respect to excesses of allowable tax deductions over gross income, called “net operating losses (NOLs),” that are cancelled by the forgiveness of debt.

A special exception to this rule has been provided to aid in the reorganization of troubled (insolvent) savings banks whose deposits are insured by the Federal Savings and Loan Insurance Corporation (FSLIC). Under special provisions of the tax law enacted in 1981, if the FSLIC certifies it is insolvent and that bank is acquired by another corporation, acquisition of the insolvent bank will be treated as a “tax-free” reorganization. In effect, the provision waives the normal requirement of continuity of ownership in the merged organization to make possible the future claim of tax refunds with respect to the acquired insolvent bank’s NOLs. The value of preserving these claims to tax refunds reduces the cost FSLIC would otherwise bear as insurer of the insolvent bank’s deposits. This provision, previously scheduled to expire at the end of 1988, has been extended through 1989 by the Technical and Miscellaneous Revenue Act of 1988.

Interest on life insurance savings.—Life insurance policies, other than term policies, generally contain a savings element. Savings in the form of policyholder reserves are accumulated from premium payments and interest is earned on the reserves. Such interest income is not taxed as it accrues nor when received by beneficiaries upon the death of the insured.

Small property and casualty insurance companies.—These insurance companies are provided preferential tax treatment. Companies that have annual net premium incomes of less than \$350,000 are exempted from tax; those with \$350,000 to \$2,100,000 of net premium incomes may elect to pay tax only on the income earned by their investment portfolio.

Life insurance companies owned by exempt organizations.—Generally, the income generated by life and property and casualty insurance companies is subject to tax, albeit by special rules. Insurance operations conducted by such exempt organizations as fraternal societies and voluntary employee benefit associations, however, are exempted from tax.

Mutual funds (RIC) expenses.—Individuals may deduct miscellaneous expenses only to the extent that they exceed 2 percent of their adjusted gross income. Many of the costs incurred by individuals in managing their personal securities portfolios are among the miscellaneous deductions allowed taxpayers who itemize deductions. Mutual funds perform these portfolio management functions for their shareholders and pay out their portfolio incomes net of these expenses. The shareholders are permitted to report their fund income net of management expense. They are, thereby, able to deduct fully portfolio management expenses without regard to the miscellaneous deduction limitation.

Interest on consumer debt.—Deductions allowed individuals for interest paid on consumer credit, which had been allowed without limit before the Tax Reform Act of 1986, is being phased out over a 5-year period. For 1987, only 65 percent of such interest was deductible, and it dropped to 40 percent in 1988. Only 20 percent will be deductible in 1989, 10 percent in 1990, and none in 1991 and thereafter.

Small issue industrial development bonds.—The interest on small issue industrial development bonds (IDBs) issued by State and local governments to finance private business property is excluded from income subject to tax. Depreciable property financed with small issue IDBs must be depreciated, however, using the straight-line method. Small issue IDBs are generally limited only to the face amount of the bond issue, although certain facilities, such as recreation or entertainment facilities, cannot be so financed. The tax exemption of small issue bonds expired on December 31, 1986, except for small issue IDBs exclusively issued to finance manufacturing facilities for which the tax exemption is scheduled to expire on December 31, 1989. The budget cost of these bonds continues as long as they are outstanding.

Mortgage housing bonds.—Interest on all mortgage revenue bonds, issued before January 1, 1990 by State and local governments, is exempt from taxation. Proceeds are used to finance homes purchased by first time buyers—with low to moderate incomes—of dwellings with prices under 90 percent of the average area purchase price. The annual volume of mortgage revenue bonds is restricted to State-by-State ceilings. The Tax Reform Act of 1986 included mortgage revenue bonds under the new unified volume cap which also covers student loan bonds and IDBs, as noted below.

Mortgage revenue bonds have been found to be relatively inefficient in providing subsidies to first time home buyers. States, therefore, have been authorized, through December 31, 1989, to issue mortgage credit certificates (MCCs) in lieu of qualified mortgage bonds. MCCs entitle home buyers to income tax credits for a

specified percentage of interest on qualified mortgage loans. In this way the entire amount of the subsidy flows directly to the home buyer without being partly diverted to financial middlemen or bondholders.

The aggregate annual amount of MCCs a State may substitute for mortgage bonds may not exceed 25 percent of the amount of qualified mortgage bonds that it could have issued under its annual ceiling. Because of this relationship between MCCs and qualified mortgage bonds, their outlay equivalent and revenue loss estimates are presented as one line item in tables G-1 through G-3.

Rental housing bonds.—Prior to 1987, State and local government issues of IDBs were restricted to multifamily rental housing projects in which 20 percent (15 percent in targeted areas) of the units were reserved for families whose income did not exceed 80 percent of the area's median income. The Tax Reform Act of 1986 increased these percentages while lowering the defined income limits. The set-aside is now 20 percent for families with incomes of no more than 50 percent rather than the former 80 percent of the area median income; or 40 percent for families with incomes of no more than 60 percent of the area median income. Other tax-exempt bonds for multifamily rental projects are generally issued with the requirement that all tenants must be low or moderate income families.

Limits on private activity tax-exempt bonds.—There are also limits imposed on the amount of tax-exempt State and local government bonds that can be issued to fund private activity. The annual limit on the aggregate volume of student loans and most industrial development bonds was initially set at the greater of \$150 for each resident of a State or \$200 million if that was larger. The Tax Reform Act of 1986 combined the prior law volume cap for single-family mortgage revenue bonds and multifamily rental housing bonds with the cap for student loans and IDBs. The cap was set at \$50 per capita or a minimum of \$150 million for each State.

Interest and taxes on owner-occupied homes.—Owner-occupants of homes may deduct mortgage interest and property taxes (but not maintenance outlays or depreciation) on their primary and secondary residences as itemized nonbusiness deductions. The Tax Reform Act of 1986 limited the mortgage interest deduction to interest on debt no greater than the owner's basis in the residence, plus qualified medical and educational expenses financed by the mortgage. The Omnibus Budget Reconciliation Act of 1987 changed the rules for deducting the mortgage interest on debt incurred after October 13, 1987. Interest on mortgage debt to acquire or improve a principal or second residence is still fully deductible for debt of no more than \$1 million. Interest on up to \$100,000 of other debt secured by a lien on a principal or second residence is also deductible, irre-

spective of the purpose of borrowing, provided the debt does not exceed the fair market value of the residence. Mortgage interest deductions on personal residences are tax expenditures because the taxpayers are not required to report the value of owner-occupied housing services as gross income.

Real property installment sales.—Prior to 1987, sellers of real and personal property could defer taxable income from “installment sales.” Sellers who extended credit to a purchaser could defer the tax on gains from the sale until the receipt of the loan repayment. The Tax Reform Act of 1986 denied use of the installment method to all sellers of property sold in national markets, such as securities, and to sellers using “revolving credit” arrangements. The Act also installed a “proportionate disallowance rule” which restricted the tax benefit to the amount of credit extended that was financed by the seller’s own equity. Because the installment method was generally available to all sellers before tax reform, the installment method was not considered a tax expenditure.

The Omnibus Budget Reconciliation Act of 1987 repealed the use of the installment method by all dealers in personal and real property, i.e., sellers who regularly hold property for sale or resale. It also repealed the proportionate disallowance rule for nondealers, defined as sellers of real property used in their business. The 1987 Act, however, requires payment of interest to the Federal Government on deferred taxes attributable to the sellers’ total installment obligations in excess of \$5 million but including only property with sales prices exceeding \$150,000. The payment of a market rate of interest eliminates the benefit of the tax deferral. Thus, the 1987 Act restores pre-tax reform law for nondealers with total installment obligations of less than \$5,000,000. The tax benefit for these “small” nondealers is, therefore, a tax expenditure.

Capital gains on sale of assets.—Deferred taxable income, defined by tax law as capital gain, had been accorded preferential treatment until the preference was repealed by the Tax Reform Act of 1986. Capital gains earned by individuals and corporations are now taxed as ordinary income.

Before the repeal, individuals could exclude 60 percent of their net capital gains (due to the sale of assets held for more than 6 months) from their otherwise taxable incomes.¹⁵ Individuals still can offset, as they could before under prior law, half of net long-term capital losses and 100 percent of net short-term capital losses against ordinary income up to a maximum deduction of \$3,000 per year with an unlimited carryforward.

¹⁵ The sixty percent of net long-term capital gains excluded from taxable income was treated as a preference item in computing the alternative minimum tax for individuals. This tax was applicable only if it was greater than a taxpayer’s regular income tax.

Capital gains of corporations are now taxed as ordinary income at a rate of 34 percent. In 1987, when the maximum corporate tax rate dropped to 40 percent, the maximum on such gains was held at 28 percent, as it had been under prior law, when the maximum corporate rate was at 46 percent.

The preferential tax treatment of capital gains does not give rise to a tax expenditure under the post-FY 1982 method, but under the pre-FY 1983 method, it is considered an exception to the normal tax standard, and thus does. Although the preference has been repealed, a budget effect appears in the tables because the taxpayers' own tax years and Federal fiscal years do not necessarily correspond.

Capital gains on home sales.—These gains are recognized and taxed only to the extent that the “adjusted sales price” exceeds the cost of a new home or the new home is not purchased and occupied within 2 years before or after the sale. The adjusted sales price is the amount realized (gross proceeds less selling expenses) minus qualified fixing up expenses. If a new house is constructed, it must be occupied within 2 years after the sale of the previous residence. The deferral of tax with respect to these gains on owner-occupied dwellings is a tax expenditure.

Capital gains on sales by owners aged 55 or older.—A taxpayer who is 55 years of age or older at the time of the sale of his residence may elect to exclude from tax up to \$125,000 of the gain from its sale. This is a once-in-a-lifetime election. In effect, this provision converts some prior deferrals of tax into forgiveness of tax.

Carryover basis of capital gains at death.—The assets¹⁶ in the estate of a person that has died are valued at their market prices. After payment of any estate tax that may be due, and after covering funeral and administrative expenses, heirs inherit what remains of the estate. The heirs' basis in the inherited assets is the valuation used for estate tax purposes. If the inherited assets appreciated during the decedent's lifetime, the income and estate tax laws permit a step-up in the heirs' basis to the valuation used for estate tax purposes. This upward reevaluation of the transferred assets is allowed without payment of the tax that had been deferred by the decedent with respect to the accrual of that appreciation. In effect, the deferred tax on the gain is forgiven. The resulting higher estate tax base is taxable at generally lower tax rates of the heirs. The net forgiveness of tax, itself a tax-exempt transfer, benefits the testator and his heirs, provided the testator was willing to hold appreciated assets.

¹⁶ After settlement of all income tax obligations.

Carryover basis of capital gains on gifts.—When a gift is made, the market value of the property enters the transferor's lifetime transfer base. With the gift, the transferred property carries to the donee the donor's basis—the cost that was incurred when the property was first acquired. The donee assumes a tax obligation equal to the donee's tax rate times the difference between the market value of the gift and the donor's basis. The carryover of the donor's basis allows a continued deferral of unrealized capital gains. This creates a tax preference because it is an exception to the reference tax law. The preference becomes even more valuable whenever the donee's income tax rate is lower than the donor's. An amount of the donor's deferred tax is then effectively forgiven.

Investment credit on machinery and equipment.—Although the 10 percent investment tax credit for investment in machinery and equipment was repealed as of the end of 1986, it continues to exert a budget impact for two reasons. First, such credits as had been earned by pre-repeal investments, but which could not be taken because the taxpayer had insufficient tax liability, can be carried forward for 15 years. And second, qualified investments that were subject to a binding contract prior to the repeal date may earn investment credits when they are subsequently delivered and/or placed in service. In both instances, the amount of the credit that may be taken after 1986 is 65 percent of the amount of the pre-repeal credit and, moreover, the credit is fully taxable. The taxpayer must now reduce his recoverable basis in the qualified assets by the full amount of the credit, rather than half, as before repeal.

Accelerated depreciation of real property, machinery and equipment.—As previously noted,¹⁷ the tax depreciation allowance provisions are part of the reference law standard and, thus, not a source of tax expenditure entries under the post-FY 1982 method. Under the pre-FY 1983 normal tax standard, however, a 40-year tax life for depreciable real property is the norm so the statutory depreciation periods in effect since 1987 for residential and nonresidential properties of 27.5 and 31.5 years, respectively, give rise to tax expenditures. Moreover, the tax expenditure estimates based on the pre-FY 1983 method include not only the continuing budget effects of more accelerated pre-1987 tax allowances for real property, but also those for machinery and equipment.

Safe harbor leasing.—When highly accelerated tax depreciation allowances and enhanced investment tax credits were enacted in 1981, a "safe harbor leasing" provision was also introduced. Under this provision, a corporation, otherwise unable to utilize the accelerated depreciation allowances and investment credit, might sell to, and then lease from, another corporation assets acquired after

¹⁷ See the discussion on general accounting rules of the section on the reference tax rules and the comparison to the normal tax standard.

December 31, 1981. The terms of such leaseback agreements, absent the safe harbor leasing provision, would not qualify the lessor corporation as the owner of the assets and allow it to utilize the investment incentives for tax purposes. The "selling" corporation could gain at least part of the financial advantage provided by the investment tax incentives by successfully negotiating leaseback agreements below market costs. Although the provision was repealed in 1982, its budget effects persist for the duration of the safe harbor leases entered into in 1981.

Business start-up costs.—When an individual or corporation acquires or otherwise enters into a new business, certain "start-up" expenses, such as the costs of investigating opportunities and legal services, are normally incurred. The taxpayer may elect to amortize these outlays over 60 months although they are similar to other payments he makes for nondepreciable intangible assets that are not recoverable until the business is sold.

Graduated corporation income tax rate schedule.—The schedule is graduated, with rates of 15 percent on the first \$50,000 of taxable income, 25 percent on the next \$25,000, and a rate of 34 percent on income over \$75,000. As compared with a flat 34 percent tax rate, the lower rates provide a \$11,750 reduction in tax liability for corporations with taxable incomes of \$75,000. This benefit is "recaptured" in the cases of corporations with taxable incomes exceeding \$100,000. This is accomplished by a 5 percent additional tax on corporate incomes in excess of \$100,000, but less than \$335,000. At this point the \$11,750 is fully recaptured. Since this rate schedule is part of the reference tax law, it does not give rise to a tax expenditure under the post-FY 1982 method. A flat corporation income tax rate is taken as the norm under the pre-FY 1983 method, however, and, therefore, the lower rates do yield a tax expenditure under this concept.

Passive loss real estate exemption.—The Tax Reform Act of 1986 disallowed the offset of passive losses against income from other sources. Losses up to \$25,000 attributable to certain rental real estate activity, however, were exempted from this rule.¹⁸

Treatment of Alaskan Native Corporations losses.—The reference tax law severely restricts the ability of profitable corporations to reduce their tax liabilities by merging or buying corporations with accumulated net operating losses (NOLs) and as yet unrefunded claims to investment credits. The Tax Reform Act of 1986 granted Alaska Native Corporations specific exemption from these restrictions. This ensures that their refund claims, which would otherwise expire,¹⁹ could, nevertheless, be validated by combining with other

¹⁸ A more detailed discussion is provided under the general accounting rules of the section on the reference tax rules and the comparison to the normal tax standard.

¹⁹ 15 years after the NOL or credit claim was first experienced.

corporations. The Technical and Miscellaneous Revenue Act of 1988 has limited this exception to NOLs and credits claimable prior to April 26, 1988.

Imputed interest rules.—Under reference tax law rules commonly referred to as original issue discount (OID), both the holder and seller of a financial contract, the lender and borrower, respectively, are generally required to report interest earned in the period it accrues, not when the contract payments are made. Moreover, the amount of interest accruable is determined by the actual price paid for the contract, not by the stated or nominal principal and interest stipulated in the contract.²⁰ In those instances in which the buyer of property worth more than \$250,000 issues his promise to pay in exchange for the property, similar rules apply, including rules to impute an effective interest rate when the value of the property (amount lent by the seller of the property) is not otherwise ascertainable.

Exceptions to the general rules for accounting for interest expense or income include the following: (a) permission for the mortgagor of his personal residence to treat the discount from the nominal principal of his mortgage loan, commonly called “points,” as prepaid interest which is deductible in the year paid, not the year accrued; and (b) sellers of farms and small businesses worth less than \$1 million, in exchange for the purchaser’s debt obligation, are exempted from the OID rules. This is \$750,000 more than the \$250,000 exemption that the reference tax law generally allows for such transactions.

TRANSPORTATION

Shipping companies that are U.S. flag carriers.—Certain companies that operate U.S. flag vessels receive a deferral of income taxes on that portion of their income used for shipping purposes, primarily construction, modernization and major repairs to ships, and repayment of loans to finance these qualified investments. Prior to January 1, 1987, the deferral was indefinite, thereafter the deferral has been limited to 25 years. Within this period, the deferred taxable income must be spent for qualified investments or be taxed.

Tax-exempt bonds for mass commuting vehicles.—Until expiration on December 31, 1984, State and local governments were allowed to issue tax-exempt obligations to finance the purchase of mass transit commuting vehicles for lease to government transit

²⁰ Thus, when a borrower on December 31, 1988, issues a promise to pay \$1,000 plus interest at 10 percent on December 30, 1989, for a total repayment of \$1,100, and accepts \$900 from a lender in exchange for the contract, the rules require that both parties: (a) recognize that \$900 is the amount lent, so that the effective loan interest rate is not the nominal 10 percent rate but is 22.2 percent; and (b) both report \$200 as interest paid or received in 1989, as the case may be.

agencies. There will be continued budget effects as long as such bonds are outstanding.

COMMUNITY AND REGIONAL DEVELOPMENT

Five year amortization of housing rehabilitation.—Until it expired on December 31, 1986, taxpayers could elect under certain conditions to amortize rehabilitation expenditures for low and moderate income rental housing over a 5 year period in lieu of ACRS depreciation. To qualify, rehabilitation expenditures had to range between \$3,000 and \$20,000 per dwelling unit. The limit per dwelling unit was \$40,000 on units which could be purchased by the tenants at a price that limited the profit to the seller. There will be a continued budget effect from qualified expenditures for which the 5 year amortization period had been selected.

Low-income housing investment.—In place of the five-year amortization, the Tax Reform Act of 1986 introduced a tax credit for investment in low income housing.²¹ For qualified projects without other federal subsidies, the credit is structured to have a present value of 70 percent of construction or rehabilitation costs incurred and is allowed over 10 years. For federally subsidized projects and those involving unrehabilitated existing low income housing, the credit is structured to have a present value of 30 percent. Notwithstanding the capital grant character of this subsidy, the recoverable basis of the investor is not reduced by the substantial credit allowed.

Rehabilitation of structures.—An investment tax credit is available for the rehabilitation of buildings that are used for business or productive activities and that were erected before 1936 for other than residential purposes. The credit is 10 percent of rehabilitation expenditures. A full reduction by the amount of the credit is required in the taxpayer's recoverable basis, making this a fully taxable investment subsidy.

Tax-exempt bonds for airports and similar facilities.—Until passage of the Tax Reform Act of 1986, the interest on IDBs issued by State and local governments to finance airports, docks, wharves, and sports and convention facilities was exempt from tax. The Act repealed authorization to issue such bonds to finance sports and convention facilities, as well as privately owned airports, docks, and wharves. Government-owned airports, docks and wharves, may continue to be financed with tax-exempt bond issues, and these bonds are not covered by a volume cap. This provision was extended by the Technical and Miscellaneous Revenue Act of 1988 to include bond issues to finance high speed rail facilities that need not be government owned.

²¹ New, substantially rehabilitated, and certain unrehabilitated, existing low income housing can qualify for the credit.

EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES

Scholarship and fellowship income.—Scholarships and fellowships are not excluded from taxable income to the extent they exceed tuition and course-related expenses of the grantee. From a strictly economic point of view, scholarships and fellowships are either gifts not conditioned on the performance of services, or they are rebates of educational costs. Thus, under the post-1982 budget method, the exclusion is not a tax expenditure because the reference tax law does not include either gifts or price reductions in a taxpayer's gross income. However, under the pre-1983 budget method, the exclusion is considered a tax expenditure. Under the normal tax standard, gift-like transfers of government funds—and many scholarships are derived directly or indirectly from government funding—are included in gross income.

Tax-exempt bonds for educational purposes.—Interest on State and local government debt issued to finance student loans or the construction of facilities used by private nonprofit educational institutions is excluded from income subject to tax. The Treasury Department has exclusive jurisdiction over determination by the executive branch as to whether interest on any such obligation is exempt from tax. As mentioned before, the aggregate volume of such private activity bonds is limited that each State may issue during any calendar year.

Dependent students age 19 or older.—Taxpayers can claim personal exemptions for dependent children age 19 or over who receive parental support payments of \$1,000 or more per year, are full-time students, and do not claim a personal exemption on their own tax returns. This preferential arrangement usually generates tax savings because the students' marginal tax rates are more often than not lower than their parents' marginal tax rates.

U.S. savings bonds for education.—The Technical and Miscellaneous Revenue Act of 1988 provides that interest on U.S. savings bonds, issued after December 31, 1989, may be excluded from tax if the bonds, plus accrued interest, are transferred to an educational institution as payment for educational expenses. The exclusion from tax is phased out for joint returns with adjusted gross incomes of \$60,000 to \$90,000 and over \$40,000 to \$50,000 for single and head of household returns.

Charitable contributions.—Contributions to charitable, religious, and certain other nonprofit organizations are allowed as an itemized deduction for individuals, generally up to 50 percent of adjusted gross income. Taxpayers whose contributions to charitable or educational organizations take the form of capital assets (usually securities that have appreciated in value) can claim its current value as a deduction without the taxation of any appreciation in value. Beginning in 1982, corporations could also deduct charitable

contributions up to 10 percent of their pre-tax income. The Tax Reform Act of 1986 includes in the alternative minimum tax bases of individuals and corporations the untaxed appreciation of contributed property. Tax expenditures resulting from the deductibility of contributions are shown separately for educational and other institutions. Contributions to health institutions are reported under the health function.

Employer provided benefits.—Many employers provide employee benefits that are not counted in employee income. The employers' costs for these benefits are deductible business expenses. The exclusion from an employee's income of the value of child care, meals and lodging provided by an employer for his own convenience is a tax expenditure, as are the exclusion of housing allowances and the rental value of parsonages from the taxable income of ministers.

Since January 1, 1979, an employer has been able to set up a tax subsidized educational assistance program for his employees. The program may pay for tuition, fees, books, and supplies, and amounts received under the program are excluded from an employee's gross income. Employer contributions to prepaid legal services plans and the value of legal services received under such plans are also excluded from employee income.

Employer Stock Ownership Plan (ESOP) credit.—Before the provision expired in 1986, a corporation could claim a limited tax credit if an equivalent amount of its common stock was set aside in an ESOP plan. The effective subsidy rate for this form of employee compensation exceeds 100 percent. The employer is fully reimbursed for the stock he transfers, and the benefited employees are not required to include this compensation in their current year gross income. This provision will be carried as a tax expenditure until the as yet unrefunded claims to the tax credits have been satisfied.

Child and dependent care expenses.—A tax credit may be claimed by married couples for child and dependent care expenses incurred when one spouse works full time and the other works at least part time or goes to school. The credit may also be claimed by divorced or separated parents who have custody of children and by single parents. Expenditures up to a maximum \$2,400 for one dependent and \$4,800 for two or more dependents are eligible for the credit. The credit is equal to 30 percent of qualified expenditures for taxpayers with incomes of \$10,000 or less. The credit is reduced to a minimum of 20 percent by one percentage point for each \$2,000 of income between \$10,000 and \$28,000. This aid is supplemented by excluding the value of employer-furnished child care from employees' income.

Targeted jobs.—The targeted jobs tax credit, has been modified and extended through 1989 by the Technical and Miscellaneous

Revenue Act of 1988. Employers may claim a tax credit for qualified wages paid to individuals who are certified as members of various targeted groups. The amount of the credit that may be claimed is 40 percent of the first \$6,000 paid during the first year of employment. A tax credit, formerly equal to 85 percent, has been reduced to 40 percent of the summer employment wages paid 16 and 17 year old youths who are members of low income families. This credit is structured to ensure the wage subsidy it provides is taxable; the employer must reduce his deduction for wages paid by the amount of the credit claimed.

Costs of removing architectural barriers to the handicapped.—The investment cost of making any business facility or vehicle accessible to persons suffering physical or mental disabilities may be currently recovered (deductible), rather than capitalized as part of the taxpayer's basis in such property, and recovered by subsequent depreciation allowances as is generally required by the reference tax law.

Foster care payments.—Foster parents provide a home and care for children who are wards of the state, under contract with the state. Compensation received for their service is explicitly excluded from the gross incomes of foster parents, making the expenses they incur nondeductible. This activity, is, in effect, tax-exempt.

HEALTH

Employer paid medical insurance and expenses.—Employee compensation, in the form of payments by employers for health insurance premiums and other medical expenses, is deducted as a business expense by employers, but it is not included in employee gross income.

Untaxed Medicare benefits.—The employer's payment of 1.45 percent of employees' wages (up to \$48,000 in 1989) into the Hospitalization Trust Fund, which finances Medicare benefits, is not included in employees' reportable compensation. The exclusion from employee income of such in-kind compensation constitutes a tax expenditure.

Medical care expenses.—Personal expenditures for medical care, including the costs of prescription drugs and insulin, exceeding 7.5 percent of the taxpayer's adjusted gross income are deductible.

Tax-exempt bonds for hospital construction.—Interest earned on State and local government debt issued to finance hospital construction is excluded from income subject to tax.

Charitable contributions to health institutions.—Contributions to nonprofit health institutions are allowed as a deduction for individuals and corporations. Tax expenditures resulting from the deductibility of contributions to other charitable institutions are listed

under the education, training, employment, and social services function.

Orphan drugs.—Drugs for the treatment of rare diseases or physical conditions are often called “orphan drugs” because the narrow demand for them discourages private firms from undertaking the costly investment in clinical testing that must be completed before manufacture and distribution are approved by the Food and Drug Administration. To encourage the development of such drugs, a tax credit is granted equal to 50 percent of the clinical testing costs incurred by the taxpayer. Because the drug firm is not required to reduce its deduction for testing expenses (an R&D expenditure) by the amount of this credit, the private cost of clinically testing orphan drugs is reduced to little more than 24 cents per \$1 expended. This tax expenditure was extended through 1990 by the Tax Reform Act of 1986.

Blue Cross and Blue Shield.—Although these organizations are not qualified as exempt, they are provided exceptions from otherwise applicable insurance company income tax accounting rules that effectively eliminate their tax liabilities.

INCOME SECURITY

Railroad retirement benefits.—These benefits are not generally subject to the income tax unless the recipient’s gross income reaches a certain threshold. This issue is discussed in more detail in the Social Security function under OASI benefits for retired workers.

Workmen’s compensation benefits.—Workmen’s compensation provides payments to disabled workers. These benefits, although income to the recipients, are a tax preference because they are not subject to the income tax.

Public assistance benefits.—The exclusion from taxable income of public assistance benefits received by individuals is listed as a tax expenditure under the pre-1983 budget method because, under the normal tax rules, cash transfers from government are included in gross income. In contrast, gifts not conditioned on the performance of services, including transfers from government, are not taxable under the reference tax baseline. Therefore, under the post-1982 budget method the tax exclusion for public assistance benefits is not shown as a tax expenditure.

Special benefits for disabled coal miners.—Disability payments to former coal miners out of the Black Lung Trust Fund, although income to the recipient, are not subject to the income tax, and, therefore, are a tax expenditure.

Military disability pensions.—Most of the military pension income received by current retired veterans is excluded from their income subject to tax.

Pension contributions and earnings.—Certain employer contributions to pension plans along with amounts set aside by the self-employed and individual contributions to individual retirement accounts (IRAs) are excluded from adjusted gross income in the year of contribution. Self-employed persons can make deductible contributions to their own retirement (defined contribution) plans equal to 25 percent of their income up to a maximum of \$30,000 per year.

Employees may deduct annual contributions to an IRA of \$2,000 (or 100 percent of compensation, if less), or \$2,250 on a joint return with only one spouse earning income, if: (a) neither the individual or spouse is an active participant in an employer-provided retirement plan; or (b) their adjusted gross income falls below \$40,000 (\$25,000 for a single taxpayer). The allowable IRA deduction is phased out between \$40,000 and \$50,000 for a joint return and \$25,000 and \$35,000 for a single return. Beyond these income limits, nondeductible contributions to IRAs are available to taxpayers who are active participants in employer-provided retirement plans.

The Tax Reform Act of 1986 placed limits on the amount that can be excluded from an employee's adjusted gross income under a qualified cash or deferred arrangement with the employer (401(k) plan). In 1989, this limit is approximately \$7,625. The actual limit is not as yet available. The Act also limits to the greater of \$9,500 or the 401(k) limitation the annual amount that may be excluded from an employee's adjusted gross income of the employee's own contributions to a tax-sheltered annuity (403(b) plan). The investment income earned by pension funds and other qualifying retirement plans is not taxable when earned, and this exemption is, therefore, also a tax expenditure.

Income earned by voluntary employee beneficiary associations.—Generally, the income generated by businesses is subject to income tax. However, the income from business operations conducted by exempt organizations, such as fraternal societies and voluntary employee benefit associations, is exempt from tax.

Employer provided benefits.—Many employers cover part or all the cost of premiums or payments for: (a) employee's life insurance benefits; (b) accident and disability benefits; (c) death benefits; and (d) supplementary unemployment benefits. To the extent they include such payments in their "compensation packages," the amounts are deductible by the employers. But these employer-paid benefits (premium payments) are excluded from employees' gross incomes for tax purposes.

The exclusion from employee income of employer payments, including group life insurance premiums and accident and disability insurance premiums, are listed here because they contribute to income security. Other tax-exempt employer paid benefits are

listed under the education, training, employment, and social services function.

Employer Stock Ownership Plan (ESOP) provisions.—ESOPs were introduced in 1974 as a special type of employee benefit plan eligible for the same tax treatment as employer-paid retirement plans. ESOPs, organized as trusts, are thus tax-exempt and, while employer-paid contributions (the value of stock issued to the ESOP) are deductible by the employer as part of his employee compensation costs, they are not included in the employees' gross income for tax purposes until they are paid out as benefits. Five special income tax provisions for ESOPs are intended to encourage employers and employees to participate in such plans to increase employee ownership of the corporations in which they are employed: (1) annual employer contributions are subject to less restrictive limitations (percentages of employees' cash compensation); (2) ESOPs may borrow to purchase employer stock, guaranteed by their agreement with the employer that the debt will be serviced by his payment (deductible by him) of a portion of their wages (excludable by them) to service the loan; (3) lenders to ESOPs may exclude half the interest from their gross income; (4) employees who sell appreciated company stock to the ESOP may defer tax until they withdraw benefits; and (5) dividends paid to ESOP-held stock are deductible by the employer.

Support of the aged and the blind.—Taxpayers who are blind or 65 years of age or older may take an additional \$750 standard deduction, if single, or \$600, if married. In addition, individuals who are 65 years of age or older, or who are permanently disabled, can take a tax credit equal to 15 percent of the sum of their earned and retirement income. Qualified income is limited to no more than \$2,500 for single individuals or married couples filing a joint return where only one spouse is 65 years of age or older, and up to \$3,750 for joint returns where both spouses are 65 years of age or older. The respective \$2,500 and \$3,750 limits are reduced by one-half of the taxpayer's adjusted gross income over \$7,500 for single individuals and \$10,000 for married couples filing a joint return.

Casualty losses.—Premiums paid for casualty and theft insurance to protect one's personal or real property are considered personal expenditures, as are purchases of the property itself. Neither the purchase of property nor insurance premiums to protect its value are deductible as costs of earning income; therefore, reimbursement for insured loss of such property is not reportable as a part of gross income. Under neither the reference nor normal tax baselines would the amount of an uninsured loss of such property be reportable. However, a special provision permits taxpayers to deduct casualty and theft losses of more than \$100 each, but only to the extent that total losses during the year exceed 10 percent of

adjusted gross income. This special relief for taxpayers suffering an uninsured loss is a tax expenditure.

Earned income credit.—This credit may be claimed by low-income workers with minor dependents. Before 1987, the credit was 11 percent of the first \$5,000 of earned income, for a maximum annual credit of \$550. The credit was reduced at the rate of 12 and 2/9ths cents per dollar of the larger of earned income or adjusted gross income over \$6,500.

The Tax Reform Act of 1986 liberalized this form of assistance by increasing the credit to 14 percent of the first \$5,714 of earnings up to a maximum credit of \$800. The credit phase out rate was reduced to 10 percent of income over \$9,000. Beginning in 1987, the maximum amount of income on which the credit may be taken is adjusted for inflation, as is the income level at which the phase out begins.

For 1989, the credit is 14 percent of the first \$6,500 of earnings up to a maximum credit of \$910. The credit is reduced by 10 percent of income over \$10,240, so that no credit is available at incomes over \$19,340.

In any tax year the amount of the credit must be reduced by the minimum tax liability of the taxpayer. Earned income tax credits in excess of tax liabilities are paid by the Federal Government to individuals. This portion of the credit is included in outlays, while the amount that offsets tax liabilities is shown as a tax expenditure.

SOCIAL SECURITY

OASI benefits for retired workers.—Social security benefits that exceed the beneficiary's contributions out of taxed income are deferred employee compensation and the deferral of tax on that compensation is a tax expenditure. These additional retirement benefits are paid for partly by employers' contributions that were not included in employees' taxable compensation. Up to one-half of any recipient's social security benefits and tier 1 railroad retirement benefits are included in the income tax base if a recipient's "modified adjusted gross income" plus one-half of his or her social security and railroad retirement benefits exceed a certain base amount: \$32,000 for those filing joint tax returns; \$25,000 for single persons; and zero for those married filing separately if they did not live apart from their spouse for the entire year. Modified adjusted gross income is AGI plus foreign or U.S. possession income excluded from AGI, and tax-exempt interest excluded from AGI. If the modified AGI exceeds the specified base amount, either one-half of the excess or one-half of the social security or railroad retirement benefits is included in income subject to tax, whichever

is less. This limits the tax expenditure to the portion of the benefit which is still excluded.

Social Security benefits for the disabled, dependents and survivors.—Benefit payments from the Social Security Trust Fund, for disability and for dependents and survivors, are excluded from the beneficiaries' gross incomes and thus give rise to tax expenditures.

VETERANS BENEFITS AND SERVICES

Veterans benefits.—All compensation due to death or disability and pensions paid by the Veterans Administration are excluded from taxable income. GI bill, as well as other veterans' readjustment and education benefits, are excluded.

Tax-exempt mortgage bonds for veterans.—The interest earned on general obligation bonds issued by State and local governments to finance housing for veterans is excluded from taxable income. There are, however, some restrictions on veterans mortgage revenue bonds. Their issuance is limited to five preexisting State programs and to amounts based upon previous volume levels for the period beginning on January 1, 1979 and ending on June 22, 1984. Furthermore, future issues are limited to veterans who served on active duty before 1977.

GENERAL GOVERNMENT

Public purpose State and local debt.—Interest on State and local government debt, issued to finance government activities, is excluded from Federal taxation. Most of these bonds are owned by individuals, but a substantial proportion is also held by commercial banks as well as casualty and property insurance companies. As a result of the tax exemption, State and local governments can sell debt obligations at a lower interest cost than would be possible if such interest were subject to tax. The use of tax-exempt State and local government securities to finance student loans, private businesses, private nonprofit organizations, and housing, is classified elsewhere. Only the excluded interest on bonds for public purposes, such as schools, roads, and sewers, is included in this functional tax expenditure.

Nonbusiness State and local taxes excluding home-owner property taxes.—The deductibility of nonbusiness State and local taxes gives indirect assistance to these governments by reducing the costs of the services they provide and, thus, the burden on their taxpayers. The Tax Reform Act of 1986 disallowed the deduction for general sales taxes beginning in 1987, but continued to allow the deductibility of State and local income taxes. The deductibility of property taxes on owner-occupied homes is classified under commerce and housing credit.

Business income earned in U.S. possessions.—Under certain conditions, U.S. corporations receiving income from an active trade or business, or from investments located in a U.S. possession, can claim a special credit against U.S. tax otherwise due.

INTEREST

U.S. savings bonds.—The interest on U.S. savings bonds is not taxable until the bonds are redeemed, thereby deferring tax liability. The deferral is equivalent to an interest-free loan and, therefore, it is a tax expenditure.

PROPOSED CHANGES IN TAX EXPENDITURES

The Administration proposes a number of tax revisions that would make permanent one tax expenditure, reintroduce an expired one, and change the cost of an existing one.

Permanent Research and Experimentation Credit.—The current 20 percent R&E tax credit is scheduled to expire at the end of 1989. The Administration is proposing a permanent credit that would reduce the taxpayers' uncertainty and encourage more research and experimentation. A permanent credit would reduce receipts by \$0.4 billion in 1990.

Research and Experimentation Expense Allocation Rules.—The allocation of multinational companies' R&E expenses between their domestic and international operations was by formula for one year before reverting back to 1977 Treasury rules in August 1987. During the 1981 to 1986 Congressional moratorium on these rules, all R&E expenses effectively could be allocated to domestic income. The Administration proposes that at least 67 percent of R&E expenses be allocable to domestic income. The Technical and Miscellaneous Revenue Act of 1988 had set the allocation at 64 percent but only for the first four months of the first taxable year beginning after August 1, 1987. The revenue cost of the proposal would be \$1.7 billion in 1990.

Oil and Gas Depletion Rule Modifications.—Currently, "proven" oil and gas properties that are transferred from integrated oil companies to independent oil and gas producers are ineligible for percentage depletion. This discourages the transfer of marginal wells to independent producers. The Administration proposes to remove the restriction. The independent producers currently may not deduct more than 50 percent of the net income from a property as percentage depletion. The Administration also proposes to raise the deduction back to 100 percent. The revenue cost of these modifications would be less than \$39 million in 1990.

Table G-1. ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX

(In millions of dollars)

Description	Fiscal years					
	Outlay Equivalent			Revenue Loss		
	1988	1989	1990	1988	1989	1990
National defense:						
Exclusion of benefits and allowances to armed forces personnel.....	2,210	2,215	2,300	1,890	1,900	1,975
International affairs:						
Exclusion of income earned abroad by United States citizens.....	1,665	1,785	1,910	1,220	1,305	1,395
Exclusion of income of foreign sales corporations (FSC).....	730	645	690	460	425	455
Inventory property sales source rules exception.....	4,130	4,415	4,725	2,625	2,915	3,120
Certain nonfinancial institutions operations interest allocation rules exception.....	60	95	100	40	60	65
Deferral of income from controlled foreign corporations:						
Pre-1983 budget method.....	110	100	105	110	100	105
Post-1982 budget method.....						
General science, space, and technology:						
Expensing of research and development expenditures:						
Pre-1983 budget method.....	865	1,190	1,285	865	1,190	1,285
Post-1982 budget method.....						
Credit for increasing research activities.....	1,240	1,340	1,445	900	970	1,045
Suspension of the allocation of research and experimentation expenditures.....	320			210		
Energy:						
Expensing of exploration and development costs:						
Oil and gas.....	-385	-15	150	-385	-15	150
Other fuels.....	35	35	35	35	35	35
Excess of percentage over cost depletion:						
Oil and gas.....	680	490	480	450	345	350
Other fuels.....	215	210	220	135	135	145
Capital gains treatment of royalties on coal.....	*			*		
Exclusion of interest on State and local industrial development bonds for certain energy facilities....	385	400	410	290	280	285
Alternative, conservation and new technology credits:						
Supply incentives.....	95	35	20	80	30	20
Conservation incentives.....	-*	-*		-*	-*	
Alternative fuel production credit.....	15	15	15	10	10	10
Alcohol fuel credit ¹	10	10	10	5	5	5
Energy credit for intercity buses.....	-*	-*	-*	-*	-*	-*
Special rules for mining reclamation reserves.....	45	45	50	45	45	50
Exception from passive loss limitation for working interests in oil and gas properties.....	75	70	75	55	55	60
Natural resources and environment:						
Expensing of exploration and development costs, nonfuel minerals.....	35	40	40	35	40	40
Excess of percentage over cost depletion, nonfuel minerals.....	330	315	330	230	235	250
Exclusion of interest on State and local IDBs for pollution control and sewage and waste disposal facilities.....	2,150	2,215	2,305	1,635	1,555	1,620
Tax incentives for preservation of historic structures.....	150	140	135	150	140	135
Capital gains treatment of iron ore.....	*			*		

Table G-1. ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—Continued

(In millions of dollars)

Description	Fiscal years					
	Outlay Equivalent			Revenue Loss		
	1988	1989	1990	1988	1989	1990
Capital gains treatment of certain timber income.....	*			*		
Expensing of multiperiod timber growing costs.....	270	310	360	270	310	360
Investment credit and seven-year amortization for reforestation expenditures.....	210	210	215	205	205	205
Agriculture:						
Expensing of certain capital outlays.....	525	505	495	525	505	495
Expensing of certain multiperiod production costs....	5	85	180	5	85	180
Treatment of loans forgiven solvent farmers as if insolvent.....	10	10	10	10	10	10
Capital gains treatment of certain income.....	*			*		
Deferral of drought-related payments.....		190	-125		190	-125
Commerce and housing credit:						
Exemption of credit union income.....	275	295	315	190	200	215
Excess bad debt reserves of financial institutions....	120	65	35	80	45	25
Special merger rules for financial institutions.....	1,225	2,145	2,320	885	1,555	1,680
Exclusion of interest on life insurance savings.....	7,260	7,940	8,740	5,410	5,560	6,115
Special alternative tax on small property and casualty insurance companies.....	85	120	120	65	70	70
Tax exemption of certain insurance companies.....	20	25	25	15	15	15
Small property and casualty insurance company deduction.....	20	45	40	15	35	25
Small life insurance company deduction.....	80	85	85	55	60	60
Exemption of RIC expenses from miscellaneous deduction floor.....	285	345	415	220	260	315
Deductibility of interest on consumer credit.....	6,530	3,280	1,740	6,530	3,280	1,740
Exclusion of interest on small issue industrial development bonds.....	3,435	3,475	3,335	2,705	2,510	2,405
Exclusion of interest on State and local mortgage bonds for owner-occupied housing.....	2,375	2,360	2,230	1,765	1,640	1,570
Exclusion of interest on State and local debt for rental housing.....	1,650	1,630	1,720	1,235	1,135	1,180
Deductibility of mortgage interest on owner-occupied homes.....	33,675	32,180	35,110	33,675	32,180	35,110
Deductibility of property tax on owner-occupied homes.....	10,100	10,410	11,765	10,100	10,410	11,765
Deferral of income from post 1987 installment sales.....	260	670	735	260	670	735
Capital gains (other than agriculture, timber, iron ore and coal):						
Pre-1983 budget method.....	265			210		
Post-1982 budget method.....						
Deferral of capital gains on home sales.....	3,700	3,910	4,110	3,700	3,910	4,110
Exclusion of capital gains on home sales for persons age 55 and over.....	3,835	4,195	4,250	2,940	3,190	3,230
Carryover basis of capital gains at death.....	16,030	17,310	18,695	11,540	12,465	13,460
Carryover basis of capital gains on gifts.....	70	75	85	70	75	85
Investment credit, other than ESOP's, rehabilitation of structures, energy property, and reforestation expenditures.....	11,785	8,355	5,255	9,150	6,530	4,305
Accelerated depreciation on rental housing:						
Pre-1983 budget method.....	440	540	660	300	370	460
Post-1982 budget method.....						

Table G-1. ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—Continued

(In millions of dollars)

Description	Fiscal years					
	Outlay Equivalent			Revenue Loss		
	1988	1989	1990	1988	1989	1990
Accelerated depreciation of buildings other than rental housing:						
Pre-1983 budget method.....	510	620	780	350	420	530
Post-1982 budget method.....						
Accelerated depreciation of machinery and equipment:						
Pre-1983 budget method.....	35,000	48,300	53,300	23,700	30,600	35,900
Post-1982 budget method.....						
Safe harbor leasing rules.....	660	535	480	690	550	490
Amortization of start-up costs.....	245	230	245	185	170	180
Reduced rates on the first \$100,000 of corporate income:						
Pre-1983 budget method.....	4,200	4,470	5,275	2,815	2,855	3,410
Post-1982 budget method.....						
Exception from the passive loss rules for \$25,000 of rental losses.....	1,480	1,370	1,535	1,145	1,060	1,190
Treatment of Alaska Native Corporations.....	400	700	240	400	700	240
Permanent exceptions from imputed interest rules....	175	140	160	130	110	125
Transportation:						
Deferral of tax on shipping companies.....	115	120	125	115	120	125
Exclusion of interest on State and local government bonds for mass commuting vehicles.....	50	40	20	10	*	*
Community and regional development:						
Five-year amortization for housing rehabilitation.....	45	40	40	45	40	40
Credit for low-income housing investments.....	260	650	1,050	160	390	635
Investment credit for rehabilitation of structures (other than historic).....	165	130	115	165	130	115
Exclusion of interest on IDBs for airports, docks and sports and convention facilities.....	960	1,000	1,040	725	695	720
Education, training, employment, and social services:						
Exclusion of scholarship and fellowship income:						
Pre-1983 budget method.....	625	685	720	570	625	720
Post-1982 budget method.....						
Exclusion of interest on State and local student loan bonds.....	385	390	405	355	330	345
Exclusion of interest on State and local debt for private nonprofit educational facilities.....	320	315	330	250	225	235
Parental personal exemption for students age 19 or over.....	460	435	450	415	395	405
Exclusion of interest on savings bonds transferred to educational institutions.....			20			15
Deductibility of charitable contributions (education).....	1,730	1,700	1,815	1,565	1,530	1,635
Exclusion of employer provided educational assistance.....	80	160		60	130	
Exclusion of employer provided child care.....	135	160	205	105	120	155
Exclusion of employee meals and lodging (other than military).....	760	790	830	685	715	750
Exclusion of contributions to prepaid legal services plans.....	15	40		10	35	
Investment credit for ESOPs.....	290	185	100	230	145	85
Credit for child and dependent care expenses.....	4,390	4,515	4,740	3,390	3,495	3,595
Targeted jobs credit.....	260	320	280	260	320	280

Table G-1. ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—Continued

(In millions of dollars)

Description	Fiscal years					
	Outlay Equivalent			Revenue Loss		
	1988	1989	1990	1988	1989	1990
Expensing of costs of removing certain architectural barriers to the handicapped.....	20	20	20	20	20	20
Deductibility of charitable contributions, other than education and health.....	10,725	10,415	11,140	10,515	10,205	10,915
Exclusion of certain foster care payments.....	25	25	25	20	20	20
Exclusion of parsonage allowances.....	200	215	240	160	175	195
Health:						
Exclusion of employer contributions for medical insurance premiums and medical care.....	31,055	34,820	37,255	24,690	27,650	29,585
Exclusion of untaxed Medicare benefits.....	5,415	5,985	6,745	5,415	5,985	6,745
Deductibility of medical expenses.....	1,960	2,155	2,325	1,960	2,155	2,325
Exclusion of interest on State and local debt for private nonprofit health facilities.....	2,870	2,850	3,025	2,230	2,025	2,190
Deductibility of charitable contributions (health).....	1,505	1,475	1,555	1,405	1,370	1,445
Tax credit for orphan drug research.....	*	*	*	*	*	*
Special Blue Cross/Blue Shield deduction.....	20	140	65	15	100	45
Income security:						
Exclusion of railroad retirement system benefits.....	385	370	390	385	370	390
Exclusion of workmen's compensation benefits.....	2,910	2,845	3,070	2,910	2,845	3,070
Exclusion of public assistance benefits:						
Pre-1983 budget method.....	380	340	345	380	340	345
Post-1982 budget method.....						
Exclusion of special benefits for disabled coal miners.....	115	110	110	115	110	110
Exclusion of military disability pensions.....	100	100	105	100	100	105
Net exclusion of pension contributions and earnings:						
Employer plans.....	59,210	61,065	65,410	44,180	46,050	49,300
Individual Retirement Accounts.....	11,725	11,590	12,540	8,820	8,860	9,590
Keogh plans.....	2,315	1,670	1,850	1,655	1,290	1,430
Exclusion of income earned by voluntary employee-beneficiary associations.....	425	410	445	360	350	380
Exclusion of employer provided death benefits.....	25	25	25	20	20	20
Exclusion of other employee benefits:						
Premiums on group term life insurance.....	2,395	2,550	2,730	1,940	2,065	2,210
Premiums on accident and disability insurance.....	160	165	170	120	125	130
Income of trusts to finance supplementary unemployment benefits.....	30	30	30	30	30	30
Special ESOP rules (other than investment credit).....	220	285	345	155	200	245
Additional deduction for the blind.....	15	15	15	15	15	15
Additional deduction for the elderly.....	1,535	1,155	1,140	1,535	1,155	1,140
Tax credit for the elderly and disabled.....	225	240	255	200	220	240
Deductibility of casualty losses.....	265	265	280	265	265	280
Earned income credit ²	1,075	1,640	2,140	955	1,395	1,815
Social Security:						
Exclusion of social security benefits:						
OASI benefits for retired workers.....	13,425	13,465	14,105	13,425	13,465	14,105
Disability insurance benefits.....	1,095	1,085	1,125	1,095	1,085	1,125
Benefits for dependents and survivors.....	2,840	2,870	3,010	2,840	2,870	3,010
Veterans benefits and services:						
Exclusion of veterans disability compensation.....	1,505	1,450	1,495	1,505	1,450	1,495
Exclusion of veterans pensions.....	85	80	80	85	80	80
Exclusion of GI bill benefits.....	70	60	50	70	60	50

Table G-1. ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—Continued

(In millions of dollars)

Description	Fiscal years					
	Outlay Equivalent			Revenue Loss		
	1988	1989	1990	1988	1989	1990
Excluding of interest on state and local debt for veterans housing.....	355	350	380	250	230	235
General government:						
Exclusion of interest on public purpose State and local debt.....	14,410	15,440	15,965	10,350	10,290	10,730
Deductibility of nonbusiness State and local taxes other than on owner-occupied homes.....	17,250	17,305	18,690	17,250	17,305	18,690
Tax credit for corporations receiving income from doing business in United States possessions.....	2,870	2,795	3,070	1,810	1,845	2,030
Interest:						
Deferral of interest on savings bonds.....	885	905	995	885	905	995

* \$2.5 million or less. All estimates have been rounded to the nearest \$5 million.

¹ In addition, the partial exemption from the excise tax for alcohol fuels results in a reduction in excise tax receipts of \$480 million in 1988; \$430 million in 1989; and \$420 million in 1990.² The figures in the table indicate the tax subsidies provided by the earned income tax credit. The effect on outlays is: 1988, \$2,695 million; 1989, \$3,850 million; 1990, \$3,700 million.

OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES

Table G-2 shows separately for corporations and individuals the outlay equivalent estimate associated with each tax subsidy item for which a total outlay equivalent estimate was provided in table G-1. As explained in the text under the heading "Measuring Tax Expenditures," outlay equivalent estimates do take into account the additional resources (if any) that would be required to provide the same after-tax incentive if the expenditure program were administered as a direct outlay rather than through the tax system. As was also previously explained, these estimates are not equivalent to estimates of the reduction in budget deficits that would accompany the repeal of the tax expenditure provisions. Nor do these estimates imply that the corporation and individual payees are the ultimate beneficiaries of the subsidies provided by these tax expenditures.

Table G-2. OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
National defense:						
Exclusion of benefits and allowances to armed forces personnel.....				2,210	2,215	2,300
International affairs:						
Exclusion of income earned abroad by United States citizens.....				1,665	1,785	1,910
Exclusion of income of foreign sales corporations (FSC).....	730	645	690			

Table G-2. OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—
Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
Inventory property sales source rules exception.....	4,130	4,415	4,725			
Certain nonfinancial institutions operations interest allocation rules exception.....	60	95	100			
Deferral of income from controlled foreign corporations:						
Pre-1983 budget method.....	110	100	105			
Post-1982 budget method.....						
Total (after interactions).....	5,030	5,255	5,620	1,665	1,785	1,910
General science, space, and technology:						
Expensing of research and development expenditures:						
Pre-1983 budget method.....	830	1,145	1,235	35	45	50
Post-1982 budget method.....						
Credit for increasing research activities.....	1,220	1,320	1,425	20	20	20
Suspension of the allocation of research and experimentation expenditures.....	320					
Total (after interactions).....	2,575	2,710	2,925	60	70	75
Energy:						
Expensing of exploration and development costs:						
Oil and gas.....	-840	-580	-455	455	565	605
Other fuels.....	35	35	35			
Excess of percentage over cost depletion:						
Oil and gas.....	120	95	95	560	395	385
Other fuels.....	200	195	205	15	15	15
Capital gains treatment of royalties on coal.....	*			*		
Exclusion of interest on State and local industrial development bonds for certain energy facilities....	385	400	410			
Alternative, conservation and new technology credits:						
Supply incentives.....	95	35	20			
Conservation incentives.....	-*	-*	-*			
Alternative fuel production credit.....	15	15	15	*	*	*
Alcohol fuel credit ¹	10	10	10	*	*	*
Energy credit for intercity buses.....	-*	-*	-*			
Special rules for mining reclamation reserves.....	40	40	45	5	5	5
Exception from passive loss limitation for working interests in oil and gas properties.....				75	70	75
Total (after interactions).....	45	175	270	785	745	770
Natural resources and environment:						
Expensing of exploration and development costs, nonfuel minerals.....	30	35	35	5	5	5
Excess of percentage over cost depletion, nonfuel minerals.....	305	295	310	25	20	20
Exclusion of interest on State and local IDBs for pollution control and sewage and waste disposal facilities.....	2,150	2,215	2,305			
Tax incentives for preservation of historic structures.....	50	50	45	100	90	90
Capital gains treatment of iron ore.....	*			*		
Capital gains treatment of certain timber income.....	*			*		
Expensing of multiperiod timber growing costs.....	160	180	205	110	130	155
Investment credit and seven-year amortization for reforestation expenditures.....	40	40	40	170	170	175

Table G-2. OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—
Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
Total (after interactions)	2,680	2,760	2,880	400	405	440
Agriculture:						
Expensing of certain capital outlays	65	60	60	460	445	435
Expensing of certain multiperiod production costs	*	35	60	5	50	120
Treatment of loans forgiven solvent farmers as if insolvent				10	10	10
Capital gains treatment of certain income	*			*		
Deferral of drought-related payments		25	-15		165	-110
Total (after interactions)	65	120	105	440	625	425
Commerce and housing credit:						
Exemption of credit union income	275	295	315			
Excess bad debt reserves of financial institutions	120	65	35			
Special merger rules for financial institutions	1,225	2,145	2,320			
Exclusion of interest on life insurance savings	460	455	505	6,800	7,485	8,235
Special alternative tax on small property and casualty insurance companies	85	120	120			
Tax exemption of certain insurance companies	20	25	25			
Small property and casualty insurance company deduction	20	45	40			
Small life insurance company deduction	80	85	85			
Exemption of RIC expenses from miscellaneous deduction floor				285	345	415
Deductibility of interest on consumer credit				6,530	3,280	1,740
Exclusion of interest on small issue industrial development bonds	3,435	3,475	3,335			
Exclusion of interest on State and local mortgage bonds for owner-occupied housing				2,375	2,360	2,230
Exclusion of interest on State and local debt for rental housing				1,650	1,630	1,720
Deductibility of mortgage interest on owner-occupied homes				33,675	32,180	35,110
Deductibility of property tax on owner-occupied homes				10,100	10,410	11,765
Deferral of income from post 1987 installment sales	100	170	185	160	500	550
Capital gains (other than agriculture, timber, iron ore and coal)						
Pre-1983 budget method	*			265		
Post-1982 budget method						
Deferral of capital gains on home sales				3,700	3,910	4,110
Exclusion of capital gains on home sales for persons age 55 and over				3,835	4,195	4,250
Carryover basis of capital gains at death				16,030	17,310	18,695
Carryover basis of capital gains on gifts				70	75	85
Investment credit, other than ESOP's, rehabilitation of structures, energy property, and reforestation expenditures	10,330	7,405	4,740	1,455	950	515
Accelerated depreciation on rental housing:						
Pre-1983 budget method	260	320	400	180	220	260
Post-1982 budget method						
Accelerated depreciation of buildings other than rental housing:						
Pre-1983 budget method	350	420	540	160	200	240

Table G-2. **OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—**
Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
Post-1982 budget method.....						
Accelerated depreciation of machinery and equipment:						
Pre-1983 budget method.....	26,000	36,500	40,500	9,000	11,800	12,800
Post-1982 budget method.....						
Safe harbor leasing rules.....	660	535	480			
Amortization of start-up costs.....	30	30	30	215	200	215
Reduced rates on the first \$100,000 of corporate income:						
Pre-1983 budget method.....	4,200	4,470	5,275			
Post-1982 budget method.....						
Exception from the passive loss rules for \$25,000 of rental losses.....				1,480	1,370	1,535
Treatment of Alaska Native Corporations.....	400	700	240			
Permanent exceptions from imputed interest rules.....	*	*	*	175	140	160
Total (after interactions).....	48,050	57,260	59,170	95,195	95,600	101,490
Transportation:						
Deferral of tax on shipping companies.....	115	120	125			
Exclusion of interest on State and local government bonds for mass commuting vehicles.....	50	40	20			
Total (after interactions).....	165	160	145			
Community and regional development:						
Five-year amortization for housing rehabilitation.....	15	15	15	30	25	25
Credit for low-income housing investments.....	35	110	220	225	540	830
Investment credit for rehabilitation of structures (other than historic).....	90	75	70	75	55	45
Exclusion of interest on IDBs for airports, docks and sports and convention facilities.....	960	1,000	1,040			
Total (after interactions).....	1,100	1,200	1,345	320	600	875
Education, training, employment, and social services:						
Exclusion of scholarship and fellowship income:						
Pre-1983 budget method.....				625	685	720
Post-1982 budget method.....						
Exclusion of interest on State and local student loan bonds.....				385	390	405
Exclusion of interest on State and local debt for private nonprofit educational facilities.....	320	315	330			
Exclusion of interest on savings bonds transferred to educational institutions.....					*	20
Parental personal exemption for students age 19 or over.....				460	435	450
Deductibility of charitable contributions (education).....	635	640	680	1,095	1,060	1,135
Exclusion of employer provided educational assistance.....				80	160	
Total education (after interactions).....	955	955	1,010	2,685	2,770	2,770
Exclusion of employer provided child care.....				135	160	205
Exclusion of employee meals and lodging (other than military).....				760	790	830
Exclusion of contributions to prepaid legal services plans.....				15	40	
Investment credit for ESOPs.....	290	185	100			

Table G-2. OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—
Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
Credit for child and dependent care expenses				4,390	4,515	4,740
Targeted jobs credit.....	215	285	250	45	35	30
Total training and employment (after interactions)	505	470	350	5,425	5,625	5,890
Expensing of costs of removing certain architectural barriers to the handicapped	15	15	15	5	5	5
Deductibility of charitable contributions, other than education and health.....	790	795	845	9,935	9,620	10,295
Exclusion of certain foster care payments				25	25	25
Exclusion of parsonage allowances				200	215	240
Total social services, (after interactions)	805	810	860	10,315	10,015	10,725
Grand total (after interactions)	2,265	2,235	2,220	18,425	18,410	19,385
Health:						
Exclusion of employer contributions for medical insurance premiums and medical care				31,055	34,820	37,255
Exclusion of untaxed Medicare benefits.....				5,415	5,985	6,745
Deductibility of medical expenses				1,960	2,155	2,325
Exclusion of interest on State and local debt for private nonprofit health facilities.....	2,870	2,850	3,025			
Deductibility of charitable contributions (health)	390	395	415	1,115	1,080	1,140
Tax credit for orphan drug research	*	*	*			
Special Blue Cross/Blue Shield deduction.....	20	140	65			
Total (after interactions)	3,280	3,385	3,505	39,545	44,040	47,465
Income security:						
Exclusion of railroad retirement system benefits				385	370	390
Exclusion of workmen's compensation benefits				2,910	2,845	3,070
Exclusion of public assistance benefits:						
Pre-1983 budget method				380	340	345
Post-1982 budget method.....						
Exclusion of special benefits for disabled coal miners.....				115	110	110
Exclusion of military disability pensions.....				100	100	105
Net exclusion of pension contributions and earnings:						
Employer plans.....				59,210	61,065	65,410
Individual Retirement Accounts				11,725	11,590	12,540
Keogh plans				2,315	1,670	1,850
Exclusion of income earned by voluntary employee-beneficiary associations.....				425	410	445
Exclusion of employer provided death benefits				25	25	25
Exclusion of other employee benefits:						
Premiums on group term life insurance				2,395	2,550	2,730
Premiums on accident and disability insurance				160	165	170
Income of trusts to finance supplementary unemployment benefits.....				30	30	30
Special ESOP rules (other than investment credit)	200	265	320	20	20	25
Additional deduction for the blind.....				15	15	15
Additional deduction for the elderly				1,535	1,155	1,140
Tax credit for the elderly and disabled				225	240	255
Deductibility of casualty losses				265	265	280
Earned income credit ²				1,075	1,640	2,140
Total (after interactions)				81,645	82,915	89,255

Table G-2. **OUTLAY EQUIVALENT ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—**
Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
Social Security:						
Exclusion of social security benefits:						
OASI benefits for retired workers.....				13,425	13,465	14,105
Disability insurance benefits.....				1,095	1,085	1,125
Benefits for dependents and survivors.....				2,840	2,870	3,010
Total (after interactions).....				17,360	17,420	18,240
Veterans benefits and services:						
Exclusion of veterans disability compensation.....				1,505	1,450	1,495
Exclusion of veterans pensions.....				85	80	80
Exclusion of GI bill benefits.....				70	60	50
Excluding of interest on state and local debt for veterans housing.....				355	350	380
Total (after interactions).....				2,015	1,940	2,005
General government:						
Exclusion of interest on public purpose State and local debt.....	2,375	2,530	2,425	12,035	12,910	13,540
Deductibility of nonbusiness State and local taxes other than on owner-occupied homes.....				17,250	17,305	18,690
Tax credit for corporations receiving income from doing business in United States possessions.....	2,870	2,795	3,070			
Total (after interactions).....	5,245	5,325	5,495	29,285	30,215	32,230
Interest:						
Deferral of interest on savings bonds.....				885	905	995

* \$2.5 million or less. All estimates have been rounded to the nearest \$5 million.

¹ In addition, the partial exemption from the excise tax for alcohol fuels results in a reduction in excise tax receipts of \$480 million in 1988; \$430 million in 1989; and \$420 million in 1990.² The figures in the table indicate the tax subsidies provided by the earned income tax credit. The effect on outlays is: 1988, \$2,695 million; 1989, \$3,850 million; 1990, \$3,700 million.**REVENUE LOSS ESTIMATES FOR TAX EXPENDITURES**

Table G-3 shows separately for corporations and individuals the revenue loss estimate associated with each tax subsidy item for which a total revenue loss estimate was provided in table G-1. As explained in the text under the heading "Measuring Tax Expenditures," revenue loss estimates do not take into account the additional resources (if any) that would be required to provide the same after-tax incentive if the expenditure program were administered as a direct outlay rather than through the tax system. As was also previously explained, these revenue loss estimates are not equivalent to estimates of the increase in Federal receipts that would accompany the repeal of tax expenditure provisions. Nor do these estimates imply that the corporation and individual payees are the ultimate beneficiaries of the subsidies provided by these tax expenditures.

Table G-3. REVENUE LOSS ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
National defense:						
Exclusion of benefits and allowances to armed forces personnel.....				1,890	1,900	1,975
International affairs:						
Exclusion of income earned abroad by United States citizens.....				1,220	1,305	1,395
Exclusion of income of foreign sales corporations (FSC).....	460	425	455			
Inventory property sales source rules exception.....	2,625	2,915	3,120			
Certain nonfinancial institutions operations interest allocation rules exception.....	40	60	65			
Deferral of income from controlled foreign corporations:						
Pre-1983 budget method.....	110	100	105			
Post-1982 budget method.....						
General science, space, and technology:						
Expensing of research and development expenditures:						
Pre-1983 budget method.....	830	1,145	1,235	35	45	50
Post-1982 budget method.....						
Credit for increasing research activities.....	885	955	1,030	15	15	15
Suspension of the allocation of research and experimentation expenditures.....	210					
Energy:						
Expensing of exploration and development costs:						
Oil and gas.....	-840	-580	-455	455	565	605
Other fuels.....	35	35	35			
Excess of percentage over cost depletion:						
Oil and gas.....	80	65	70	370	280	280
Other fuels.....	125	125	135	10	10	10
Capital gains treatment of royalties on coal.....	*			*		
Exclusion of interest on State and local industrial development bonds for certain energy facilities.....	290	280	285			
Alternative, conservation and new technology credits:						
Supply incentives.....	80	30	20			
Conservation incentives.....	-*	-*	-*			
Alternative fuel production credit.....	10	10	10	*	*	*
Alcohol fuel credit ¹	5	5	5	*	*	*
Energy credit for intercity buses.....	-*	-*	-*			
Special rules for mining reclamation reserves.....	40	40	45	5	5	5
Exception from passive loss limitation for working interests in oil and gasproperties.....				55	55	60
Natural resources and environment:						
Expensing of exploration and development costs, nonfuel minerals.....	30	35	35	5	5	5
Excess of percentage over cost depletion, nonfuel minerals.....	215	220	235	15	15	15
Exclusion of interest on State and local IDBs for pollution control and sewage and waste disposal facilities.....	1,635	1,555	1,620			
Tax incentives for preservation of historic structures.....	50	50	45	100	90	90
Capital gains treatment of iron ore.....	*			*		

Table G-3. REVENUE LOSS ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
Capital gains treatment of certain timber income.....	*			*		
Expensing of multiperiod timber growing costs.....	160	180	205	110	130	155
Investment credit and seven-year amortization for reforestation expenditures.....	40	40	35	165	165	170
Agriculture:						
Expensing of certain capital outlays.....	65	60	60	460	445	435
Expensing of certain multiperiod production costs.....	*	35	60	5	50	120
Treatment of loans forgiven solvent farmers as if insolvent.....				10	10	10
Capital gains treatment of certain income.....	*			*		
Deferral of drought-related payments.....		25	-15		165	-110
Commerce and housing credit:						
Exemption of credit union income.....	190	200	215			
Excess bad debt reserves of financial institutions.....	80	45	25			
Special merger rules for financial institutions.....	885	1,555	1,680			
Exclusion of interest on life insurance savings.....	310	320	350	5,100	5,240	5,765
Special alternative tax on small property and casualty insurance companies.....	65	70	70			
Tax exemption of certain insurance companies.....	15	15	15			
Small property and casualty insurance company deduction.....	15	35	25			
Small life insurance company deduction.....	55	60	60			
Exemption of RIC expenses from miscellaneous deduction floor.....						
Deductibility of interest on consumer credit.....				220	260	315
Exclusion of interest on small issue industrial development bonds.....				6,530	3,280	1,740
Exclusion of interest on State and local mortgage bonds for owner-occupied housing.....	2,705	2,510	2,405			
Exclusion of interest on State and local debt for rental housing.....				1,765	1,640	1,570
Deductibility of mortgage interest on owner-occupied homes.....	1,235	1,135	1,180			
Deductibility of property tax on owner-occupied homes.....				33,675	32,180	35,110
Deferral of income from post 1987 installment sales.....				10,100	10,410	11,765
Capital gains (other than agriculture, timber, iron ore and coal)						
Pre-1983 budget method.....	100	170	185	160	500	550
Post-1982 budget method.....	*			210		
Deferral of capital gains on home sales.....				3,700	3,910	4,110
Exclusion of capital gains on home sales for persons age 55 and over.....				2,940	3,190	3,230
Carryover basis of capital gains at death.....				11,540	12,465	13,460
Carryover basis of capital gains on gifts.....				70	75	85
Investment credit, other than ESOP's, rehabilitation of structures, energy property, and reforestation expenditures.....	7,950	5,735	3,815	1,200	795	490
Accelerated depreciation on rental housing:						
Pre-1983 budget method.....	170	210	270	130	160	190
Post-1982 budget method.....						

Table G-3. REVENUE LOSS ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
Accelerated depreciation of buildings other than rental housing:						
Pre-1983 budget method.....	230	280	360	120	140	170
Post-1982 budget method.....						
Accelerated depreciation of machinery and equipment:						
Pre-1983 budget method.....	17,200	22,100	26,700	6,500	8,500	9,200
Post-1982 budget method.....						
Safe harbor leasing rules.....	690	550	490			
Amortization of start-up costs.....	20	20	20	165	150	160
Reduced rates on the first \$100,000 of corporate income:						
Pre-1983 budget method.....	2,815	2,855	3,410			
Post-1982 budget method.....						
Exception from the passive loss rules for \$25,000 of rental losses.....				1,145	1,060	1,190
Treatment of Alaska Native Corporations.....	400	700	240			
Permanent exceptions from imputed interest rules.....	*	*	*	130	110	125
Transportation:						
Deferral of tax on shipping companies.....	115	120	125			
Exclusion of interest on State and local government bonds for mass commuting vehicles.....	10	*	*			
Community and regional development:						
Five-year amortization for housing rehabilitation.....	15	15	15	30	25	25
Credit for low-income housing investments.....	20	60	125	140	330	510
Investment credit for rehabilitation of structures (other than historic).....	90	75	70	75	55	45
Exclusion of interest on IDBs for airports, docks and sports and convention facilities.....	725	695	720			
Education, training, employment, and social services:						
Exclusion of scholarship and fellowship income:						
Pre-1983 budget method.....				570	625	655
Post-1982 budget method.....						
Exclusion of interest on State and local student loan bonds.....				355	330	345
Exclusion of interest on State and local debt for private nonprofit educational facilities.....				250	225	235
Exclusion of interest on savings bonds transferred to educational institutions.....					*	15
Parental personal exemption for students age 19 or over.....				415	395	405
Deductibility of charitable contributions (education).....	470	470	500	1,095	1,060	1,135
Exclusion of employer provided educational assistance.....				60	130	
Exclusion of employer provided child care.....				105	120	155
Exclusion of employee meals and lodging (other than military).....				685	715	750
Exclusion of contributions to prepaid legal services plans.....				10	35	
Investment credit for ESOPs.....	230	145	85			
Credit for child and dependent care expenses.....				3,390	3,495	3,595
Targeted jobs credit.....	215	285	250	45	35	30

Table G-3. REVENUE LOSS ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
Expensing of costs of removing certain architectural barriers to the handicapped.....	15	15	15	5	5	5
Deductibility of charitable contributions, other than education and health.....	580	585	620	9,935	9,620	10,295
Exclusion of certain foster care payments.....				20	20	20
Exclusion of parsonage allowances.....				160	175	195
Health:						
Exclusion of employer contributions for medical insurance premiums and medical care.....				24,690	27,650	29,585
Exclusion of untaxed Medicare benefits.....				5,415	5,985	6,745
Deductibility of medical expenses.....				1,960	2,155	2,325
Exclusion of interest on State and local debt for private nonprofit health facilities.....				2,230	2,025	2,190
Deductibility of charitable contributions (health).....	290	290	305	1,115	1,080	1,140
Tax credit for orphan drug research.....	*	*	*			
Special Blue Cross/Blue Shield deduction.....	15	100	45			
Income security:						
Exclusion of railroad retirement-system benefits.....				385	370	390
Exclusion of workmen's compensation benefits.....				2,910	2,845	3,070
Exclusion of public assistance benefits:						
Pre-1983 budget method.....				380	340	345
Post-1982 budget method.....						
Exclusion of special benefits for disabled coal miners.....				115	110	110
Exclusion of military disability pensions.....				100	100	105
Net exclusion of pension contributions and earnings:						
Employer plans.....				44,180	46,050	49,300
Individual Retirement Accounts.....				8,820	8,860	9,590
Keogh plans.....				1,655	1,290	1,430
Exclusion of income earned by voluntary employee-beneficiary associations.....				360	350	380
Exclusion of employer provided death benefits.....				20	20	20
Exclusion of other employee benefits:						
Premiums on group term life insurance.....				1,940	2,065	2,210
Premiums on accident and disability insurance.....				120	125	130
Income of trusts to finance supplementary unemployment benefits.....				30	30	30
Special ESOP rules (other than investment credit) ...	140	185	225	15	15	20
Additional deduction for the blind.....				15	15	15
Additional deduction for the elderly.....				1,535	1,155	1,140
Tax credit for the elderly and disabled.....				200	220	240
Deductibility of casualty losses.....				265	265	280
Earned income credit ²				955	1,395	1,815
Social Security:						
Exclusion of social security benefits:						
OASI benefits for retired workers.....				13,425	13,465	14,105
Disability insurance benefits.....				1,095	1,085	1,125
Benefits for dependents and survivors.....				2,840	2,870	3,010
Veterans benefits and services:						
Exclusion of veterans disability compensation.....				1,505	1,450	1,495
Exclusion of veterans pensions.....				85	80	80
Exclusion of GI bill benefits.....				70	60	50

Table G-3. REVENUE LOSS ESTIMATES FOR TAX EXPENDITURES IN THE INCOME TAX—Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1988	1989	1990	1988	1989	1990
Excluding of interest on state and local debt for veterans housing.....				250	230	235
General government:						
Exclusion of interest on public purpose State and local debt.....	1,890	1,930	1,850	8,460	8,360	8,880
Deductibility of nonbusiness State and local taxes other than on owner-occupied homes.....				17,250	17,305	18,690
Tax credit for corporations receiving income from doing business in United States possessions.....	1,810	1,845	2,030			
Interest:						
Deferral of interest on savings bonds.....				885	905	995

* \$2.5 million or less. All estimates have been rounded to the nearest \$5 million.

¹ In addition, the partial exemption from the excise tax for alcohol fuels results in a reduction in excise tax receipts of \$480 million in 1988; \$430 million in 1989; and \$420 million in 1990.

² The figures in the table indicate the tax subsidies provided by the earned income tax credit. The effect on outlays is: 1988, \$2,695 million; 1989, \$3,850 million; 1990, \$3,700 million.

Tax Expenditures In The Federal Unified Transfer Tax

The special or preferential provisions listed as tax expenditures for inclusion in the budget have been limited to individual and corporate income tax provisions. As part of a general but comprehensive review of tax expenditure budget concepts, a list of tax expenditures has now also been compiled that are in the Federal unified transfer tax. This tax has replaced the former separate gift and estate taxes.

Exceptions to the general terms of the unified transfer tax favor particular transferees or dispositions of transferors, similar to Federal direct expenditure or loan programs. The transfer tax provisions identified as tax expenditures satisfy the two post-1982 criteria for inclusion in the tax expenditure budget: (a) absent the particular provision, taxpayers could still determine their tax liability because the provision is an exception to a general rule that is part of the enacted reference tax law; and (b) the provision is sufficiently narrow in scope that it could be replaced by an expenditure program administered by a Federal agency other than the Internal Revenue Service.

A description of the reference tax rules for the unified transfer tax precedes the listing of the related tax expenditures. No additional listings based on departures of the unified transfer tax from a "normal tax" structure, as discussed earlier, are included because of the lack of a generally accepted normative tax structure for transfer taxes.

UNIFIED TRANSFER TAX REFERENCE RULES

The reference tax rules for the unified transfer tax from which departures represent expenditure-like government programs include:

1. *Definition of the taxpaying unit.* The payment of the tax is the liability of the transferor whether the transfer of cash or property was made by gift or bequest.

2. *Definition of the tax base and rules of its measurement.* The base for the tax is the transferor's cumulative, taxable lifetime gifts made plus the net estate at death.

Gifts that are counted as part of the tax base are all annual transfers in excess of \$10,000 to any donee except the donor's spouse. Excluded are, however, payments on behalf of family members' educational and medical expenses, as well as the cost of ceremonial gatherings and celebrations that are not in honor of the donor.

Although the value of gifts may be split by spouses for tax-reporting purposes, individuals are presumed to maintain their own separate cumulative transfer tax records. Any gift taxes paid by decedents during their lifetime are added to the amounts of taxable gifts. These plus the value of the final net estate are the comprehensive pre-tax measure of the transferred aggregate wealth and, thus, determine the final transfer tax liability.

In general, property is valued at its fair market value at the time it is transferred. This is not necessarily the case in the valuation of property for transfer tax purposes. Executors of estates are provided the option to value assets at the time of the testator's death or up to 6 months later.

3. *Tax rate schedule.* A single graduated tax rate schedule applies to all taxable transfers. This is reflected in the name of the "unified transfer tax" that has replaced the former separate gift and estate taxes. The tax rates vary from 18 percent on the first \$10,000 of aggregate taxable transfers to 55 percent on amounts exceeding \$3 million.

A \$192,800 lifetime credit is provided against the tax in determining the final amount of transfer taxes that are due and payable. This allows each taxpayer to make a \$600,000 tax-free transfer of assets that otherwise would be liable to the unified transfer tax.

An additional tax, at a flat rate of 50 percent, is imposed on lifetime "generation skipping" transfers in excess of \$1 million. It is considered a generation skipping transfer whenever the transferee is at least two generations younger than the transferor as it would be in the case of transfers to grandchildren or great-grandchildren. The liability of this tax is on the recipients of the transfer. The transferor must advise them as to what part of the gift or

bequest is in excess of the transferor's generation skipping exemption.

4. *Time when tax is due and payable.* Donors are required to pay the tax annually as gifts are made. The amount due and payable is the difference between the end-of-year transfer tax liability on the cumulated taxable transfers and the total amount of tax that had been paid previously.

The generation skipping transfer tax is payable by the donees whenever they accede to the gift. The net estate tax liability is due and payable within 9 months after the decedent's death. The Internal Revenue Service may grant an extension of up to 10 years for a reasonable cause. Once an extension has been granted, the tax liability may be paid no less rapidly than it would have been due without the extension. Interest is charged on the unpaid tax liability at a rate equal to the cost of Federal short-term borrowing, plus 3 percentage points.

TAX EXPENDITURES BY FUNCTION

The 1988-90 estimates of tax expenditures in the Federal unified transfertax are displayed by functional category in table G-4. Outlay equivalent estimates are similar to revenue loss estimates for transfer tax expenditures. As discussed earlier, tax expenditure estimates should not be interpreted as estimates of the increase in Federal receipts or the reduction in budget deficits that would accompany the repeal of the special provisions.

NATURAL RESOURCES AND ENVIRONMENT

Donations of conservation easements.—Bequests for conservation are excluded from taxable estates. A conservation bequest is the value of property and easements (in perpetuity) to such property the use of which is restricted to any one or more of the following: (a) use by the public for outdoor recreation; (b) protection of the natural habitats of fish, wildlife, plants, etc.; (c) scenic enjoyment of the public; and (d) preservation of historic land areas and structures. Similar conservation gifts are excluded from the gift tax base and in addition are deductible from the donor's otherwise taxable income in the year of the gift. This provision reduces the cost to testators because of the implied public benefits made possible by such properties.

AGRICULTURE

Special use valuation of farms.—Farmland owned and operated by a decedent and/or a member of the family may be valued for estate tax purposes on the basis of its "continued use" as a farm if: (a) the farmland is at least 25 percent of the decedent's gross estate; (b) the entire value of all farm property is at least 50

percent of the gross estate; and (c) family heirs to the farm agree to continue to operate the property as a farm for at least 10 years. Since continued use valuation of farmland is frequently substantially less than the fair market value the resulting reduction in tax liability serves as a subsidy to the continued operation of family farms.

Tax deferral of closely held farms.—Decedents' estates may use a preferential, longer installment payment period to discharge estate tax liabilities if the value of the farm properties exceed 35 percent of the net estates. The installment period is extended by 5 years to 15 years. During the first 5 years, the interest charged is only 4 percent, rather than the standard Federal short-term borrowing rate plus 3 percentage points, which applies during the last 10 years of the repayment period.

COMMERCE AND HOUSING CREDIT

Special use valuation of closely held businesses.—The two estate tax incentives to family farming are also available to the estates of owners of nonfarm family businesses. If the same three conditions previously described are met, the real property in their estates is eligible for "continued use valuation." The nonfarm businesses most likely to satisfy the percentage of gross estate requirements are those engaged in real estate development and operation, mineral production, and timber growing.

Tax deferral of closely held businesses.—Nonfarm family businesses that satisfy the net estate requirements also qualify for preferential 15 year deferred estate tax payment. Another incentive is provided in those cases where the family business is incorporated and only the closely held corporation stock rather than the business assets appear in the decedent's estate. To be eligible for this special provision, the value of stock in closely held corporations must exceed 35 percent of the decedent's gross estate, less debt and funeral expenses. The redemption of stock, required to pay funeral and administrative expenses and estate and gift taxes, may be characterized as a sale of stock. This subjects to tax only the appreciation in the value of the stock, whereas under reference tax law rules, all of the proceeds generally would be taxed as a dividend.

EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES

Employee Stock Ownership Plan (ESOP) deduction.—One-half of the proceeds from the sale of "employer securities" may be excluded from a taxable estate when it is sold by the executor to an ESOP. Employer securities are securities issued by corporations of which the ESOP members are employees. Disposing certain estate

assets in this way reduces the cost of settling estates and also increases the supply of employer securities to ESOPs.

Tax deferral for Employee Stock Ownership Plan (ESOP).—An ESOP, to which a decedent has bequeathed employer securities, may avail itself of the preferential 15 year deferred tax payment plan previously described. The ESOP must agree, however, to pay a pro-rata share of the estate tax for which it can be reimbursed by the estate.

Bequests to tax-exempt organizations.—Such bequests are deductible from decedents otherwise taxable lifetime transfers. This provision is meant to assist tax-exempts in the performance of their qualified nonprofit services that complements similar support provided through the income tax provisions.

HEALTH

Bequests to health providers.—Such bequests, that are exempt from the income tax, are deductible from otherwise taxable lifetime transfers of decedents. This tax preference is similar to preferences provided through the income tax.

GENERAL GOVERNMENT

State and local death taxes.—A credit is allowed for state death taxes against any Federal estate tax that otherwise would be due. The amount of the state death tax credit is limited to 80 percent of the amount of the Federal estate tax that would have been due under the tax rates prevailing in 1926. This provision, first introduced in 1924, was intended to restrain any offers for opportunities to make tax-free bequests that are used by states to compete for wealthy individuals' official domicile.

Table G-4. ESTIMATES FOR TAX EXPENDITURES IN THE FEDERAL UNIFIED TRANSFER TAX

(In millions of dollars)

Description	Fiscal Years		
	1988	1989	1990
Natural Resources and Environment:			
Deductions for donations of conservation easements.....	*	*	*
Agriculture:			
Special use valuation of farm real property.....	55	60	65
Tax deferral of closely held farms.....	50	55	55
Commerce:			
Special use valuation of real property used in closely held businesses.....	15	15	20
Tax deferral of closely held business.....	10	10	10
Education, training, employment, and social services:			
ESOP deduction.....	50	55	60
Tax deferral for payments made by ESOP's.....	10	10	10
Deduction for charitable contributions (education).....	400	430	465
Deduction for charitable contributions (other education and health).....	1,180	1,275	1,375
Health:			
Deduction for charitable contributions (health).....	360	390	420
General government:			
Credit for state death taxes.....	1,025	1,130	1,240
Grand Total (after interactions).....	2,995	3,260	3,535

* Less than one million.

SPECIAL ANALYSIS H

FEDERAL AID TO STATE AND LOCAL GOVERNMENTS ¹

State and local governments have a vital constitutional role in providing government services. They have the major role in providing domestic public services, such as public education, law enforcement, public roads, water supply, and sewage treatment. The Federal Government contributes directly toward 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, capital spending, and other assistance. Federal grant-in-aid outlays were \$115.3 billion in 1988. They are estimated to be \$123.6 billion in both 1989 and 1990. The 1990 estimate reflects the administration's continuing efforts to support Federal grant programs for the needy while reducing inappropriate Federal involvement in activities that are primarily State and local responsibilities.

This budget includes full funding for carrying out the Family Support Act of 1988, commonly known as the welfare reform bill. This includes temporary assistance to two-parent families while the principle wage earner is unemployed, a new job training program to replace the work incentive program (WIN), and temporary continuation of medicaid and child care coverage for parents leaving welfare because of employment or increased child support. Federal outlays for the changes occurring from this Act are estimated to be about \$3.4 billion for its first five years.

An important administration initiative is to increase the number of housing vouchers for very low-income individuals or families by an additional 120,000 in 1990. In combination with other proposed housing assistance subsidies, a total of 132,000 additional families will be served. Within this total, some units are provided to the homeless under special preference rules, while other units go to the homeless under specially earmarked programs. Under one program, grants are proposed for the rehabilitation of 2,000 single-room housing units for homeless individuals. Under another program, at least 400 housing units are proposed for new construction

¹ Federal 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-in-aid (including shared revenues), loans, and tax expenditures.

of permanent housing for the mentally-ill homeless who are elderly.

The administration is also proposing reductions and terminations. Major proposed reductions for entitlement programs include the renewal of cost containment incentives for medicaid. These incentives were enacted in 1981 and allowed to expire in 1984. A second proposal is to discontinue child nutrition meal subsidies for the school lunch, school breakfast, and child care food programs for students whose families have incomes more than 185 percent above the poverty level. Neither of these proposals would affect services for those most in need.

The administration is proposing reductions or terminations of discretionary grant programs that are unnecessary, ineffective, or an inappropriate use of Federal funds. These proposals are motivated both by the need to reduce the Federal deficit and by a fundamental conviction about the proper relationship between Federal, State, and local governments. The major reductions or terminations include:

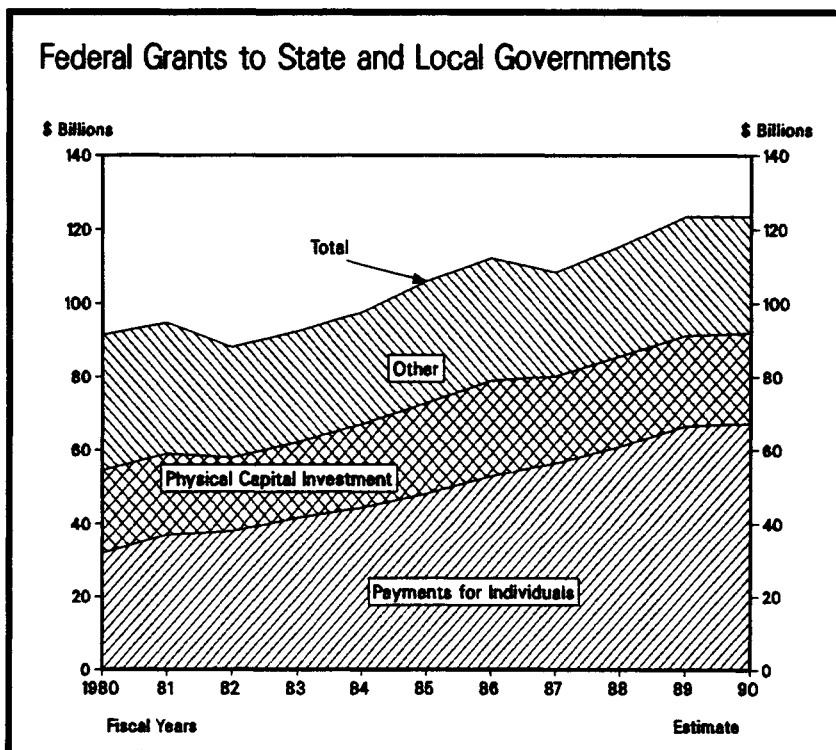
- Reductions for grants for construction of sewage treatment plants. The goals of this program have largely been met with funds that have been provided since 1972.
- Reductions for mass transit programs. The one cent per gallon of the motor fuel tax for mass transit activities would be used to fund mass transit capital spending, rural transit, and operating subsidies to small cities, but general tax dollars would not be used (except for the Washington, D.C. Metro, which is authorized separately). Operating subsidies for medium and large communities are proposed for elimination.
- Termination of economic development assistance and Appalachian regional development grants in order to reduce direct Federal intervention in the economic decisions of firms and individuals.
- Termination of the community services block grant in 1990. States can use funds from the social services block grant to fund high priority activities.

The accompanying chart shows trends in outlays in major grant categories from 1980 to 1990. Grant outlays for payments for individuals are estimated to be 54 percent of total grants by 1990; for physical capital investment, 20 percent; and for all other grants, largely for education, training, and social services, 26 percent.

In addition to grants-in-aid, Federal direct lending and loan guarantees to State and local governments are another source of Federal aid. Federal loans are used by States and localities for many purposes, including land and water resource development and education. In 1990, the Federal Government is expected to disburse \$571 million in new loans to State and local governments, less than

the \$657 million in 1989. New guaranteed loans are estimated to be \$125 million in both 1989 and 1990.

The two major tax expenditures benefiting State and local governments are the deductibility of most State and local taxes and the exclusion of interest on State and local securities from Federal taxation. As described later, some State and local tax expenditures were changed significantly in the Tax Reform Act of 1986. Federal aid to State and local governments through tax expenditures is estimated to be \$52.4 billion in 1990 compared to \$49.5 billion in 1989.



HIGHLIGHTS OF THE FEDERAL AID PROGRAM

This section provides an overview of the Federal aid program proposed for 1990. Shown first are major differences between actual grant outlays in 1988 and estimated amounts for 1989 and 1990. This presentation is followed by a more detailed description of proposals for specific grant programs and a discussion of proposed levels of Federal aid through loans and tax expenditures.

Detailed data supporting the description of grant programs are in Table H-11.

Table H-1 shows changes in grant outlays between 1988 and 1989 and between 1989 and 1990. These changes are divided into three categories: payments for individuals, grants for physical capital investment, and all other grants. From 1988 to 1990, grants for payments for individuals increase an estimated \$6.4 billion, capital grants increase \$0.1 billion, and other grants increase \$1.8 billion.

Table H-1. FEDERAL GRANT-IN-AID CHANGES, 1988-90

(In billions of dollars)

	Outlays
Total grants, 1988 actual	115.3
Changes:	
Payments for individuals:	
Medicaid	3.5
Housing assistance	0.6
Food and nutrition assistance	0.8
Family support payments	0.6
Other	0.1
Subtotal, payments for individuals, 1988-89 change	5.5
Physical capital investment:	
Highway programs	-0.5
Airports	0.3
Mass transit	0.2
Other	0.1
Subtotal, capital, 1988-89 change	0.1
Other programs:	
Education, training, employment, and social services	2.4
Other	0.2
Subtotal, other programs, 1988-89 change	2.6
Total grants, 1989 estimate	123.6
Changes:	
Payments for individuals:	
Medicaid	1.9
Food and nutrition assistance	-0.7
Other	-0.4
Subtotal, payments for individuals, 1988-89 change	0.8
Physical capital investment, 1989-90 change	*
Other programs, 1989-90 change	-0.8
Total grants, 1990 estimate	123.6

* Less than \$50 million.

Energy, Natural Resources, Environment, and Agriculture.—State and local *energy conservation grants* administered by the Department of Energy are used to weatherize school buildings, hospitals, and the homes of low-income individuals. Grants are also available to help States develop energy conservation programs. States have received more than \$3.3 billion from the settlement of cases involving violations of rules and regulations under the oil price control

program that expired in 1981. Because these amounts are available to fund the State grant programs, the budget includes no new budget authority for these grants for 1990.

Grants to States for *land acquisition* and development of outdoor recreation lands, and for State *historic preservation* efforts are also proposed for elimination in 1990. These needs can be met through State, local, and private resources and the positive effect of Federal tax incentives on private investment in historic buildings.

The budget authority requested for grants for the *abandoned mine reclamation fund* in 1990 is \$122 million, \$30 million less than the 1989 level. The lower level reflects spending that can be absorbed by States each year until program completion in 1992. Approximately 200 projects in 24 States and on three Indian reservations will be financed by the 1990 request.

Outlays for *sport fish restoration* grants use funds from motorboat fuel taxes, excise taxes, and customs duties added by the Deficit Reduction Act of 1984. These outlays are estimated to decrease from \$161 million in 1989 to \$151 million in 1990 as a result of a proposed cap on budget authority of \$100 million. Additional reductions in outlays are anticipated for later years.

The Environmental Protection Agency *sewage treatment construction grants program* was created to help State and local governments build municipal wastewater treatment systems. The original intent of this program was to aid local governments in eliminating a backlog of about \$18 billion of wastewater needs. Since then, the Federal Government has spent \$50 billion in grants for construction of treatment facilities—traditionally, a State and local responsibility.

For 1990, the administration is requesting \$1.2 billion in budget authority. One-third of the funds would be used for the existing municipal grant program and two-thirds would be used for capitalizing State Revolving Funds (SRF). These funds are self-sustaining financial mechanisms that make loans to municipalities, facilitate refinancing, and provide loan guarantees to finance the construction of sewage treatment facilities. The 1990 budget authority request, which is \$750 million below the 1989 level, is consistent with the President's long-term program level of \$12 billion for 1986 to 1993, which was first proposed in the 1988 budget. This program level was designed to be sufficient to fund the Federal share for all projects needed to meet the 1988 municipal compliance requirements, complete all treatment plants started with Federal funds, and give States the flexibility they need to make the transition to financial independence in this area. Outlays are estimated to be \$2.35 billion in 1990, largely from prior-year commitments.

The *hazardous substance superfund* pays for the cleanup of abandoned hazardous waste sites and chemical spills. Budget authority

of \$331 million is requested for 1990 primarily for site specific cooperative agreements with States. This funding level, which is \$54 million more than the 1989 level, should finance the cleanup of approximately 55 sites in 1990, five more than in 1989.

The Federal *Extension Service*, States, and localities finance the Cooperative Extension System. This system provides social and economic services in agriculture, home economics, community development, and youth programs. The administration proposes a reduction in the Federal share of extension support, from \$361 million in budget authority in 1989 to \$325 million in 1990. Even with this reduction, Federal monies would represent a third of all extension funds available nationally. Federal funding for most Extension Service categorical grants would be lower, and States would be required to match these funds as they now do for formula grants.

Transportation.—The Federal Government assists States and localities with their transportation programs by providing aid for highways, bridges, mass transit, airports, and other projects. The administration is requesting \$17.2 billion in budget authority for these grant programs in 1990, a \$2.0 billion reduction from the 1989 total.

The *Federal-aid highway program* helps fund the interstate highway system, other primary highways, bridges, and rural and urban highways. Obligations for Federal-aid highways are proposed to be \$12.4 billion in 1990, \$1.0 billion less than in 1989. The administration is proposing to carry out the highway programs within the level of anticipated user fee receipts. To ensure prudent use of the user fee revenue, the administration proposes to require States and localities to provide at least 20 percent of the project costs for all demonstration and special interest projects, now 100 percent federally funded.

The administration proposes budget authority of \$196 million in 1990 for three *highway safety and motor carrier safety grant* programs. Budget authority for these grants, which supplement other State highway safety programs, is proposed to be about the same as the 1989 level.

The administration is proposing \$1.5 billion in budget authority in 1990 for *mass transit* (excluding funds for Washington Metro). This amount is limited to receipts provided by the one cent per gallon of the motor fuel tax dedicated to mass transit activities. Most of these subsidies would be distributed by existing formulas to States and localities, which could use the formula grant funds for public transportation capital projects provided they make matching contributions of at least 50 percent. The administration is also proposing to terminate operating subsidies to large and medium-sized cities. Under the proposal, only small urban and rural areas

would be able to use funds for transit operating subsidies, which would also require a 50 percent match.

The administration is also proposing no funding in 1990 or later years for discretionary grants that are used to build new or expand current transit systems. In the past, these subsidies have often promoted the construction of local transit systems that were unnecessary, too costly, and underutilized.

In addition to the \$1.5 billion from trust funds, the administration proposes a \$42 million grant from general funds for the Washington, D.C. Metrorail system.

Grants-in-aid for *airports* are proposed to be funded at a program level of \$1.35 billion in 1990, slightly below the 1989 level of \$1.40 billion. The administration proposes to increase the amount for discretionary grants to larger airports to support critical safety projects and expand capacity.

Community and Regional Development.—The community development block grant program (CDBG) provides flexible community and economic development support to cities, counties, Indian tribes, and U.S. territories. The administration proposes to establish the CDBG program level at \$2.8 billion for 1990, slightly below the 1989 program level of \$3.0 billion. The 1990 program level includes \$2.6 billion of new budget authority and a transfer of \$136 million from both the rehabilitation loan fund and the urban development action grant program. Although this will reduce the total resources available for the CDBG program in 1990, recently enacted legislation targets assistance toward the most needy within communities.

The administration proposes to repeal authorization for the *urban development action grants* program in 1990. Congress provided no funding for this program in 1989. This proposal is consistent with the Governmentwide effort to reduce local economic development subsidies and reduce excessive Federal subsidization of the economic decisions of firms and individuals. Furthermore, communities may use CDBG resources for economic development projects.

In 1983, the administration proposed and Congress enacted the *rental rehabilitation grant program* to help States and localities rehabilitate properties for low-income renters. This program was intended for communities that did not have enough standard quality low- and moderate-income housing to support a rental voucher program. The administration is proposing \$130 million in new budget authority for this program in 1990 and \$20 million of unobligated funds for a total program level of \$150 million, the same level enacted by Congress in 1989.

Congress also enacted a *rental development grant program* in 1983 to subsidize the construction or substantial rehabilitation of rental housing in low- and moderate-income neighborhoods with shortages of rental housing. New housing construction is an expen-

sive means of housing low income households compared to approaches that utilize existing housing. Moreover, this program is difficult to justify with the high vacancy rates for housing and the poor targeting of funds to areas with real need. Congress terminated the program in the 1987 Housing Act at the end of 1989. In conjunction with the termination, the administration proposes repeal of the authorizing language in 1990.

The administration is not requesting budget authority in 1990 for the *economic development assistance programs* administered by the Economic Development Administration (EDA). There is no evidence that categorical EDA project grants create net employment gains for the Nation and federally targeted aid for businesses merely distorts market incentives. Funds for State and local community and economic development are available in 1990 through the community development block grant program.

Programs administered by the *Appalachian Regional Commission* (ARC) are intended to promote economic development of the 13-State Appalachian region. Both the Commission and its programs are proposed to be terminated in 1990. This proposal reflects the administration's policy to rely on the private sector to provide the major stimulus for economic development. Moreover, ARC highway funds duplicate other Federal highway programs, and ARC development programs assist rural districts that on the whole are not substantially worse off than rural communities nationwide, and therefore do not warrant special Federal assistance.

Education.—The administration's policies for assisting education activities of State and local governments provide supplementary aid for persons with disabilities and for the educationally and economically disadvantaged. For these programs the administration is requesting \$10.0 billion in budget authority for 1990, about the same as the 1989 level.

Major education grants for students with special needs include *compensatory education for the disadvantaged, education for the handicapped, vocational and adult education, bilingual education, and Indian education*. For the largest set of programs, compensatory education for the disadvantaged, the administration is requesting \$4.7 billion in budget authority for 1990, an increase of 3 percent more than the 1989 enacted level. Budget authority for education for the handicapped is proposed to be \$1.9 billion in 1990, also 3 percent more than the 1989 level. The administration proposes budget authority of \$949 million for 1990 for vocational education, a 3 percent increase over the 1989 enacted level. The budget reflects a legislative proposal to reauthorize Federal vocational education activities. The administration also proposes increased budget authority for adult education from \$162 million in 1989 to \$170 million in 1990 to support efforts to combat adult illiteracy.

The administration is requesting budget authority of \$1.1 billion for 1990 to assist State and local governments carry out *school improvement programs*. The largest of these programs is for the State education block grant, which has proposed budget authority of \$479 million in 1990. The block grant provides States and localities with resources that can be used for a wide variety of educational purposes.

Impact aid payments compensate school districts whose enrollments and available revenues are deemed to have been adversely affected by Federal activities. Aid is provided for districts with children who both live on and whose parents work on Federal property (referred to as "a" children), and children who meet only one of these criteria (referred to as "b" children). The administration proposes aid only for the "a" children. No aid is proposed for the "b" children, whose presence imposes little or no burden on most districts. Budget authority of \$619 million is requested in 1990 for all impact aid programs, a reduction of \$104 million from the 1989 amount.

Training and Employment.—Budget authority proposed for *basic State block grants* under the Job Training Partnership Act of 1982 (JTPA) is \$1.8 billion in 1990, the same as the 1989 enacted level. States have considerable discretion in using these funds to prepare low-income youth, welfare recipients, and economically disadvantaged unskilled adults for employment.

The JTPA *summer youth employment* program subsidizes minimum-wage public sector summer jobs for youth between the ages of 14 and 21. There is little evidence that simply providing jobs during the summer has benefited those youth most in need of employment skills. The administration therefore recommends changing the current summer program to give local areas flexibility in designing a program of jobs, basic skill remediation, and vocational training for low-income youth. Under the proposal, the resources would be available for year-round programs of assistance, for subsidized summer jobs, or for both activities, depending on local choice. The administration is proposing \$709 million in budget authority for this program for 1990, the same as enacted in 1989.

JTPA also provides grants to States to help *dislocated workers* find new jobs, get training in new skills for which there is a demand, or meet the costs of looking for jobs or moving to new locations where they have found permanent employment. Budget authority of \$287 million was enacted for this program for 1988.

Beginning with the 1989 program year, the current JTPA dislocated worker program will be replaced by a new dislocated worker training program authorized by the Economic Dislocation and Worker Adjustment Assistance Act (EDWAA). EDWAA establishes a substate service delivery system similar to the other JTPA pro-

grams. Individuals eligible for assistance include those affected by layoffs or plant closings, unemployed persons who have exhausted their eligibility for unemployment compensation, the long-term unemployed, and self-employed persons, including farmers.

For 1989, the \$284 million in budget authority already appropriated for the previous JTPA dislocated worker assistance program will be available for transition to and for activities authorized by EDWAA. For 1990, \$400 million in budget authority is requested, an increase of \$116 million for this grant program compared to the 1989 level, to serve 300,000 unemployed and dislocated workers.

The *work incentive program* (WIN) has provided job services, training, and public service employment to AFDC (aid to families with dependent children) recipients. Although the program's aim is to help curb welfare dependency, it has not proved successful or cost-effective. The Family Support Act of 1988 (commonly known as the welfare reform bill) established a new and more comprehensive program, the job opportunities and basic skills training program (JOBS), to replace the WIN program. The transition from WIN to the JOBS program can be made by States at the beginning of any quarter from July 1, 1989 to September 30, 1990. For 1990, remaining Federal financing of WIN will come out of a new appropriation for WIN and JOBS, now classified in the income security function. Separate funding is not requested for WIN in 1990.

Grant outlays for the *Federal-State employment service* are estimated to be \$987 million in 1990, about the same as the \$981 million for 1989. Beginning in 1990, States would receive special grants under the new economic dislocation and worker adjustment assistance program described earlier. States would be able to use these resources to provide employment services tailored to the needs of dislocated workers in their jurisdiction.

Social Services.—Budget authority requested for the *social services block grant* is \$2.7 billion for 1990, the same as the enacted amount for 1989. Child day care, foster care, child protective service, preparation and delivery of meals, and legal services are some examples of social services offered by the States. In addition, States may transfer up to 10 percent of their social services allotment to other block grants that support health services, health promotion and disease prevention, or low-income home energy assistance.

The administration proposes to end the *community services* block grant program in 1990. States may continue community services programs with funds provided by the social services block grant, which has similar purposes.

Grants for *vocational rehabilitation services* help physically and mentally disabled persons become gainfully employed and live more independently. The administration is proposing \$1.6 billion of

budget authority for 1990 for this program, \$72 million more than the amount enacted for 1989.

In 1990, budget authority of \$715 million is requested for *foster care and adoption assistance*. These funds support State efforts to reunite children with their families or to place them promptly in adoptive homes. The administration supports legislation to transfer \$483 million in budget authority for State administration and training expenses to a new discretionary comprehensive child welfare services formula grant. The new formula grant is included in the human development services program discussed below.

Grants for *human development services* supplement State, local, and nonprofit efforts to improve the quality of life for low-income, neglected, abused, or homeless children, and for elderly people and other special groups. The largest program for children is Head Start, which helps State and local community groups provide child development programs for low-income preschool children. For 1990 the administration proposes \$2.8 billion in budget authority for these grant programs. Under the administration's proposal, these funds include support for administration and training activities that formerly were part of the foster care and adoption assistance programs.

Health.—The *medicaid* program continues to be the largest grant-in-aid. This program supports State and local efforts to provide health services to an estimated 25 million low-income persons. About half of medicaid spending finances access to acute care medical services for the low-income elderly, the disabled, and families with dependent children. The other half is used to finance the costs of long-term care for the low-income elderly, physically disabled, and the mentally retarded. For 1990, medicaid outlays are estimated to be \$36.0 billion, an increase of 5 percent more than 1989.

For 1990, the administration proposes to renew the medicaid cost containment incentives that were authorized in the Omnibus Budget Reconciliation Act of 1981 but which expired at the end of 1984. The administration also proposes to restructure Federal grants for administrative expenses from a matching formula grant to a grant indexed to inflation. Neither of these proposals would affect services for beneficiaries.

Budget authority of \$1.6 billion is requested in 1990 for the four *health block grants*, \$156 million more than for 1989. This increase reflects a proposed family planning block grant to give States greater latitude in delivering voluntary family planning services, and a proposed expansion of the preventive health and health services block grant. In addition, funds are included for the maternal and child health block grant and the alcohol, drug abuse, and mental health block grant.

Administration of Unemployment Compensation.—Grants to States for the administration of the unemployment compensation program, which provides income to eligible unemployed workers, are financed by a Federal tax on employers. Outlays for this grant are estimated to be \$1.7 billion in 1990, slightly more than the 1989 level. This will allow for increases in State salary levels and other costs.

Housing Assistance.—Housing assistance in the form of vouchers is the key to the administration's housing policy. Housing vouchers are targeted to very low-income households, can be used in most privately-owned rental units that meet certain housing quality standards, and are less costly than new construction or other project-based housing subsidies. Moreover, they give tenants greater freedom to choose where they wish to live.

Outlays for the grant portion of the *subsidized housing program* are estimated to be \$7.2 billion in 1990, \$0.7 billion more than in 1989. Grant outlays under this program include new construction and modernization activities for public and Indian housing. Also included are vouchers, Section 8 certificates for existing housing, Section 8 moderate rehabilitation (both the regular and new McKinney Act program), and State-sponsored new construction programs funded under Section 8 of the Housing Act of 1937. The administration is proposing vouchers for 120,000 additional households (100,000 as grants in the Department of Housing and Urban Development and 20,000 in the Farmers Home Administration (not classified as grants)), grants for the rehabilitation of 2,000 single-room housing units to be occupied by homeless individuals, grants for 7,000 elderly and handicapped units (at least 400 units for the mentally-ill elderly homeless), and approximately 2,000 units for new construction in FmHA. Approximately 20–25 percent of the 109,000 additional subsidized units in HUD would be provided in nonmetropolitan areas, while all of FmHA units would be provided in nonmetropolitan areas.

In addition to the 2,400 housing units for the homeless identified above, the budget includes \$71 million in 1990 for transitional housing for homeless families and individuals through the supportive housing demonstration program, a grant program authorized in the McKinney Act.

Budget authority of \$1.7 billion is requested for 1990 for *payments for the operation of low-income housing*. These payments are used to subsidize operating costs for almost 1.4 million low-rent public and Indian housing units. This request assumes implementation of improved verification procedures to reduce fraud and abuse. The administration supports enactment of legislation giving public housing authorities more flexibility in setting rents so that both

public housing authorities and tenants will have greater incentive to reduce dependency on the Federal Government.

The Consolidated Omnibus Budget Reconciliation Act of 1985 changed the treatment of loans in the low-rent public housing loan fund. Beginning in 1986 these "loans" to local housing authorities are forgiven if the funds are used as specified. The payments are therefore not loans but grants and are now classified in the budget as grants-in-aid. Outlays for these grants are estimated to be \$679 million in 1990, a decrease of \$285 million from the 1989 level of \$964 million.

Food and Nutrition Assistance.—Food stamps help low-income families maintain a nutritious diet. Food stamp benefits are classified as direct payments to individuals by the Federal Government and not as grants to State or local governments; a grant from the Federal Government reimburses the States for about half of their food stamp administrative expenses. Beginning in 1990, the administration proposes to restructure Federal grants for administrative expenses from a formula grant to a grant indexed to inflation. Outlays for the Federal share of State *administrative expenses for the food stamp program* are estimated to be \$1.2 billion in 1990, \$0.2 billion less than the 1989 level.

In place of the regular food stamp program, the Government of Puerto Rico receives a *nutrition assistance* block grant. Outlays for this grant are estimated to be \$0.8 billion in 1990.

Child nutrition programs subsidize institutions for meals served to students in schools, child care facilities, and other institutional settings. Budget authority proposed for the grant program in 1990, excluding food donations from the Section 32 program, is \$3.8 billion, a decrease of \$0.7 billion from the 1989 enacted amount. The budget reflects legislation to improve targeting of Federal funds to the needy by maintaining institutional subsidies for meals served to students whose family incomes are below 185 percent of the poverty level. The proposal would discontinue subsidies to students with incomes above that level.

The *supplemental feeding programs*, which include the special supplemental food program for women, infants, and children (WIC) and the commodity supplemental food program, provide nutritious food supplements and nutrition education to more than 3 million low-income women, infants, and children. WIC is designed to prevent health problems associated with inadequate diets during critical stages of child development. The budget authority request of \$2.0 billion for 1990 would maintain monthly participation levels somewhat above 3 million persons.

The *Commodity Credit Corporation* (CCC) donates surplus food such as cheese, butter, and nonfat dry milk to needy families, charitable institutions, and schools. CCC-donated commodities

valued at \$630 million are expected to be distributed to State and local governments in 1990, a decrease of \$210 million from the \$840 million in 1989. The reduction is because CCC is expected to have lower inventories of these commodities in part because of the drought in 1988 and because of lower purchases of dairy products. (These funds are classified as grants in the agriculture function in the budget.)

In addition to programs for the homeless discussed in the housing section above, the administration requests budget authority of \$114 million for the emergency food and shelter program, currently operated by the Federal Emergency Management Agency. The administration proposes to transfer this program to the Department of Housing and Urban Development to improve coordination of the delivery of homeless services because of HUD's lead responsibility for all housing and shelter programs.

Other Income Security.—*Family support payments to States* include the aid to families with dependent children (AFDC) program and the child support enforcement (CSE) program. AFDC helps State and local governments finance their cash assistance payments to needy families. The child support enforcement grants finance an average of 86 percent of State and local administrative expenses for establishing paternity and for collecting support from legally liable absent parents. Collections on behalf of AFDC recipients offset about 11 percent of State and Federal AFDC costs.

Beginning in 1990, the administration proposes to restructure Federal grants for administrative expenses for AFDC from a formula grant to a grant indexed to inflation. In addition, the administration supports legislation to increase the number of children receiving health coverage from absent parents and to increase CSE services on behalf of additional low-income families. Proposed budget authority for 1990 for the AFDC and CSE programs is \$10.8 billion, which will help support about 3.7 million families in 1990.

The Family Support Act of 1988, commonly known as the welfare reform bill, has changed and expanded many aspects of the AFDC program. Three major changes are:

- States will be required to provide at least 6 months of AFDC coverage per year to two-parent families in which the principle wage earner is unemployed. This is known as the mandatory AFDC-UP program. At least one parent in these families will be required to work for at least 16 hours a week as a condition of receiving benefits.
- The jobs opportunities and basic skills training program (JOBS) requires that AFDC recipients with children over the age of three (or age one at State option) must participate in a job training or education program. This replaces the WIN program. The administration is requesting \$350 million in

budget authority for 1990 for these *payments to states for AFDC work programs*.

- To facilitate the transition to independence, medicaid and child care coverage can continue temporarily for certain parents leaving AFDC. For parents leaving AFDC because of employment, medicaid and child care coverage will continue for twelve months. For parents leaving AFDC because of increased child support payments, medicaid coverage will continue for four months.

Federal outlays for the changes resulting from the Family Support Act of 1988 are estimated to be about \$3.4 billion for its first five years.

The Federal Government subsidizes States for all of the initial resettlement costs of welfare, health, employment, English language training, and other services for *refugee and entrant assistance*. Budget authority of \$232 million is requested in 1990 for refugee assistance, \$129 million less than the 1989 level.

For *low-income home energy assistance*, \$1.1 billion in budget authority is requested for 1990, \$283 million less than the 1989 enacted level. This program is a block grant to help States make payments to individuals, fuel vendors, or public housing operators for the fuel bills of low-income households. The Federal Government provides energy assistance through many programs. Now that the energy crisis is over, low-income families pay smaller and smaller portions of total income for heat. This decreases the need for an assistance program specializing in energy.

Administration of Justice.—For the three major *justice assistance* programs (juvenile justice, State and local assistance, and anti-drug abuse grants) the administration is proposing no new budget authority for 1990. The juvenile justice program has met its objective and the other programs proposed for termination are primarily the responsibility of State and local governments.

The administration will continue to support the *victims of crime* program in accordance with the Comprehensive Crime Control Act of 1984. Outlays are estimated to be \$99 million in 1990.

General Government.—The District of Columbia's operating budget is financed in part by an annual reimbursement for the net cost of the Federal presence. The administration requests \$498 million in budget authority for the *Federal payment to the District of Columbia* in 1990, a reduction of \$59 million from the 1989 level. The reduction is largely due to legislation proposing that Federal agencies reimburse the District for water and sewer services that the District provides.

Some jurisdictions receive *shared revenues*, which are payments from the Federal Government based on a percentage of Federal

receipts generated from timber sales, mineral leases, grazing permits, and other activities on Federal property. Beginning in 1990, the administration proposes that before sharing these receipts, the estimated costs of protecting Federal lands from wildfires be deducted. This affects programs in both the Department of Agriculture and the Department of the Interior and would have estimated net savings of \$74 million in outlays in 1990. Outlay savings in shared revenues of \$131 million are offset by increased Federal fire-fighting costs of \$57 million.

In the *payments in lieu of taxes* program, the Federal Government provides outlays based on a formula to local governments for some Federal lands located within their jurisdictions. The administration proposes to continue this program at a level of \$105 million in outlays for 1990.

Additional information on these and other grant programs is in Part 5 of the 1990 Budget. For a detailed list of all grant programs and proposed budget authority and outlays, see Table H-11.

Loans.—Another form of Federal aid to State and local governments is assistance in obtaining credit, either directly through loans and advances, or indirectly through loan guarantees. The Federal Government provides credit assistance to States, localities, and Indian tribes on more favorable terms than private lenders. Direct loans and loan guarantees are used to finance rural and community development, housing, and a variety of other activities.

Direct loan disbursements (excluding repayments) are estimated to be \$571 million in 1990, compared to \$657 million in 1989.

A Federal loan guarantee occurs when a government agency enters into a formal commitment to use government funds to repay a lender upon default by the borrower. New loan guarantees to State and local governments are estimated to be \$125 million in 1990, the same amount as in 1989.

More information on Federal credit activities is available in table H-12 and in Special Analysis F.

Tax Expenditures.—Federal aid to State and local governments is also provided through tax expenditures. Tax expenditures are one of the means by which the Federal Government carries out public policy objectives; they can be considered alternatives to direct spending programs. To compare direct Federal spending with assistance provided through tax expenditures, estimates for tax expenditures are shown as outlay equivalents; that is, the level of budget outlays required to provide the same amount of after-tax benefits as the tax expenditure. A detailed discussion of the measurement and definition of tax expenditures and a complete list of revenue loss and outlay equivalent estimates for specific tax expenditure items is presented in Special Analysis G.

Tax expenditures that provide aid to State and local governments are estimated to be \$52.4 billion in 1990. The two major categories of tax expenditures are the deductibility of most State and local taxes and the exclusion of interest on State and local securities from Federal taxation. Individuals can claim income and property tax payments to State and local governments (other than payments already taken as business deductions) as itemized deductions on their Federal tax returns. This permits States and localities to raise a dollar of revenue with less than a dollar of net cost to their citizens. The deduction for sales taxes has been disallowed since the beginning of calendar year 1987.

Interest on virtually all State and local government securities is tax exempt. As a result, State and local governments can sell their debt at lower interest rates than would be possible if such interest were taxable. The exclusion of interest on public purpose State and local debt subsidizes the financing of traditional public projects, such as toll roads, sewer systems, and schools. However, as shown in table H-2, State and local jurisdictions also provide the benefits of tax-exempt financing to a wide variety of private and quasi-public activities, such as pollution control, housing and small businesses. The growth of private purpose tax-exempt bonds and other issues pertaining to tax-exempt credit are discussed in more detail in Special Analysis F.

Table H-2. TAX EXPENDITURES AIDING STATE AND LOCAL GOVERNMENTS

(Outlay equivalents; in millions of dollars)

Description	Fiscal year		
	1988	1989	1990
Deductibility of:			
Property taxes on owner-occupied homes	10,100	10,410	11,765
Nonbusiness State and local taxes other than on owner-occupied homes.....	17,250	17,305	18,690
Exclusion of interest on:			
Public purpose State and Local debt.....	14,410	15,440	15,965
IDBs for certain energy facilities.....	385	400	410
IDBs for pollution control and sewage and waste disposal facilities	2,150	2,215	2,305
Small-issue IDBs.....	3,435	3,475	3,335
Owner-occupied mortgage revenue bonds	2,375	2,360	2,230
State and local debt for rental housing.....	1,650	1,630	1,720
Mass commuting vehicle IDBs	50	40	20
IDBs for airports, docks and sports and convention facilities.....	960	1,000	1,040
State and local student loan bonds.....	385	390	405
State and local debt for private nonprofit educational facilities	320	315	330
State and local debt for private nonprofit health facilities	2,870	2,850	3,025
State and local debt for veterans housing	355	350	380
Total (after interactions) ¹	42,520	49,455	52,375

¹ The estimate of total tax expenditures reflects interactive effects among the individual items. Therefore the individual items cannot be added to obtain a total.

To curb the rapid growth of private purpose tax-exempt bonds, recent legislation has placed restrictions on their use. The Mort-

gage Subsidy Bond Tax Act of 1980 imposed a number of restrictions on tax-exempt mortgage revenue bonds (MRBs) for owner-occupied housing as well as multifamily rental housing bonds, including limitations on the volume issued in each State. The Tax Reform Act of 1986 (TRA) included mortgage revenue bonds under a new unified volume cap which also covers student loan bonds and industrial development bonds (IDBs), as noted below. The Technical and Miscellaneous Revenue Act of 1988 (TMRA) extended the MRB program through December 31, 1989. The Deficit Reduction Act of 1984 (DEFRA) also placed restrictions on qualified veteran's MRBs. The issuance of these bonds is limited to five preexisting State programs in amounts based on previous volume levels. Future issuance will be limited to veterans who served in active duty before 1977.

The Tax Equity and Fiscal Responsibility Act of 1982 required that industrial development bonds (IDBs) be approved by an elected public official after a public hearing and that assets of certain IDB-financed projects placed in service after 1982 be depreciated using straight-line rather than accelerated depreciation. The 1982 Act also eliminated the tax exemption for small issue IDBs issued after 1986. DEFRA extended the expiration date to December 1988 and the TRA extended it one more year to December 1989 for small issue IDBs that are issued exclusively to finance manufacturing facilities.

DEFRA also placed limits on the total volume of private purpose industrial revenue and student loan bonds that could be issued within each State. The maximum amount was limited to the greater of \$150 per capita or \$200 million per year. As mentioned earlier, the TRA combines the prior law volume cap for single family mortgage revenue bonds and multifamily rental housing bonds with the cap for IDBs and student loans. The cap was set at the greater of \$75 per capita or \$250 million for each State, through 1987. In 1988 and later years, it is the greater of \$50 per capita or \$150 million.

Additional minor changes for tax exempt bonds were enacted in the Omnibus Budget Reconciliation Act of 1987 and the Technical and Miscellaneous Revenue Act of 1988.

FEDERAL GRANTS-IN-AID BY FUNCTION, AGENCY, AND REGION

Distribution of Grants by Function.—Under the Congressional Budget Act of 1974, the Congress reviews the budget and sets targets by function. Consequently, the functional classification of the budget has become important not only for analysis but also for congressional control.

Table H-3. FEDERAL GRANT-IN-AID OUTLAYS BY FUNCTION

(In billions of dollars)

Function	Actual 1988	Estimate					
		1989	1990	1991	1992	1993	1994
National defense.....	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Energy.....	0.5	0.4	0.4	0.3	0.3	0.3	0.3
Natural resources and environment.....	3.7	3.7	3.6	3.4	3.0	2.6	2.3
Agriculture.....	2.1	1.7	1.5	1.3	1.2	1.0	1.0
Commerce and housing credit.....	*						
Transportation.....	18.1	18.2	17.9	17.2	16.7	16.5	16.1
Community and regional development.....	4.3	4.3	4.3	4.2	3.7	3.3	3.2
Education, training, employment, and social services...	19.9	22.4	22.3	22.7	22.6	22.5	22.7
Health.....	32.6	36.6	38.4	41.8	45.5	49.3	52.8
Income security.....	31.6	33.4	32.8	32.7	34.2	35.9	37.1
Veterans benefits and services.....	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Administration of justice.....	0.3	0.4	0.4	0.3	0.2	0.2	0.2
General government.....	1.9	2.1	1.9	1.9	1.9	1.9	2.0
Total outlays.....	115.3	123.6	123.6	126.1	129.7	134.0	138.1

*\$50 million or less.

Table H-3 shows a functional distribution of Federal grant-in-aid outlays.² The functional composition of grant outlays has changed significantly over the years, as shown in table H-4. The health function has increased from 3 percent of Federal aid in 1960 to an estimated 31 percent in 1990. Transportation has declined from 43 percent in 1960 to an estimated 14 percent in 1990. Other changes occurred between 1960 and 1990 in education, training, employment, and social services programs, which increase from 7 percent in 1960 to an estimated 18 percent in 1990. General government also increased with the addition of general revenue sharing, from 2 percent in 1960 to 9 percent in 1980. In 1990, outlays for this function are expected to drop to 2 percent of total grants, due primarily to the termination of the general revenue sharing program in 1986.

Distribution of Grants by Agency.—Table H-5 shows grant outlays by agency. The Department of Health and Human Services will provide 47 percent of total estimated grant-in-aid outlays in 1990, far more than any other agency.

Distribution of Grants by Region.—Most grant funds are distributed among States or localities by formulas, with elements in the formula that reflect program objectives. For example, the distribution of most highway funds among States is affected by the number of miles of highways in the State; the distribution of education grants is affected by the number of school children meeting certain criteria. Two of the largest grants, medicaid and aid to families

² Table H-11 contains functional data and programmatic detail within each function for both budget authority and outlays.

Table H-4. PERCENTAGE DISTRIBUTION OF FEDERAL GRANT-IN-AID OUTLAYS BY FUNCTION

	Actual				Estimate					
	1960	1970	1980	1988	1989	1990	1991	1992	1993	1994
Natural resources and environment.....	2	2	6	3	3	3	3	2	2	2
Agriculture.....	3	3	1	2	1	1	1	1	1	1
Transportation.....	43	19	14	16	15	14	14	13	12	12
Community and regional development....	2	7	7	4	3	3	3	3	2	2
Education, training, employment, and social services.....	7	27	24	17	18	18	18	17	17	16
Health.....	3	16	17	28	30	31	33	35	37	38
Income security.....	38	24	20	27	27	27	26	26	27	27
General government.....	2	2	9	2	2	2	1	1	1	1
Other.....	*	1	1	1	1	1	1	1	1	1
Total.....	100	100	100	100	100	100	100	100	100	100

*0.5% or less.

Table H-5. FEDERAL GRANT-IN-AID OUTLAYS BY AGENCY

(In billions of dollars)

Agency	Actual 1988	Estimate	
		1989	1990
Department of Agriculture.....	11.3	11.9	10.8
Department of Commerce.....	0.4	0.4	0.2
Department of Education.....	9.5	10.2	10.7
Department of Energy.....	0.2	0.2	0.2
Department of Health and Human Services.....	51.3	57.3	58.0
Department of Housing and Urban Development.....	12.2	12.8	13.4
Department of the Interior.....	1.3	1.4	1.2
Department of Justice.....	0.3	0.3	0.4
Department of Labor.....	5.7	5.8	5.9
Department of Transportation.....	18.0	18.1	17.8
Department of the Treasury.....	0.3	0.4	0.4
Environmental Protection Agency.....	2.9	2.9	2.9
Federal Emergency Management Agency.....	0.4	0.4	0.3
Other.....	1.5	1.5	1.5
Total outlays.....	115.3	123.6	123.6

with dependent children, are open-ended grants, whereby States determine the program level and the Federal Government reimburses the States for a portion of their total costs. As a result of these and other factors, the distribution of grants differs among regions, as shown in Table H-6.

The highest per capita aid in 1988 went to Region II, which includes New York, New Jersey, Puerto Rico, and the Virgin Islands. The lowest per capita aid in 1988 went to Regions IV, VI, and VII, generally covering the South and the Plains States.

Table H-6. DISTRIBUTION OF GRANTS BY REGION, SELECTED FISCAL YEARS

	Federal Region	1988 ¹ total grants	Dollars per capita		Average annual percent in- crease, 1978- 88
			1978	1988 ²	
I.	Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island	7.1	414	544	2.8
II.	New York, New Jersey, Puerto Rico, Virgin Islands	18.8	442	647	3.9
III.	Virginia, Pennsylvania, Delaware, Maryland, West Virginia, District of Columbia	13.1	361	505	3.4
IV.	Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida	17.5	312	396	2.4
V.	Illinois, Indiana, Michigan, Ohio, Wisconsin, Minnesota	20.4	308	439	3.6
VI.	Arkansas, Louisiana, Oklahoma, New Mexico, Texas	10.8	295	380	2.6
VII.	Iowa, Kansas, Missouri, Nebraska	4.8	272	402	4.0
VIII.	Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming	4.0	369	518	3.5
IX.	Arizona, California, Nevada, Hawaii, other territories	14.2	361	417	1.4
X.	Idaho, Oregon, Washington, Alaska	4.7	410	526	2.5
	United States	115.3	345	462	3.0

¹ Preliminary estimate, in billions of dollars.

² See "Federal Expenditures by State," Bureau of the Census, for additional information concerning State distribution of Federal grants and other Federal spending.

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 more than 125 years to the Civil War. The Morrill Act, passed in 1862, established the land grant colleges and instituted certain federally required standards, as is characteristic of the present grant-in-aid system. 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 Government expenditures until after World War II. As shown in table H-7, Federal grants to State and local governments were \$2 billion in 1950, and by 1965 they had risen to \$11 billion. In 1980 they increased to more than \$91 billion, an average annual increase of 15 percent since 1965. From 1980 to 1990, they are estimated to grow at an average annual rate of 3.1 percent. In 1990 Federal grants are estimated to be \$123.6 billion, 10.7 percent of total Federal outlays and 18.7 percent of outlays for domestic Federal programs.

Table H-7 also shows grants-in-aid as a percent of State and local expenditures and as a percent of gross national product (GNP). Grants as a percent of State and local expenditures increased from 10.4 percent in 1950 to 25.8 percent in 1980, and

Table H-7. HISTORICAL TREND OF FEDERAL GRANT-IN-AID OUTLAYS

(Fiscal years; dollar amounts in billions)

	Total grants-in-aid	Federal grants as a percent of—			
		Federal outlays ¹		State and local expenditures ³	Gross National Product
		Total	Domestic programs ²		
Five-year intervals:					
1950	\$2.3	5.3%	11.6%	10.4%	0.8%
1955	3.2	4.7	17.2	10.1	0.8
1960	7.0	7.6	20.6	14.6	1.4
1965	10.9	9.2	20.3	15.2	1.6
1970	24.1	12.3	25.3	19.2	2.4
1975	49.8	15.0	23.1	22.7	3.3
Annually:					
1980	91.5	15.5	23.3	25.8	3.4
1981	94.8	14.0	21.6	24.6	3.2
1982	88.2	11.8	19.0	21.6	2.8
1983	92.5	11.4	18.6	21.3	2.8
1984	97.6	11.5	19.6	20.9	2.6
1985	105.9	11.2	19.3	20.9	2.7
1986	112.4	11.3	19.8	20.5	2.7
1987	108.4	10.8	19.0	18.3	2.4
1988	115.3	10.8	18.9	18.2	2.4
1989 estimate	123.6	10.9	18.7	NA	2.4
1990 estimate	123.6	10.7	18.7	NA	2.3
1991 estimate	126.1	10.4	17.8	NA	2.2
1992 estimate	129.7	10.4	17.4	NA	2.1
1993 estimate	134.0	10.5	17.2	NA	2.0
1994 estimate	138.1	10.5	17.1	NA	2.0

¹ Includes off-budget outlays; all grants are on-budget.² Excludes outlays for national defense, international affairs, and net interest.³ As defined in the national income and product accounts.

NA—Not available.

Note.—For additional detail, see the *Historical Tables* volume of the *Budget of the United States Government, Fiscal Year 1990*.

declined to 18.2 percent in 1988. Grants increased as a percent of GNP from 0.8 percent in 1950 to 3.4 percent in 1980, and are projected to decline to 2.3 percent by 1990.

Table H-8 shows the composition of grant-in-aid outlays for selected years since 1950 according to the categories of payments for individuals, physical capital investment, and other purposes. In 1990, 54 percent of grants are to States and localities as payments for individuals.³ Among the larger of these programs are medicaid, family support payments (AFDC), housing assistance, and nutrition programs.

Table H-8 also shows the share of State and local capital expenditures financed by Federal grants or by revenues from State and local own sources. The Federal share increased from 8.3 percent in 1955 to 23.9 percent in 1960 largely because of the initiation of Federal trust fund financing for the interstate highway system. The share increased from 24.6 percent in 1970 to 36.4 percent in

³ Payments for individuals are defined as Federal outlays providing benefits in cash or in-kind that constitute income transfers to individuals or families.

Table H-8. COMPOSITION OF GRANT-IN-AID OUTLAYS

(Fiscal years; dollar amounts in billions)

	Total grants-in-aid	Composition of grants-in-aid			Share of State and local capital expenditures financed by—	
		Grants for payments for individuals ¹	Grants for physical capital investment ²	Other	Grants-in-aid	Own source revenues
Five-year intervals:						
1950.....	2.3	1.3	0.5	0.5	8.4%	91.6%
1955.....	3.2	1.6	0.8	0.8	8.3	91.7
1960.....	7.0	2.5	3.3	1.2	23.9	76.1
1965.....	10.9	3.7	5.0	2.2	24.8	75.2
1970.....	24.1	8.6	7.0	8.4	24.6	75.4
1975.....	49.8	16.4	10.9	22.5	25.7	74.3
Annually:						
1980.....	91.5	31.9	22.5	37.1	36.4	63.6
1981.....	94.8	36.9	22.1	35.7	35.9	64.1
1982.....	88.2	37.9	20.1	30.2	34.0	66.0
1983.....	92.5	41.6	20.5	30.4	33.7	66.3
1984.....	97.6	44.3	22.7	30.6	34.7	65.3
1985.....	105.9	48.1	24.8	33.0	33.3	66.7
1986.....	112.4	52.8	26.2	33.3	31.2	68.8
1987.....	108.4	56.4	23.8	28.2	26.6	73.4
1988.....	115.3	61.0	24.6	29.8	25.8	74.2
1989 estimate.....	123.6	66.5	24.7	32.4	NA	NA
1990 estimate.....	123.6	67.3	24.7	31.6	NA	NA

¹ For an identification of accounts in this category, see Table H-11, including its footnotes.² Excludes capital grants that are included as payments for individuals.

NA=Not available.

1980, increasing by almost half in ten years. In contrast, this percentage declined to 25.8 percent in 1988, largely because State and local capital spending financed by their own revenues and by borrowing has increased significantly. The major capital investment programs are for highways, mass transit, community development block grants, and sewage treatment systems.

Grants for capital investment are estimated to be \$24.7 billion in 1990, 20 percent of total grants-in-aid.

In constant fiscal year 1982 dollars, total grants were \$105.9 billion in 1980 and are estimated to be \$91.1 billion in 1990, declining on the average 1.5 percent per year from 1980 to 1990. Grants for payments to individuals increase on the average 3.0 percent per year from 1980 to 1990, whereas grants for capital investment decline 2.4 percent per year on the average and other grants decline 6.8 percent per year on the average. Additional information on historical data for grants in current and constant dollars are in the budget volume, *Historical Tables, FY 1990*.

GRANTS MANAGEMENT

The increase in grant expenditures since World War II was accompanied by an increase in the number of grants designated for specific purposes. This increase took place especially in the 1960's

and early 1970's. These grants usually contained Federal legislative and regulatory mandates, required matching funds from the recipient governments, and gave little discretion in their use to State and local officials. They came to be known as categorical grants, with complex administrative requirements to ensure that their purposes were met.

To reverse this trend and to devolve authority, some broad-based grants have been enacted. In addition, many mandatory administrative or procedural requirements associated with grant programs have been simplified or eliminated. Regulatory reforms and management improvements have increased the efficiency of the intergovernmental grant-in-aid system and have strengthened the authority of State and local elected officials over Federal financing and development activities in their jurisdictions.

General Purpose and Broad-based Grants.—General-purpose aid gives State and local governments almost complete discretion in determining their use. Broad-based aid, which includes block grants, gives State and local governments considerable discretion within a broadly defined program area. Table H-9 shows general-purpose and broad-based grants as a percent of total grants for selected years from 1972 to 1992.

General-purpose aid increased dramatically with the introduction of the general revenue sharing program, from less than 2 percent of all grants in 1972 to more than 14 percent in 1975. The general revenue sharing program was terminated in 1986. The remaining programs in this category are expected to comprise 1.7 percent of total grants-in-aid in 1990.

Under the current administration, broad-based aid has increased. Based on proposals in the 1982 Budget, Congress enacted nine block grants that consolidated 57 grant programs. In 1982, Congress enacted the Job Training Partnership Act, which replaced several expiring Comprehensive Employment and Training Act programs with a block grant to the States. The administration is proposing a new block grant beginning in 1990 for family planning. Broad-based aid is estimated to be 10.0 percent of total grants-in-aid in 1990.

In 1987 there were approximately 372 different grant programs. Most of the spending is concentrated in relatively few—more than 85 percent of estimated obligations in 1987 were concentrated in only 25 programs.

Most general-purpose and broad-based grants reduce or eliminate the requirement that recipients match Federal funds with their own. Despite the increase in these grants, matching requirements for all grants as a whole have increased slightly. In 1980, State and local governments were estimated to provide approximately \$.37 of required matching funds for each \$1 of Federal aid; the State and

Table H-9. OUTLAYS FOR GENERAL-PURPOSE, BROAD-BASED, AND OTHER GRANTS

(Dollar amounts in billions)

	Actual				Estimate			
	1972	1975	1980	1988	1989	1990	1991	1992
General-purpose grants:								
General revenue sharing		6.1	6.8					
Other general purpose fiscal assistance and TVA ¹	0.5	0.9	1.8	2.1	2.2	2.0	2.1	2.1
Subtotal, general-purpose grants	0.5	7.0	8.6	2.1	2.2	2.0	2.1	2.1
Broad-based:								
Community development		*	3.9	3.1	3.1	3.1	3.1	2.9
Health block grants	0.1	0.1	0.1	1.0	1.3	1.4	1.6	1.6
State education block grants				0.5	0.5	0.5	0.5	0.5
Employment and training		1.3	2.1	1.9	1.9	1.8	1.8	1.8
Social services block grant	1.9	2.0	2.8	2.7	2.7	2.7	2.7	2.7
Low-income home energy assistance				1.6	1.4	1.1	1.1	1.1
Other	0.8	1.1	1.4	2.2	2.2	1.8	1.5	1.5
Subtotal, broad-based grants	2.9	4.6	10.3	12.9	13.0	12.4	12.3	12.0
Other grants	31.0	38.2	72.5	100.4	108.3	109.2	111.7	115.6
Total	34.4	49.8	91.5	115.3	123.6	123.6	126.1	129.7
ADDENDUM: PERCENT OF TOTAL								
General-purpose grants	1.6%	14.1%	9.4%	1.8%	1.8%	1.7%	1.6%	1.6%
Broad-based grants	8.3%	9.2%	11.3%	11.2%	10.5%	10.0%	9.8%	9.3%
Other grants	90.1%	76.7%	79.3%	87.1%	87.7%	88.3%	88.6%	89.1%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

* \$50 million, or less.

¹ Includes most grants in the general government function, and shared revenues from the Tennessee Valley Authority, shown in the energy function in Table H-11.

local share in 1987 was about \$.42 for each Federal dollar. The increase is because of the significant growth in programs such as medicaid that require a larger than average matching share.

Federalism and Regulatory Relief.—During 1988, the administration expanded its efforts to promote federalism. These efforts include implementation of the latest Federalism Executive order (Executive Order No. 12612), providing regulatory relief to State and local governments through individual regulatory actions, and initiating various management activities. The following is a brief description of these actions.

The President issued Executive Order No. 12612, "Federalism," in October 1987, which established fundamental federalism principles and policymaking criteria to guide Executive departments and agencies in formulating and carrying out policies that have federalism implications. The Office of Management and Budget (OMB) and the agencies have considered federalism issues during the re-

views of regulatory and legislative proposals. In accordance with Executive Order No. 12612, Federal departments and agencies, through their designated federalism officials, must consider the effects of their regulatory and legislative policies on State and local governments.

In addition, the administration has been working closely with the States to put the principles of federalism into practice. During 1988 the administration continued its review of regulatory impediments to efficient State management of federally-funded programs. In February 1988, more than 160 impediments were identified by a number of States as being onerous and were submitted to the President by the National Governors' Association (NGA). These impediments, which affect 25 Federal departments and agencies, cover a wide range of issues and programs. These regulatory reform proposals include making Federal programs more responsive to the citizens who are the ultimate beneficiaries of Federal assistance, eliminating duplicative and conflicting regulations, permitting more reliance on State laws and procedures for the management of Federal programs, updating Federal programs to meet new State needs, and alleviating Federal "micro-management" of State and local affairs. After careful review, the administration has been able to carry out or further pursue more than 90 of the regulatory reform proposals that the NGA presented to the President.

Finally, executive branch agencies will be expected during the coming year to pursue further regulatory relief to State and local governments by providing administrative flexibility, promoting efficiency through Governmentwide common rulemaking, cutting Federal red tape, decentralizing the decisionmaking process, and seeking State and local government views in the development of Federal rules.

In March 1987, the President directed all Federal grant-making agencies to propose simultaneously and subsequently to adopt verbatim a single, Governmentwide grants management "common rule" to replace different agency rules that carried out OMB Circular A-102, "Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments." The final rule was published in March 1988 in the *Federal Register*. The common rule eliminated redundant and inconsistent administrative requirements among and within the 24 Federal grant-making agencies by rescinding all inconsistent administrative provisions in grant program regulations, and by superceding all similar provisions of noncodified program manuals, handbooks, and other materials, unless required by legislation or approved by OMB.

The common rule also contained numerous policy changes to promote federalism, regulatory relief, and business-like manage-

ment of grants. Two particularly significant federalism changes affect States. First, States no longer have to follow uniform Federal standards or requirements for financial management systems, equipment or procurement. Instead, States will expend and account for grant funds according to their own State laws and procedures. Second, in State-administered programs (other than the open-ended entitlement programs), States no longer have to apply uniform Federal administrative standards to subgrantees. Instead, States are free to attach conditions to and manage funds that are passed on to subgrantees according to their own State laws and procedures.

In November 1988, 28 agencies proposed an expansion of this common rule to include institutions of higher education, hospitals, and other nonprofit organizations, and commercial and for-profit entities. The public comment period ends in January 1989. A final common rule, as well as a new OMB circular, are expected later in 1989.

Finally, in March 1989 Federal agencies will be meeting for the fourth consecutive year with State Single Points of Contact, who are responsible for implementation of Executive Order 12372, "Intergovernmental Review Process." The Executive Order, now in its fifth year of implementation, allows States to choose which Federal programs they wish to review and requires that the Federal agencies accommodate State comments and concerns or explain why they cannot. Since implementation of the Order, significant achievements in intergovernmental cooperation and consultation have been realized. The annual meeting affords both the Federal agencies and State and local governments the opportunity to review achievements in intergovernmental coordination and identify areas for further progress.

Management Improvements.—The administration has also carried out a number of efforts to improve management of the grants-in-aid system.

In December 1987, 18 agencies replaced on an interim basis the February 1986 Governmentwide common rule for Uniform Relocation Assistance with a Governmentwide single rule, promulgated by the Department of Transportation. The single rule will continue to recognize State and local competence, delete regulatory planning requirements, and change the reporting frequency, which had been annual in most cases, to no more than every three years. Uniform Relocation Assistance is one of 68 crosscutting requirements that affect Federal assistance and direct Federal development.

The final single rule is expected to be published by the Department of Transportation, the lead agency, by April 1989, the statutory deadline for promulgating the rule. This rule will apply to all government agencies.

In May 1987, OMB proposed for public comment new, standard reporting formats for financial reporting on open-ended entitlement programs (e.g., medicaid and aid to families with dependent children). This new reporting would replace the many inconsistent and incomplete reports now called for with complete, consistent and logical reporting across all of the affected programs. New reporting forms will affect reporting on fiscal year 1989 monies.

As part of this administration's initiatives to curb fraud, waste, and abuse, OMB directed a series of actions so that suspension and debarment decisions in nonprocurement (grants, loans, etc.) programs by one Federal agency have Governmentwide effect, as established by Executive Order 12549, "Debarment and Suspension," of February 1986. Governmentwide effect means that a suspended or debarred participant for one Federal agency will no longer be able to receive a subgrant, subcontract, or loan from another Federal agency. In May 1988, 27 agencies issued a final common rule effective October 1, 1988. Nonprocurement suspension and debarment actions after that date have Governmentwide effect. In July 1988, the General Services Administration published the first edition of a monthly publication entitled "List of Parties Excluded From Federal Procurement or Nonprocurement Programs." This two-part list includes both procurement and nonprocurement suspensions and debarments. The list will be available via automated access in January 1989.

An interim final Governmentwide common rule to carry out provisions of the Drug-Free Workplace Act of 1988 will be published in February 1989, effective in March 1989. The common rule will specify requirements for grantees in order to receive Federal funds. At the same time, an interim final regulatory amendment to the Federal Acquisition Regulation (FAR) will be published to specify parallel requirements for Federal contractors, also effective in March 1989.

In October 1988 OMB issued proposed revisions to OMB Circular A-87, "Cost Principles for State and Local Governments." The revisions were based on an interagency task force's recommendations. The task force studied Inspector General reports and recommendations, solicited suggestions for changes from State and local governments, and compared for consistency the provisions of other OMB cost principles covering nonprofit organizations to Circular A-87. The proposed revised Circular reflects the results of these reviews.

OTHER SOURCES OF FEDERAL AID INFORMATION

The grant-in-aid series in the budget provides a comprehensive picture of Federal grants-in-aid, which are programs financed but not directly administered by the Federal Government. The Census series (published in *Governmental Finances*) and the national

income and product accounts (NIPA) series (published in Special Analysis B and in the *Survey of Current Business*) are parts of a broader statistical concept encompassing the entire economy, and as a consequence grants-in-aid are defined somewhat differently than in the budget. Both series omit the following items that the budget includes:

- Federal aid to the Governments of Puerto Rico and U.S. territories;
- certain payments in-kind, primarily commodities purchased by the Department of Agriculture and donated to the school lunch and other nutrition programs; and
- payments to private, nonprofit entities (such as nonprofit hospitals) that operate under State auspices or within a State plan.

One major group of payments excluded in the budget definition of grants but included in the Census and NIPA series is payments for research conducted by public universities. The budget series excludes these payments because they are considered to be a purchase of services for the Federal Government rather than aid for State or local programs. Because both Census and the NIPA series focus on total cash payments to State and local governments, they count these as grants. A major item included only in the Census definition is unemployment compensation for Federal employees, ex-servicemen, and temporary extended benefits. One major kind of outlay included in the budget and Census definitions but excluded from the NIPA series is grants to subsidize the operation of public enterprises, mainly housing and transportation facilities. These are counted as subsidies by the Federal Government in the NIPA rather than as grants. Table H-10 shows these and other minor differences among the three series, but the differences are largely offsetting and the three series exhibit similar patterns.

In addition to these data sources, information on the distribution of Federal funds to State and local governments can be found in several other documents.

- *Budget Information for the States* (BIS) provides estimates of State funding allocations for the largest formula grant programs for the past, present and budget year. These programs comprise approximately 80 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 Expenditures by State* is a report prepared by the Bureau of the Census that shows Federal spending by State for grants and other spending for the most recently completed fiscal year. This document includes the outlay data on Federal grants to State and local governments that previously ap-

Table H-10. THREE MEASURES OF FEDERAL GRANTS-IN-AID TO STATE AND LOCAL GOVERNMENTS, 1984-87

(In billions of dollars)

	1984	1985	1986	1987
Budget (Special Analysis H)	97.6	105.9	112.4	108.4
Less principal exclusions:				
Agricultural commodities	-1.8	-2.5	-1.7	-1.9
Geographical exclusions	-2.6	-2.7	-2.7	-2.7
Plus payments for research	4.6	5.1	5.4	5.2
Federal unemployment benefits and related	0.4	0.4	0.4	0.4
All other (net)	0.7	1.0	1.8	2.1
Federal payments (Census)	99.0	107.2	115.6	111.5
Less:				
Low-rent public housing	-5.6	-6.2	-6.2	-5.8
Federal unemployment benefits and related	-0.4	-0.4	-0.4	-0.4
All other (net)	-2.3	-2.8	-1.6	-2.2
Grants-in-aid (national income and product accounts)	90.7	97.8	107.4	103.1

peared in the Department of the Treasury publication, *Federal Aid to States*.

- The *Consolidated Federal Funds Report* (CFFR) is two annual documents that show the distribution of Federal spending by county areas and by local governmental jurisdictions. It is released by the Bureau of the Census in the Spring.
- The *Catalog of Federal Domestic Assistance* 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-in-aid and other assistance programs; discussions of eligibility criteria, application procedures, and estimated obligations; and related information. This is a primary reference source for communities wishing to apply for grants-in-aid.
- The *Federal Register* is published daily by the Government Printing Office and has current information on agencies that are accepting applications for specific programs. These notices also provide information on eligibility criteria and application procedures.
- The *Federal Assistance Awards Data System* (FAADS) provides computerized information about current grant funding. Data on all direct assistance awards are provided quarterly to the States and to the Congress.

THE STATE AND LOCAL GOVERNMENT SECTOR OF THE NATIONAL
INCOME AND PRODUCT ACCOUNTS ⁴

The national income and product accounts (NIPA) provide a comprehensive statistical description of the U.S. economy that includes State and local government receipts and expenditures. These data measure the relationship between the State and local governments as a sector of the economy and other sectors.

There are three major differences between NIPA data and a government's own budgetary accounting for receipts and expenditures. First, financial transactions and the purchase and sale of land and other existing assets are excluded from NIPA data but are generally included in budgetary data. Second, a large number of transactions in the NIPA accounts are recorded on an accrual basis, while many governments show transactions on a cash basis. Third, NIPA data aggregate total State and local transactions, whereas many governments separate their general fund from special funds. As a result of these differences, NIPA totals are not the same as an aggregate of these governments' financial budgets. However, the NIPA data do provide timely estimates of total State and local fiscal transactions not otherwise available and if used with care can provide helpful financial indicators.

NIPA State and Local Sector.—The following chart shows State and local operating account surpluses and deficits as a percent of receipts, excluding the social insurance funds (primarily pensions). The social insurance funds have been excluded because their surpluses are for future pension obligations and are not available for carrying out the general responsibilities of these governments. It is reasonable for the operating account to be in deficit because it includes capital expenditures, often financed through borrowing.

The peaks and troughs in the operating account are largely the result of:

- changes in economic activity, which affect primarily receipts;
- decisions regarding debt-financed capital spending; and
- changes in Federal aid.

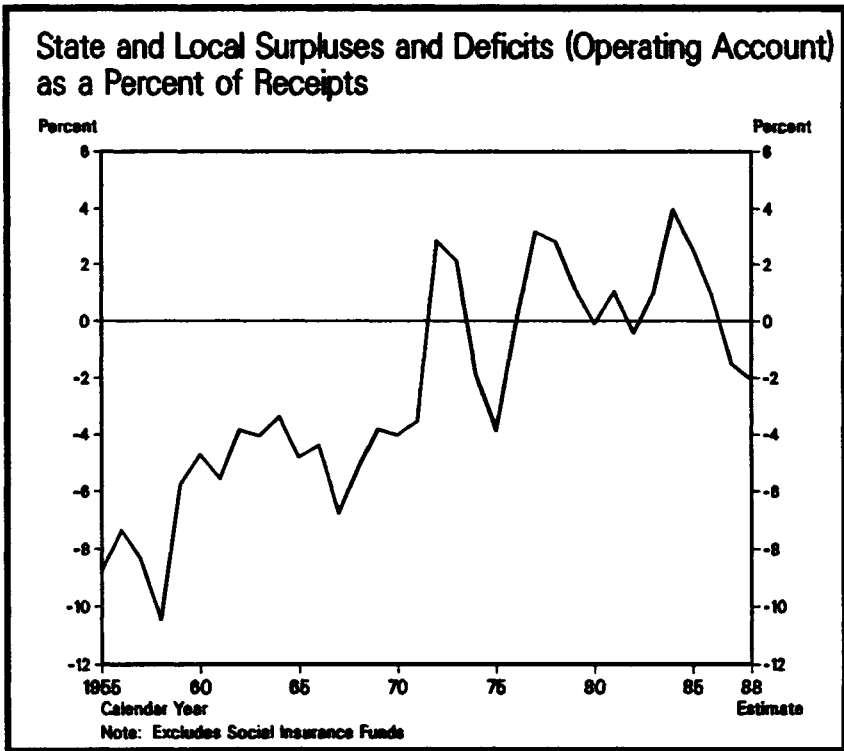
The operating account was in deficit every year from 1955 to 1971. Unlike this earlier period, during the 1970's it was generally in surplus. In part, this change reflected the growth of Federal grants (rather than State and local borrowing) to finance new infrastructure.

- The surpluses in the early 1970's were largely the result of the initiation of general revenue sharing and strong economic growth.
- The low point in 1975 was largely the result of the recession.

⁴ Special Analysis B provides general information on the Federal sector of the national income and product accounts.

- The surpluses in the latter 1970's were largely the result of the economic recovery, increases in anti-recession Federal grants, reductions in debt-financed capital spending, and general restraints in government spending exemplified by the passage of Proposition 13 in California in 1978.

The recession brought the account into deficit in 1980 and 1982, albeit quite small ones relative to the 1955-71 period. As a result of the recession, States and localities reduced expenditures and increased taxes. These actions along with national economic growth over the past four years have helped return the account to surplus for 1983-1986. The gradual decline into deficit in 1987 and 1988 is in part due to increases by States and localities in capital spending financed by borrowing and other factors.



DETAILED FEDERAL AID TABLES

The following two tables present detailed Federal aid data for 1988, 1989, and 1990. Table H-11, "Federal Grants to State and Local Governments—Budget Authority and Outlays," provides de-

tailed budget authority and outlay data for grants-in-aid. Table H-12, "Credit Assistance to State and Local Governments," provides information on direct and guaranteed loans to State and local governments.

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS - BUDGET AUTHORITY AND OUTLAYS

(In millions of dollars)

Function, agency and program	BUDGET AUTHORITY			OUTLAYS		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
NATIONAL DEFENSE:						
Department of Defense—Military:						
National Guard centers construction.....	104	105	105	104	105	105
Other.....	21	41		3	41	
Federal Emergency Management Agency:						
Emergency management planning and assistance.....	79	91	93	80	86	90
Total, national defense	204	237	198	188	232	195
ENERGY:						
Department of Energy:						
Energy conservation	143	200		230	203	160
Department of Housing and Urban Development:						
Assistance for solar and conservation improvements.....	2			3	1	*
Tennessee Valley Authority:						
Tennessee Valley Authority fund.....				225	233	236
Total, energy	145	200		457	437	396
NATURAL RESOURCES AND ENVIRONMENT:						
Department of Agriculture:						
Watershed and flood prevention operations	106	101	28	114	108	88
Resource conservation and development ..	7	7	4	11	7	6
State and private forestry.....	37	40	17	37	40	17
Forest research				14	15	11
Department of Commerce:						
Operations research and facilities.....	140	146	47	140	146	46
Department of the Interior:						
Abandoned mine reclamation fund	160	152	122	156	135	120
Regulation and technology	40	42	42	40	41	41
Land acquisition.....	17	17		59	51	32
Urban park and recreation fund.....	-1			1	4	*
Historic preservation fund.....	28	30		25	29	14
Resource management	4	5		4	5	1
Construction.....	2	2		2	2	*
Sport fish restoration	161	193	100	122	161	151
Miscellaneous permanent appropriations...	118	129	100	127	122	115
Environmental Protection Agency:						
Sewage treatment system construction grants.....	2,304	1,950	1,200	2,514	2,391	2,351
Abatement, control, and compliance.....	286	315	323	295	313	321
Hazardous substance superfund.....	219	277	331	78	143	207
Leaking underground storage tank trust fund.....	14	40	90	7	23	34
Total, natural resources and environment.....	3,641	3,445	2,404	3,747	3,735	3,555
AGRICULTURE:						
Department of Agriculture:						
Food donations (Commodity Credit Corporation)	1,400	840	630	1,400	840	630
Temporary emergency food assistance program.....	50	170	120	49	178	132
Extension Service.....	358	361	325	318	353	327
Cooperative State Research Service.....	352	341	295	302	342	377

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS - BUDGET AUTHORITY AND OUTLAYS—Continued

(In millions of dollars)

Function, agency and program	BUDGET AUTHORITY			OUTLAYS		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Payments to States and possessions (AMS)	1	1	.....	1	1	1
Total, agriculture	2,161	1,713	1,371	2,069	1,715	1,466
COMMERCE AND HOUSING CREDIT:						
Department of Commerce:						
Minority business development				1		
Total, commerce and housing credit				1		
TRANSPORTATION:						
Department of Transportation:						
Federal-aid highways (trust fund)	13,489	13,902	13,634	13,665	13,177	12,947
Highway traffic safety grants	220	126	126	118	133	134
Highway-related safety grants	10	10	10	9	10	11
Motor carrier safety grants	50	60	60	47	57	62
Other highway programs	101	99	.....	87	131	146
Formula mass transit grants	1,736	1,605	1,523	1,937	1,991	1,758
Discretionary grants—transit	1,203	1,250	.....	696	870	927
Interstate transfer grants—transit	124	200	.....	132	179	185
Research, training, and human resources	6	5	.....	9	9	8
Washington metro	180	168	42	185	185	218
Miscellaneous expired accounts—mass transit				268	200	130
Federal Railroad Administration	11	14	.....	23	28	28
Grants-in-aid for airports	1,688	1,600	1,700	825	1,123	1,256
Boat safety	20	30	15	31	30	15
Research and special programs				1	.....	.....
Pipeline safety	4	4	4	2	8	4
Washington Metropolitan Area Transit Authority:						
Interest payments	49	52	52	49	57	57
Total, transportation	18,892	19,125	17,166	18,083	18,188	17,884
COMMUNITY AND REGIONAL DEVELOPMENT:						
Department of Agriculture:						
Rural water and waste disposal grants	109	109	75	136	151	128
Rural community fire protection grants	3	3	.....	3	3	2
Rural development loan fund				2	4	5
Rural development grant program				1	10	2
Department of Commerce:						
Economic development assistance programs	182	181	.....	211	198	167
Other programs .....				*	*	.....
Department of the Interior:						
Bureau of Indian Affairs	24	23	13	24	23	13
Department of Housing and Urban Development:						
Community development block grants	2,880	2,650	2,650	3,050	3,065	3,080
Urban development action grants	216	-52	.....	216	310	252
Supplemental aid for facilities for the homeless				3	6	4
Rental housing development and rehabilitation	217	155	130	180	215	250
Other community development				109	5	2

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS - BUDGET AUTHORITY AND OUTLAYS—Continued

(In millions of dollars)

Function, agency and program	BUDGET AUTHORITY			OUTLAYS		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Federal Emergency Management Agency: Emergency management planning and assistance.....	8	6	3	9	12	10
Disaster relief.....	103	85	272	164	191	235
Appalachian Regional Commission: Appalachian regional development programs.....	102	105	.....	141	101	100
Neighborhood Reinvestment Corporation: Neighborhood Reinvestment Corporation.....	19	19	15	19	19	21
Total, community and regional development.....	3,863	3,285	3,158	4,266	4,315	4,271
EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES:						
Department of Commerce:						
Public telecommunications facilities.....	21	20	.....	20	24	22
Miscellaneous appropriations.....	.....	.....	.....	*	*	.....
Department of Health and Human Services, except Social Security:						
Social services block grant.....	2,700	2,700	2,700	2,666	2,688	2,694
Community services block grant.....	382	381	.....	408	391	119
Interim assistance to States for immigration.....	928	644	442	9	754	758
Human development services.....	2,220	2,284	2,760	1,997	2,249	2,635
Foster care and adoption assistance.....	811	1,719	715	988	1,547	904
Work incentives.....	93	91	.....	90	97	5
Department of Labor:						
Training and employment services.....	3,023	3,020	3,037	2,958	3,070	3,039
Federal-State employment service.....	966	1,003	930	978	981	987
Community service employment for older Americans.....	73	76	74	62	75	75
Department of Education:						
Compensatory education for the disadvantaged.....	4,321	4,558	4,710	4,016	4,207	4,292
Impact aid.....	700	723	619	694	709	674
School improvement programs.....	927	1,079	1,075	384	877	1,096
Bilingual, immigrant, and refugee education.....	151	162	169	130	124	165
Indian education.....	62	67	70	18	57	63
Education for the handicapped.....	1,706	1,804	1,851	1,355	1,703	1,771
Vocational rehabilitation and handicapped research.....	1,458	1,522	1,594	1,409	1,485	1,571
Payments to institutions for the handicapped.....	5	5	6	5	9	6
Vocational and adult education.....	998	1,065	1,117	1,261	807	897
Student financial assistance ¹	73	72	.....	68	97	40
Higher education.....	23	24	8	21	20	21
Libraries.....	125	127	121	94	113	137
Chicago litigation settlement.....	.....	.....	.....	*	8	15
Community Services Administration: Community services programs.....	.....	.....	.....	—*	—*	—*
Corporation for Public Broadcasting: Public broadcasting fund.....	214	228	233	214	228	233
National Endowment for the Arts: National Endowment for the Arts.....	33	33	33	32	32	34

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS - BUDGET AUTHORITY AND OUTLAYS—Continued

(In millions of dollars)

Function, agency and program	BUDGET AUTHORITY			OUTLAYS		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Institute of Museum Services: Institute of Museum Services.....	5	5	5	5	5	5
Total, education, training, employment, and social services.....	22,019	23,414	22,270	19,882	22,359	22,256
HEALTH:						
Department of Agriculture: Food Safety and Inspection Service.....	35	37	38	35	37	38
Department of Health and Human Services, except Social Security: Medicaid ¹	30,768	34,292	35,961	30,462	34,292	35,961
Public health service management.....			138			59
Public health emergency fund.....				27	3	1
Health resources and services ¹	1,133	1,210	1,068	1,079	1,084	1,056
Disease control, research and training.....	226	279	308	213	219	269
Alcohol, drug abuse, and mental health ¹	827	1,111	943	720	927	931
Department of Labor: Occupational Safety and Health Administration.....	47	49	48	46	48	48
Mine Safety and Health Administration.....	5	5	5	5	5	5
Total, health.....	33,042	36,983	38,509	32,586	36,615	38,369
INCOME SECURITY:						
Department of Agriculture: Food donations (Section 32) ¹	357	395	510	373	371	351
Child nutrition programs (excl. Sect. 32) ¹	4,345	4,357	3,782	4,141	4,471	4,036
Food stamp program administration ¹	1,153	1,189	1,192	1,113	1,373	1,192
Nutrition assistance for Puerto Rico ¹	879	908	825	880	908	825
Supplemental feeding programs ¹	1,850	1,976	2,018	1,850	1,998	2,016
Special milk program ¹	21	19	1	18	19	6
Cash and commodities for selected groups ¹	194	239	247	194	243	245
Rural housing preservation grants ¹	19	19	15	19	20	20
Rural housing for domestic farm labor ¹	10	10	5	7	13	13
Mutual and self-help housing ¹	8	8		7	6	9
Department of Health and Human Services, except Social Security: Program administration.....	3	3	3	10	3	3
Family support payments to States (AFDC and CSE) ¹	11,125	10,892	10,822	10,764	11,322	10,822
Payments to States for AFDC work programs.....			350			350
Payments to States from receipts for child support.....	*			*	*	
Low income home energy assistance ¹	1,532	1,383	1,100	1,585	1,373	1,125
Refugee and entrant assistance ¹	333	361	232	312	327	273
Department of Labor: Unemployment trust fund—administration.....	1,656	1,655	1,725	1,610	1,655	1,725
Department of Housing and Urban Development: Subsidized housing programs ¹	4,484	4,894	5,532	5,880	6,570	7,242
Supportive housing demonstration program ¹	64	80	71	11	34	31
Emergency shelter grants program ¹	8	46		23	45	38
Payments for operation of low income housing ¹	1,450	1,618	1,694	1,489	1,547	1,652

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS - BUDGET AUTHORITY AND OUTLAYS—Continued

(In millions of dollars)

Function, agency and program	BUDGET AUTHORITY			OUTLAYS		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Modernization of low income housing projects ¹			1,000			
Low-rent public housing (forgiven loans) ¹	1,050	856	567	1,210	964	679
Congregate services program ¹	4	5		5	5	5
Emergency food and shelter program ¹			114			114
Federal Emergency Management Agency: Emergency food and shelter program ¹	114	114		120	119	
Total, income security	30,659	31,027	31,805	31,620	33,388	32,769
VETERANS BENEFITS AND SERVICES:						
Department of Veterans Affairs:						
Medical care ¹	78	86	99	78	86	99
Grants for constructing State care facilities ¹	40	42	42	28	37	44
Construction of State veterans cemeteries.....		9	4	*	5	2
Total, veterans benefits and services	119	137	146	106	128	145
ADMINISTRATION OF JUSTICE:						
Department of Justice:						
Justice assistance.....	198	272	51	239	230	292
Crime victims fund.....	77	94	90	58	89	99
National Institute of Corrections.....	3	2	3	3	2	3
Revolving fund.....				*	*	
Department of the Treasury:						
Payments to the Government of Puerto Rico.....	8			8		
Department of Housing and Urban Development:						
Fair housing activities.....	5	10	13	8	8	13
Equal Employment Opportunity Commission:						
Equal Employment Opportunity Commission.....	20	20	20	20	20	20
Other Temporary Commissions:						
State Justice Institute: salaries and expenses.....	10	10		3	10	7
Total, administration of justice	321	408	177	338	359	433
GENERAL GOVERNMENT:						
Department of Agriculture:						
Forest Service permanent appropriations.....	301	356	298	305	344	313
Department of Defense—Civil:						
Corps of Engineers permanent appropriations.....	5	5	5	5	5	5
Department of the Interior:						
Payments in lieu of taxes.....	105	105	105	103	105	105
Bureau of Land Management permanent appropriations.....	174	91	68	74	91	68
Payments to States—mineral leasing receipts.....	396	449	353	396	449	353
National wildlife refuge fund.....	12	13	13	11	13	13
Payments to the U.S. territories.....	71	70	70	71	70	70
Administration of territories.....	75	90	68	70	89	74
Trust Territory of the Pacific Islands.....	42	28	3	35	28	5
Department of the Treasury:						
General revenue sharing.....				*	*	

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS - BUDGET AUTHORITY AND OUTLAYS—Continued

(In millions of dollars)

Function, agency and program	BUDGET AUTHORITY			OUTLAYS		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Internal revenue collections for Puerto Rico.....	257	230	230	210	230	230
Miscellaneous permanent appropriations...	119	123	126	116	123	126
Department of Energy:						
Payments to States under the Federal Power Act	2	2	2	2	2	2
District of Columbia:						
Federal payment to the District of Columbia	550	557	498	550	541	520
Total, general government	2,110	2,119	1,838	1,950	2,090	1,883
Total, grants-in-aid	117,176	122,092	119,040	115,294	123,562	123,622

* \$500 thousand or less.

¹ Programs included in the 'grants for payments to individuals' category shown in Table H-8.

Table H-12. CREDIT ASSISTANCE TO STATE AND LOCAL GOVERNMENTS ¹

(in millions of dollars)

Function, agency and program		1988 Actual	1989 Estimate	1990 Estimate
Direct Loans				
Energy, natural resources and environment:				
Department of the Interior:				
Bureau of Reclamation loan program.....	Disbursements.....	28	22	.....
	Net Loans.....	-452	21	-2
	Outstandings.....	60	80	79
Drought emergency loan fund.....	Net Loans.....	-1	-1	-1
	Outstandings.....	10	10	9
Environmental Protection Agency:				
Construction grants.....	Net Loans.....	*	-1	-1
	Outstandings.....	4	3	2
Abatement, control, and compliance.....	Disbursements.....	9	53	53
	Net Loans.....	7	48	47
	Outstandings.....	34	82	130
Total, energy, natural resources and environ- ment.....	Disbursements.....	38	75	53
	Net Loans.....	-447	67	43
	Outstandings.....	109	176	220
Agriculture, commerce and housing credit:				
Department of Agriculture:				
Rural housing insurance fund (program).....	Disbursements.....	22	23	22
	Net Loans.....	12	12	10
	Outstandings.....	407	419	429
Transportation:				
Department of Transportation:				
Federal aid to highways (trust fund).....	Disbursements.....	*	*	.....
	Net Loans.....	-19	-19	.....
	Outstandings.....	19	.....	.....
Right of way revolving fund.....	Disbursements.....	27	46	48
	Net Loans.....	-3	.....	.....
	Outstandings.....	101	101	101
Total, transportation.....	Disbursements.....	27	46	48
	Net Loans.....	-22	-19	.....
	Outstandings.....	121	101	101
Community and regional development:				
Department of Agriculture:				
Rural development insurance fund.....	Disbursements.....	459	441	379
	Net Loans.....	-1,289	-631	239
	Outstandings.....	5,141	4,510	4,750
Department of Commerce:				
Coastal energy impact fund.....	Net Loans.....	-1	-2	-2
	Outstandings.....	87	85	83
Department of Interior:				
Loan subsidies.....	Disbursements.....	.....	.....	13
	Net Loans.....	.....	.....	13
	Outstandings.....	.....	.....	13
BIA revolving fund for loans.....	Disbursements.....	6	8	-1
	Net Loans.....	2	4	-6
	Outstandings.....	58	61	56

Table H-12. CREDIT ASSISTANCE TO STATE AND LOCAL GOVERNMENTS ¹—Continued

(in millions of dollars)

Function, agency and program	1988 Actual	1989 Estimate	1990 Estimate	
Department of Housing and Urban Development:				
Community development	Disbursements.....	39	30	20
	<i>Net Loans</i>	-6	-44	-55
	Outstandings	318	274	219
Revolving fund (liquidating programs)	<i>Net Loans</i>	-299	*	*
	Outstandings	31	31	31
Total, community and regional development	Disbursements.....	503	479	411
	<i>Net Loans</i>	-1,593	-674	190
	Outstandings	5,635	4,962	5,152
Education:				
Department of Education:				
College housing loans	Disbursements.....	17	15	14
	<i>Net Loans</i>	-236	-7	-114
	Outstandings	340	333	218
College housing & academic facilities	Disbursements.....	2	19	22
	<i>Net Loans</i>	2	19	22
	Outstandings	2	21	43
Higher education facilities loan and insurance fund.....	<i>Net Loans</i>	-52	-6	-26
	Outstandings	54	48	22
Student loans	<i>Net Loans</i>	-76	-48	.....
	Outstandings	77	29	29
Student financial assistance	<i>Net Loans</i>	-9	.....	.....
Total, education	Disbursements.....	19	34	37
	<i>Net Loans</i>	-371	-42	-118
	Outstandings	472	430	312
Health:				
Department of Health and Human Services:				
Medical facility guarantee and loan fund	<i>Net Loans</i>	-1	.....	.....
	Outstandings	14	14	14
General purpose fiscal assistance:				
Other independent agencies:				
Loans to the District of Columbia	<i>Net Loans</i>	-30	-34	-33
	Outstandings	685	652	619
Grand total, direct loans.....	Disbursements.....	609	657	571
	<i>Net Loans</i>	-2,451	-689	93
	Outstandings	7,443	6,753	6,846

Table H-12. CREDIT ASSISTANCE TO STATE AND LOCAL GOVERNMENTS ¹—Continued

(in millions of dollars)

Function, agency and program		1988 Actual	1989 Estimate	1990 Estimate
Guaranteed Loans				
Community and regional development:				
Department of Agriculture:				
Rural development insurance fund	<i>Net Loans</i>	-7	-7	-7
	Outstandings	336	329	323
Department of Housing and Urban Development:				
Revolving fund (liquidating programs)	<i>Net Loans</i>		*	*
	Outstandings	12	12	12
Community development grants	Disbursements.....	87	100	100
	<i>Net Loans</i>	85	90	83
	Outstandings	139	229	311
Department of the Interior:				
BIA, Indian loans.....	Disbursements.....	27	25	25
	<i>Net Loans</i>	-4	14	14
	Outstandings	114	128	141
Total, community and regional development	Disbursements.....	114	125	125
	<i>Net Loans</i>	74	96	89
	Outstandings	602	698	788
Income security:				
Department of Housing and Urban Development:				
Low-rent public housing	<i>Net Loans</i>	-255	-300	-325
	Outstandings	5,998	5,698	5,373
Grand total, guaranteed loans	Disbursements.....	114	125	125
	<i>Net Loans</i>	-181	-204	-236
	Outstandings	6,600	6,396	6,160

* \$500 thousand or less.

¹ Only direct loans are included in budget outlays. New direct loan disbursements less loan repayments, sales, etc. are net loans, which are counted in the budget as outlays. Guaranteed loans are non-Federal loans guaranteed by the Federal Government. For a discussion of credit in the budget, see Special Analysis, F, "Federal Credit Programs"

SPECIAL ANALYSIS I

CIVILIAN EMPLOYMENT IN THE EXECUTIVE BRANCH

This analysis discusses civilian employment in the Executive Branch and the employment ceilings used to control unnecessary growth in the number of personnel. It also deals with personnel compensation and benefits and compares the Federal workforce with other government employment, as well as with overall civilian employment in the United States.

The Administration reduced unnecessary nondefense full-time equivalent (FTE) employment by about 59,400 from 1981 through 1988 and has committed to increasing automation and productivity (and has added funds to do so in this budget) to carry out essential functions efficiently rather than just expanding the number of personnel.

FULL-TIME EQUIVALENT OF TOTAL FEDERAL CIVILIAN EMPLOYMENT IN THE EXECUTIVE BRANCH

Civilian employment in the executive branch is controlled on a full-time equivalent (FTE) or workyear basis. Postal Service employment by law is not subject to Presidential control, and Title 10, chapter 4, section 140b of the United States Code exempts the Department of Defense from full-time equivalent employment controls. Beginning in 1988, Public Law 100-322 exempted two categories of Department of Veterans Affairs (VA) employees from FTE controls; employees of the Canteen Revolving Fund (3,276 FTE's in 1988) and some employees in the Medical and Prosthetic Research account (2,899 FTE's in 1988).

Table I-1 is a tabulation of full-time equivalent employment estimates for the major agencies of the executive branch. Generally, the estimates for 1989, 1990, and 1991 constitute upper limits on agency FTE employment. The 1989-91 totals for "Civilian Agency Employment" contain adjustments (one percent lapse) because actual nondefense employment tends to fall short of assigned employment ceilings.

Table I-1. FULL TIME EQUIVALENT OF FEDERAL CIVILIAN EMPLOYMENT ¹

Agency	Fiscal Year				difference 1989-90
	1988 actual ²	1989 estimate	1990 estimate	1991 estimate	
Agriculture	106,552	106,371	104,290	102,493	-2,081
Commerce	35,080	40,581	86,499	35,529	45,918
Defense—Civil functions.....	28,267	28,181	28,115	27,858	-66
Education	4,516	4,526	4,620	4,620	94
Energy.....	16,258	16,103	15,698	15,374	-405
Health and Human Services.....	118,734	114,849	114,000	111,593	-849
Housing & Urban Development.....	12,971	13,239	12,975	12,676	-264
Interior.....	70,336	70,335	68,500	68,500	-1,835
Justice.....	70,939	76,971	80,040	81,833	3,069
Labor.....	18,178	18,729	18,491	18,503	-238
State.....	25,482	25,977	25,881	25,736	-96
Transportation.....	61,330	62,069	64,253	65,577	2,184
Treasury.....	153,063	153,604	155,594	155,084	1,990
Veterans Affairs ³	214,433	215,090	206,064	207,042	-9,026
Environmental Protection Agency.....	14,389	14,720	15,130	14,876	410
National Aeronautics and Space Administration.....	22,326	23,734	24,007	24,007	273
Other:					
Agency For International Development.....	4,582	4,520	4,640	4,640	120
General Services Administration.....	18,807	19,440	19,274	18,856	-166
Nuclear Regulatory Commission.....	3,268	3,180	3,195	3,195	15
Office of Personnel Management.....	5,386	5,662	5,816	5,685	154
Panama Canal Commission.....	8,625	8,813	8,813	8,813	.....
Small Business Administration.....	4,105	4,065	4,030	3,959	-35
Tennessee Valley Authority.....	29,265	26,000	26,000	26,000	.....
United States Information Agency.....	8,796	8,815	8,700	8,550	-115
Miscellaneous.....	41,771	42,750	42,680	42,872	-70
Estimated nondefense lapse.....		-11,083	-11,473	-10,939	-390
Civilian agency employment.....	1,097,459	1,097,241	1,135,832	1,082,932	38,591
Defense—Military functions: ⁴					
(Civilian personnel).....	1,024,581	1,017,459	1,017,312	1,013,695	-147
Subtotal.....	2,122,040	2,114,700	2,153,144	2,096,627	38,444
Postal Service Employment ⁵	777,171	790,152	802,184	802,184	12,032
Total, Full-time Equivalents, Executive Branch (civilian personnel).....	2,899,211	2,904,852	2,955,328	2,898,811	50,476
ADDENDUM					
Active duty military personnel: ⁶					
Department of Defense.....	2,142,133	2,132,624	2,136,625	2,136,537	4,001
Department of Transportation (Coast Guard).....	38,286	38,225	38,171	38,171	-54
Total, military personnel.....	2,180,419	2,170,849	2,174,796	2,174,708	3,947
Grand total, Executive Branch.....	5,079,630	5,075,701	5,130,124	5,073,519	54,423

¹ Developmental positions under the Worker-Trainee Opportunity Program.

² Data are estimated for portions of Defense-Civil Functions as well as for the Federal Reserve System, Board of Governors and the International Trade Commission.

³ Due to changes in FTE controls enacted in P.L. 100-322 VA employment data are reported on a different basis than those displayed in the FY 1989 budget.

⁴ By law (10 U.S.C., Chapter 4, section 140b), the Department of Defense is exempt from full-time equivalent employment controls. Data shown are estimated.

⁵ Includes the Postal Rate Commission.

⁶ These data represent the average number of active duty military personnel in each fiscal year. They are not strictly comparable to the FTE data presented above and are presented for information purposes only. (See text under "End-of-year employment levels.")

SIGNIFICANT CHANGES IN FULL-TIME EQUIVALENT EMPLOYMENT

Nondefense employment is expected to increase by 38,591 from 1989 to 1990. From 1990 to 1991, a decrease of 52,900 is projected. Nearly all of this activity will take place in the Department of Commerce, which will hire temporary employees at the Bureau of the Census to conduct the 1990 decennial Census of Population and Housing.

A number of agencies show decreases, in Table I-1, from the 1989 estimates to the corresponding estimates for 1990. The agencies with a decrease of 100 or more FTE's from 1989 are:

- Department of Veterans Affairs (-9,026). This reduction reflects anticipated productivity increases in all areas. It also reflects declining workloads in the delivery of non-medical benefits. Reductions in FTE for medical care in 1989 and 1990 result from a decision to concentrate quality care on veterans with service-connected disabilities, special category veterans (e.g., POW's), and lower income veterans. The Veterans Affairs entry shown in Table I-1 for 1989 encompasses 193,820 FTE's (excluding 900 non-ceiling FTE's) for medical care programs; however the 1989 FTE level actually expected to be reached is 190,077. For 1990, the Department's overall ceiling includes 185,594 FTE's (excluding 600 non-ceiling FTE's) for medical care programs and the total expected level for 1990 is 186,194.
- Department of Agriculture (-2,081). This reduction is due mainly to an increase in contracting out of services more appropriately conducted by the private sector.
- Department of the Interior (-1,835). This reduction reflects programmatic changes, such as the proposed sale of Federal helium processing facilities, and increased contracting with tribal governments for performance of Bureau of Indian Affairs' activities; privatization of those Federal functions that are determined to be accomplished more efficiently by the private sector; and greater overall efficiency in Interior operations.
- Department of Health and Human Services (-849). Most of this reduction results from increased productivity in the Social Security Administration, which is investing almost \$1 billion for this purpose over a period of five years (fiscal years 1986-1990).
- Department of Energy (-405). The Department's employment will continue to decline in 1990, reflecting further implementation of management improvements, reductions in regulatory activities, the sale of the Alaska Power Administration and funding reductions in fossil energy research and development. These decreases are partially offset by increases for environ-

mental, safety and health activities, atomic energy defense modernization and oversight of the Superconducting Super Collider project.

- Department of Housing and Urban Development (-264). This change reflects a combination of an anticipated reduction in workload for housing, public and Indian housing, and Community Planning and Development programs. The Department's 1989 FTE level includes increased staffing (237) above the 1989 enacted level to implement the 1988 Fair Housing Amendments Act.
- Department of Labor (-238). This net change is due to decreased workload in several program areas, elimination of the Work Incentive (WIN) program, and increased use of contract staff for non-Governmental activity. These decreases are offset in part by increases for agency enforcement of programs and improved labor statistics.
- General Services Administration (-166). GSA's decrease results, for the most part, from scheduled contracting out and productivity savings.
- Department of Defense, military functions (-147). This net decrease reflects anticipated savings from contracting out of commercial activities. It is partially offset by increases in various defense programs including family and community service programs, space activities, home-porting, and maintenance and logistics.
- United States Information Agency (-115). This decrease reflects specific reductions associated with various programmatic adjustments, e.g., the Voice of America modernization effort, greater reliance on the Circular A-76 process, and improved productivity and efficiency throughout the agency.
- Small Business Administration (-35). A decrease of 242 FTE's due to consolidation of field offices and program terminations will be offset by an increase of 207 FTE's for the transfer of the Minority Business Development Agency from the Department of Commerce.

Some agencies in Table I-1 show increases of 100 or more FTE's from 1989 to 1990:

- Department of Commerce (45,918). This increase reflects the addition of temporary staff in the Bureau of the Census as it conducts the 1990 decennial census. A part of the 1989 entry for Commerce also involves temporary staff in the Census Bureau for activities preceding the actual census, e.g. testing and other preparation. Without these temporary employees, the department's FTE level changes by only one half of one percent, (from 1988 to 1991).

- Postal Service (12,032). This net increase is due to: increased mail volume (20,000), and growth in the Postal delivery network (3,000) offset by cost containment initiatives (-10,968).
- Department of Justice (3,069). Improved staffing at Federal prisons, greater legal support for General Legal Activities and U.S. Attorneys, and key programs within the Drug Enforcement Administration to staff the anti-drug initiatives all contribute to this increase.
- Department of Transportation (2,184). This change is for Federal Aviation Administration staff increases for air traffic control, safety inspections, security and enforcement, and training. Other increases are associated with enhancement of motor carrier and rail safety inspection capabilities.
- Department of the Treasury (1,990). The principal component of this net increase is for the Internal Revenue Service (IRS), for tax law enforcement (2,122) and taxpayer services. The IRS increase is partially offset by decreases in other Treasury bureaus.
- Environmental Protection Agency (410). This increase supports an expansion of the superfund program, a stronger enforcement effort, and a larger long-term research program.
- National Aeronautics and Space Administration (273). This increase provides for continued build-up in staffing for the management of the Space Station program and to augment the technical capability in the NASA research and technology base activities.
- Office of Personnel Management (154). This is a net increase is additional staff to conduct background investigations. It is partially offset by decreases for contracting out and productivity savings.
- Agency for International Development (120). This increase reflects the termination of a 1988 hiring freeze that was necessary to make funds available for higher priority programs.

In addition to the agencies named specifically in Table I-1, two smaller agencies (included in the "miscellaneous" line) have significant increases:

- Federal Home Loan Bank Board (164). The Board's ceiling for 1989 that was in the 1989 Budget has been increased by 628 in the 1990 Budget. The 1990 increase (164) is in addition to the 1989 increase. These increases are at the levels requested by the Board to accelerate activities directed at resolving its large caseload of troubled savings institutions.
- Securities and Exchange Commission (138). Additional staff will enable the Commission to better manage its responsibilities with respect to the growing and increasingly complex securities markets.

END-OF-YEAR EMPLOYMENT LEVELS

Between January 1981, when this administration took office, and September 30, 1988, nondefense total employment fell from 1,232,181 to 1,188,662; a decrease of 43,519 employees. Total Federal civilian employment in the executive branch was 2,198,856 at the end of 1988, excluding Postal Service and special category employees.

Table I-2 shows Government-wide Federal civilian employment as of the end of fiscal years 1986, 1987, and 1988. Postal Service employment (including the Postal Rate Commission) is also shown, together with data for the legislative and judicial branches and for active duty military personnel.

The tables in this special analysis use three measures of employment that are similar in magnitude, but not directly comparable. The data in Table I-2 is end-of-year, i.e., the number of persons actually employed on the last day of each fiscal year. Table I-1 presents information in terms of two other measures: (a) Full-Time Equivalents (FTE's) for civilian employees and (b) averages for active duty military personnel. One FTE represents 2,080 hours of paid time for one person working full time (based on a 40 hour work week). The averages for military personnel are calculated based on the average numbers of personnel on active duty as of the end of each month throughout the year.

Full-time permanent employees accounted for about 86 percent of executive branch employment (excluding the Postal Service) at the end of fiscal year 1988; a ratio that has not varied by more than two percent over the past decade. The remainder were part-time employees, intermittent employees (those employed on an irregular basis) and full-time temporary employees (generally, in positions occupied for less than one year).

Table I-2. TOTAL FEDERAL EMPLOYMENT END-OF-YEAR

Description	Actual, as of September 30		
	1986	1987	1988
Civilian Employment in the executive branch:			
Full-time permanent.....	1,885,139	1,903,852	1,900,842
Other than full-time permanent.....	265,016	301,444	298,014
Subtotal.....	2,150,155	2,205,296	2,198,856
Postal Service:			
Full-time permanent.....	607,725	635,088	650,058
Other than full-time permanent.....	183,294	162,822	181,956
Subtotal.....	791,019	797,910	832,014
Special Categories ¹.....	25,558	26,865	22,904
Subtotal, executive branch civilian employment.....	2,966,732	3,030,071	3,053,774
Military personnel on active duty: ²			
Department of Defense.....	2,169,112	2,174,217	2,138,213
Department of Transportation (Coast Guard).....	37,284	38,783	37,723
Subtotal, military personnel.....	2,206,396	2,213,000	2,175,936
Total, executive branch employment.....	5,173,128	5,243,071	5,229,710
Legislative and judicial personnel: ³			
Full-time permanent.....	33,115	34,446	35,552
Other than full-time permanent.....	22,341	23,716	23,497
Subtotal, legislative and judicial branches.....	55,456	58,162	59,049
Grand total.....	5,228,584	5,301,233	5,288,759
ADDENDUM			
Civilian Employment in the executive branch:			
DOD—Military functions (total employment).....	1,027,853	1,049,337	1,010,194
Non-DOD (total employment).....	1,122,302	1,155,959	1,188,662
Total.....	2,150,155	2,205,296	2,198,856

¹ Developmental positions under the Worker-Trainee Opportunity Program; disadvantaged summer and part-time workers under such Office of Personnel Management programs as Summer Aids, stay-in-school, and junior fellowship; and certain statutory exemptions.

² Excludes reserve components.

³ Excludes members and officers of Congress.

PERSONNEL COMPENSATION AND BENEFITS

Direct compensation of the current Federal work force includes base pay, merit pay, cash incentive and performance awards, meritorious and distinguished executive awards, premium pay for overtime, Sunday and holiday pay, differentials for night work and overseas duty, and flight and other hazardous duty pay. In addition, it includes uniform allowances (when paid in cash), cost-of-living and overseas quarters allowances.

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

Related compensation in the form of personnel benefits for current personnel consists primarily of the Government's share (as employer) of health insurance, life insurance, old-age survivors' disability and health insurance, and payments to the Department of Defense's DOD Military Retirement Fund and the Civil Service Retirement and Disability Fund to finance future retirement benefits.

- *Pay Increase—Civilian, Military and Executive.*—The budget assumes a 3.6 percent military pay increase and a two percent increase in pay for Federal white- and blue-collar workers in January 1990. The final decision on the pay adjustment for white-collar workers will be made in late summer, as the law provides, after Presidential review of the recommendations of the President's Pay Agent, the Federal Employees Pay Council, and the Advisory Committee on Federal Pay, and after a review of prevailing economic conditions. As required by law, the Commission on Executive, Legislative, and Judicial Salaries has submitted recommendations to the President on salaries for senators, representatives, Federal judges, cabinet officers and other agency heads, and certain other officials in the executive, legislative and judicial branches. The statute requires the President to set forth, in the budget next submitted by him after receipt of the report of the Commission, his recommendations for adjustment of these salaries. The President has included his recommendations as a part of his January 9, 1989 budget transmittal.

Table I-3. COMPENSATION AND BENEFITS FOR CURRENT PERSONNEL

(In millions of dollars)

Description	1988 Actual	1989 est.	1990 est.
Civilian personnel costs:			
Executive branch (excluding Postal Service):			
Direct compensation.....	63,085	65,646	67,792
Personnel benefits ¹	15,777	16,272	17,010
DOD—Military functions, civilian personnel:			
Direct compensation.....	(28,027)	(29,100)	(29,870)
Personnel benefits.....	(4,632)	(4,526)	(4,725)
Subtotal.....	78,862	81,918	84,802
Postal Service:			
Direct compensation.....	23,571	24,595	25,439
Personnel benefits.....	5,957	6,349	6,548
Subtotal.....	29,528	30,944	31,987
Legislative and judiciary: ²			
Direct compensation.....	1,299	1,375	1,494
Personnel benefits.....	199	221	279
Subtotal.....	1,498	1,596	1,773
Total, civilian personnel costs ³.....	109,888	114,458	118,562
Military personnel costs: ⁴			
Direct compensation.....	50,242	50,662	52,843
Personnel benefits.....	23,441	25,144	23,752
Total, military personnel costs ⁵.....	73,683	75,806	76,595
Grand total, personnel costs:.....	183,571	190,264	195,157
ADDENDUM			
Retired pay for former personnel:			
Civilian personnel.....	962	1,003	1,030
Military personnel.....	19,460	20,519	21,669
Total.....	20,422	21,523	22,699

¹ In addition to employing agency contributions 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. The transfers amounted to \$4,720 million in 1988 and are estimated to be \$4,858 in 1989 and \$5,211 million in 1990.

² Excludes members and officers of Congress.

³ Includes \$569 million in 1990 for pay increases for Department of Defense civilian employees and an allowance of \$146 million for nondefense civilian employees.

⁴ Excludes reserve components.

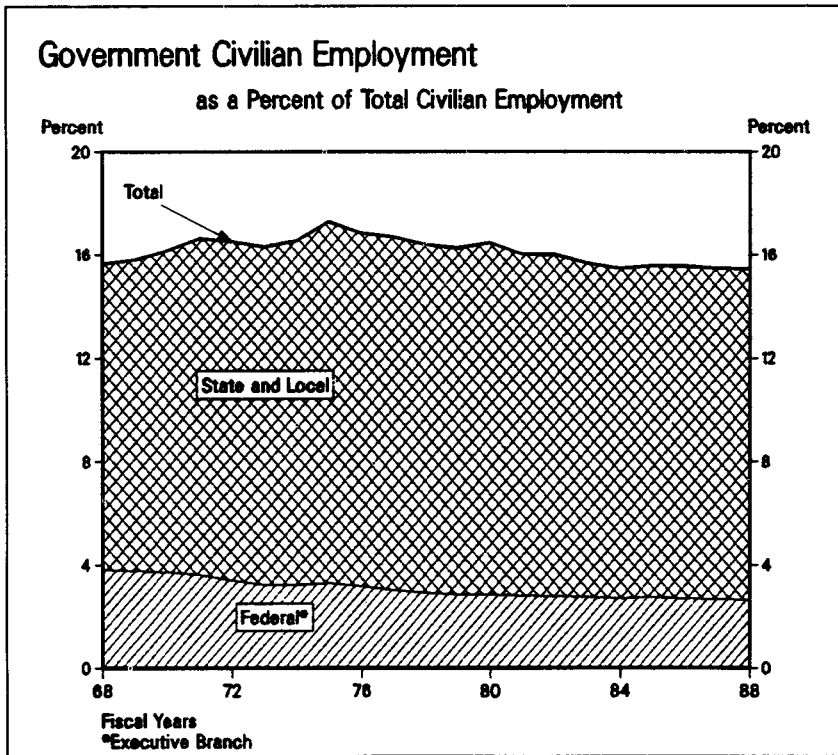
⁵ Includes \$1,839 million in 1990 for Department of Defense military personnel and an allowance of \$17 million for Coast Guard military personnel.

- *Retirement changes.*—The 1990 Budget proposes that no cost-of-living adjustment be given to Federal annuitants in 1990 and also that the lump-sum retirement benefit for all civilian retirees be repealed. After 1990, permanent reform of the Federal cost-of-living indexing formulas is proposed to bring retirement costs more into line with those of the recently enacted Federal Employees' Retirement System (FERS).
- *Federal employees' health benefits reform.*—The budget also proposes changing the formula used to determine the Government's contribution to enrollees' health premiums to a program-wide weighted average that reflects the premiums of all plans and enrollee distribution among the plans.
- *Postal Service and District of Columbia Government.*—The 1990 Budget includes a proposal designed as an aid in gaining better control over the Government's expenditures as an employer. The budget proposes that starting in 1991, the Postal Service and the government of the District of Columbia be required to contribute money to the civil service retirement fund to cover the full cost of providing cost-of-living adjustments to all Post Office Department and Postal Service, as well as D.C. government annuitants and survivors. Additional details on this proposal can be found under the income security, health, and allowances functions in Part 5 of the Budget of the United States Government, 1990.

As indicated in table I-3, obligations for executive branch civilian personnel compensation and benefits in 1990 are projected to reach nearly \$84.8 billion, excluding the Postal Service.

GOVERNMENT EMPLOYMENT AND LABOR FORCE COMPARISONS

As shown on the following chart, government employment—Federal, State, and local—comprised about 15.4 percent of the total employed civilian labor force in 1988.



Within this segment, Federal civilian employment in the executive branch accounts for 2.64 percent of the total employed civilian labor force in 1988, down from a high of 3.82 percent in 1968.

The portion of the total employed civilian labor force attributable to State and local government has grown from 11.8 percent in 1968 to 12.8 percent in 1988.

GOVERNMENT EMPLOYMENT AND POPULATION COMPARISONS

As illustrated in the following chart and in table I-4, the Federal share of total government employment has declined significantly over the last three decades, from 29.5 percent in 1958 to 17.1 percent in 1988. Employment for all government has risen steadily over the period due to increases in State and local government. Only in 1981-82 were there decreases in State and local government.

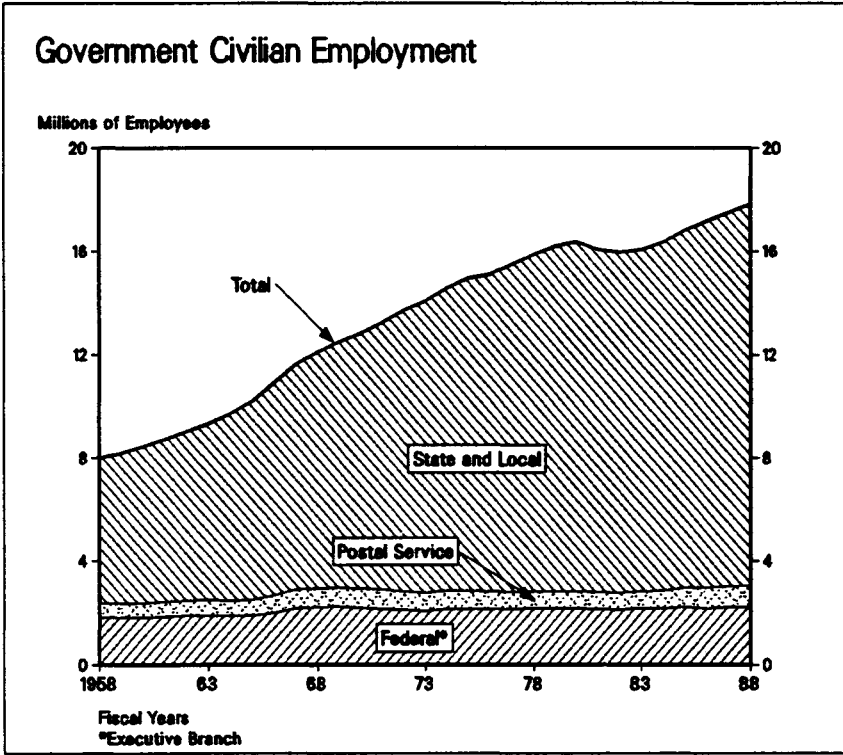


Table I-4. GOVERNMENT EMPLOYMENT AND POPULATION, 1958-88

Fiscal year	Government employment				Population	
	Federal executive branch ¹ (thousands)	State and local governments (thousands)	All governmental units (thousands)	Federal as percent of all governmental units	Total United States (thousands)	Federal employment per 1,000 population
1958.....	2,355	5,630	7,985	29.5	174,882	13.5
1959.....	2,355	5,806	8,161	28.8	177,830	13.2
1960 ²	2,371	6,073	8,444	28.1	180,671	13.1
1961 ²	2,407	6,295	8,702	27.7	183,691	13.1
1962.....	2,485	6,533	9,018	27.6	186,538	13.3
1963 ³	2,490	6,834	9,324	26.7	189,242	13.2
1964 ³	2,469	7,236	9,705	25.4	191,889	12.9
1965.....	2,496	7,683	10,179	24.5	194,303	12.8
1966.....	2,664	8,259	10,923	24.4	196,560	13.6
1967.....	2,877	8,730	11,607	24.8	198,712	14.5
1968.....	2,951	9,141	12,092	24.4	200,706	14.7
1969 ⁴	2,980	9,496	12,476	23.9	202,677	14.7
1970 ²	2,944	9,869	12,813	23.0	205,052	14.4
1971 ²	2,883	10,372	13,255	21.8	207,661	13.9
1972.....	2,823	10,896	13,719	20.6	209,896	13.4
1973.....	2,775	11,286	14,061	19.7	211,909	13.1
1974.....	2,847	11,713	14,560	19.6	213,854	13.3
1975.....	2,848	12,114	14,962	19.0	215,973	13.2
1976.....	2,832	12,282	15,114	18.7	218,035	13.0
1977 ⁵	2,789	12,704	15,493	18.0	220,904	12.6
1978.....	2,820	13,050	15,870	17.8	223,278	12.6
1979.....	2,823	13,359	16,182	17.4	225,779	12.5
1980 ²	2,821	13,542	16,363	17.2	⁶ 228,468	12.3
1981 ²	2,806	13,274	16,080	17.5	⁶ 230,848	12.2
1982.....	2,768	13,207	15,975	17.3	233,184	11.9
1983.....	2,819	13,220	16,039	17.6	⁶ 235,439	12.0
1984.....	2,854	13,504	16,358	17.4	⁶ 237,663	12.0
1985.....	2,964	13,827	16,791	17.7	⁶ 239,960	12.4
1986.....	2,967	14,157	17,124	17.3	⁶ 242,275	12.2
1987.....	3,030	14,412	17,442	17.4	⁶ 244,567	12.4
1988.....	3,054	14,781	17,835	17.1	⁶ 246,821	12.4

¹ Covers total end-of-year civilian employment of full-time permanent, temporary, part-time, and intermittent employees in the executive branch, including the Postal Service, and, beginning in 1970, includes various disadvantaged youth and worker-trainee programs.

² Includes temporary employees for the decennial census.

³ Excludes 7,411 project employees in 1963 and 406 project employees in 1964 for the public works acceleration program.

⁴ On Jan. 1, 1969, 42,000 civilian technicians of the Army and Air Force National Guard converted by law from State to Federal employment status. They are included in the Federal employment figures in this table starting with 1969.

⁵ Data for 1956 through 1976 are as of June 30; for 1977 through 1988, as of Sept. 30.

⁶ U.S. population data for 1982-1988 are the latest available from the Census Bureau.

The ratio of Federal civilian employment to the total U.S. population was 12.4 per thousand in 1988, down from a high of 14.7 in 1968.

SPECIAL ANALYSIS J

RESEARCH AND DEVELOPMENT

This analysis covers the funding of research and development by all Federal agencies with R&D programs exceeding \$10 million. It consists of three sections. The first highlights general R&D policies and trends in the 1990 budget. The second provides further details on the R&D programs of six major R&D agencies. The third discusses several government-wide R&D efforts in such diverse areas as global change, superconductivity, and technology transfer.

PART I. OVERVIEW

Federal Role in R&D.—The ability of the Nation to meet global competition, to provide for the national security, and to improve the quality of life for all citizens depends in part on national investment in science and technology. About one-half of the Nation's R&D investments are supported by the Federal Government.

In 1990, total Federal obligations for research and development, including R&D facilities, are estimated at \$69.8 billion, an increase of about \$4.3 billion or 7 percent above the 1989 estimated level of \$65.5 billion as shown in table J-1. The increase supports the major initiatives of the Administration. About half of the increase is for DOD applied R&D, the remainder of the increase is primarily for HIV research, the Space Station, support for University basic research through the National Science Foundation, and the Federal share of construction of the Superconducting Super Collider. Support for the conduct of basic research, included within this total, is estimated to increase 6 percent, from \$10.5 billion in 1989 to \$11.2 billion in 1990, and support for University basic research is estimated to increase by 4 percent, from \$8.4 billion in 1989 to \$8.7 billion in 1990. The Federal Government supports about two-thirds of all basic research performed at Universities.

The Federal Government supports research and development:

- to meet the direct needs of the Federal Government where the supporting agencies are also the principal users of the results of the R&D. Examples include R&D for national security and research to support regulatory activities; and
- to assist in meeting broad national needs, particularly where the private sector lacks sufficient incentives for adequate investment to assure that the scientific and technological foundation is in place to support long-term economic growth and

continued improvement in the quality of life for all citizens. Examples of such investments are those directed toward basic research across all fields of science and engineering, and agricultural and health-related R&D.

Trends in Federal R&D.—Over the course of the last 8 years, there has been a significant increase in Federal spending on R&D, due in large part to the Reagan Administration's belief that national investment in science and technology, over the long term, increases innovation and productivity. Federal support for R&D increased from \$36.4 billion in 1982 to \$67.3 billion in 1990, an increase of 41 percent in real terms. Within these amounts, the Administration has initiated a number of major R&D projects including the Strategic Defense Initiative, the Space Station, the Superconducting Super Collider, and several major space science missions.

Increases in Federal R&D spending over nearly the last decade may be partially credited for concomitant increases in private R&D spending. In CY 1989 national spending for R&D is projected to total about \$131 billion, a real increase of about 1 percent over 1988. Of this amount, about \$63 billion is expected from the Federal Government, \$63 billion from industry, and the balance from State governments, universities, colleges and other non-profit organizations.

In addition, the Administration has helped foster and strengthen a renewed awareness of the importance of activities that link the performers and users of R&D: industry, universities, and government laboratories. This has been reflected in new programs such as: the Engineering Research Centers, the Science and Technology Centers funded by the National Science Foundation, and the Centers for the Commercial Development of Space funded by the National Aeronautics and Space Administration that have been started by this Administration. In addition to these programs, industry has also benefited from other Federal actions that encourage increased private sector support for R&D. Such actions have included revisions of policies on ownership of patents and other intellectual property to provide incentives for innovation, revisions of antitrust laws to encourage joint industrial R&D efforts, and revisions of the tax code to encourage increased private R&D expenditures.

1990 Highlights.—For 1990, the budget provides increased Federal support for R&D to meet key national needs. The budget also provides increased support for basic research, particularly interdisciplinary research at universities, to help generate the new knowledge necessary for continued technological innovation and to help ensure the future availability of well-trained scientists and engineers. The Federal Government will also continue to encourage

and facilitate the transfer of technology and new knowledge from universities and Federal laboratories to the private sector.

Even within the context of the severe fiscal constraints imposed by the Balanced Budget and Emergency Deficit Control Reaffirmation Act of 1987, the 1990 budget reflects the continued high priority the Administration places on R&D that is appropriate for Federal support. The 1990 budget provides significant increases for R&D programs in key agencies including:

- a \$2.6 billion increase for selected R&D programs in the Department of Defense such as the Strategic Defense Initiative and the Advanced Tactical Fighter;
- a \$1.2 billion increase for the R&D programs in the National Aeronautics and Space Administration including the Space Station, space science, and aeronautics;
- a \$200 million increase for basic research support by the National Science Foundation including a second round of competition for Science and Technology centers;
- a \$150 million increase for the Department of Energy for initiation of site specific construction of the Superconducting Super Collider (SSC), as well as initiation of a 6-7 GeV synchrotron, and a next-generation fusion device, the Compact Ignition Tokamak; and
- a 6.6 percent increase for basic research at NIH, and a significant increase for R&D on Human Immunodeficiency Virus (HIV, commonly known as AIDS).

At the same time, the 1990 budget continues to propose reductions in programs that are not appropriate Federal responsibilities, and which should be left to the states or the private sector for needed investments. These include large reductions in the energy technology programs of the Department of Energy, and elimination of selected programs of the Department of Commerce (e.g., the Sea Grant program), and certain research activities of the Department of the Interior (e.g., the Mineral Institutes program).

Future Outlook.—R&D activities of the Federal Government are spread across almost every budget function and agency. However, most (almost 90 percent) R&D is concentrated within three functions: 050, National Defense (the Department of Defense and the weapons programs of the Department of Energy); 250, General Science, Space and Technology (the National Science Foundation, the space activities of the National Aeronautics and Space Administration, and the high-energy and nuclear physics programs of the Department of Energy); and 550, Health (the Department of Health and Human Services).

These functions have had significant growth during the period of this Administration. However, considering the growth of commitments and costs, together with tightening fiscal constraints, the

future budget outlook for these functions is unclear. The President's 1990 Budget seeks to establish a sustainable funding path with emphasis on priority projects.

For function 250, continued real growth will be necessary simply to sustain the programs and projects begun during the course of this Administration. For example, even with no new major space exploration initiatives, the NASA budget must almost double by the year 2000 just to maintain the "core program" of development of the Space Station, space transportation (Space Shuttle and expendable launch vehicles), launch and operation of unmanned science missions, and continued support for generic space technology.

For federally-funded R&D more generally, continued real growth will also be necessary just to maintain the current relationship of Federal R&D funding to the Gross National Product. While it may be argued that such relationships should not be a principal determinant of Federal R&D spending, the evidence strongly suggests that R&D is essential for industry to maintain the pace of innovation, and through innovation, increased productivity. More importantly, Federal R&D programs provide what private R&D spending generally does not, that is, a critical source of funding to train the "human capital"—the next generation of scientists and engineers—that will be required to maintain the nation's overall scientific and technological enterprise.

It is also clear that the success of very large and complex projects, e.g., the Superconducting Super Collider and the Space Station, will depend on sustained funding commitments of a decade or more. Without such commitments from both the Administration and Congress, these projects will surely be plagued with delays and cost growth. However, it must also be recognized that other R&D activities, particularly basic research programs, will require stable and sustained funding over an extended period of time if these activities are to achieve their objectives.

There has been much discussion over the past year on the topic of scientific priorities. Clearly, most Federal R&D is done in direct support of agency mission needs. Most agencies have a well-defined process for establishing their R&D priorities, articulating them, and implementing them once the legislative authorization and appropriation process is completed.

However, there are cases where R&D activities cut across several agencies, or where R&D projects are of such a magnitude as to force choices either within or between agencies. The need to make such choices may intensify with continuing future fiscal pressure. The Executive budget formulation process has focused on specific areas for crosscutting reviews, as the situations warrant. This is illustrated by global change research. However, a critical element in the success of these crosscutting R&D efforts is that the Con-

gress also review these areas as a whole, not just on an individual agency basis.

Table J-1. TOTAL FEDERAL FUNDING FOR CONDUCT OF R&D AND RELATED FACILITIES

(In billions of dollars)

	Obligations			Outlays		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Conduct of R&D.....	58.8	63.0	67.3	56.0	59.9	64.4
R&D facilities.....	2.1	2.5	2.4	1.9	2.2	2.3
Total.....	60.9	65.5	69.8	57.9	62.0	66.7

PART II. MAJOR AGENCY R&D PROGRAMS

CONDUCT OF RESEARCH AND DEVELOPMENT

The budget for 1990 includes \$67.3 billion in obligations for the conduct of R&D, an increase of \$4.3 billion or about 7 percent over 1989. The conduct of R&D associated with national defense (i.e. military-related R&D programs of the Departments of Defense and Energy) makes up about 65 percent of the total Federal spending on R&D. Highlights of the proposed programs of the six major R&D agencies, which account for 97 percent of the obligations for the conduct of R&D by the Federal Government, are presented below.

- **Department of Defense (DOD).**—Obligations for the conduct of RDT&E by DOD are estimated at \$41.5 billion for 1990, an increase of \$2.6 billion (about 7 percent) above 1989.

Research and technology development programs will grow by \$1.5 billion to \$11.0 billion (an increase of 15 percent) and will emphasize both research in the physical sciences, particularly materials and electronics, and the development of technologies, such as those in the Strategic Defense Initiative. DOD funding for R&D for the Strategic Defense Initiative increases by \$1.9 billion, to a level of \$5.6 billion in 1990. There is also an increase of \$69 million for the joint DOD-NASA program to develop the National Aerospace Plane.

Development of systems to increase capabilities of general purpose forces will increase by \$1.5 billion to \$14.9 billion in 1990. Army development programs emphasize advanced anti-tank weapon systems, ground-based air defense systems, and a new light helicopter. Navy efforts include development of an advanced attack aircraft incorporating stealth technologies, the V-22 tilt-rotor transport aircraft, and systems to improve anti-submarine warfare capabilities, such as the SSN-21 submarine. Major Air Force programs will include the Advanced Tactical Fighter that also incorporates stealth

features, and the C-17 transport aircraft. Within this area, the services also will develop improvements to systems already in the field, including the M-1 tank, the F-14 fleet defense fighter, and the F-16 multi-role fighter.

Development of strategic systems will decrease by \$1.0 billion to \$5.7 billion in 1990, as systems ending development fielded. Major programs remaining in this area include the B-2 Advanced Technology Bomber, the Trident II sea-launched ballistic missile, and Rail Garrison Basing for the Peacekeeper ICBM.

- **Department of Energy (DOE).**—Obligations for the conduct of R&D by the Department of Energy are estimated to be \$5.4 billion, an increase of \$71 million over 1989.

Funding for the National Defense Program will increase by \$68 million to \$2.5 billion. This program supports R&D and testing of nuclear weapons, improved naval propulsion reactors, and development of safe methods for the management of radioactive wastes resulting from weapons production.

Funding for the conduct of High Energy and Nuclear Physics research in the General Science Programs will increase by \$56 million from \$712 million in 1989 to \$768 million in 1990. Included in this total are funds to enhance support for long-term basic research; to expand substantially the R&D effort on the superconducting magnets and other technical components required for the Superconducting Super Collider accelerator facility; and to increase the levels of operation of all major on-line high energy and nuclear physics accelerators. Obligations for Energy Programs will decrease by \$53 million from 1989 to \$2.1 billion in 1990. However, increases are proposed to enhance support for long-term basic research in both the physical and life sciences. Programs significantly enhanced include research in superconductivity, mapping of the human genome (DNA), global climate change, radiobiology, and methods and techniques for mitigation of environmental impacts due to pollutants associated with various energy technologies. The 1990 budget continues the \$2.5 billion, multi-year program of clean coal technology demonstration projects as recommended by the U.S. and Canadian Special Envoys on Acid Rain. The schedule for this program has been revised to permit a more orderly pace of technology development. The increases in these science programs are offset by proposed reductions in energy technology programs such as fossil energy, conservation, and renewable energy where reliance is placed on the private sector to provide support for demonstrations and product development.

- **Department of Health and Human Services (HHS).**—HHS R&D activities in 1990 are estimated to be \$8.4 billion, up from \$7.9 billion in 1989. The 1990 budget endorses the view, long held by the Administration and the university research community, that basic biomedical research be given priority. The budget reflects scientific priorities shared by the National Institutes of Health (NIH) and the biomedical research community.

Accordingly, the 1990 budget seeks to encourage and accelerate the accumulation of vital knowledge by providing a 6.6 percent increase for basic research at NIH; committing \$100 million in 1990 to a long-term study of the human genome; expanding biomedical research training support by 3 percent; and maintaining support for applied and developmental research.

The prevention and alleviation of suffering from HIV is the highest public health priority of the Administration. Federal support for HIV research, prevention and treatment exceeded \$2.1 billion in 1989, and will approach \$2.8 billion in 1990. Federal spending complements the multimillion dollar efforts of the states, localities and the private sector. In 1990, \$921 million will be provided for HIV R&D, to be consolidated in the National HIV program.

- **National Aeronautics and Space Administration (NASA).**—NASA obligations for the conduct of R&D are estimated at about \$6.9 billion in 1990, an increase of 21 percent over 1989. This increase is necessary primarily to continue development of the Space Station and to support important science and technology programs, including the new Comet Rendezvous Asteroid Flyby (CRAF) and Cassini planetary exploration missions. CRAF will fly by an asteroid and will make in-situ measurements of a comet. Cassini will explore Saturn and its moons. The simultaneous initiation of these missions takes advantage of the limited launch windows, and the benefits, particularly in cost savings, of international participation by the West Germans and the European Space Agency, and of the procurement of two Mariner Mark II spacecraft.

For other science and applications programs, the budget continues support for major flight projects such as the Hubble Space Telescope, the Galileo mission to Jupiter, the Global Geospace Science mission and the Ocean Topography Experiment (TOPEX), and increases support for the Explorer program.

- **National Science Foundation (NSF).**—Obligations for research supported by NSF are expected to increase by about \$217 million, or about 13 percent—to \$1.9 billion in 1990. This

increase reflects the continued commitment of the Administration to increase investments in basic research by doubling the NSF budget by 1993. The budget provides enhanced support for basic research across a wide spectrum of high-priority scientific and engineering disciplines, including materials sciences, high-performance computing, and global change. Increases will also be provided for instrumentation and graduate student support. In addition, NSF will emphasize improvements in the environment, and in areas affecting health and safety in the U.S. Antarctic Program.

The budget also provides for expanded efforts in improving research and education at the undergraduate level, and for selection of new Science and Technology Centers in a second round of competition. These centers will be in addition to the 11 established in 1989. These centers, modeled after the Engineering Research Centers, are intended to foster and strengthen multidisciplinary basic research in the physical and life sciences and to speed the transfer of such knowledge to the private sector.

- **Department of Agriculture (USDA).**—Obligations for the conduct of R&D are estimated at \$1.04 billion for 1990, approximately the same as the 1989 level. Within the USDA total, the Cooperative State Research Service will provide \$280 million for research and development, primarily conducted by colleges and universities. As part of its program, increased funding will be provided to explore the effects of increased UV-B radiation, resulting from stratospheric ozone depletion, on crops and forests. The Agricultural Research Service expects to obligate \$546 million, an increase of \$20 million over 1989. The 1990 effort will focus on water quality, food quality and safety, and plant and animal germplasm preservation. The Forest Service will place an increased emphasis on forest ecosystem health and productivity in response to changing environmental conditions.

Table J-2 summarizes Federal support for the conduct of R&D by agency.

CONDUCT OF BASIC RESEARCH

The 1990 budget continues to reflect the strong emphasis that this Administration has placed on enhancing support for basic research across all scientific and engineering disciplines. Even in an environment of continuing fiscal austerity, Federal support for basic research, especially at universities, is an important factor in generating new knowledge to ensure continued technological innovation. It is an essential investment in the Nation's future. The Federal Government has traditionally assumed a key role in sup-

Table J-2. CONDUCT OF RESEARCH AND DEVELOPMENT BY MAJOR DEPARTMENTS AND AGENCIES

(In millions of dollars)

Department or agency	Obligations			Outlays		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Defense—Military functions.....	37,063	38,879	41,518	35,417	37,306	39,437
Health and Human Services.....	7,161	7,892	8,375	6,862	7,345	8,094
(National Institutes of Health) ¹	(6,289)	(6,791)	(6,443)	(6,031)	(6,386)	(6,616)
(National HIV Program).....	—	—	921	—	—	414
National Aeronautics and Space Administration..	4,330	5,688	6,870	3,832	4,741	6,152
Energy.....	5,081	5,307	5,378	4,989	5,259	5,501
National Science Foundation.....	1,533	1,664	1,881	1,494	1,634	1,756
Agriculture.....	1,014	1,048	1,044	972	1,020	1,043
Interior.....	415	432	387	415	432	391
Environmental Protection Agency.....	347	386	421	340	364	405
Transportation.....	304	329	332	321	391	384
Commerce.....	561	441	201	413	449	278
Veterans Affairs.....	217	238	205	199	208	201
Agency for International Development.....	193	184	177	234	222	216
All other ²	554	563	556	529	527	560
Total.....	58,776	63,049	67,344	56,018	59,897	64,418

¹ Totals for NIH in 1988 and 1989 include HIV funding. For 1990, all HIV funding is proposed as a separate element within DHHS, the National HIV Program, and is not included in the NIH totals.

² Includes the Departments of Education, Justice, Labor, Housing and Urban Development and Treasury, the Tennessee Valley Authority, the Smithsonian Institution, the Corps of Engineers, and the Nuclear Regulatory Agency.

port of basic research because the private sector has insufficient incentives to invest in such research. Over the course of this Administration (1982 to 1990), Federal support for basic research increased 56 percent in real terms.

Funding for basic research is included within the total for Federal support for the conduct of R&D. In 1990, obligations for the conduct of basic research are estimated at \$11.2 billion, an increase of about \$672 million, or 6 percent above the 1989 level.

Basic research performed at universities serves the dual role of providing new knowledge and helping to ensure the future availability of high-caliber scientists and engineers. Both of these are key elements in the long-term ability of the nation to compete in global markets. University-based researchers receive about one-half of total Federal obligations for basic research. Federal support for R&D performed by universities and colleges is estimated to increase 4 percent in 1990 to a total of \$8.7 billion. Over the period of this Administration (1982 to 1990), such support increased by 45 percent in real terms.

Table J-3 summarizes Federal support for the conduct of basic research by agency.

R&D FACILITIES

In 1990, within the total for support for R&D facilities, funding is provided for major scientific instrumentation, including the specialized research facilities at national laboratories and university cen-

Table J-3. CONDUCT OF BASIC RESEARCH BY MAJOR DEPARTMENTS AND AGENCIES

(In millions of dollars) ¹

Department or agency	Obligations			Outlays		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Agencies supporting primarily physical sciences and engineering: ²						
National Science Foundation.....	1,433	1,553	1,754	1,399	1,527	1,638
National Aeronautics and Space Administration	1,113	1,438	1,462	1,019	1,318	1,407
Energy.....	1,183	1,303	1,389	1,171	1,304	1,402
Defense—Military functions.....	873	939	929	836	936	954
Interior.....	126	147	128	129	148	131
Commerce.....	31	30	28	28	31	29
Other Agencies ³	7	7	7	8	8	7
Subtotal	4,767	5,418	5,697	4,589	5,270	5,567
Agencies supporting primarily life and other sciences: ⁴						
Health and Human Services.....	4,086	4,417	4,756	3,914	4,152	4,621
(National Institutes of Health) ⁵	(3,794)	(4,062)	(4,175)	(3,644)	(3,837)	(4,161)
Agriculture.....	477	490	511	457	479	499
Smithsonian Institution.....	75	79	87	73	78	85
Environmental Protection Agency.....	27	44	76	28	40	73
Veterans Affairs.....	17	19	16	16	18	16
Other Agencies ⁶	20	21	17	20	18	18
Subtotal	4,703	5,070	5,463	4,507	4,786	5,311
Total	9,470	10,488	11,160	9,096	10,056	10,878

¹ Amounts reported in this table are included in totals for conduct of R&D.² Includes mathematics and computer sciences.³ Includes the Corps of Engineers, the Tennessee Valley Authority, and the Department of Transportation.⁴ Includes psychology and social sciences.⁵ Totals for NIH in 1988 and 1989 include HIV funding. For 1990, all HIV funding is proposed as a separate element within DHHS, the National HIV Program, and is not included in the NIH totals.⁶ Includes the Departments of Education, Labor, Justice, and Treasury, and the Agency for International Development.

ters, e.g., particle accelerators, telescopes, and advanced computers. Such specialized facilities are critical to advancing the frontiers of science in a number of scientific disciplines. Funds for R&D facilities are also used for construction or renovation of general purpose laboratories and research support facilities.

In 1990, obligations for R&D facilities are expected to total \$2.4 billion, approximately the same as in 1989. The budget provides for initiation of construction of four major new projects in DOE, the Superconducting Super Collider (SSC) accelerator facility, a 6–7 GeV synchrotron source at Argonne National Laboratory, a Compact Ignition Tokamak at the Princeton Plasma Physics Laboratory, and a modification of the linear accelerator at the Fermi National Laboratory. Ongoing construction of a 1–2 GeV synchrotron source at Lawrence Berkeley Laboratory, an Accumulator/Booster Ring at the Brookhaven Alternating Gradient Synchrotron, and a new nuclear physics facility, the Continuous Electron Beam Accelerator Facility (CEBAF), at Newport News, Virginia will be contin-

ued. NSF will initiate construction of a new National Magnet Laboratory at a site to be selected in a national competition in 1989.

Table J-4 summarizes Federal support for R&D facilities and capital equipment.

Table J-4. RESEARCH AND DEVELOPMENT FACILITIES BY MAJOR DEPARTMENTS AND AGENCIES

(In millions of dollars)

Department or agency	Obligations			Outlays		
	1988 actual	1989 estimate	1990 estimate	1988 actual	1989 estimate	1990 estimate
Energy.....	921	904	1,089	886	888	968
National Aeronautics and Space Administration..	428	561	589	399	484	511
Defense—Military functions.....	450	604	520	422	466	500
Agriculture.....	135	109	58	78	113	136
National Science Foundation.....	57	60	86	57	65	80
Health and Human Services.....	22	146	22	33	72	52
(National Institutes of Health).....	(20)	(120)	(7)	(29)	(68)	(38)
All other ¹	80	69	68	57	63	69
Total.....	2,093	2,452	2,431	1,931	2,150	2,315

¹ Includes the Departments of Transportation, Commerce, Education, Interior, Justice, and Treasury, Veterans Affairs, Tennessee Valley Authority, Agency for International Development, and the Smithsonian Institution.

PART III: CROSSCUTTING R&D ACTIVITIES

There are a number of R&D activities with a common theme and purpose that are supported by a number of Federal agencies. Although this R&D is done primarily to meet each agency's mission needs, in a number of instances, Federal agencies coordinate these activities in order to realize maximum benefits from their expenditures. This new section of the Special Analysis will describe these crosscutting R&D efforts in a number of areas: arctic research, global change research, research in superconducting materials, semiconductors, and fiber optics. This section will also report on the technology transfer activities of the Federal Government.

ARCTIC RESEARCH

Two complementary policy documents currently govern U.S. Arctic research policy. The Arctic Research and Policy Act of 1984 (Public Law 98-373) requires an “. . . integrated, coherent, and multiagency request . . .” for research in the Arctic as part of the President's annual budget request to Congress. National Security Decision Directive 90 (NSDD 90, April 14, 1983) identifies four basic elements of U.S. Arctic Policy:

- protection of essential security interests in the Arctic region;
- support for sound, rational development in the Arctic region, while minimizing adverse effects on the environment;
- promotion of scientific research in fields which contribute knowledge about the Arctic; and

- promotion of mutually beneficial international cooperation in the Arctic.

In response to these directives, the Interagency Arctic Research Policy Committee (established by Public Law 98-373) compiled a detailed listing of agency programs in Arctic research, including budgetary estimates, and has grouped them into three major categories of national concern: national security, rational development, and the Arctic as a natural laboratory.

Based on current activities and future needs, the Interagency Committee, in consultation with the Arctic Research Commission, the Governor of the State of Alaska, the Arctic residents, the private sector, and public interest groups, prepared a comprehensive plan for the overall Federal effort in Arctic research. This U.S. Arctic Research Plan was transmitted to the President on June 23, 1987. The President sent the Plan to Congress on July 31, 1987.

The mandated biennial revision of the Plan is scheduled for submission to the President in July 1989 and will describe several interagency cooperative programs on sea/ice ecosystem and land/atmosphere interactions. The Arctic Research Commission continues to issue annual and special reports containing guidance and recommendations to agencies.

Table J-5 provides a summary of Federal support for Arctic research integrated by major category. These estimates are subsumed within agency totals for the conduct of research and development.

Table J-5. FEDERAL SUPPORT FOR ARCTIC RESEARCH ¹

(Obligations in thousands of dollars)

Category	1988 actual	1989 estimate	1990 estimate
National security	23,856	22,420	21,690
Rational development	33,246	32,507	32,342
Natural laboratory	41,554	42,142	43,682
Total.....	98,656	97,069	97,714

¹ Includes the Departments of Defense, Energy, Health and Human Services, Interior, Commerce, Agriculture, and Transportation, the National Science Foundation, the National Aeronautics and Space Administration, the Environmental Protection Agency, and the Smithsonian Institution.

GLOBAL CHANGE

Studies of changes in the earth system such as desertification, drought, volcanism, global warming, and loss of biological diversity, are all part of the broad research activity known as global change. Many of these changes can have tremendous impact on human welfare. The relative contributions of human activity and natural phenomena to global change are, at present, scientifically unknown. Improving the ability to monitor, understand, and predict global change, whether natural or manmade, is essential if the Nation is to have a sound basis for developing and implementing

policies and response strategies to deal with global change issues. A crucial part of this effort is an effective and well-coordinated Federal research program.

The Federal Coordinating Council for Science, Engineering and Technology, through its Committee on Earth Sciences (CES), has developed such a strategy for research in global change. The budget for activities focused specifically on global change is proposed to increase from \$134 million in 1989 to \$191 million in 1990.

The CES global change research strategy is outlined in the report, "Our Changing Planet: A U.S. Strategy for Global Change Research", which accompanies the 1990 budget. This strategy provides the foundation for the comprehensive interagency research plan to be completed in 1989. The U.S. Global Change Research Program is divided into the following seven interdisciplinary science elements:

- biogeochemical dynamics
- ecological systems and dynamics
- climate and hydrologic system
- human interactions
- earth system history
- solid earth processes
- solar influences

The global change research program's goals, objectives, and strategy are consistent with both national and international global change planning efforts, including the National Academy of Sciences' Committee on Global Change, and the International Council of Scientific Unions' International Geosphere-Biosphere Programme.

Table J-6. FEDERAL SUPPORT FOR RESEARCH FOCUSED ON GLOBAL CHANGE

(Obligations in millions of dollars)

Department or Agency	1989 estimate	1990 estimate
National Science Foundation.....	39.2	53.5
Energy.....	20.2	27.2
Agriculture.....	18.3	22.7
National Aeronautics and Space Administration.....	14.5	21.5
Environmental Protection Agency.....	27.4	35.3
Commerce (National Oceanic and Atmospheric Administration).....	9.0	20.0
Interior (United States Geologic Survey).....	5.3	10.3
Total	133.9	190.5

SUPERCONDUCTIVITY, SEMICONDUCTORS, AND FIBER OPTICS

The past two years have seen a revolution in research on the phenomenon of superconductivity—the ability of materials to conduct electricity with no loss of energy due to resistance. For dec-

ades, demonstration and application of superconductivity had been strictly limited to metallic compounds at temperatures near absolute zero (-458° F).

Recent breakthroughs have demonstrated that certain classes of mixed metal oxides exhibited superconductivity at much higher temperatures (-280° F).

In the summer of 1987, the President announced a Superconductivity Initiative designed to foster high-temperature superconductivity research and to help fundamental discoveries in superconductivity (and other fields) move more rapidly into the economy. In 1988, legislation was enacted that provided a statutory basis for many elements of the Administration's superconductivity initiative.

Over the last two years, Federal support for both low- and high-temperature superconductivity research has enjoyed significant funding increases. Funding increased by 56 percent from 1988 to 1989, from \$162 million to \$252 million. For 1990, the budget proposes \$287 million, an additional 14 percent increase, for superconductivity research supported by five agencies: the Departments of Energy, and Defense, the National Aeronautics and Space Administration, the National Science Foundation, and the National Institute of Standards and Technology of the Department of Commerce.

Research in two other areas—semiconductors and fiber optics—is also supported primarily by these same agencies. For 1990, Federal funding for these areas is estimated at \$455 million. For all three areas, superconductors, semiconductors, and fiber optics, the Omnibus Trade Act of 1988 (Public Law 100-418) requires the President to submit to Congress a technology review that discusses each of these areas. The Department of Commerce will be responsible for preparing this review.

Table J-7. FEDERAL SUPPORT FOR SUPERCONDUCTIVITY

(Obligations in millions of dollars)

Department or Agency	1988 actual	1989 estimate	1990 estimate
Energy.....	69	137	163
Defense.....	65	80	85
National Science Foundation.....	20	26	29
National Aeronautics and Space Administration.....	4	6	6
Commerce.....	3	3	4
Total.....	162	252	287

TECHNOLOGY TRANSFER

Technology transfer, as discussed in this section, includes only activities or programs designed specifically to make research and technology developed in Federal laboratories available to entities

outside the Federal Government. Examples might include: specific cooperative R&D between industry and government; technology information, dissemination, or outreach programs, and programs to encourage or promote the exchange of scientists and engineers between industry, government and universities.

It must be noted however, that other Federal R&D activities also result in significant technology transfer, e.g., the transfer of knowledge and research results that occurs when federally-supported R&D is published in the open scientific literature, or is performed by commercial firms which may then use this knowledge for their own purposes. Considered in this more general context, the majority of federally-supported R&D also supports "technology transfer".

The Technology Transfer Act of 1986 (Public Law 99-502) provided authority for all agencies to enter into cooperative R&D agreements with both Federal and non-Federal partners. The Act also provided for the payment of cash awards to federally-employed inventors for inventions, innovations or other activities that promote technology transfer.

For 1990, it is estimated that Federal agencies will spend \$510 million for activities specifically aimed at technology transfer. Some examples of these activities include:

- NASA's centralized software clearinghouse, COSMIC, which sells or leases NASA-developed computer programs for commercial and governmental use.
- the establishment of separate offices at each of the major research facilities of the Department of Energy designed to improve the transfer of technologies developed at the DOE laboratories.
- the programs of the Office of Technology Transfer of the Bureau of Mines of the Department of the Interior aimed at improving the success ratios of research results transferred to the public.

Table J-8. FEDERAL SUPPORT FOR TECHNOLOGY TRANSFER ACTIVITIES ¹

(Obligations in millions of dollars)

Department or Agency	1988 actual	1989 estimate	1990 estimate
Health and Human Services	352	375	393
Energy	26	27	29
National Aeronautics and Space Administration	19	19	27
Agriculture	14	15	15
Commerce	12	15	8
Tennessee Valley Authority	11	11	12
Defense	9	9	10
All other ¹	13	15	16
Total	456	487	510

¹ Includes the Departments of Transportation, Housing and Urban Development, and Interior, the Corps of Engineers, and the Environmental Protection Agency.

Table J-10. TRENDS IN CONDUCT OF R&D

(Obligations in billions of dollars)

Year	Defense ¹	All other	Total	Basic research ²
1960.....	6.1	1.5	7.6	0.6
1961.....	7.0	2.1	9.1	0.8
1962.....	7.2	3.1	10.3	1.0
1963.....	7.8	4.7	12.5	1.2
1964.....	7.8	6.4	14.2	1.3
1965.....	7.3	7.3	14.6	1.4
1966.....	7.5	7.8	15.3	1.6
1967.....	8.6	7.9	16.5	1.8
1968.....	8.3	7.6	15.9	1.8
1969.....	8.4	7.2	15.6	1.9
1970.....	8.0	7.3	15.3	1.9
1971.....	8.1	7.4	15.5	2.0
1972.....	8.9	7.6	16.5	2.2
1973.....	9.0	7.8	16.8	2.2
1974.....	9.0	8.4	17.4	2.4
1975.....	9.7	9.3	19.0	2.6
1976.....	10.4	10.4	20.8	2.8
1977.....	11.9	11.6	23.5	3.3
1978.....	12.6	13.2	25.8	3.7
1979.....	13.6	14.5	28.1	4.2
1980.....	15.1	14.7	29.8	4.7
1981.....	17.8	15.3	33.1	5.0
1982.....	22.1	14.3	36.4	5.5
1983.....	24.5	13.9	38.4	6.4
1984.....	28.3	14.9	43.2	7.0
1985.....	33.4	16.1	49.5	7.8
1986.....	36.5	16.2	52.6	8.1
1987.....	38.4	17.6	56.1	9.0
1988.....	39.5	19.3	58.8	9.5
1989 (estimate).....	41.3	21.7	63.0	10.5
1990 (estimate).....	44.0	23.3	67.3	11.2

¹ Includes military-related programs of the Departments of Defense and Energy.² Included in totals for conduct of R&D.