

SPECIAL ANALYSES

BUDGET OF THE UNITED STATES GOVERNMENT

**FISCAL YEAR
1981**

THE BUDGET DOCUMENTS

Data and analyses relating to the budget for 1981 are published in four documents:

The Budget of the United States Government, 1981 contains the Budget Message of the President and presents an overview of the President's budget proposals. It includes explanations of spending programs in terms of national needs, agency missions, and basic programs, and an analysis of estimated receipts including a discussion of the President's tax program. This document also contains a description of the budget system and various summary tables on the budget as a whole.

The United States Budget in Brief, 1981 is designed for use by the general public. It provides a more concise, less technical overview of the 1981 budget than the above volume. Summary and historical tables on the Federal budget and debt are also provided, together with graphic displays.

The Budget of the United States Government, 1981—Appendix contains detailed information on the various appropriations and funds that comprise 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, proposed general provisions applicable to the appropriations of entire agencies or groups of agencies, and schedules of permanent positions. Supplementals and rescission 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, 1981 contains analyses that are designed to highlight specified program areas or provide other significant presentations of Federal budget data. This document includes information about: alternative views of the budget, i.e., current services and national income accounts; economic and financial analyses of the budget covering Government finances and operations as a whole, and Government-wide program and financial information for Federal civil rights and research and development programs; and major accomplishments.

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.

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Section I

ANALYSES OF THE BUDGET

Part 1

ALTERNATIVE VIEWS OF THE BUDGET

INTRODUCTION

Part 1 includes two alternative views of the budget—current services estimates and national income accounts. These special analyses are designated A and B.

Special Analysis A (Current Services Estimates) presents the estimates required by the Congressional Budget Act of 1974 (31 U.S.C. 11a). These estimates reflect the anticipated costs of continuing ongoing Federal programs and activities at present levels without policy changes (that is, ignoring all new initiatives, Presidential or congressional, that are not yet law).

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

SPECIAL ANALYSIS A

CURRENT SERVICES ESTIMATES

The Congressional Budget Act of 1974 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 outlays and proposed budget authority which would be included in the Budget to be submitted pursuant to section 201 of the Budget and Accounting Act, 1921, for the ensuing fiscal year if all programs and activities were carried on during such ensuing fiscal year at the same level as the fiscal year in progress and without policy changes in such programs and activities.

The Act further requires the President to submit the economic and programmatic assumptions underlying the estimates and calls for the Joint Economic Committee of the Congress to review and evaluate the estimates.

Since current services estimates show what outlays, receipts, and budget authority would be if no policy changes were made, they provide a base with which the administration's budget proposals, or other proposals, may be compared. Such comparisons are made in various parts of the budget and serve to highlight the effects of recommended policy changes.¹

The current services estimates are based on the same economic assumptions as the President's budget proposals. Changes in economic conditions significantly affect budget estimates because of their effects on tax receipts, unemployment benefits and other programs under which spending varies with the unemployment rate, and cost-of-living adjustments. As a result, if different economic assumptions were used, it would be very difficult to separate the effects of policy differences from the effects of differences in the economic assumptions.

The economic assumptions presume that all the President's budget proposals will be adopted. Continuation of all programs and tax laws unchanged at current services levels would probably result in somewhat different economic conditions than would occur under the budget proposals. For the 1981 budget, however, the differences are small compared to the uncertainties inherent in the

¹ Summary comparisons are in the Budget of the United States Government, Fiscal Year 1981, Part 2, "Budget Summary."

economic forecast; thus, it is not unreasonable to use the same economic assumptions for the budget and for current services estimates.

The economic assumptions common to the budget and to the current services estimates are summarized in table A-1. For further details and discussion of these economic assumptions, see Part 3, "Economic Assumptions and the Long-Range Budget Outlook," in the 1981 *Budget*.

Table A-1. SUMMARY OF ECONOMIC ASSUMPTIONS

(Calendar years)

	1979	1980	1981
Gross national product (in billions of current dollars)	2,369	2,567	2,842
Change in constant dollar GNP (percent change, fourth quarter over fourth quarter)	0.8	-1.0	2.8
Unemployment rate (percent, fourth quarter)	5.9	7.5	7.3
Consumer Price Index (percent change, December over December)	13.2	10.4	8.6

THE CURRENT SERVICES CONCEPT

The current services estimates are neither recommended amounts nor forecasts as to what the figures for 1980 and 1981 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 near-term budgetary implications of the current directions of Federal programs, they in effect answer the question: "How would the budget come out if we simply left the Federal Government on automatic pilot through next year?"

A guiding principle in establishing a conceptual basis for the current services estimates was to make the results useful to the Congress and the public. The current services concept used in this analysis, and that used in previous current services estimates submitted by the executive branch, are not the only concepts possible. Different concepts may be useful for different purposes. Under the concept used this year, the current services estimates for 1981 reflect the expected costs of continuing ongoing Federal programs at 1980 levels in real terms, without policy change; that is, they omit all proposed and pending new initiatives, presidential or congressional, that are not now enacted. In general, the 1980 level on which the current services estimates are based is that which is authorized or implied by enacted 1980 appropriations or continuing resolutions. The estimates allow for the future implications of current law, and for anticipated changes of a relatively uncontrollable

nature (as distinct from policy changes)—such as increases in the number of social security retirees.

The question of whether or not to adjust estimates for discretionary programs for anticipated inflation has proved to be a difficult one. In the past, this Special Analysis excluded inflation adjustments for discretionary programs on the grounds that there was no reason to assume such increases except where program benefits were tied by law to the cost of living or where there was a clear intent to cover full costs of future inflation. It provided subsidiary data indicating what the impact on the current services estimates would have been if all programs were adjusted for inflation. The Congressional Budget Office, on the other hand, using a similar “current policy” concept, has included in its estimates inflation adjustments for all programs. Congress has urged the administration to adopt this approach, to permit more meaningful comparison with Congressional Budget Office “current policy” estimates. For the 1981 budget, the presentation in this Special Analysis and in the rest of the budget has been changed to reflect the effects of inflation on virtually all accounts in the budget, including discretionary programs. The new current services estimates provide a “constant real program” base against which to measure the President’s budget. The differences between the President’s budget and the new current services totals adjusted for inflation represent a more meaningful measure of program restraint or expansion, and the real scope of initiatives in the President’s 1981 budget, than the old concept.

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

- For entitlement programs (such as social security), the current services estimates take into account inflation adjustments that are mandatory under current law, changes in the benefit base (usually determined by past earnings), and changes in the anticipated numbers of beneficiaries.
- Individual grants to State and local governments in 1981 are assumed to be funded at the same real (constant-dollar) amounts as in 1980 unless the grants are: (a) set by law at specified amounts; (b) tied by legislation to cost-of-living increases or the unemployment rate; (c) affected by changes in beneficiary populations or other factors that affect benefit payments under entitlement programs; or (d) affected by spending from prior-year commitments (for example, highway grants).
- Entitlement programs that are not linked by law to the cost-of-living (such as veterans compensation) are assumed to remain level in real (constant-dollar) amounts except for changes in the benefit base and in the number of people eligible.

- 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.
- Outlays for Federal pay are assumed to increase, in accordance with current law, with the projected results of the annual pay comparability survey. The October 1980 pay raise is projected to be 10.9% on this basis. This figure includes a 3 percentage point “catch up” from the below-comparability increases for October 1978 and October 1979.
- Interest on the public debt is estimated on the basis of the current services deficit and the same interest rate assumptions as are used in computing the budget estimates for interest.
- 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.
- Proposed rescissions of budget authority are not reflected.
- It is assumed that deferral actions continue in effect for the period specified in the special message transmitted to the Congress under the Impoundment Control Act of 1974 (unless they have been overturned by the Congress).

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 1981, it is assumed for purposes of current services estimates that it will be renewed. Programs that are clearly temporary in nature, such as temporary study commissions, are assumed to expire.

The estimates of receipts on a current services basis assume that temporary provisions of existing law will be extended and that future tax changes will occur as scheduled under current law.

The difference between the current services totals and the administration's budget proposals is not a completely comprehensive measure of restraint and initiatives. Current services estimates, for example, do not include amounts proposed for initiatives requiring new legislation. In a tight budget, the administration may choose to drop or defer some legislative proposals previously made or actively under consideration. Such changes will not appear in the differences between current services amounts and administration recommendations.

CURRENT SERVICES BUDGET TOTALS

Current services outlays are estimated to be \$612.0 billion in 1981, 9.2% higher than in 1980, and budget authority is estimated to be \$677.6 billion, an increase of 7.5% over 1980. Receipts for 1981 are estimated to increase 11.9% on a current services basis, from \$517.4 billion in 1980 to \$579.0 billion in 1981. The resulting 1981 deficit would be \$33.1 billion, \$10.2 billion lower than that for 1980. The administration's proposals would result in a 1981 deficit less than half this size.

Table A-2. CURRENT SERVICES BUDGET TOTALS

(In billions of dollars)

	1979 actual	1980 estimate	1981 estimate
Receipts.....	465.9	517.4	579.0
Outlays.....	493.7	560.6	612.0
Deficit (-).....	-27.7	-43.2	-33.1
Budget authority.....	556.7	630.6	677.6

Receipts.—The 1980 and 1981 current services receipts estimates assume extension of the airport and airway trust fund taxes scheduled to expire June 30, 1980. The estimates also take into account scheduled increases in social security payroll taxes that have already been enacted.

For purposes of comparison, table A-3 shows receipts by major source on a current services basis for 1980 and 1981. As the table shows, current services receipts are projected to increase by \$61.6 billion from 1980 to 1981. This is largely due to assumed increases in incomes, reflecting both real economic growth and inflation.

Table A-3. CURRENT SERVICES RECEIPTS BY SOURCE

(In billions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Individual income taxes.....	217.8	239.1	273.3	274.4
Corporation income taxes.....	65.7	73.3	74.7	71.6
Social insurance taxes and contributions.....	141.6	162.2	186.0	187.4
Excise taxes.....	18.7	18.5	18.7	40.2
Other.....	22.1	24.3	26.3	26.4
Total.....	465.9	517.4	579.0	600.0

Individual income taxes are estimated to increase by \$34.2 billion from 1980 to 1981 on a current services basis. This increase of 14.3% reflects rising personal income. Corporation income taxes are estimated to increase by \$1.5 billion, or 2.0%, from 1980 to 1981 on a current services basis, largely as a result of the assumed increase in corporate profits.

Social insurance taxes are estimated to increase by \$23.8 billion on a current services basis. The estimate reflects assumed increases in total wages and salaries paid, scheduled increases in the social security taxable earnings base from \$25,900 in calendar year 1980 to \$29,700 in 1981, a scheduled increase in the combined employer-employee social security tax rate from 12.26% to 13.3% on January 1, 1981, and an administrative action announced a year ago to accelerate State and local deposits of social security taxes, effective July 1, 1980.

Other receipts (excise taxes, estate and gift taxes, customs duties, and miscellaneous receipts) are projected to increase by \$2.1 billion from 1980 to 1981 on a current services basis largely as the result of increased economic activity. These estimates reflect continued phaseout of the telephone excise tax by 1 percentage point each January.

Outlays.—The level of outlays necessary to continue ongoing Federal programs and activities at 1980 levels without policy changes is estimated at \$612.0 billion in 1981. The increase in current services outlays from 1980 to 1981 is \$51.4 billion.

Table A-4. CURRENT SERVICES OUTLAYS BY FUNCTION

(In billions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
National defense	117.7	129.6	142.4	146.2
International affairs.....	6.1	10.1	9.6	9.6
General science, space, and technology.....	5.0	5.7	6.3	6.4
Energy.....	6.9	7.3	7.1	8.1
Natural resources and environment.....	12.1	12.5	12.8	12.8
Agriculture.....	6.2	4.6	3.2	2.8
Commerce and housing credit.....	2.6	5.5	.8	.7
Transportation.....	17.5	19.5	20.1	20.2
Community and regional development.....	9.5	8.4	8.5	8.8
Education, training, employment, and social services.....	29.7	30.2	32.5	32.0
Health.....	49.6	56.5	63.4	62.4
Income security.....	160.2	190.8	219.9	220.0
Veterans benefits and services.....	19.9	20.8	21.7	21.7
Administration of justice.....	4.2	4.5	4.7	4.7
General government.....	4.2	4.8	4.9	4.9
General purpose fiscal assistance.....	8.4	8.4	8.5	9.6
Interest.....	52.6	63.5	68.4	67.2
Allowances:				
Civilian agency pay raises.....			2.4	1.1
Contingencies.....				1.5
Undistributed offsetting receipts:				
Employer share, employee retirement.....	-5.3	-5.9	-6.2	-6.2
Interest received by trust funds.....	-9.9	-11.5	-12.9	-13.0
Rents and royalties on the Outer Continental Shelf.....	-3.3	-4.8	-6.0	-6.0
Total outlays.....	493.7	560.6	612.0	615.8

Table A-4 shows current services outlays by function. Estimates by agency are presented in table A-5. The greatest dollar increases from 1980 to 1981 occur in the income security, national defense, and health functions, largely due to increases in the number of beneficiaries, cost-of-living adjustments, and increases in the prices of goods and services purchased or financed.

Table A-5. CURRENT SERVICES OUTLAYS BY AGENCY

(In billions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Legislative branch	1.1	1.3	1.4	1.3
The Judiciary .....	.5	.6	.7	.6
Executive Office of the President .....	.1	.1	.1	.1
Funds appropriated to the President	2.6	7.5	5.7	9.3
Department of Agriculture	20.6	23.4	20.9	20.1
Department of Commerce	4.1	3.5	3.0	3.4
Department of Defense—Military	115.0	126.5	139.0	142.7
Department of Defense—Civil	2.9	3.1	3.1	3.1
Department of Education	10.9	12.9	14.7	13.5
Department of Energy	7.9	7.3	8.0	8.7
Department of Health and Human Services	170.3	193.3	220.1	219.3
Department of Housing and Urban Development	9.2	11.6	11.9	11.8
Department of the Interior	4.1	4.2	4.3	4.2
Department of Justice	2.5	2.5	2.7	2.7
Department of Labor	22.6	27.5	31.7	31.8
Department of State	1.5	2.0	2.1	2.2
Department of Transportation	15.5	17.3	18.1	17.9
Department of the Treasury	65.0	75.8	80.5	80.3
Environmental Protection Agency	4.8	5.0	5.0	5.2
National Aeronautics and Space Administration	4.2	4.8	5.3	5.4
Veterans Administration	19.9	20.7	21.7	21.7
Other independent agencies	26.8	32.0	34.8	33.0
Allowances			2.4	2.6
Undistributed offsetting receipts	-18.5	-22.3	-25.1	-25.1
Total outlays	493.7	560.6	612.0	615.8

Table A-6 shows the major components of the changes in current services outlays between 1980 and 1981. Outlays for income security programs are estimated to rise from \$190.8 billion in 1980 to \$219.9 billion in 1981. This \$29.1 billion increase in outlays for this function is due to automatic cost-of-living increases in many benefit programs, increases in the number of beneficiaries, and higher earnings records for new retirees. In the case of social security, for example, about two-thirds of the 1980 to 1981 outlay increase is due to cost-of-living adjustments; higher earnings records and net in-

creases in beneficiaries account for the remaining one-third. Table A-7 shows caseload projections for major benefit programs and other selected programmatic assumptions.

Table A-6. CHANGE IN CURRENT SERVICES BUDGET AUTHORITY AND OUTLAYS, 1980 TO 1981

(In billions of dollars)

	Budget authority	Outlays
1980 current services estimate	630.6	560.6
1980-81 changes:		
Income security:		
Social security.....	15.5	19.1
Federal employee retirement.....	2.2	2.5
Unemployment compensation.....	2.5	3.2
Housing assistance.....	3.0	1.3
Other income security programs.....	3.0	3.0
National defense:		
Department of Defense—Military:		
Procurement	2.8	2.4
Operation and maintenance.....	2.2	2.0
Military and civilian pay raise allowance.....	4.9	4.8
Military retired pay.....	1.7	1.7
Other defense military.....	1.4	1.6
Other national defense.....	.3	.3
Medicare and medicaid.....	10.7	6.2
Other health programs.....	.8	.6
Net interest.....	3.5	3.5
Allowances for civilian agency pay raises.....	2.5	2.4
TVA borrowing authority.....	-15.0	.....
Synthetic fuels promotion.....	-2.2	-.1
Strategic petroleum reserves.....	.1	.6
Naval petroleum reserves.....	-1.2	-1.4
Rents and royalties, offshore oilands.....	-1.2	-1.2
Veterans programs.....	1.3	.9
Farm income stabilization.....	.3	-1.6
Mortgage credit and thrift insurance.....	-3.9	-4.6
Community and regional development.....	1.2	.1
Mass transit.....	1.8	.2
Education.....	1.0	1.3
Employment and training.....	2.0	.8
International financial programs.....	4.8	-1.0
Foreign aid.....	-1.3	.5
All other programs, net.....	3.0	2.4
1981 current services estimate	677.6	612.0

*\$50 million or less.

Current services outlays for the military functions of the Department of Defense are estimated to increase by \$12.5 billion between 1980 and 1981. Pay raises for military and civilian personnel, including retired military personnel, account for \$6.5 billion of this increase. The October 1980 Federal pay increase for white-collar employees is estimated to average 10.9% under the current system for determining comparability. Current services outlays for defense purchases (excluding pay) are estimated to increase by \$6.0 billion, due to estimated price increases of 8.9% and the spendout of funds previously appropriated.

Table A-7. CASELOADS AND PROGRAMMATIC ASSUMPTIONS

	Fiscal years	
	1980	1981
Beneficiaries (annual average, in thousands):		
Social security (OASDI).....	35,300	35,900
Railroad retirement ¹	1,006	985
Federal civilian retirees.....	1,712	1,769
Military retirement.....	1,308	1,349
Veterans compensation and pensions.....	4,864	4,855
GI bill.....	1,173	952
Disabled coal miners-black lung.....	603	595
Supplemental security income.....	4,188	4,170
Maintenance Assistance (AFDC).....	10,579	10,837
Food stamps.....	20,200	20,400
Housing subsidy recipients.....	3,253	3,477
Medicaid.....	22,881	22,899
Medicare:		
Hospital insurance.....	27,273	27,826
Supplementary medical insurance.....	27,200	27,861
Automatic benefit adjustments (percent):		
Social security and veterans pensions (June).....	13.0	9.9
Federal employee retirement:		
March.....	5.9	4.3
September.....	5.8	4.7
Food stamps: ²		
January.....	2.5	5.1
July.....	3.8	4.4
Interest rate (91-day bills, percent, calendar years) ³	10.5	9.0
Budget deficit (current services, in billions of dollars).....	-43.2	-33.1
Unemployment rate (percent, annual average, calendar years):		
Total.....	7.0	7.4
Insured ⁴	3.9	4.0

¹ End of year.

² 1980 adjustments assume legislation to raise the food stamp authorization ceiling. Without the legislation food stamp benefits would be decreased.

³ Average rate on new issues within period. These estimates assume, by convention, that interest rates decline with the rate of inflation. They do not represent a forecast of interest rates.

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.

Current services outlays for the medicare and medicaid programs are estimated to increase by \$6.2 billion between 1980 and 1981, largely as a result of increases in medical care prices.

Other major changes in current services outlays between 1980 and 1981 include an increase in net interest of \$3.5 billion; a \$2.4 billion increase for civilian agency pay raises; and a decrease of \$4.6 billion for mortgage credit and thrift insurance.

Budget authority.—Current services budget authority is estimated to total \$677.6 billion in 1981, \$47.0 billion more than in 1980. Increases in budget authority between 1980 and 1981 generally reflect the higher funding levels that would be necessary to maintain 1980 services levels in real terms in 1981. 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 display erratic year-to-year changes due to sporadic funding patterns or advance funding. For example, the Tennessee Valley Authority (TVA) receives a large increment of budget authority (borrowing authority) every few years to facilitate the TVA electric power construction program. For 1980, the limitation on borrowing authority under the TVA Act was increased by \$15.0 billion.

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 1980 and 1981 are shown in table A-6.

Increases in budget authority of \$11.5 billion for health and \$23.1 billion for income security (excluding housing assistance) are primarily due to higher social security and medicare trust fund receipts and higher medicaid costs.

A decrease in budget authority for energy programs of \$18.5 billion is largely due to the \$15.0 billion 1980 increase in TVA borrowing authority and other one-time 1980 factors, such as the

Table A-8. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION

(In billions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
National defense	127.8	140.9	154.2	161.8
International affairs.....	8.7	12.7	16.3	16.9
General science, space, and technology	5.4	5.9	6.7	6.9
Energy.....	7.4	22.6	4.1	7.4
Natural resources and environment.....	13.2	12.4	13.2	13.3
Agriculture.....	9.3	5.0	5.4	5.5
Commerce and housing credit.....	5.9	10.1	6.1	5.9
Transportation.....	19.2	19.7	22.4	23.6
Community and regional development.....	10.0	8.3	9.5	9.8
Education, training, employment and social services.....	32.6	30.7	33.9	34.8
Health.....	53.9	60.0	71.5	71.5
Income security.....	191.9	222.0	248.0	251.5
Veterans benefits and services.....	20.5	21.2	22.5	22.7
Administration of justice.....	4.2	4.4	4.6	4.7
General government.....	4.4	4.9	5.0	4.9
General purpose fiscal assistance.....	8.3	8.4	8.5	9.6
Interest.....	52.6	63.5	68.4	67.2
Allowances:				
Civilian agency pay raises			2.5	1.1
Contingencies				2.0
Undistributed offsetting receipts:				
Employer share, employee retirement	-5.3	-5.9	-6.2	-6.2
Interest received by trust funds	-9.9	-11.5	-12.9	-13.0
Rents and royalties on the Outer Continental Shelf.....	-3.3	-4.8	-6.0	-6.0
Total budget authority.....	556.7	630.6	677.6	696.1

initial \$2.2 billion appropriation for synthetic fuels promotion. Buildup of the strategic petroleum reserves will continue in 1981; however, the 1979 appropriation of \$3.0 billion will cover most of the program's costs in both 1980 and 1981.

A \$13.3 billion increase in budget authority for the Department of Defense—Military largely reflects pay increases for military and civilian personnel and increases in the costs of an equivalent level of defense purchases. The Export-Import Bank requires a \$6.9 billion increase in its borrowing authority in 1981, compared to only \$1.3 billion in 1980.

Other major changes in current services budget authority include an increase in net interest of \$3.5 billion; a \$2.5 billion increase in allowances for civilian agency pay raises; a \$2.0 billion

increase for employment and training programs; a \$1.8 billion increase in mass transit funding; and a \$3.9 decrease for mortgage credit and thrift insurance.

Table A-9. CURRENT SERVICES BUDGET AUTHORITY BY AGENCY

(In billions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Legislative branch.....	1.1	1.3	1.3	1.3
The Judiciary.....	.5	.6	.7	.7
Executive Office of the President.....	.1	.1	.1	.1
Funds appropriated to the President.....	5.9	9.7	6.3	11.4
Department of Agriculture.....	24.5	24.5	25.1	24.6
Department of Commerce.....	2.6	3.0	2.7	3.4
Department of Defense—Military.....	125.0	137.8	150.8	158.2
Department of Defense—Civil.....	2.8	2.9	3.1	3.0
Department of Education.....	12.6	13.9	15.5	15.5
Department of Energy.....	10.3	9.7	7.1	10.2
Department of Health and Human Services.....	172.8	194.9	222.5	222.9
Department of Housing and Urban Development.....	31.1	35.6	37.9	40.4
Department of the Interior.....	4.7	4.6	5.0	4.7
Department of Justice.....	2.5	2.4	2.6	2.7
Department of Labor.....	28.6	28.0	32.6	33.0
Department of State.....	1.7	2.1	2.3	2.3
Department of Transportation.....	17.2	17.7	20.6	20.5
Department of the Treasury.....	64.7	76.2	81.1	80.9
Environmental Protection Agency.....	5.4	4.7	5.0	5.3
National Aeronautics and Space Administration.....	4.5	5.0	5.6	5.7
Veterans Administration.....	20.5	21.2	22.5	22.7
Other independent agencies.....	35.8	57.0	50.1	48.6
Allowances.....			2.5	3.1
Undistributed offsetting receipts.....	-18.5	-22.3	-25.1	-25.1
Total budget authority.....	556.7	630.6	677.6	696.1

DIFFERENCES BETWEEN CURRENT SERVICES ESTIMATES AND BUDGET PROPOSALS

For 1980, the administration's estimates of outlays and budget authority are above the current services levels by \$3.0 billion and \$23.4 billion, respectively. The major increases in budget authority above the current services level include a proposed \$17.8 billion increase in funds for synthetic fuels promotion; \$1.3 billion for the transportation energy conservation program; \$1.0 billion for other energy programs; and supplemental appropriations for the Department of Defense—Military of \$0.9 billion. The major increases in outlays above the current services level due to the supplemental appropriations are a \$0.9 billion increase for the Department of Defense—Military, \$0.5 billion for social services, and \$0.4 billion for energy programs. The administration's estimate of receipts for

1980 is \$6.4 billion higher than the current services level of \$517.4 billion due primarily to the windfall profit tax proposal.

For 1981, the administration's estimate of outlays is \$3.7 billion above the current services level, and budget authority is \$18.4 billion above the current services level. The current services receipts level is \$21.0 billion below the administration's estimate of \$600.0 billion.

Receipts.—As shown in table A-10, the administration's tax proposals result in increases in 1981 receipts of \$21.0 billion above the current services level. Most of this difference is due to the proposed windfall profit tax and other energy tax proposals (\$14.4 billion) and the cash management initiative (\$4.5 billion). A proposed ban on the use of State and local government tax-exempt borrowing to finance private mortgages accounts for a further \$0.8 billion of the difference. An administration proposal to withhold 10% from compensation for services paid to certain independent contractors would increase receipts by \$0.6 billion above the 1981 current services level. Proposed legislation to increase railroad retirement payroll taxes (primarily by eliminating the taxable earnings maximum on the industry portion of the tax) would increase social insurance taxes and contributions above the current services level by \$0.3 billion. Proposed fees to finance the oil and hazardous substance liability fund would result in an increase in miscellaneous receipts of \$0.2 billion above the current services level.¹

Table A-10. EFFECTS OF ADMINISTRATION PROPOSALS ON RECEIPTS

(In billions of dollars)

	1980	1981
Current services receipts estimates	517.4	579.0
Energy tax proposals:		
Windfall profit tax (net).....	5.5	13.9
Other (net).....	.7	.5
Subtotal, energy tax proposals.....	6.2	14.4
Cash management initiative.....		4.5
Increase in railroad retirement payroll tax.....		.3
Taxable mortgage bonds proposal.....	.1	.8
Independent contractors.....		.6
Oil and hazardous substances fees.....		.2
Other proposals.....	.1	.3
Total proposed changes	6.4	21.0
Proposed receipts, President's budget	523.8	600.0

¹ A more detailed discussion of the administration's tax proposals is presented in the Budget of the United States Government, Fiscal Year 1981, Part 4, "Budget Receipts."

Outlays.—Table A-11 shows the major differences between the administration's 1981 budget and the current services outlay level. Proposed reductions result in a decrease in outlays of \$9.7 billion below the current services level, which is more than offset by proposed increases of \$13.5 billion.

The largest proposed reductions from current services outlay levels include the administration's hospital cost containment proposals, and other changes to the medicare and medicaid programs, which will reduce outlays by \$1.3 billion; and a pay reform proposal, which is expected to result in October 1980 pay raises of 6.2% for Federal civilian employees and 7.4% for military personnel, and would reduce outlays by \$2.7 billion below the current services level. Other major reductions include reductions in education programs of \$1.1 billion, and proposed reductions in the public assistance and school lunch and other nutrition programs of \$0.7 billion, which reflects improved administration and the targeting of resources on those most in need.

The largest outlay increases above the current services level reflect the proposed energy security (oil import reduction) program and increases in defense programs. These proposals increase outlays by \$2.0 billion and \$5.4 billion, respectively, above the current services level. Other major increases above current service include increases for social services of \$0.5 billion, primarily for grants to States for social and child welfare services; proposed resumption (in modified form) of a countercyclical fiscal assistance program (\$1.0 billion); the proposed child health assurance program (\$0.4 billion) under medicaid; and increases in allowances for contingencies and welfare reform of \$1.5 billion.

Budget authority.—The administration's pay reform proposals result in decreases in budget authority below the current services level of \$1.0 billion for civilian agency pay raises and \$1.7 billion for the Department of Defense. Interest is \$1.2 billion below current services and reductions in impact aid, higher education, and school lunch and related programs reduce budget authority by a further \$1.3 billion.

Increases in budget authority for the military functions of the Department of Defense of \$9.1 billion above the current services level reflect higher purchases to carry out the administration's policy to maintain the deterrent capability of our conventional and strategic forces as the Soviet Union and its allies increase their military capabilities. Other major increases in budget authority

above the current services level include \$1.5 billion for the transportation energy conservation program; \$0.8 billion for heating bill assistance for low-income families and individuals; \$2.3 billion funding for the strategic petroleum reserve; \$1.0 billion for other energy programs; \$1.0 billion for resuming a countercyclical fiscal assistance program; \$1.2 billion for the youth education, employment, and training initiative; and \$2.0 billion for allowances for contingencies and welfare reform.

Table A-11. DIFFERENCES BETWEEN ADMINISTRATION 1981 BUDGET REQUEST AND CURRENT SERVICES LEVELS

(In billions of dollars)

	Budget authority	Outlays
Current services estimates for 1981	677.6	612.0
Decreases:		
Defense—Military, pay raise.....	-1.7	-1.7
Civilian agencies, pay raise.....	-1.1	-1.0
Medicare and medicaid—hospital cost containment.....	-.1	-.8
Other medicare and medicaid reforms.....	-.1	-.6
Net interest.....	-1.2	-1.2
Higher education programs.....	-.5	-.8
School lunch and other child nutrition programs.....	-.5	-.5
Federal impact aid to education.....	-.4	-.3
Agricultural export credit sales.....		-.8
Public assistance program reform.....	-.2	-.2
Rail subsidies.....	-.2	-.3
Highway construction.....	*	-.2
Social security and railroad retirement.....	.5	-.2
Other.....	-1.6	-1.1
Subtotal, decreases.....	-7.2	-9.7
Increases:		
Defense—Military, program increases.....	9.1	5.4
Allowance for contingencies and welfare reform.....	2.0	1.5
Countercyclical fiscal assistance.....	1.0	1.0
Strategic petroleum reserve.....	2.3	*
Other energy programs.....	1.0	1.0
Heating bill assistance for low-income families.....	.8	.8
Transportation energy conservation program.....	1.5	.6
Social services.....	.5	.5
Economic development initiative.....	.7	.3
Atomic energy defense activities.....	.2	.2
Environmental programs.....	.3	.1
Housing assistance.....	2.9	.1
International programs.....	.7	*
Science and space programs.....	.1	.1
Crop insurance and food security reserve.....	.1	.5
Child health assurance program (medicaid).....	.4	.4
Youth initiative:		
Education.....	.9	*
Employment and training.....	.3	.1
Other.....	.9	.7
Subtotal, increases.....	25.7	13.5
President's request for 1981	696.1	615.8

* \$50 million or less.

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
050 NATIONAL DEFENSE				
051 Department of Defense—Military:				
Military personnel	28,703	30,694	30,989	32,037
Retired military personnel	10,283	11,981	13,700	13,700
Proposed legislation				37
Operation and maintenance	38,023	42,659	44,855	48,563
Procurement	31,428	35,686	38,457	40,524
Research, development, test and evaluation	12,437	13,517	14,499	16,486
Military construction	2,319	2,170	2,318	3,251
Family housing	1,563	1,625	1,608	1,972
Revolving funds and other	249	-574	-553	-490
Allowances for civilian and military pay raises			4,877	1,847
Other legislation				229
Subtotal, Department of Defense—Military	125,004	137,757	150,751	158,155
053 Atomic energy defense activities	2,668	2,962	3,204	3,443
054 Defense-related activities:				
Emergency planning, preparedness, and mobilization	135	131	160	160
GSA stockpile sales and related	-64	-42	-37	132
Proposed legislation				-203
Other	69	72	82	85
Subtotal, Defense-related activities	140	161	205	175
Deductions for offsetting receipts	-3	-3	-4	-4
Total budget authority	127,809	140,877	154,157	161,770
150 INTERNATIONAL AFFAIRS				
151 Foreign economic and financial assistance:				
International Development Cooperation Agency	1,821	1,989	1,968	2,225
Multilateral development banks	2,515	3,234	1,666	1,666
Public Law 480—Food aid	806	743	1,026	1,129
Peace Corps	99	106	114	119
Economic support fund/Peacekeeping operations	2,321	1,972	1,961	2,106
Refugee assistance	227	496	530	567
Offsetting receipts and other	-310	-306	-358	-356
Subtotal, Foreign economic and financial assistance	7,479	8,235	6,907	7,456
152 Military assistance:				
Grant military assistance	209	110	106	105
Foreign military training	34	28	32	32
Foreign military sales credit	1,024	659	714	714
Relocation of facilities (Israel)	800	236		
Offsetting receipts and other	-274	-273	-258	-258
Subtotal, Military assistance	1,793	760	594	594
153 Conduct of foreign affairs:				
Administration of foreign affairs	813	812	956	995
International organizations and conferences	479	515	519	519
Other	25	35	40	41
Subtotal, Conduct of foreign affairs	1,318	1,362	1,514	1,554
154 Foreign information and exchange activities:				
Existing law	506	519	562	565

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Subtotal, Foreign information and exchange activities	506	519	562	565
155 International financial programs:				
Export-Import Bank	105	1,338	6,858	6,850
Foreign military sales trust fund (net)	-2,327	700		
International commodity agreements				88
Other	-76	-77	-79	-79
Subtotal, International financial programs	-2,298	1,961	6,779	6,859
Deductions for offsetting receipts	-110	-90	-89	-89
Total budget authority	8,688	12,748	16,267	16,939
250 GENERAL SCIENCE, SPACE, AND TECHNOLOGY				
251 General science and basic research:				
National Science Foundation programs	914	996	1,153	1,153
Department of Energy general science programs	431	472	515	523
Smithsonian scientific information exchange activities ..	2	*	*	*
Subtotal, General science and basic research	1,347	1,468	1,669	1,676
253 Space flight:				
Existing law	2,433	2,547	3,093	3,183
Subtotal, Space flight	2,433	2,547	3,093	3,183
254 Space science, applications, and technology:				
Existing law	1,224	1,415	1,496	1,547
Subtotal, Space science, applications, and technol- ogy	1,224	1,415	1,496	1,547
255 Supporting space activities:				
Existing law	383	437	467	463
Subtotal, Supporting space activities	383	437	467	463
Deductions for offsetting receipts	-10	-3	-3	-3
Total budget authority	5,377	5,864	6,721	6,866
270 ENERGY				
271 Energy supply:				
Synthetic fuels promotion		2,208		
Energy security program (proposed)				241
Uranium enrichment	106	865	67	210
Petroleum reserves and other	-314	-591	-1,781	-1,866
Power marketing (net)	-116	14,892	-107	-99
Other	3,370	3,627	4,042	4,033
Subtotal, Energy supply	3,046	21,001	2,221	2,519
272 Energy conservation:				
Energy conservation (DOE)	611	738	766	917
Energy security program (proposed)				415
Subtotal, Energy conservation	611	738	766	1,332
274 Emergency energy preparedness:				
Strategic petroleum reserve	3,008		104	2,404

*\$500 thousand or less.

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Regional petroleum reserve (proposed)				15
Subtotal, Emergency energy preparedness	3,008		104	2,419
276 Energy information policy, and regulation:				
Energy Information Administration	66	88	94	116
Federal Energy Regulatory Commission	54	70	72	76
Economic Regulatory Administration	99	155	165	162
Nuclear Regulatory Commission	327	368	495	468
Department of Energy—administration and other	231	271	277	362
Alaska Gas Inspection	*	11	26	26
Subtotal, Energy information, policy, and regulation	777	963	1,129	1,211
Deductions for offsetting receipts	-59	-72	-74	-74
Total budget authority	7,382	22,630	4,146	7,408
300 NATURAL RESOURCES AND ENVIRONMENT				
301 Water resources:				
Soil Conservation Service	199	196	213	197
Corps of Engineers	2,817	2,877	3,127	3,074
Department of the Interior	622	652	845	846
Proposed legislation				5
Other	38	66	63	74
Offsetting receipts	-55	-54	-55	-55
Subtotal, Water resources	3,621	3,736	4,193	4,141
302 Conservation and land management:				
Management of national forests, cooperative forestry, and forestry research	1,811	1,816	1,879	1,801
Management of public lands	429	407	422	458
Mining reclamation and enforcement	115	181	194	188
Conservation of agricultural lands	522	543	557	554
Other, including offsetting receipts	-610	-532	-677	-677
Subtotal, Conservation and land management	2,267	2,415	2,375	2,324
303 Recreational resources:				
Land and water conservation fund	767	539	584	610
Proposed legislation				-30
Urban recreation grants	20	125	137	125
Operation of recreation resources	1,046	1,030	1,106	1,027
Subtotal, Recreational resources	1,833	1,694	1,827	1,732
304 Pollution control and abatement:				
Sewage treatment plant construction grants	4,200	3,400	3,700	3,700
Oil pollution fund	15	23	38	
Oil and hazardous substance liability fund (proposed)				250
Regulatory and research programs	1,091	1,229	1,227	1,317
Subtotal, Pollution control and abatement	5,306	4,653	4,965	5,267
306 Other natural resources:				
Existing law	1,364	1,394	1,454	1,442
Proposed legislation				21
Subtotal, Other natural resources	1,364	1,394	1,454	1,463

* \$500 thousand or less.

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Deductions for offsetting receipts	-1,183	-1,445	-1,605	-1,622
Total budget authority.....	13,207	12,447	13,209	13,306
350 AGRICULTURE				
351 Farm income stabilization:				
Price-support and related programs.....	6,491	3,056	3,300	3,300
Federal Crop Insurance Corporation.....	12	12	12	12
Proposed legislation.....				111
Agricultural credit insurance fund.....	1,132	273	297	297
Other programs.....	36	43	40	37
Administrative expenses.....	228	193	198	198
Subtotal, Farm income stabilization.....	7,899	3,576	3,847	3,955
352 Agricultural research and services:				
Research programs.....	598	572	600	602
Proposed legislation.....				5
Extension programs.....	275	286	311	298
Marketing programs.....	73	77	79	79
Animal and plant health programs.....	239	255	266	261
Economic intelligence.....	137	149	159	163
Other programs.....	56	62	63	63
Administrative expenses.....	75	90	99	101
Offsetting receipts.....	-55	-66	-65	-65
Subtotal, Agricultural research and services.....	1,400	1,424	1,511	1,507
Deductions for offsetting receipts	48	-3	-3	-3
Total budget authority.....	9,346	4,998	5,356	5,460
370 COMMERCE AND HOUSING CREDIT				
371 Mortgage credit and thrift insurance:				
Mortgage purchase activities (GNMA).....	509	1,829	668	698
Mortgage credit (FHA).....	391	286	384	263
Housing for the elderly or handicapped.....	786	803	855	780
Department of Agriculture—rural housing programs....	793	2,310	620	621
National Credit Union Administration.....		1,200		
Subtotal, Mortgage credit and thrift insurance.....	2,479	6,428	2,527	2,363
372 Postal Service:				
Existing law.....	1,785	1,677	1,593	1,593
Subtotal, Postal Service.....	1,785	1,677	1,593	1,593
374 Federal Financing Bank		-253	-188	-188
376 Other advancement and regulation of commerce:				
Small business assistance.....	759	776	986	941
National Consumer Cooperative Bank.....	4	74	175	175
Technology utilization.....	220	243	247	278
Economic and demographic statistics.....	276	723	238	241
Other.....	398	472	510	526
Proposed legislation.....				-16
Subtotal, Other advancement and regulation of commerce.....	1,657	2,289	2,155	2,145

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Deductions for offsetting receipts.....	*	—*	—*	—*
Total budget authority.....	5,921	10,141	6,087	5,912
400 TRANSPORTATION				
401 Ground transportation:				
Transportation energy conservation (proposed).....				1,500
Highways.....	8,533	9,096	9,561	9,515
Mass transit.....	2,427	2,235	4,078	3,887
Aids to railroads.....	2,319	2,198	2,281	1,798
Proposed legislation.....				250
Regulation.....	73	80	82	85
Subtotal, Ground transportation.....	13,351	13,609	16,001	17,035
402 Air transportation:				
Airways and airports.....	3,145	3,244	3,438	3,473
Aeronautical research and technology.....	519	570	528	543
Air carrier subsidies.....	73	96	86	86
Regulation.....	28	30	29	29
Subtotal, Air transportation.....	3,765	3,940	4,081	4,131
403 Water transportation:				
Marine safety and transportation.....	1,532	1,638	1,744	1,826
Ocean shipping.....	522	488	551	555
Regulation.....	11	12	12	12
Subtotal, Water transportation.....	2,065	2,137	2,307	2,393
407 Other transportation:				
Existing law.....	91	97	104	113
Subtotal, Other transportation.....	91	97	104	113
Deductions for offsetting receipts.....	—67	—70	—55	—55
Total budget authority.....	19,204	19,713	22,439	23,618
450 COMMUNITY AND REGIONAL DEVELOPMENT				
451 Community development:				
Community development block grants.....	3,750	3,900	4,154	3,950
Urban development action grants.....	400	675	738	675
Rehabilitation loans.....	232	135	178	188
Neighborhood self-help.....	5	10	11	15
Neighborhood Reinvestment Corporation.....		12	13	13
Pennsylvania Avenue Development.....	65	39	38	38
Other programs.....	318	332	336	350
Subtotal, Community development.....	4,770	5,103	5,469	5,230
452 Area and regional development:				
Rural development and business assistance.....	1,034	704	862	723
Economic development.....	538	550	552	1,241
Local public works.....	11			
Inland energy impact.....	20	50	50	150
Indian programs.....	1,013	1,037	1,038	1,005
Proposed legislation.....				5
Regional commissions.....	492	475	506	496
Other programs.....	155	155	167	146

*\$500 thousand or less.

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Offsetting receipts.....	-305	-406	-413	-413
Subtotal, Area and regional development.....	2,957	2,565	2,763	3,353
453 Disaster relief and insurance:				
SBA disaster loans.....	1,235	44	181	181
Federal emergency management activities.....	1,020	628	1,092	1,092
Drought assistance and other.....	10	15	15	10
Subtotal, Disaster relief and insurance.....	2,266	687	1,288	1,283
Deductions for offsetting receipts.....	-23	-25	-25	-25
Total budget authority.....	9,969	8,330	9,495	9,840
500 EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES				
501 Elementary, secondary, and vocational educa- tion:				
Elementary and secondary education.....	3,671	3,742	4,059	4,094
Proposed legislation.....				900
Indian education.....	334	348	356	366
Impact aid.....	816	805	879	519
Education for the handicapped.....	977	1,051	1,143	1,102
Vocational and adult education.....	782	896	967	933
Other aid to education agencies.....	345	486	556	574
Child development.....	731	790	863	879
Subtotal, Elementary, secondary, and vocational education.....	7,655	8,118	8,821	9,367
502 Higher education:				
Student assistance.....	4,736	5,222	5,405	4,428
Proposed legislation.....				545
Higher and continuing education.....	449	432	451	410
Proposed legislation.....				20
Special institutions.....	175	188	205	204
Subtotal, Higher education.....	5,360	5,841	6,061	5,607
503 Research and general education aids:				
Educational research and improvement.....	492	411	414	397
Administrative expenses.....	127	163	247	246
Cultural activities.....	572	661	692	695
Other.....	143	149	156	156
Subtotal, Research and general education aids.....	1,334	1,384	1,509	1,492
504 Training and employment:				
General training and employment programs.....	2,484	2,998	2,994	3,008
Public service employment.....	5,880	3,112	4,598	4,598
Youth programs.....	2,024	2,101	2,489	1,664
Proposed legislation.....				1,125
Older workers.....	221	267	267	267
Work incentive program.....	385	365	385	385
Federal-State employment service.....	745	764	841	841
Subtotal, Training and employment.....	11,739	9,606	11,574	11,888

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
505 Other labor services:				
Existing law	522	576	607	617
Subtotal Other labor services	522	576	607	617
506 Social services:				
Grants to States for social and child welfare services ..	3,088	2,744	2,708	2,710
Proposed legislation				523
Retroactive claims	543			
Services for the developmentally disabled, elderly, and other special groups	1,646	1,763	1,921	1,864
Proposed legislation				10
Community service programs	554	551	580	550
Domestic volunteer programs	119	142	146	178
Other social services	11	11	12	12
Subtotal, Social services	5,962	5,211	5,365	5,847
Deductions for offsetting receipts	-8	-7	-5	-5
Total budget authority	32,565	30,729	33,929	34,815
550 HEALTH				
551 Health care services:				
Medicare	31,762	35,922	45,007	45,007
Proposed legislation				-17
Medicaid	13,217	14,578	16,186	16,194
Proposed legislation				298
Other health services	3,793	4,030	4,413	4,485
Subtotal, Health care services	48,772	54,531	65,607	65,968
552 Health research:				
National Institutes of Health research	3,006	3,218	3,469	3,371
Alcohol, Drug Abuse, and Mental Health Administra- tion research	214	235	266	266
Other research programs	164	195	199	202
Subtotal, Health research	3,383	3,648	3,934	3,838
553 Education and training of health care work force:				
Health Resources Administration training	518	512	553	339
National Institutes of Health training	184	224	241	211
Alcohol, Drug Abuse, and Mental Health Administra- tion training	115	114	112	112
Subtotal, Education and training of health care workforce	817	850	906	662
554 Consumer and occupational health and safety:				
Consumer safety	635	663	682	708
Occupational safety and health	311	340	357	377
Subtotal, Consumer and occupational health and safety	946	1,002	1,039	1,086
Deductions for offsetting receipts	-10	-8	-8	-8
Total budget authority	53,908	60,024	71,479	71,546

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
600 INCOME SECURITY				
601 General retirement and disability insurance:				
Social security (OASDI).....	100,612	115,465	130,923	130,923
Proposed legislation.....				196
Railroad retirement.....	4,201	4,440	4,769	4,769
Proposed legislation.....				274
Special benefits for disabled coal miners.....	1,820	1,925	2,004	1,961
Other.....	13	12	*	11
Subtotal, General retirement and disability insur- ance.....	106,646	121,842	137,696	138,133
602 Federal employee retirement and disability:				
Retirement and disability programs.....	20,472	24,007	26,100	26,101
Federal employee compensation.....	228	279	381	381
Subtotal, Federal employee retirement and disability	20,700	24,286	26,481	26,481
603 Unemployment compensation:				
Federal unemployment benefits and allowances.....	950	950	1,260	1,268
Unemployment trust fund.....	15,166	16,659	18,484	18,484
Advances.....	200	162		
Interfund transactions.....	-800	-900	-400	-400
Subtotal, Unemployment compensation.....	15,516	16,871	19,344	19,351
604 Public assistance and other income supple- ments:				
Supplemental security income.....	5,505	6,371	6,903	6,903
Proposed legislation.....				17
AFDC and other.....	6,688	7,395	7,798	7,798
Proposed legislation.....				-249
Earned income tax credit.....	773	1,696	1,570	1,570
Food stamps.....	6,670	8,735	9,730	9,730
WIC—food supplements.....	570	758	908	925
Proposed legislation.....				46
School lunch and other nutrition programs.....	3,326	4,103	4,519	4,483
Proposed legislation.....				-458
Housing assistance.....	24,780	27,672	30,625	33,488
Refugee assistance.....	235	417	653	87
Proposed legislation.....				511
Heating bill assistance for low-income families.....	189	1,597	1,597	
Proposed legislation.....				2,400
Other.....	284	232	208	216
Proposed legislation.....				18
Subtotal, Public assistance and other income supplements.....	49,020	58,997	64,511	67,487
Deductions for offsetting receipts.....	-2	-2	-2	-2
Total budget authority.....	191,880	221,973	248,029	251,451
700 VETERANS BENEFITS AND SERVICES				
701 Income security for veterans:				
Service-connected compensation.....	6,909	7,337	8,431	7,508
Proposed legislation.....				923

*\$500 thousand or less.

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Non-service-connected pensions	3,555	3,734	4,074	4,074
Other veterans income security.....	179	186	191	191
National service life insurance trust fund.....	983	1,029	1,060	1,060
U.S. Government life insurance trust fund.....	38	36	34	34
All other insurance programs.....	6	5	1	1
Insurance program receipts.....	-458	-458	-445	-445
Subtotal, Income security for veterans.....	11,212	11,869	13,346	13,346
702 Veterans education, training, and rehabilita- tion:				
Existing law.....	2,510	2,279	1,822	1,822
Proposed legislation.....				193
Subtotal, Veterans education, training, and rehabili- tation.....	2,510	2,279	1,822	2,015
703 Hospital and medical care for veterans:				
Medical care and hospital services.....	5,374	5,855	6,117	6,155
Proposed legislation.....				-353
Construction.....	462	398	401	675
Medical administration, research and other.....	275	177	181	192
Subtotal, Hospital and medical care for veterans.....	6,112	6,430	6,700	6,669
705 Other veterans benefits and services:				
VA administrative expenses and other.....	638	625	629	657
Proposed legislation.....				-1
Non-VA support programs.....	28	33	35	32
Subtotal, Other veterans benefits and services.....	666	658	663	688
Deductions for offsetting receipts.....	-4	-3	-3	-3
Total budget authority.....	20,495	21,233	22,529	22,716
750 ADMINISTRATION OF JUSTICE				
751 Federal law enforcement activities:				
General investigation (FBI).....	584	614	622	637
Narcotics violation investigation.....	194	202	208	209
Alcohol, tobacco, and firearms investigation.....	137	144	146	147
Border enforcement activities (Customs and INS).....	753	794	817	822
Protection activities (Secret Service).....	145	172	166	167
Other enforcement.....	252	280	306	310
Subtotal, Federal law enforcement activities.....	2,065	2,205	2,266	2,292
752 Federal litigative and judicial activities:				
Civil and criminal prosecution and representation.....	397	442	479	497
Proposed legislation.....				-3
Federal judicial activities.....	523	627	657	657
Representation of indigents in civil cases.....	270	300	321	321
Subtotal, Federal litigative and judicial activities.....	1,190	1,369	1,457	1,473
753 Federal correctional activities:				
Existing law.....	339	327	354	355
Subtotal, Federal correctional activities.....	339	327	354	355

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
754 Criminal justice assistance:				
Existing law	656	496	543	582
Subtotal, Criminal justice assistance	656	496	543	582
Deductions for offsetting receipts.....	-17	-12	-12	-12
Total budget authority	4,234	4,386	4,609	4,689
800 GENERAL GOVERNMENT				
801 Legislative functions:				
Existing law	925	1,072	1,114	1,065
Subtotal, Legislative functions	925	1,072	1,114	1,065
802 Executive direction and management:				
Existing law	84	102	108	112
Subtotal, Executive direction and management	84	102	108	112
803 Central fiscal operations:				
Collection of taxes	2,145	2,298	2,365	2,385
Other fiscal operations	286	347	370	387
Subtotal, Central fiscal operations	2,431	2,645	2,735	2,772
804 General property and records management:				
Real property	21	*		
Personal property	163	157	158	158
Records management	78	87	87	87
Other	125	168	175	175
Subtotal, General property and records manage- ment	386	411	420	420
805 Central personnel management:				
Existing law	133	149	153	156
Subtotal, Central personnel management	133	149	153	156
806 Other general government:				
Territories	183	204	222	161
Proposed legislation				22
Indian affairs	132	197	202	203
Treasury claims	198	294	152	152
Other	43	-54	-6	15
Subtotal, Other general government	556	641	571	553
Deductions for offsetting receipts.....	-120	-133	-132	-132
Total budget authority	4,395	4,888	4,970	4,946
850 GENERAL PURPOSE FISCAL ASSISTANCE				
851 General revenue sharing:				
General revenue sharing payments	6,855	6,855	6,855	6,855
Administration	7	6	7	7
Subtotal, General revenue sharing	6,862	6,861	6,862	6,862
852 Other general purpose fiscal assistance:				
Countercyclical fiscal assistance (proposed)				1,000

Table A-12. CURRENT SERVICES BUDGET AUTHORITY BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Payments and loans to the District of Columbia.....	293	341	348	501
New York City loan guarantee program.....	1	1	1	1
Payments to States from Forest Service receipts.....	241	279	320	320
Payments to States and counties from Federal land management activities.....	412	477	555	555
Payments to territories and Puerto Rico.....	471	394	362	362
Other.....	5	5	5	5
Subtotal, Other general purpose fiscal assistance.....	1,422	1,497	1,591	2,745
Total budget authority.....	8,285	8,358	8,453	9,606
900 INTEREST				
901 Interest on the public debt:				
Existing law.....	59,837	73,300	80,600	79,400
Subtotal, Interest on the public debt.....	59,837	73,300	80,600	79,400
902 Other interest:				
Interest on refunds of tax collections.....	358	698	708	708
Interest on loans to the Federal Financing Bank.....	-4,015	-6,085	-8,041	-8,041
Other.....	-3,626	-4,584	-4,870	-4,870
Subtotal, Other interest.....	-7,283	-9,971	-12,203	-12,203
Total budget authority.....	52,554	63,529	68,397	67,197
920 ALLOWANCES				
921 Civilian agency pay raises.....			2,452	-1,115
928 Allowance for contingencies.....				2,000
Total budget authority.....			2,452	3,115
950 UNDISTRIBUTED OFFSETTING RECEIPTS				
951 Employer share, employee retirement.....	-5,271	-5,919	-6,161	-6,161
952 Interest received by trust funds:				
Existing law.....	-9,950	-11,539	-12,922	-12,427
Proposed legislation.....				-531
Subtotal, Interest received by trust funds.....	-9,950	-11,539	-12,922	-12,958
953 Rents and royalties on the Outer Continental Shelf.....	-3,267	-4,800	-6,000	-6,000
Total budget authority.....	-18,488	-22,258	-25,083	-25,119
Total budget authority.....	556,732	630,608	677,640	696,080

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
050 NATIONAL DEFENSE				
051 Department of Defense—Military:				
Military personnel	28,407	30,442	30,719	31,705
Retired military personnel	10,279	11,941	13,677	13,677
Proposed legislation				37
Operation and maintenance	36,424	40,106	42,127	46,376
Procurement	25,404	27,648	30,031	30,497
Research, development, test and evaluation	11,152	12,933	13,905	14,843
Military construction	2,080	2,147	2,318	2,053
Family housing	1,468	1,571	1,685	1,686
Revolving funds and other	-201	-266	-237	-222
Allowances for civilian and military pay raises			4,794	1,819
Other legislation				229
Subtotal, Department of Defense—Military	115,013	126,522	139,019	142,700
053 Atomic energy defense activities	2,541	2,944	3,183	3,386
054 Defense-related activities:				
Emergency planning, preparedness, and mobilization	131	130	146	145
GSA stockpile sales and related	-67	-43	-38	132
Proposed legislation				-203
Other	65	72	82	85
Subtotal, Defense-related activities	129	160	191	159
Deductions for offsetting receipts	-3	-3	-4	-4
- Total outlays	117,681	129,622	142,389	146,241
150 INTERNATIONAL AFFAIRS				
151 Foreign economic and financial assistance:				
International Development Cooperation Agency	1,374	1,575	1,701	1,737
Multilateral development banks	683	926	966	966
Public Law 480—Food aid	976	1,072	1,076	1,153
Peace Corps	94	104	112	116
Economic support fund/peacekeeping operations	1,755	1,890	2,183	2,056
Refugee assistance	166	468	506	534
Offsetting receipts and other	-304	-308	-350	-349
Subtotal, Foreign economic and financial assistance	4,743	5,727	6,193	6,212
152 Military assistance:				
Grant military assistance	140	195	150	150
Foreign military training	28	26	28	28
Foreign military sales credit	640	540	515	515
Relocation of facilities (Israel)	31	411	318	318
Offsetting receipts and other	-276	-275	-260	-260
Subtotal, Military assistance	563	897	751	751
153 Conduct of foreign affairs:				
Administration of foreign affairs	785	860	910	927
International organizations and conferences	495	487	535	535
Other	30	35	38	39
Subtotal, Conduct of foreign affairs	1,310	1,382	1,483	1,501

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
154 Foreign information and exchange activities:				
Existing law	465	538	566	569
Subtotal, Foreign information and exchange activi- ties	465	538	566	569
155 International financial programs:				
Export-Import Bank	200	1,054	1,230	1,230
Foreign military sales trust fund (net)	-1,434	1,200		
International commodity agreements				5
Other	354	-568	-566	-566
Subtotal, International financial programs	-879	1,687	664	669
Deductions for offsetting receipts	-110	-90	-89	-89
Total outlays	6,091	10,140	9,568	9,612
250 GENERAL SCIENCE, SPACE, AND TECHNOLOGY				
251 General science and basic research:				
National Science Foundation programs	870	947	1,052	1,052
Department of Energy general science programs	425	462	500	508
Smithsonian scientific information exchange activities ..	2	*	*	*
Subtotal, General science and basic research	1,298	1,410	1,552	1,560
253 Space flight:				
Existing law	2,217	2,545	2,920	3,013
Subtotal, Space flight	2,217	2,545	2,920	3,013
254 Space science, applications, and technology:				
Existing law	1,153	1,322	1,399	1,434
Subtotal, Space science, applications, and technol- ogy	1,153	1,322	1,399	1,434
255 Supporting space activities:				
Existing law	383	416	441	439
Subtotal, Supporting space activities	383	416	441	439
Deductions for offsetting receipts	-10	-3	-3	-3
Total outlays	5,041	5,689	6,309	6,442
270 ENERGY				
271 Energy supply:				
Synthetic fuels promotion		155	53	53
Proposed legislation				16
Energy security program (proposed)				221
Spent fuel storage fund (proposed)				200
Uranium enrichment	121	59	23	237
Petroleum reserves and other	-329	-378	-1,771	-1,772
Power marketing (net)	1,643	1,564	1,818	1,825
Other	3,465	3,745	3,937	3,713
Subtotal, Energy supply	4,900	5,145	4,060	4,493
272 Energy conservation:				
Energy conservation (DOE)	252	579	745	793

*\$500 thousand or less.

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Energy security program (proposed).....				379
Subtotal, Energy conservation.....	252	579	745	1,172
274 Emergency energy preparedness:				
Strategic petroleum reserve.....	1,021	767	1,325	1,294
Regional petroleum reserve (proposed).....				11
Subtotal, Emergency energy preparedness.....	1,021	767	1,325	1,306
276 Energy information, policy, and regulation:				
Energy Information Administration.....	61	86	92	116
Federal Energy Regulatory Commission.....	50	67	70	76
Economic Regulatory Administration.....	82	149	157	176
Nuclear Regulatory Commission.....	309	301	433	476
Department of Energy—administration and other.....	239	276	283	342
Alaska Gas Inspection.....	*	9	25	25
Subtotal, Energy information, policy, and regulation.....	742	890	1,059	1,211
Deductions for offsetting receipts.....	-59	-72	-74	-74
Total outlays.....	6,856	7,309	7,115	8,107
300 NATURAL RESOURCES AND ENVIRONMENT				
301 Water resources:				
Soil Conservation Service.....	256	228	245	218
Corps of Engineers.....	2,933	3,093	3,172	3,081
Department of the Interior.....	727	780	800	801
Proposed legislation.....				3
Other.....	36	71	70	73
Offsetting receipts.....	-55	-54	-55	-55
Subtotal, Water resources.....	3,897	4,117	4,232	4,121
302 Conservation and land management:				
Management of national forests, cooperative forestry, and forestry research.....	1,536	1,573	1,847	1,755
Management of public lands.....	395	399	412	444
Mining reclamation and enforcement.....	48	114	158	158
Conservation of agricultural lands.....	559	572	556	562
Other, including offsetting receipts.....	-654	-544	-679	-673
Subtotal, Conservation and land management.....	1,884	2,115	2,293	2,245
303 Recreational resources:				
Land and Water Conservation fund.....	600	451	490	489
Urban recreation grants.....	*	74	81	74
Operation of recreation resources.....	913	934	956	936
Subtotal, Recreational resources.....	1,513	1,458	1,527	1,499
304 Pollution control and abatement:				
Sewage treatment plant construction grants.....	3,756	3,900	3,950	3,950
Oil pollution fund.....	13	26	28	6
Oil and hazardous substance liability fund (proposed) Regulatory and research programs.....	938	979	981	1,106
Subtotal, Pollution control and abatement.....	4,706	4,905	4,958	5,107

*\$500 thousand or less.

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
306 Other natural resources:				
Existing law	1,273	1,361	1,415	1,449
Proposed legislation				19
Subtotal, Other natural resources	1,273	1,361	1,415	1,468
Deductions for offsetting receipts	-1,183	-1,445	-1,605	-1,622
Total outlays	12,091	12,513	12,820	12,819
350 AGRICULTURE				
351 Farm income stabilization:				
Price-support and related programs	3,572	2,792	2,487	1,697
Proposed legislation				359
Federal Crop Insurance Corporation	-8	27	27	27
Proposed legislation				93
Agricultural credit insurance fund	1,017	238	-1,020	-1,020
Other programs	43	40	44	41
Administrative expenses	226	188	193	193
Subtotal, Farm income stabilization	4,850	3,286	1,730	1,389
352 Agricultural research and services:				
Research programs	524	524	559	538
Proposed legislation				1
Extension programs	273	262	285	276
Marketing programs	64	81	81	81
Animal and plant health programs	230	254	265	261
Economic intelligence	133	149	158	163
Other programs	56	59	60	61
Administrative expenses	115	90	96	99
Offsetting receipts	-55	-66	-65	-65
Subtotal, Agricultural research and services	1,340	1,353	1,439	1,416
Deductions for offsetting receipts	48	-3	-3	-3
Total outlays	6,238	4,636	3,167	2,802
370 COMMERCE AND HOUSING CREDIT				
371 Mortgage credit and thrift insurance:				
Mortgage purchase activities (GNMA)	225	1,036	-351	-351
Mortgage credit (FHA)	193	148	68	-70
Housing for the elderly or handicapped	459	700	700	700
Department of Agriculture—rural housing programs	184	1,806	-958	-958
Federal Deposit Insurance Corporation	-1,218	-1,450	-1,500	-1,500
Federal Home Loan Bank Board	-488	-479	-602	-602
National Credit Union Administration	-30	173	-32	-32
Subtotal, Mortgage credit and thrift insurance	-677	1,935	-2,674	-2,813
372 Postal Service:				
Existing law	1,787	1,677	1,593	1,593
Subtotal, Postal Service	1,787	1,677	1,593	1,593
374 Federal Financing Bank		-253	-188	-188
376 Other advancement and regulation of commerce:				
Small business assistance	674	719	898	869

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
National Consumer Cooperative Bank.....		36	163	161
Technology utilization.....	212	242	250	268
Economic and demographic statistics.....	214	648	315	317
Other.....	354	458	491	517
Proposed legislation.....				-12
Subtotal, Other advancement and regulation of commerce.....	1,454	2,103	2,116	2,121
Deductions for offsetting receipts.....	*	-*	-*	-*
Total outlays.....	2,565	5,461	846	712
400 TRANSPORTATION				
401 Ground transportation:				
Transportation energy conservation (proposed).....				617
Highways.....	7,492	8,359	8,707	8,510
Mass transit.....	2,542	2,712	2,927	2,801
Aids to railroads.....	1,962	2,317	2,094	1,756
Proposed legislation.....				40
Regulation.....	67	79	82	84
Subtotal, Ground transportation.....	12,064	13,467	13,809	13,808
402 Air transportation:				
Airways and airports.....	2,850	3,123	3,310	3,297
Aeronautical research and technology.....	443	532	548	554
Air carrier subsidies.....	72	94	87	87
Regulation.....	27	30	29	29
Subtotal, Air transportation.....	3,392	3,778	3,974	3,967
403 Water transportation:				
Marine safety and transportation.....	1,424	1,557	1,648	1,728
Ocean shipping.....	543	668	584	590
Regulation.....	10	12	12	12
Subtotal, Water transportation.....	1,977	2,236	2,245	2,330
407 Other transportation:				
Existing law.....	93	100	103	109
Subtotal, Other transportation.....	93	100	103	109
Deductions for offsetting receipts.....	-67	-70	-55	-55
Total outlays.....	17,459	19,511	20,075	20,159
450 COMMUNITY AND REGIONAL DEVELOPMENT				
451 Community development:				
Community development block grants.....	3,161	3,500	3,837	3,805
Urban development action grants.....	73	180	366	365
Rehabilitation loans.....	100	170	185	190
Neighborhood self-help.....		9	8	10
Neighborhood Reinvestment Corporation.....		12	13	13
Pennsylvania Avenue Development.....	29	44	40	40
Other programs.....	631	604	525	539
Subtotal, Community development.....	3,995	4,519	4,974	4,963

*\$500 thousand or less.

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
452 Area and regional development:				
Rural development and business assistance.....	669	656	804	784
Economic development.....	431	487	509	802
Proposed legislation.....				43
Local public works.....	1,741	358	200	200
Coastal energy impact.....	11	34	53	53
Inland energy impact.....	*	11	32	62
Indian programs.....	805	846	871	856
Proposed legislation.....				5
Regional commissions.....	418	422	450	458
Other programs.....	130	186	176	170
Offsetting receipts.....	-305	-406	-413	-413
Subtotal, Area and regional development.....	3,899	2,594	2,683	3,020
453 Disaster relief and insurance:				
SBA Disaster loans.....	957	626	200	200
Federal emergency management activities.....	617	627	646	646
Drought assistance and other.....	36	26	20	17
Subtotal, Disaster relief and insurance.....	1,611	1,278	865	863
Deductions for offsetting receipts.....	-23	-25	-25	-25
Total outlays.....	9,482	8,366	8,496	8,820
500 EDUCATION, TRAINING, EMPLOYMENT, AND SOCIAL SERVICES				
501 Elementary, secondary, and vocational education:				
Elementary and secondary education.....	3,133	3,409	3,600	3,631
Proposed legislation.....				50
Indian education.....	292	302	317	315
Impact aid.....	912	821	876	554
Education for the handicapped.....	589	789	1,004	968
Vocational and adult education.....	772	855	941	908
Other aid to education agencies.....	321	394	496	512
Child development.....	668	760	829	822
Subtotal, Elementary, secondary, and vocational education.....	6,688	7,330	8,062	7,761
502 Higher education:				
Student assistance.....	3,769	4,882	5,423	4,530
Proposed legislation.....				91
Higher and continuing education.....	588	410	400	388
Special institutions.....	170	182	202	196
Subtotal, Higher education.....	4,528	5,474	6,024	5,205
503 Research and general education aids:				
Education research and improvement.....	432	422	349	362
Administrative expenses.....	131	161	226	202
Cultural activities.....	543	629	689	688
Other.....	127	182	157	157
Subtotal, Research and general education aids.....	1,233	1,394	1,419	1,408
504 Training and employment:				
General training and employment programs.....	2,450	2,720	2,826	2,835

*\$500 thousand or less.

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Public service employment.....	5,041	3,977	4,415	4,415
Youth programs.....	2,048	2,330	2,461	1,844
Proposed legislation.....				717
Older workers.....	208	238	263	263
Work incentive program.....	385	365	385	385
Federal-State employment service.....	701	773	841	841
Subtotal, Training and employment.....	10,833	10,402	11,190	11,299
505 Other labor services:				
Existing law.....	488	556	591	602
Subtotal, Other labor services.....	488	556	591	602
506 Social services:				
Grants to States for social and child welfare services..	3,091	2,670	2,624	2,627
Proposed legislation.....				523
Retroactive claims.....	543			
Services for the developmentally disabled, elderly, and other special groups.....	1,573	1,655	1,804	1,822
Proposed legislation.....				2
Community service programs.....	594	569	580	555
Domestic volunteer programs.....	117	131	163	175
Other social services.....	5	21	13	14
Subtotal, Social services.....	5,923	5,046	5,185	5,717
Deductions for offsetting receipts.....	-8	-7	-5	-5
Total outlays.....	29,685	30,193	32,467	31,989
550 HEALTH				
551 Health care services:				
Medicare.....	29,147	33,540	38,425	38,425
Proposed legislation.....				-1,076
Medicaid.....	12,491	14,220	15,567	15,575
Proposed legislation.....				298
Other health services.....	3,483	3,774	4,010	4,095
Subtotal, Health care services.....	45,121	51,535	58,002	57,317
552 Health research:				
National Institutes of Health research.....	2,698	2,971	3,253	3,137
Alcohol, Drug Abuse, and Mental Health Administra- tion research.....	190	200	239	239
Other research programs.....	135	170	164	179
Subtotal, Health research.....	3,023	3,340	3,656	3,555
553 Education and training of health care work force:				
National Institutes of Health training.....	171	191	221	198
Health Resources Administration training.....	307	360	391	265
Alcohol, Drug Abuse, and Mental Health Administra- tion training.....	105	114	96	96
Subtotal, Education and training of health care work force.....	583	666	708	559

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
554 Consumer and occupational health and safety:				
Consumer safety.....	603	645	653	658
Occupational safety and health.....	293	337	350	369
Subtotal, Consumer and occupational health and safety.....	896	982	1,003	1,027
Deductions for offsetting receipts.....	-10	-8	-8	-8
Total outlays.....	49,614	56,515	63,361	62,449
600 INCOME SECURITY				
601 General retirement and disability insurance:				
Social security (OASDI).....	102,595	117,927	137,020	137,020
Proposed legislation.....				-99
Railroad retirement.....	4,279	4,748	5,227	5,227
Proposed legislation.....				-70
Special benefits for disabled coal miners.....	1,610	1,968	2,036	1,994
Other.....	8	12	1	12
Subtotal, General retirement and disability insurance.....	108,492	124,655	144,284	144,084
602 Federal employee retirement and disability:				
Retirement and disability programs.....	12,192	14,305	16,686	16,686
Proposed legislation.....				22
Federal employee compensation.....	187	252	381	381
Subtotal, Federal employee retirement and disability.....	12,379	14,556	17,067	17,089
603 Unemployment compensation:				
Federal unemployment benefits and allowances.....	825	1,030	1,260	1,268
Unemployment trust fund.....	10,537	15,249	17,884	17,884
Advances.....	180	162		
Interfund transactions.....	-800	-900	-400	-400
Subtotal, Unemployment compensation.....	10,742	15,541	18,744	18,752
604 Public assistance and other income supplements:				
Supplemental security income.....	5,471	6,374	6,908	6,908
Proposed legislation.....				17
AFDC and other.....	6,611	7,127	7,681	7,681
Proposed legislation.....				-249
Earned income tax credit.....	773	1,696	1,570	1,570
Food stamps.....	6,822	8,678	9,656	9,656
WIC—food supplements.....	542	735	848	860
Proposed legislation.....				43
School lunch and other nutrition programs.....	3,423	3,955	4,261	4,240
Proposed legislation.....				-432
Housing assistance.....	4,367	5,247	6,543	6,606
Refugee assistance.....	141	367	579	228
Proposed legislation.....				296
Heating bill assistance for low-income families.....	186	1,660	1,597	
Proposed legislation.....				2,400
Other.....	252	259	207	214
Proposed legislation.....				22

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Subtotal, Public assistance and other income supplements.....	28,586	36,099	39,850	40,060
Deductions for offsetting receipts.....	-2	-2	-2	-2
Total outlays.....	160,198	190,850	219,943	219,982
700 VETERANS BENEFITS AND SERVICES				
701 Income security for veterans:				
Service-connected compensation.....	6,743	7,411	8,317	7,471
Proposed legislation.....				846
Non-service-connected pensions.....	3,522	3,712	4,032	4,032
Other veterans income security.....	177	185	190	190
National service life insurance trust fund.....	785	803	931	931
U.S. Government life insurance trust fund.....	71	69	64	64
All other insurance programs.....	-60	-62	-54	-54
Insurance program receipts.....	-458	-458	-445	-445
Subtotal, Income security for veterans.....	10,780	11,660	13,034	13,034
702 Veterans education, training, and rehabilitation:				
Existing law.....	2,760	2,226	1,750	1,750
Proposed legislation.....				193
Subtotal, Veterans education, training, and rehabilitation.....	2,760	2,226	1,750	1,943
703 Hospital and medical care for veterans:				
Medical care and hospital services.....	5,159	5,926	6,058	6,101
Proposed legislation.....				-353
Construction.....	251	273	273	381
Medical administration, research and other.....	201	226	230	242
Subtotal, Hospital and medical care for veterans.....	5,611	6,425	6,562	6,370
704 Veterans housing:				
Loan guaranty revolving fund.....	207	-32	-195	-195
Direct loan revolving fund.....	-65	-175	-107	-107
Other (HUD PC sales fund).....	12	22	2	2
Subtotal, Veterans housing.....	154	-184	-300	-300
705 Other veterans benefits and services:				
VA administrative expenses and other.....	598	641	626	655
Proposed legislation.....				-1
Non-VA support programs.....	29	32	34	32
Subtotal, Other veterans benefits and services.....	627	673	660	686
Deductions for offsetting receipts.....	-4	-3	-3	-3
Total outlays.....	19,928	20,797	21,704	21,731
750 ADMINISTRATION OF JUSTICE				
751 Federal law enforcement activities:				
General investigation (FBI).....	586	615	625	635
Narcotics violation investigation.....	185	200	208	206
Alcohol, tobacco, and firearms investigation.....	131	144	145	146
Border enforcement activities (Customs and INS).....	730	796	811	814
Protection activities (Secret Service).....	139	174	163	165

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Other enforcement	221	281	299	301
Subtotal, Federal law enforcement activities	1,992	2,209	2,251	2,266
752 Federal litigative and judicial activities:				
Civil and criminal prosecution and representation	388	445	469	485
Proposed legislation				—3
Federal judicial activities	488	632	661	659
Representation of indigents in civil cases	254	300	329	329
Subtotal, Federal litigative and judicial activities	1,130	1,377	1,459	1,471
753 Federal correctional activities:				
Existing law	337	348	362	357
Subtotal, Federal correctional activities	337	348	362	357
754 Criminal justice assistance:				
Existing law	710	580	617	618
Subtotal, Criminal justice assistance	710	580	617	618
Deductions for offsetting receipts	—17	—12	—12	—12
Total outlays	4,153	4,503	4,677	4,699
800 GENERAL GOVERNMENT				
801 Legislative functions:				
Existing law	914	1,079	1,156	1,081
Subtotal, Legislative functions	914	1,079	1,156	1,081
802 Executive direction and management:				
Existing law	81	102	107	109
Subtotal, Executive direction and management	81	102	107	109
803 Central fiscal operations:				
Collection of taxes	2,079	2,296	2,359	2,378
Other fiscal operations	252	358	377	392
Subtotal, Central fiscal operations	2,330	2,654	2,735	2,770
804 General property and records management:				
Real property	—70	—149	—16	—10
Personal property	129	163	163	163
Records management	75	87	87	87
Other	101	166	174	174
Subtotal, General property and records manage- ment	235	267	408	414
805 Central personnel management:				
Existing law	127	155	156	158
Subtotal, Central personnel management	127	155	156	158
806 Other general government:				
Territories	200	180	204	178
Proposed legislation				22
Indian affairs	135	208	210	210
Treasury claims	240	321	152	152

Table A-13. CURRENT SERVICES OUTLAYS BY FUNCTION AND PROGRAM—Continued

(In millions of dollars)

	1979 actual	Current services		1981 adminis- tration proposals
		1980 estimate	1981 estimate	
Other.....	12	2	-51	-30
Subtotal, Other general government.....	586	711	515	531
Deductions for offsetting receipts.....	-120	-133	-132	-132
Total outlays.....	4,153	4,835	4,944	4,931
850 GENERAL PURPOSE FISCAL ASSISTANCE				
851 General revenue sharing:				
General revenue sharing payments.....	6,848	6,863	6,857	6,857
Administration.....	7	6	8	8
Subtotal, General revenue sharing.....	6,854	6,869	6,864	6,864
852 Other general purpose fiscal assistance:				
Countercyclical fiscal assistance (proposed).....				1,000
Payments and loans to the District of Columbia.....	393	381	356	510
New York City loan guarantee program.....	1	1	1	1
Payments to States from Forest Service receipts.....	241	279	320	320
Payments to states and counties from Federal land management activities.....	413	478	555	555
Payments to territories and Puerto Rico.....	464	402	362	362
Other.....	7	7	5	5
Subtotal, Other general purpose fiscal assistance.....	1,518	1,548	1,599	2,753
Total outlays.....	8,372	8,416	8,464	9,617
900 INTEREST				
901 Interest on the public debt:				
Existing law.....	59,837	73,300	80,600	79,400
Subtotal, Interest on the public debt.....	59,837	73,300	80,600	79,400
902 Other interest:				
Interest on refunds of tax collections.....	358	698	708	708
Interest on loans to the Federal Financing Bank.....	-4,015	-6,085	-8,041	-8,041
Other.....	-3,624	-4,583	-4,870	-4,870
Subtotal, Other interest.....	-7,281	-9,970	-12,203	-12,203
Total outlays.....	52,556	63,530	68,397	67,197
920 ALLOWANCES				
921 Civilian agency pay raises.....			2,354	1,070
928 Allowance for contingencies.....				1,500
Total outlays.....			2,354	2,570
950 UNDISTRIBUTED OFFSETTING RECEIPTS				
951 Employer share, employee retirement.....	-5,271	-5,919	-6,161	-6,161
952 Interest received by trust funds:				
Existing law.....	-9,950	-11,539	-12,922	-12,427
Proposed legislation.....				-531
Subtotal, Interest received by trust funds.....	-9,950	-11,539	-12,922	-12,958
953 Rents and royalties on the Outer Continental Shelf.....	-3,267	-4,800	-6,000	-6,000
Total outlays.....	-18,488	-22,258	-25,083	-25,119
Total outlays.....	493,673	560,628	612,014	615,761

*\$500 thousand or less.

SPECIAL ANALYSIS B

FEDERAL TRANSACTIONS IN THE NATIONAL INCOME ACCOUNTS

The budget is designed to serve several purposes:

- It is an *economic document* that reflects the taxing and spending policies of the Government for promoting economic growth, high employment, relative price stability, and a strong balance-of-payments position.
- It proposes an *allocation of resources* between the private and public sectors and within the public sector. Through its impact on consumption and investment decisions and the distribution of income it also affects allocation decisions within the private sector.
- It sets forth the *President's request to the Congress* for appropriation action on existing or new programs and for changes in tax 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.

No single budget concept can satisfy all these purposes fully. The budget document 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 (NIA) of the United States provide the most useful measures. This special analysis shows Federal finances as measured in the NIA. 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 February 1980 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 seasonally adjusted at annual rates and also discusses estimating errors inherent in preparing this translation; the final section explains the major differences between the budget and the NIA concepts. A brief discussion of fiscal policy can be found in Part 2 of the *Budget of the United States*, and a more detailed analysis in the *Economic Report of the President*.

FEDERAL SECTOR RECEIPTS AND EXPENDITURES

Table B-1 shows Federal sector NIA receipts, expenditures, and deficits for 1979-81.

Table B-1. FEDERAL RECEIPTS AND EXPENDITURES IN THE NIA

(In billions of dollars)

Description	1979 actual	1980 estimate	1981 estimate
RECEIPTS			
Personal tax and nontax receipts.....	223.5	245.1	279.7
Corporate profits tax accruals.....	78.4	76.5	77.1
Indirect business tax and nontax accruals.....	29.4	38.5	53.0
Contributions for social insurance.....	152.4	170.5	197.9
Total receipts.....	483.7	530.6	607.7
EXPENDITURES			
Purchases of goods and services.....	162.4	185.6	202.9
Defense.....	(105.9)	(118.7)	(132.1)
Nondefense.....	(56.5)	(66.9)	(70.8)
Transfer payments.....	201.7	235.1	267.6
Domestic ("to persons").....	(197.7)	(230.9)	(263.2)
Foreign.....	(4.0)	(4.2)	(4.4)
Grants-in-aid to State and local governments.....	79.3	84.3	90.7
Net interest paid.....	40.4	49.2	52.2
Subsidies less current surplus of Government enterprises.....	9.8	10.0	12.9
Wage disbursements less accruals.....	*		
Total expenditures.....	493.6	564.2	626.3
Deficit (-).....	-9.9	-33.6	-18.6

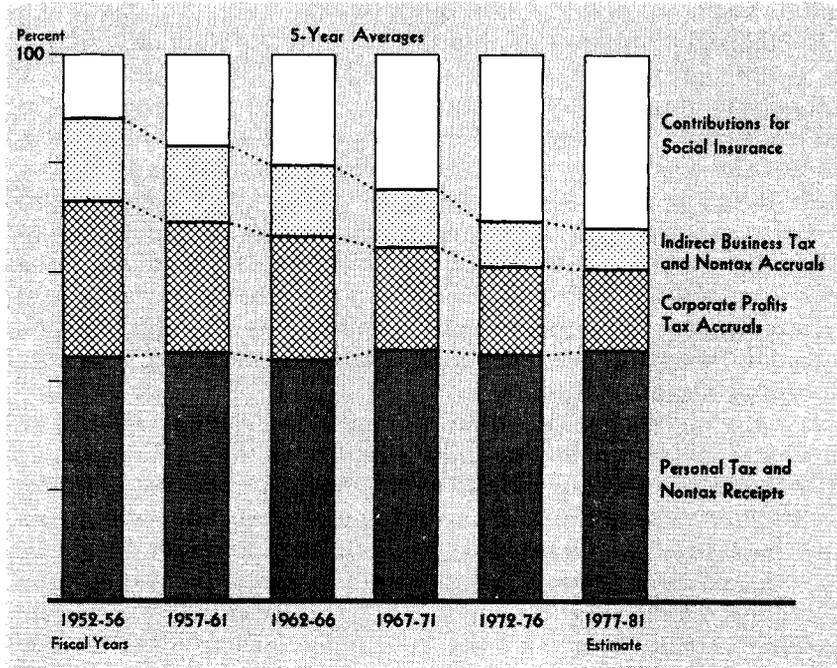
*\$50 million or less.

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, at 10-year intervals, 3-year averages of Federal sector receipts by category as a percent of the gross national product (GNP). Three-year averages are used in order to eliminate the impact of annual fluctuations and permit a greater focus on basic trends.

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

Description	1949-51 average actual	1959-61 average actual	1969-71 average actual	1979-81 average estimate
Personal tax and nontax receipts.....	6.6	8.4	9.4	9.8
Corporate profits tax accruals.....	5.2	4.3	3.6	3.1
Indirect business tax and nontax accruals.....	3.1	2.6	2.0	1.6
Contributions for social insurance.....	2.0	3.3	5.1	6.8
Total receipts.....	16.9	18.6	20.1	21.3

Distribution of Federal Sector Receipts by Category



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. Increases in income, because of both real growth and inflation, automatically increase these receipts. Since personal income taxes are progressive, these receipts normally grow at a faster rate than personal income. However, tax reductions enacted periodically over the past three decades have offset part of the increase in effective tax rates resulting from the progressive tax structure.

Corporate profits tax accruals.—Corporate profits tax accruals vary significantly from year to year because corporate profits are highly volatile. The NIA corporate profits taxes differ from the corresponding budget category primarily because: (1) The NIA includes 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 NIA records corporate profits

taxes when the profits are earned (that is, accrued), while the unified budget records the cash receipts.

Estimates of corporate profits tax accruals are normally subject to greater error than any other category of receipts. The NIA estimate is derived from estimates of corporate profits, estimated tax rates, and adjustments for tax law changes. Even for past periods these estimates are subject to significant revisions based on later data. As is shown in table B-9, the estimated corporate profits tax accruals for 1978 are now \$0.5 billion higher than was estimated a year ago, even though both estimates were for a period that had ended. There is about a 3-year lag between initial and final estimates of corporate tax liability data; in the interim, successive estimates are made using the better data that gradually become available.

The gradual decline in corporate profits tax receipts relative to GNP and (as shown in the chart above) to total receipts results 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.

Indirect business tax and nontax accruals.—These receipts are composed of excise taxes, customs duties, and various miscellaneous receipts such as rents and royalties on the Outer Continental Shelf lands, import fees on crude oil and petroleum products, and coal-mining reclamation fees. Over time, indirect business tax and nontax accruals have become a much less important part of total Federal sector receipts, partly because they normally do not rise in proportion to the growth in the economy and partly because some of them, such as the automobile and telephone excise taxes, have been reduced or repealed. This decline has been reversed in the 1980 and 1981 estimates largely due to the proposed new windfall profit tax on oil.

Contributions for social insurance.—This is the second largest category of Federal sector receipts. The increase 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. 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.

Major tax changes.—Federal sector receipts in the budget reflect both the impact of tax changes scheduled under current law and proposed tax legislation. The major enacted changes reflected in the Federal sector estimates presented in this analysis are:

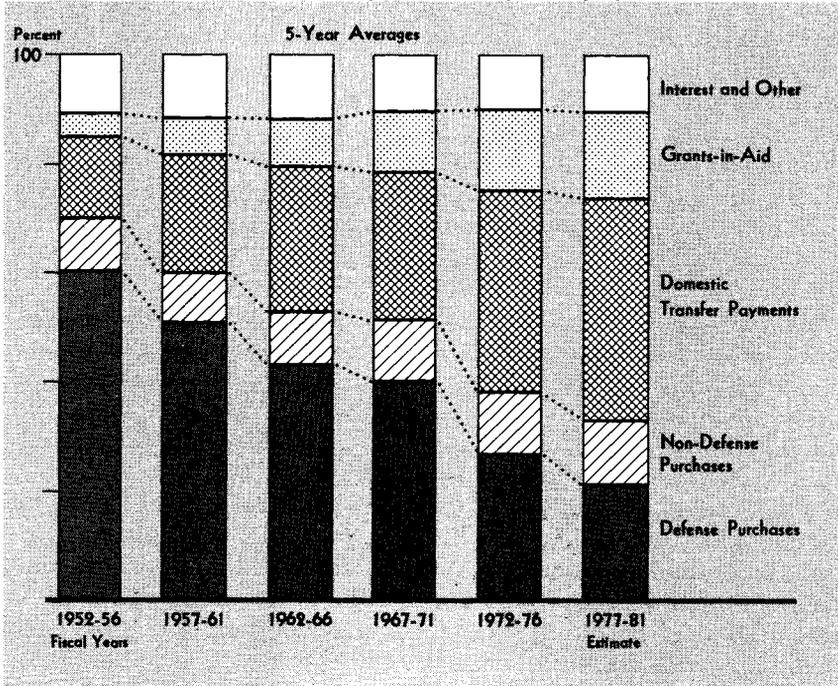
- Scheduled increases in social security taxes. The taxable earnings basis increased from \$22,900 in calendar year 1979 to \$25,900 in 1980 and is scheduled to increase to \$29,700 in 1981. The social security tax rate is scheduled to increase from 12.25% in calendar year 1980 to 13.3% in 1981.
- Continued phase-out of telephone excise tax by one percentage point per year.

The receipts proposals in the 1981 budget, which are described in Part 4 of the budget, increase Federal sector receipts by \$6.1 billion in 1980 and \$16.7 billion in 1981. The major tax proposal affecting Federal sector receipts is the administration's windfall profit tax proposal, which is designed to capture a part of the windfall profits that result from the decontrol of domestic oil prices. This proposal increases excise tax receipts by \$8.4 billion in 1980 and \$20.8 billion in 1981. Since this excise tax is deductible for income tax purposes, it reduces individual and corporate income taxes, by \$3.4 billion in 1980 and \$8.6 billion in 1981.

Part 4 of the *Budget* discusses tax changes and proposed legislation in greater detail.

Trends in Federal sector expenditures.—Federal sector expenditures are also divided into several major NIA 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, included in the GNP. The other expenditure categories consist primarily of payments to individuals and grants to State and local governments. These individuals and governments, in turn, can use the income to finance their own consumption or purchases of goods and services, to save, and—in the case of States and localities—to hold down taxes or to make transfer payments.

Distribution of Federal Sector Expenditures by Category



The chart on composition of Federal sector expenditures shows the trends in spending by year from 1966 to 1981 and the chart on distribution of Federal sector expenditures illustrates the trends over an even longer period. As can be seen, major shifts in the composition of Federal sector expenditures occur over time. For example, for most years since the Korean war, defense purchases of goods and services have been a declining share of Federal spending. This pattern was temporarily reversed for 3 years during the Vietnam war, but by 1970 the defense share was well below the pre-Vietnam percentages. The President's enunciated policy of increasing real defense spending over the next few years should result in a moderate increase of defense purchases relative to the GNP. Defense purchases are expected to total 21.0% of Federal sector expenditures in 1980 and 21.1% in 1981; they were 21.5% in 1979, and 21.7% in 1978.

Table B-3 shows, at 10-year intervals, 3-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	1949-51 average actual	1959-61 average actual	1969-71 average actual	1979-81 average estimate
Defense purchases	5.5	9.3	7.8	4.7
Nondefense purchases	2.2	1.8	2.3	2.6
Domestic transfer payments.....	3.3	4.3	5.9	9.1
Foreign transfer payments	1.5	.4	.2	.2
Grants-in-aid to State and local governments .....	.8	1.4	2.4	3.4
Net interest paid.....	1.5	1.3	1.4	1.9
Subsidies less current surplus of Government enterprises.....	.3	.6	.6	.4
Total expenditures.....	15.2	19.0	20.6	22.1

Defense purchases and foreign transfer payments are, of course, largely devoted to the conduct of our national defense and foreign affairs.¹ In 1949-51 defense purchases were 5.5% of GNP. In 1949 and 1950 these were greatly affected by receipts from large-scale sales of World War II materials while 1951 was the first year of the Korean War. Foreign transfer payments in 1949-51 averaged 1.5% of GNP. The total of these—7.0%—reflects roughly the cost of the conduct of external affairs. The years 1959-61, while a post-Korean War peacetime period, reflected a higher level of defense expenditures than was prevalent prior to the Korean War. In that period, defense purchases and foreign transfers combined were equal to 9.7% of GNP. Even though the 1969-71 period included some of the peak spending for the Vietnam War, defense purchases and foreign transfers were down to 8.0% of GNP. In the 1979-81 peacetime period they are expected to be equal to 4.9% of GNP.

In contrast, spending on most other expenditure categories—especially nondefense purchases, domestic transfer payments, and grants-in-aid—has risen dramatically relative to GNP over this period. In 1949-51, spending for everything except defense purchases and foreign transfer payments was equal to 8.2% of GNP; in 1979-81 such spending is estimated to equal 17.3% of GNP. Total Federal sector expenditures are estimated to continue to rise relative to GNP from 21.3% in 1979 to 22.7% in 1981.

Table B-4 displays purchases of goods and services (defense and nondefense) with a split by character of expenditures between compensation of employees and all other purchases, and with some additional distribution of the nondefense purchases other than compensation.

¹However, in recent years a significant portion of foreign transfers has arisen from payments under general domestic social programs—for example, payments to social security retirees living abroad.

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

(In billions of dollars)

	1976 actual	1977 actual	1978 actual	1979 actual	1980 estimate	1981 estimate
Defense purchases:						
Compensation of employees	40.4	42.2	45.4	48.3	52.0	56.0
Other	44.9	49.7	52.4	57.6	66.7	76.1
Total defense purchases	85.3	91.9	97.8	105.9	118.7	132.1
Nondefense purchases:						
Compensation of employees	20.3	23.0	25.2	27.3	29.4	31.6
Other	20.1	25.4	27.7	29.2	37.5	39.2
(Commodity Credit Corpora- tion: mainly purchase and sale of agricultural com- modities)	(.2)	(2.6)	(.9)	(-1.1)	(1.7)	(-.1)
(Strategic petroleum reserves)		(*)	(.6)	(.8)	(.5)	(1.0)
(All other)	(19.9)	(22.8)	(26.2)	(29.5)	(35.3)	(38.3)
Total nondefense	40.4	48.4	52.9	56.5	66.9	70.8

* \$50 million or less.

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 document. In addition, defense purchases include purchases of goods and services by the military assistance programs that in earlier years had been classified in the national defense function but are now classified in the international affairs function in the budget. Normally about 95% of defense purchases are made by the Department of Defense, Military. The bulk of the remainder is for military assistance, defense stockpile, civil defense, and nuclear weapons programs carried out by other agencies.

The budget calls for an increase in defense purchases of \$13.4 billion in 1981 over 1980. This increase more than offsets the impact of inflation, thus continuing the reversal of the pattern of a steady decline in real terms from 1968 through 1976. While NIA defense purchases are not estimated in constant prices, the budget includes constant price estimates of outlays in the national defense function. This category and defense purchases in the NIA are sufficiently similar so that these figures give a rough approximation of the same transactions. Table B-5 shows the budget estimates of outlays in constant prices for the national defense function.

Table B-5. DEFENSE FUNCTION OUTLAYS IN CONSTANT (FISCAL YEAR 1972) PRICES

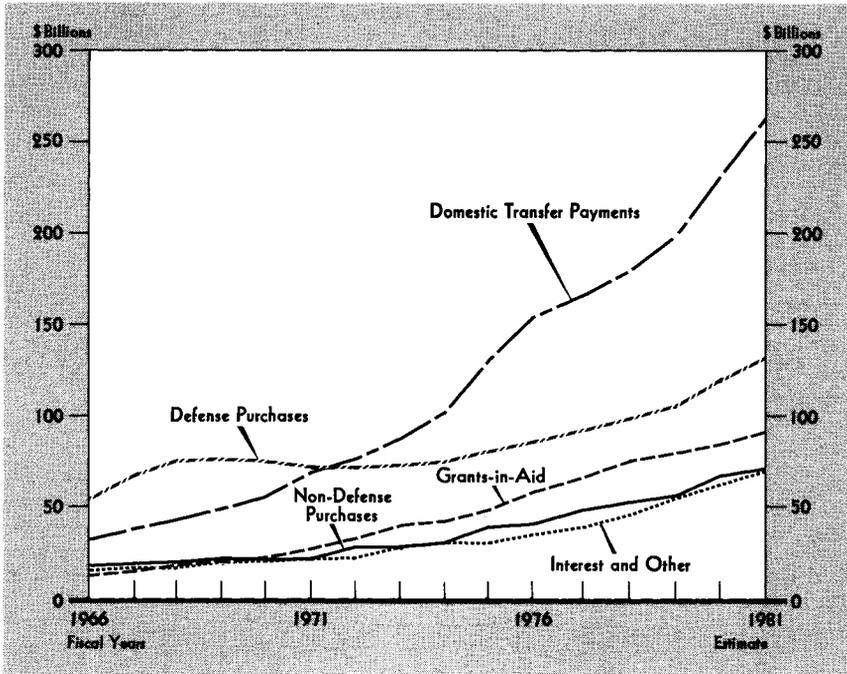
(In billions of dollars)

At 5-year intervals:		For selected years:	
1945 ¹	252.0	1948 ²	20.3
1950 ³	29.4	1953 ⁴	96.3
1955	75.8	1956 ⁵	72.9
1960	73.8	1968 ⁷	101.4
1965 ⁶	69.3	1976 ⁸	65.6
1970	90.3	1979 ⁹	69.3
1975	67.2	1981 estimate	73.2
1980 estimate	70.7	1983 estimate	80.0

¹ World War II peak year.² Post-World War II low; includes large offsets from sale of assets acquired during the war.³ Last year prior to Korean war.⁴ Korean war peak year.⁵ Post-Korean war low in the 1950's.⁶ Post-Korean war low in the 1960's.⁷ Peak of spending during Vietnam war.⁸ Lowest point in post-Vietnam era.⁹ Last year for which "actual" data are available.

Nondefense purchases of goods and services.—This category covers the goods and services purchased by Federal nondefense agencies. These include such programs as operation of national forest, park, and recreation areas; space exploration; 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.

Composition of Federal Sector Expenditures



Nondefense purchases consist mainly of the cost of operating the various nondefense agencies. In the case of Government enterprises (including the CCC and the Postal Service), however, the purchases figures reflect net capital formation.

The Department of Health and Human Services accounts for more nondefense purchases than any other agency—\$8.1 billion in 1981. Of this, \$5.6 billion is for health programs—both the administration of health care and for medical research—and \$2.2 billion is for the Social Security Administration. The next largest agency in terms of nondefense purchases is the Veterans Administration, with a total of \$7.3 billion in 1981. The bulk of these purchases are for hospital and medical care for veterans. Both the National Aeronautics and Space Administration with \$5.3 billion in 1981 nondefense purchases and the Department of Energy with \$4.6 billion in 1981 nondefense purchases conduct major research and development programs, though the Energy Department also makes purchases for a wide range of other activities. The Transportation Department's \$5.1 billion of 1981 nondefense purchases are mainly for the

operation of the Federal Aviation Agency and the Coast Guard. The Corps of Engineers makes an estimated \$3.1 billion in 1981 non-defense purchases which, along with the Tennessee Valley Authority's \$2.3 billion, are primarily for public works for natural resources and power activities.

Domestic transfer payments.—This is now the largest category of Federal sector expenditures. Spending for domestic transfers has expanded rapidly in recent years, mainly because of more beneficiaries and higher benefit payments under social insurance programs. As table B-6 shows, spending on human resources programs—especially income security programs—dominates domestic transfer payments. This spending is expected to continue to rise in 1981, largely due to demographic and economic conditions—increases in the covered population and adjustments to compensate for inflation. Social security accounts for 50% of total domestic transfer payments in 1981, while Medicare accounts for another 14%, unemployment assistance for 6½% and Federal employee's retirement, disability, and compensation for 15% of the total. Program trends (on a unified budget basis) are discussed extensively in Part 5 of the *Budget* and elsewhere in the budget documents.

Table B-6. FUNCTIONAL COMPOSITION OF DOMESTIC TRANSFER PAYMENTS

(In billions of dollars)

Description	Actual										Estimate	
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
HUMAN RESOURCES PROGRAMS												
Income security:												
Social security (OASDI)	28.6	34.0	38.0	46.6	53.2	61.5	70.3	81.1	89.3	99.4	114.4	132.8
Railroad Retirement	1.6	1.9	2.1	2.4	2.6	3.0	3.4	3.7	3.9	4.2	4.7	5.1
Civil service retirement	2.7	3.2	3.7	4.5	5.6	6.9	8.2	9.4	10.8	12.3	14.4	16.7
Unemployment benefits	3.0	5.6	6.5	4.8	5.5	12.4	18.0	13.9	10.6	9.6	14.1	17.2
Benefits for coal miners	*	.3	.4	.9	1.0	.9	1.0	.9	1.0	1.6	1.9	1.8
Supplemental security income					1.9	4.2	4.6	4.7	5.0	5.2	5.7	6.2
Food and nutrition .....	.6	1.5	1.8	2.2	2.7	4.2	4.7	4.4	4.5	5.7	7.3	8.1
Special payments, Treasury ¹						1.7	.9	.9	.9	.8	1.7	1.6
Workmen's compensation .....	.1	.2	.2	.2	.3	.4	.5	.6	.6	.7	.8	1.0
Other .....	.1	.1	.1	.1	.1	.1	.2	.2	.3	.4	.8	1.0
Subtotal, Income security	<u>36.7</u>	<u>46.7</u>	<u>52.8</u>	<u>61.7</u>	<u>72.8</u>	<u>95.3</u>	<u>111.7</u>	<u>120.0</u>	<u>126.9</u>	<u>139.9</u>	<u>165.7</u>	<u>191.5</u>
Health:												
Medicare	6.7	7.5	8.3	9.0	10.9	14.1	16.9	20.7	24.2	28.1	32.4	36.1
Other .....	.4	.4	.4	.4	.4	.5	.6	.6	.6	.6	.6	.7
Subtotal, Health	<u>7.2</u>	<u>7.9</u>	<u>8.8</u>	<u>9.4</u>	<u>11.4</u>	<u>14.6</u>	<u>17.4</u>	<u>21.3</u>	<u>24.8</u>	<u>28.6</u>	<u>33.0</u>	<u>36.7</u>
Education, training, employment, and social services:												
Education .....	.5	.7	.9	1.0	1.0	1.2	1.8	2.4	2.8	3.5	4.0	4.1
Training, employment, and social services .....	.7	.9	.9	.7	.7	.4	.3	.4	.6	.7	.8	.8
Subtotal, education, training, employment, and social services	<u>1.3</u>	<u>1.5</u>	<u>1.7</u>	<u>1.7</u>	<u>1.7</u>	<u>1.7</u>	<u>2.2</u>	<u>2.8</u>	<u>3.4</u>	<u>4.2</u>	<u>4.8</u>	<u>5.0</u>

Veterans benefits and services.....	6.9	8.0	8.8	9.7	10.4	12.8	14.3	13.3	13.5	14.0	14.4	15.4
Total, human resources programs.....	52.0	64.2	72.1	82.6	96.3	124.4	145.5	157.5	168.6	186.7	217.9	248.5
ALL OTHER FUNCTIONS												
National defense (military retired pay)	2.8	3.3	3.8	4.3	5.1	6.2	7.2	8.1	9.0	10.1	11.8	13.5
Other functions .....	.2	.2	.2	.2	.4	.6	.8	.8	.8	.9	1.2	1.1
Total functions not included in human resources grouping....	3.0	3.5	4.0	4.5	5.4	6.8	8.0	9.0	9.8	11.0	13.0	14.7
Total domestic transfer payments.....	55.0	67.7	76.1	87.1	101.7	131.2	153.5	166.4	178.5	197.7	230.9	263.2

* \$50 million or less.

† Includes both \$50 tax rebates and earned income tax credits in excess of tax liabilities.

Note.—Excludes the transition quarter.

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

There is a substantial degree of substitutability between grants-in-aid and domestic transfer payments and—to a lesser degree—nondefense purchases. For example, low-income veterans could be eligible for free medical care under medicaid (grants), in a veterans hospital (nondefense purchases), or, perhaps medicare (transfer payments). The supplemental security income transfer payments have substituted for the previous program of grants to States for public assistance for the elderly and handicapped. (The State and local spending of Federal grant money for public assistance programs is classified as State and local government transfer payments.) Most grants in the income security function plus Medicaid are grants to assist States provide income support, most other grants finance State and local services to the public. Grants-in-aid for income security are estimated to rise by 35% from 1979 to 1981, almost the same rate as domestic transfers in that function. Medicaid grants are projected to rise by 27%, also close to the rise in Medicare transfer payments. The remainder of grants is projected to rise by 7.3% from 1979 to 1981, while the remainder of domestic transfer payments is up by 20%.

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

(In billion of dollars)

Description	Actual										Estimate	
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
HUMAN RESOURCES PROGRAMS												
Income security:												
Public assistance cash	4.1	5.5	6.6	5.9	5.4	5.1	5.8	6.3	6.6	6.6	7.0	7.4
Child nutrition and other food programs..	.4	.6	.9	1.1	1.2	1.7	2.1	2.7	2.8	3.3	3.9	3.9
Other .....	.3	.4	.4	.5	.5	.9	1.2	1.4	1.3	1.4	3.0	4.0
Subtotal, income security	<u>4.8</u>	<u>6.5</u>	<u>7.8</u>	<u>7.5</u>	<u>7.1</u>	<u>7.7</u>	<u>9.2</u>	<u>10.4</u>	<u>10.8</u>	<u>11.3</u>	<u>13.9</u>	<u>15.3</u>
Health:												
Medicaid	2.7	3.4	4.6	4.6	5.8	6.8	8.6	9.8	10.6	12.4	14.1	15.7
Other (includes research, construction, services, and medical training)	1.2	1.2	1.5	1.7	2.0	2.4	2.8	2.7	2.8	2.8	2.9	3.0
Subtotal, health	<u>4.0</u>	<u>4.6</u>	<u>6.1</u>	<u>6.3</u>	<u>7.8</u>	<u>9.2</u>	<u>11.4</u>	<u>12.6</u>	<u>13.4</u>	<u>15.1</u>	<u>17.0</u>	<u>18.7</u>
Education, training, employment, and social services:												
Education	3.4	3.7	4.0	4.0	3.9	5.0	4.9	5.4	6.0	7.3	7.7	8.0
Training and employment .....	.8	1.1	1.7	2.2	1.9	3.4	5.6	6.0	9.5	9.3	8.8	9.5
Social services	1.4	1.6	2.9	2.6	2.5	3.3	3.4	4.0	4.4	5.3	4.8	5.0
Subtotal, education, training, employment, and social services	<u>5.6</u>	<u>6.4</u>	<u>8.6</u>	<u>8.7</u>	<u>8.4</u>	<u>11.6</u>	<u>13.8</u>	<u>15.4</u>	<u>19.9</u>	<u>21.9</u>	<u>21.3</u>	<u>22.5</u>
Veterans benefits and services	*	*	*	*	*	*	.1	.1	.1	.1	.1	.1

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

(In billion of dollars)

Description	Actual										Estimate	
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Total, human resources programs	14.4	17.5	22.6	22.5	23.3	28.6	34.5	38.5	44.2	48.4	52.3	56.6
Natural resources and environment.....	.4	.8	.8	1.1	2.0	2.5	3.0	4.1	3.8	4.6	4.8	4.9
Community and regional development:												
Local public works.....								.6	2.9	1.7	.3	.2
Block grants.....						*	1.0	2.0	2.4	3.1	3.4	3.7
Other.....	1.8	2.0	2.2	2.6	2.7	2.8	2.4	2.1	1.5	1.7	1.9	2.2
Subtotal, community and regional development.....	1.8	2.0	2.2	2.6	2.7	2.8	3.4	4.6	6.8	6.4	5.6	6.2
Transportation.....	4.6	4.9	5.1	5.3	5.3	5.8	7.5	7.7	8.1	9.6	10.5	11.1
General purpose fiscal assistance:												
General revenue sharing.....				6.6	6.1	6.1	6.2	6.8	6.8	6.8	6.9	6.9
Anti-recession fiscal assistance.....								1.7	1.3		.2	1.0
Other.....	.3	.3	.3	.4	.4	.5	.5	.6	.9	.9	.8	.6
Subtotal, general purpose fiscal assistance.....	.3	.3	.3	7.0	6.5	6.7	6.7	9.0	9.1	7.8	7.9	8.4
All other functions.....	1.1	1.3	1.7	1.9	1.9	2.0	2.5	2.3	2.6	2.6	3.2	3.5
Total other functions	8.1	9.2	10.0	17.9	18.4	19.8	23.0	27.8	30.4	30.9	32.0	34.1
Total grants-in-aid	22.6	26.8	32.6	40.4	41.6	48.4	57.5	66.3	74.7	79.3	84.3	90.7

*50 million or less.

Note.—Excludes the transition quarter.

Foreign transfer payments.—There are three major types of foreign transfer payments: expenditure of dollars 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 are gradually rising (roughly in proportion with the rise in GNP), total foreign transfer payments have declined to less than 0.2% of GNP; in 1949 they were equal to 1.9% of GNP.

Net interest paid.—Net interest depends on the size of Federal debt, loans outstanding, and the interest rates on borrowing and lending. In the early post-war years (1947–48), net interest paid amounted to over 13% of total Federal sector NIA expenditures, but it accounted for around 6–7% of the total each year from 1952 to 1977. Net interest paid rose from 6.9% of Federal sector expenditures in 1977 to 7.4% in 1978 and 8.2% in 1979; it is estimated to rise to 8.7% in 1980 and drop back to 8.3% in 1981.

In recent years foreign holdings of Federal debt have increased significantly. This expansion, combined with higher interest rates, pushed up the amount of interest paid abroad to over \$10.8 billion in 1979. The increase in foreign holdings of Federal debt and in interest payments on that debt is discussed further in Special Analysis E.

Subsidies less current surplus of Government enterprises.—Subsidies less current surplus of Government enterprises consist of two elements: (1) Subsidy payments to resident business (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, subsidies for railroads, and the construction and operating differential subsidies paid to operators of U.S.-flag merchant ships. As table B-8 shows, roughly half of the subsidies are for housing programs. These subsidies are designed mainly to reduce the cost of housing to moderate- and low-income families.

“Government enterprise” is the term used in the NIA to designate certain business-type operations of the Government, which 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, as distinguished from tax receipts. The difference between the sales and the current operating expenses of a Government enterprise constitutes its surplus or deficit. As noted above, the capital formation of Government enterprises is classified as nondefense purchases. The largest Government enterprises are the Commodity Credit Corporation, the Postal Service (which is not now included in the budget), and the Tennessee Valley Authority.

Table B-8 shows the composition of this aggregation by major category.

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

(In billions of dollars)

Description	Actual										Estimate	
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Subsidies:												
Commodity Credit Corporation	3.1	3.6	3.0	4.0	2.4	0.6	0.3	0.6	2.3	2.0	0.5	1.8
Other Department of Agriculture .....	.4	.3	.3	.4	.2	.4	.6	.7	.8	.8	.8	.9
Maritime .....	.3	.4	.4	.4	.4	.5	.5	.5	.5	.5	.6	.5
Housing (HUD) .....	.5	.8	1.3	1.7	1.9	2.2	2.3	2.9	3.5	4.1	4.9	6.0
Railroad and mass transit	*	.1	.1	.1	.1	.5	1.1	1.4	1.5	1.7	2.0	1.9
Other (mainly airline subsidies) ¹	*	.1	.1	.7	.1	.1	.1	.3	.2	.4	.3	.6
Subtotal	4.4	5.2	5.2	7.3	5.2	4.2	5.0	6.4	8.8	9.5	9.1	11.7
Enterprise surpluses (—) or deficits:												
Commodity Credit Corporation .....	.6	.6	.6	1.3	1.5	.3	.2	.2	.8	1.4	.9	.7
Postal Service	1.3	2.0	1.4	1.3	2.0	2.2	2.3	1.6	1.4	.8	1.8	2.6
Tennessee Valley Authority	-.2	-.2	-.2	-.2	-.3	-.3	-.4	-.6	-.6	-.8	-.8	-1.1
Federal Housing Administration	-.2	-.3	-.3	-.3	-.1	-.2	-.2	-.2	-.2	-.1	-.2	-.2
Federal Deposit Insurance Corporation	-.1	-.1	-.2	-.1	-.1	-.2	-.2	-.2	-.3	-.4	-.3	-.4
Federal Savings and Loan Insurance Corporation	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.4
All other ²	-.2	-.3	-.*	-.1	-.1	-.2	-.3	-.1	-.1	-.3	-.2	-.2
Subtotal	1.1	1.6	1.2	1.8	2.7	1.5	1.2	.5	.8	.4	.9	1.2
Total subsidies less current surplus	5.4	6.8	6.4	9.1	8.0	5.7	6.2	6.9	9.6	9.8	10.0	12.9

*50 million or less.

¹ Includes subsidies by the disaster loan fund of \$0.7 billion in 1973.² Includes wage disbursements less accruals.

Note.—Excludes the transition quarter.

Wage disbursements less accruals.—This is an adjustment item occasionally made in the NIA when it is necessary to take account of the fact that wages and salaries are not always received at the same time as they are earned. The national income component of wages and salaries is counted in the GNP on an accrual basis; that is, when the income is earned rather than when it is received. Personal income, however, including wage and salary disbursements, is estimated on the basis of when the cash is received.

Ordinarily, wage and salary payments disbursed in one period but earned in the preceding period are approximately offset by payments disbursed in the next period but earned in the current period. The adjustment between national income and personal income is then small or zero. A small adjustment for wage accruals by the Government is shown for 1979.

QUARTERLY ESTIMATES AND ESTIMATING ERRORS

Estimating errors.—Estimates of NIA receipts and expenditures are necessarily imprecise. The budget itself is a mixture of a forecast of what receipts and outlays are expected to be for some items under current law and a Presidential request for congressional approval of proposed amounts for others. In compiling this special analysis, each budget receipt and outlay is analyzed and translated into NIA categories. The budget process does not generate all of the data needed to make precise NIA estimates, so approximations are required in the translation. Even the translation from past year accounting data to NIA “actuals” are subject to adjustment when more complete information becomes available.

Table B-9 provides some indication of the magnitudes of the estimating errors associated with the past-year data. When the 1980 budget was published a year ago, 1978 had been over for 3½ months, and the 1978 estimates were labeled “actual”; yet as table B-9 shows, the figures for 1978 are now significantly different. One can anticipate revisions similar to those shown in table B-9 for the “actuals” each year. The margin of error for the estimated years (1980 and 1981 in this budget) is even greater, since they involve estimating errors and differences between proposals and what is realized in the basic unified budget, as well as errors in translating unified budget transactions into NIA terms.

Table B-9. FEDERAL RECEIPTS AND EXPENDITURES IN THE NIA: COMPARISON OF JANUARY 1979 AND JANUARY 1980 ESTIMATES FOR 1978

(In billions of dollars)

Description	"Actuals" for 1978 shown in 1980 budget	Change	Currently reported "actuals" for 1978
RECEIPTS			
Personal tax and nontax receipts	186.3	*	186.3
Corporate profits tax accruals	67.2	0.5	67.7
Indirect business tax and nontax accruals.....	27.2	*	27.2
Contributions for social insurance.....	133.1	.4	133.5
Total, receipts	413.8	.9	414.7
EXPENDITURES			
Purchases of goods and services.....	151.1	-.4	150.7
Defense.....	(98.1)	(-.3)	(97.8)
Nondefense	(53.0)	(-.1)	(52.9)
Transfer payments.....	181.8	.2	182.0
Domestic ("to persons")	(178.4)	(.1)	(178.5)
Foreign.....	(3.4)	(.1)	(3.5)
Grant-in-aid to State and local governments	74.6	.1	74.7
Net interest paid	33.7	-.6	33.1
Subsidies less current surplus of Government enterprises.....	9.4	.2	9.6
Total, expenditures	450.6	-.5	450.1
Deficit (-)	-36.8	1.4	-35.4

* \$50 million or less.

Quarterly estimates.—Table B-10 presents quarterly NIA receipts and expenditures (at seasonally adjusted annual rates) for 1979 to 1981.

As noted above, the translation of the budget into the NIA categories is inexact. When the annual NIA estimates are converted into quarterly distributions that are seasonally adjusted at annual rates, greater imprecision must be expected. The data presented in table B-10 are the best available estimates of the quarterly NIA receipts and expenditures consistent with the 1981 budget, but should be used with clear recognition of their limitations.

Table B-10. FEDERAL RECEIPTS AND EXPENDITURES IN THE NIA, QUARTERLY, 1979-81

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

Description	Actual					Estimated						
	Oct.- Dec. 1978	Jan.- Mar. 1979	Apr.- June 1979	July- Sept. 1979	Oct.- Dec. 1979*	Jan.- Mar. 1980	Apr.- June 1980	July- Sept. 1980	Oct.- Dec. 1980	Jan.- Mar. 1981	Apr.- June 1981	July- Sept. 1981
RECEIPTS												
Personal tax and notax receipts.....	211.1	213.0	223.4	235.2	248.1	242.2	247.3	254.2	264.2	274.3	285.7	294.5
Corporate profits tax accruals.....	81.2	77.2	74.9	79.4	83.1	76.5	73.4	73.0	74.1	75.8	78.1	80.5
Indirect business tax and notax accruals.....	29.3	29.4	29.9	30.0	30.7	38.2	41.0	44.1	48.3	51.4	54.8	57.7
Contributions for social insurance.....	142.0	155.5	157.5	160.2	164.2	170.7	173.9	177.1	180.9	202.6	205.5	208.6
Total, receipts.....	463.5	475.0	485.8	504.8	526.1	527.6	535.6	548.4	567.5	604.1	624.1	641.3
EXPENDITURES												
Purchases of goods and services.....	159.0	163.6	161.7	162.9	177.0	185.5	188.2	191.4	197.1	201.0	204.7	208.5
Defense.....	(101.2)	(103.4)	(106.0)	(109.0)	(114.6)	(117.3)	(120.0)	(122.8)	(128.0)	(130.7)	(133.4)	(136.1)
Nondefense.....	(57.8)	(60.2)	(55.7)	(53.9)	(62.4)	(68.2)	(68.2)	(68.6)	(69.1)	(70.3)	(71.3)	(72.4)
Transfer payments.....	192.1	196.8	201.9	217.6	221.9	228.7	234.8	254.5	259.6	262.4	266.3	282.3
Domestic (to "persons").....	(187.9)	(192.7)	(198.0)	(213.9)	(217.9)	(224.5)	(230.5)	(250.2)	(255.2)	(258.0)	(261.9)	(277.9)
Foreign.....	(4.2)	(4.0)	(3.9)	(3.7)	(4.0)	(4.2)	(4.3)	(4.3)	(4.4)	(4.4)	(4.4)	(4.4)
Grants-in-aid to State and local governments.....	80.7	77.8	77.7	81.8	83.0	82.0	84.2	87.7	88.2	90.1	91.7	92.4
Net interest paid.....	37.1	40.0	42.6	43.5	46.0	49.1	50.5	51.2	51.7	52.0	52.4	52.8
Subsidies less current surplus of Government enterprises.....	10.9	8.3	9.0	10.2	8.4	9.8	10.2	11.3	12.1	12.6	13.2	13.5
Wage disbursements less accruals.....		.2										
Total, expenditures.....	479.7	486.8	492.9	516.1	536.4	555.1	567.9	596.1	608.7	618.1	628.3	649.5
Deficit (-).....	-16.3	-11.7	-7.0	-11.3	-10.3	-27.5	-32.3	-47.7	-41.2	-14.0	-4.2	-8.2

* Preliminary.

Note.—Because of the methods normally used seasonally adjusting NIA 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 NIA

Table B-11 shows the major differences between the budget and the Federal sector of the NIA. These differences are explained below.

Table B-11. RELATIONSHIP OF THE BUDGET TO THE FEDERAL SECTOR, NIA

(In billions of dollars)

Description	1979 actual	1980 estimate	1981 estimate
RECEIPTS			
Total, budget receipts.....	465.9	523.8	600.0
Government contributions for employee retirement (grossing)	7.9	8.8	9.4
Other netting and grossing	3.6	3.8	4.3
Adjustment to accruals	7.3	-4.8	-4.9
Other.....	-9	-1.0	-1.2
Federal sector, NIA receipts	483.7	530.6	607.7
EXPENDITURES			
Total, budget outlays.....	493.7	563.6	615.8
Lending and financial transactions.....	-7.2	-7.3	-4
Government contribution for employee retirement (grossing).....	7.9	8.8	9.4
Other netting and grossing	3.6	3.8	4.3
Defense timing adjustment	-1.3	-2.7	-2.2
Bonuses on Outer Continental Shelf land leases...	1.9	3.0	3.9
Other.....	-4.9	-4.9	-4.4
Federal sector, NIA expenditures	493.6	564.2	626.3

Lending and financial transactions.—Conceptually, the national income and product accounts 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 income and output, but they are analyzed more appropriately within a financial market framework, such as provided by the flow-of-funds data of the Federal Reserve Board. Special Analysis E (Borrowing, Debt, and Investment) 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 displayed in table B-11 are shown in Special Analysis F. However, this total differs from the total for direct loans shown in Special Analysis F because: (a) the NIA records nonrecourse agricultural commodity loans as purchases rather than loans; (b) capital contributions to international financial institutions, while not technically loans, are treat-

ed as financial transactions and, therefore, excluded from the NIA; and (c) Special Analysis F also shows lending by off-budget Federal entities, which do not require reconciliation with the NIA because they are not included in the budget.

Government contribution for employee retirement.—The contributions of Government agencies to the retirement trust funds of their employees are not included in the budget totals. While the outlays are recorded in each agency's budget, they are offset by an intra-governmental deduction. However, the NIA counts Government payments for 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 accounts are recorded as purchases of goods and services. The receipt of these retirement contributions is treated in the NIA as contributions for social insurance. Since receipts and expenditures are increased by identical amounts, this treatment has no effect on the surplus or deficit. Around 80% of these payments go to the civil service retirement fund, while most of the remainder is for social security.

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, therefore, 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 NIA these insurance premiums are treated as social insurance receipts just as are receipts from compulsory Government programs.

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 NIA as indirect business nontaxes; this converts the money from an offset to outlays in the budget to a receipt in the NIA.

Other netting and grossing includes some imputed contributions for social insurance for Federal employees for unemployment compensation (which adds an equal amount to nondefense purchases)

and workmen's compensation (which adds an equal amount to domestic transfer payments).

The proposed windfall profit tax includes taxes on windfall profits to oil-producing State and local governments as well as on private producers. The budget treats these collections as receipts but the NIA treats the taxes on State and local government profits (\$0.7 billion in 1981) as offsets to grants-in-aid. The budget also includes proposed charges to insurance carriers for the cost of medical care given by the Veterans Administration to certain veterans. In the budget these charges are offsetting receipts, while the NIA treats them as personal nontaxes.

Timing adjustments.—The budget records receipts at the time the cash is collected regardless of when the income is earned, and outlays (except interest paid to the public) are generally recorded at the time the checks are issued. The NIA attempt to record most receipts from the business sector in the time period in which the income is earned rather than when taxes are actually paid, while personal income taxes and social insurance contributions are recorded at the time of payment by the individual taxpayer rather than when the liability is accrued or the cash is received by Treasury.

The principal timing adjustment to expenditures is for defense purchases. The major defense timing adjustment normally involves procurement items (such as missiles and airplanes) purchased under most fixed-price contracts. These items are recorded in the Federal sector NIA as defense purchases at the time of delivery to the Federal Government, rather than when the payment is made (as the budget does) or when they are fabricated. Work in progress is counted as part of private business inventories until the goods are completed and delivered to the Government. 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 NIA. In addition, some accounting adjustments are included with the defense timing adjustment in this translation.

Since both the budget and the NIA record public debt interest to the public when it accrues, no timing adjustment is needed for most interest transactions.

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 NIA. As already noted, the budget records these bonuses as proprietary receipts and, therefore, deducts them from budget outlays. The NIA excludes these transactions as being a transfer of

assets, because the payments are not included in calculating book profits under current corporate accounting practice.

Other.—This category includes some miscellaneous adjustments, largely for certain specialized aspects of the national income accounts, such as the purchase and sale of land and geographical 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 social insurance taxes, domestic transfer payments, and grants-in-aid) but also are not treated as foreign for purposes of producing data on exports, imports, and foreign transfer payments. Geographical exclusions will reduce NIA receipts relative to budget receipts by about \$1.3 billion and NIA expenditures by about \$4.6 billion in 1981. Certain nondefense timing adjustments—for example, the difference between State withdrawals of unemployment benefits and actual payments to individuals—are included in this adjustment line because of the difficulty in separating them from other adjustments in this line. This line also includes a \$0.4 billion shift of cash payments from 1978 to 1979 in the supplemental security income transfer payments. Under legislation enacted in 1977, when these payments fall due on a weekend or holiday the payments are to be made early. The budget recorded 13 such monthly payments for 1978 and 11 for 1979; the NIA records 12 for each year. This category includes adjustment for certain foreign currency transactions that are not included in the budget, and transactions of Federal entities that are excluded from the budget but included in the Federal sector NIA.

Table B-12. FEDERAL TRANSACTIONS IN THE NATIONAL INCOME ACCOUNTS, 1969-80

(In billions of dollars)

Description	Actual										Estimate	
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
RECEIPTS, NATIONAL INCOME BASIS												
Personal taxes and nontax receipts	93.6	87.5	100.3	107.3	122.6	127.1	137.0	166.0	186.3	223.5	245.1	279.7
Corporate profits tax accruals.....	33.0	32.0	34.2	41.0	43.7	42.1	51.7	59.1	67.7	78.4	76.5	77.1
Indirect business tax and nontax ac- cruals.....	19.2	20.0	19.9	20.7	21.4	22.2	24.3	24.5	27.2	29.4	38.5	53.0
Contributions of social insurance	49.2	52.9	59.1	71.5	84.2	92.1	100.9	116.4	133.5	152.4	170.5	197.9
Total receipts, national income basis.....	194.9	192.5	213.5	240.5	271.8	283.5	313.9	366.0	414.7	483.7	530.6	607.7
EXPENDITURES, NATIONAL INCOME BASIS												
Purchases of goods and services.....	97.0	94.8	100.9	101.7	104.6	118.0	125.7	140.3	150.7	162.4	185.6	202.9
Defense.....	(75.3)	(72.1)	(72.5)	(73.3)	(74.1)	(80.3)	(85.3)	(91.9)	(97.8)	(105.9)	(118.7)	(132.1)
Nondefense.....	(21.7)	(22.7)	(28.4)	(28.4)	(30.5)	(37.6)	(40.4)	(48.4)	(52.9)	(56.5)	(66.9)	(70.8)
Transfer payments.....	57.0	70.1	78.9	89.7	104.7	134.3	156.5	169.6	182.0	201.7	235.1	267.6
Domestic ("to persons").....	(55.0)	(67.7)	(76.1)	(87.1)	(101.7)	(131.2)	(153.5)	(166.4)	(178.5)	(197.7)	(230.9)	(263.2)
Foreign.....	(2.0)	(2.3)	(2.8)	(2.7)	(3.0)	(3.1)	(3.0)	(3.2)	(3.5)	(4.0)	(4.2)	(4.4)
Grants-in-aid to State and local govern- ments.....	22.6	26.8	32.6	40.4	41.6	48.4	57.6	66.3	74.7	79.3	84.3	90.7
Net interest paid.....	13.6	14.2	14.1	15.9	19.8	21.9	25.2	28.4	33.1	40.4	49.2	52.2
Subsidies less current surplus of Govern- ment enterprises.....	5.4	6.8	6.4	9.1	8.0	5.7	6.2	6.9	9.6	9.8	10.0	12.9
Wage disbursements less accruals.....	-.1	.1	.....	-.5	.2	.4	.....	.....	..*	..*	.....	.....
Total expenditures, national income basis.....	195.6	212.7	232.9	256.2	278.8	328.7	371.1	411.4	450.1	493.6	564.2	626.3
Excess of receipts (+) or expenditures (-), national income basis.....	-.6	-20.2	-19.5	-15.7	-7.0	-45.3	-57.3	-45.5	-35.4	-9.9	-33.6	-18.6

* \$50 million or less.

Note.—Excludes the transition quarter.

Part 2

ANALYSES OF THE BUDGET TOTALS

INTRODUCTION

Part 2 provides analyses and tabulations of the budget totals that cover Government finances and operations as a whole, and reflect the ways in which Government finances affect the economy. These special analyses are designated C through I.

Special Analysis C (Funds in the Budget) classifies budget information by the groups of funds (Federal and trust) that comprise the budget.

Special Analysis D (Investment, Operating, and Other Budget Outlays) classifies budget outlays in terms of the duration and nature of the benefits derived, distinguishing those of an investment or developmental type from those that primarily yield current benefits. Apart from this analysis, the U.S. budget includes outlays that are for "capital" or investment-type activities in the same accounts in which "current" activities and costs are shown.

Special Analysis E (Borrowing, Debt, and Investment) 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 limit, and the total of Federal and federally assisted borrowing from the public.

Special Analysis F (Federal Credit Programs) covers direct loans, guarantees of private loans, and loans of Government-sponsored enterprises. It includes aggregate measures of total credit supplied to the public, and raised from the public, under Federal auspices. It also reviews the credit control system designed to apply budget-type controls to Federal lending activity.

Special Analysis G (Tax Expenditures) provides a discussion of revenue losses due to 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 relates 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 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 executive branch. It also contains figures on total Federal personnel costs (including military personnel).

SPECIAL ANALYSIS C
FUNDS IN THE BUDGET

This analysis provides information on the two major fund groups, Federal and trust, that together after deducting interfund transactions, as shown in Table C-1, comprise the budget totals.

Table C-1. **BUDGET RECEIPTS AND OUTLAYS, BY FUND GROUP**

(In millions of dollars)

Description	1979 actual	1980 estimate	1981 estimate
RECEIPTS			
Federal funds:			
Total in fund accounts.....	331,726	369,248	409,554
Intrafund transactions.....	-2,385	-3,309	-3,481
Proprietary receipts from the public.....	-8,948	-11,752	-14,646
Receipts from off-budget Federal entities.....	-4,042	-6,374	-8,277
Receipts, Federal funds.....	<u>316,351</u>	<u>347,813</u>	<u>383,151</u>
Trust funds:			
Total in fund accounts.....	202,244	234,818	279,025
Intrafund transactions.....	-1,490	-1,479	-1,553
Proprietary receipts from the public.....	-9,718	-9,569	-10,786
Receipts from off-budget Federal entities.....	-1,395	-1,574	-1,578
Receipts, trust funds.....	<u>189,641</u>	<u>222,196</u>	<u>265,107</u>
Interfund transactions.....	-40,052	-46,179	-48,270
Total budget receipts.....	<u>465,940</u>	<u>523,829</u>	<u>599,988</u>
OUTLAYS			
Federal funds:			
Total in fund accounts.....	377,795	427,088	456,103
Intrafund transactions.....	-2,385	-3,309	-3,481
Proprietary receipts from the public.....	-8,948	-11,752	-14,646
Receipts from off-budget Federal entities.....	-4,042	-6,374	-8,277
Outlays, Federal funds.....	<u>362,420</u>	<u>405,653</u>	<u>429,700</u>
Trust funds:			
Total in fund accounts.....	183,909	216,731	248,249
Intrafund transactions.....	-1,490	-1,479	-1,553
Proprietary receipts from the public.....	-9,718	-9,569	-10,786
Receipts from off-budget Federal entities.....	-1,395	-1,574	-1,578
Outlays, trust funds.....	<u>171,305</u>	<u>204,110</u>	<u>234,331</u>
Interfund transactions.....	-40,052	-46,179	-48,270
Total budget outlays.....	<u>493,673</u>	<u>563,583</u>	<u>615,761</u>
Budget deficit.....	<u>-27,733</u>	<u>-39,754</u>	<u>-15,773</u>

The *Federal funds* are derived mainly from taxes and borrowing and are used for the general purposes of the Government. The *trust funds* collect certain taxes and other receipts for specified purposes, such as payment of social security benefits.

Amounts collected by the funds are classified either as budget receipts, also called governmental receipts, or as offsets to budget outlays, known as offsetting collections, depending on the following criteria.

When the amounts are collected by the Federal Government from the public and arise from the exercise of governmental or sovereign powers, the amounts are treated as budget receipts. Premiums from voluntary participation in certain Federal social insurance programs (such as supplemental medical insurance) and gifts and contributions are also included in this category.

When the amounts are collected from other Government accounts or from transactions with the public that are of a business-type or market-oriented nature, such as the sale of services or goods, they are treated as deductions from spending in arriving at budget outlays.¹

FEDERAL FUNDS

The Federal fund group is comprised of the *general fund*, *special funds*, *public enterprise (revolving) funds*, and *intragovernmental funds*. Intragovernmental funds include intragovernmental revolving funds, management funds, and consolidated working funds.

Federal fund budget receipts and outlays. In 1981, the Federal fund budget receipts are estimated at \$383.2 billion and outlays are estimated at \$429.7 billion. The following table, C-2, presents the distribution of budget receipts by source and outlays by agency for the Federal fund group.

The Federal fund budget receipts shown in the table are derived mainly from taxes and borrowing. They are comprised of the amounts collected by the general and special funds that are governmental in nature. Proprietary receipts from the public of the general and special funds arise from market-oriented transactions and thus are offsetting collections rather than budget receipts.

The Federal fund outlays shown are net of all collections credited to the public enterprise and intragovernmental funds and the proprietary receipts of the general and special funds. These are offset because the amounts collected are associated with business-type or market-oriented activities or payments from other Government accounts.

¹ Additional information on budget receipts and offsetting collections is provided in Part 7 of the Budget of the United States Government, Fiscal Year 1981.

Table C-2. FEDERAL FUND RECEIPTS AND OUTLAYS

(In millions of dollars)

Description	1979 actual	1980 estimate	1981 estimate
RECEIPTS BY SOURCE			
Individual income taxes	217,841	238,717	274,367
Corporation income taxes	65,677	72,303	71,574
Excise taxes	9,808	9,824	10,135
Estate and gift taxes	5,411	5,777	5,938
Customs duties	7,439	7,600	8,403
Miscellaneous receipts	10,176	13,591	12,734
Total receipts, Federal funds	316,351	347,813	383,151
OUTLAYS BY AGENCY			
Legislative branch	1,074	1,329	1,317
The Judiciary	478	621	647
Executive Office of the President	80	100	105
Funds appropriated to the President:			
Foreign assistance	3,799	4,759	4,738
Other	259	1,689	872
Agriculture	20,708	23,627	20,082
Commerce	4,070	3,559	3,415
Defense—Military ¹	115,010	127,371	142,689
Defense—Civil	2,897	3,215	3,005
Education ²	10,879	12,864	13,479
Energy	7,895	7,681	8,689
Health and Human Services ³	47,081	50,954	55,258
Housing and Urban Development	9,213	11,636	11,776
Interior	4,207	4,315	4,287
Justice	2,521	2,563	2,672
Labor	12,047	12,144	13,258
State	1,585	2,007	2,176
Transportation	7,228	8,061	7,369
Treasury	65,237	76,036	80,628
Environmental Protection Agency	4,800	4,984	5,197
National Aeronautics and Space Administration	4,187	5,010	5,437
Veterans Administration	19,578	20,423	21,279
Other independent agencies	20,855	25,408	24,756
Allowances ⁴		100	2,570
Undistributed offsetting receipts: Rents and royalties on the Outer Continental Shelf	-3,267	-4,800	-6,000
Total outlays, Federal funds	362,420	405,653	429,700
Excess of outlays (-)	-46,069	-57,840	-46,549

¹ Includes allowances for civilian and military pay raises for Department of Defense.² The Department of Education assumes the education activities previously performed by The Department of Health, Education, and Welfare.³ The Department of Health and Human Services, formerly the Department of Health, Education, and Welfare (HEW), retains the health and welfare activities of HEW.⁴ Offsetting receipts and outlays for net gains and losses, proceeds and reductions from transactions of the Exchange Stabilization Fund are included in the Department of the Treasury.⁵ Includes allowances for civilian agency pay raises and contingencies.

Obligations.—The obligations (net) for Federal funds are estimated at \$489.9 billion for 1981, as set forth in table C-3. These transactions largely flow from budget authority for Federal funds of \$494.2 billion for the year, although in part the obligations were authorized by prior years' budget authority.

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

(In millions of dollars)

Department or other unit	1979 actual	1980 estimate	1981 estimate
Legislative branch.....	1,164	1,340	1,308
The Judiciary.....	492	626	648
Executive Office of the President.....	80	101	107
Funds appropriated to the President:			
International security assistance.....	3,693	3,088	2,735
International development assistance.....	2,749	2,965	3,148
Other.....	394	1,817	982
Agriculture.....	21,027	25,260	20,326
Commerce.....	2,886	3,878	3,518
Defense—Military ¹	123,711	136,875	158,653
Defense—Civil.....	2,837	3,040	3,129
Education ²	11,262	15,382	15,549
Energy.....	8,198	10,568	8,717
Health and Human Services ³	48,549	53,085	57,124
Housing and Urban Development.....	38,080	38,060	39,396
Interior.....	4,689	5,264	4,776
Justice.....	2,448	2,556	2,671
Labor.....	12,848	11,771	13,832
State.....	1,689	2,096	2,238
Transportation.....	8,213	9,557	8,834
Treasury.....	65,259	76,031	50,669
Environmental Protection Agency.....	5,112	5,821	5,823
National Aeronautics and Space Administration.....	4,477	5,697	5,758
Veterans Administration.....	20,018	20,641	21,775
Other independent agencies:			
Export-Import Bank.....	1,366	3,239	4,663
Federal Home Loan Bank Board.....	—512	—498	—595
General Services Administration.....	228	105	366
Office of Personnel Management.....	9,514	11,453	12,492
U.S. Postal Service.....	1,785	1,677	1,593
Railroad Retirement Board.....	386	341	350
All other independent agencies.....	9,920	11,159	9,208
Allowances:			
Civilian agency pay raises.....			1,115
Contingencies for other requirements.....		150	2,000
Undistributed offsetting receipts: Rents and royalties on the Outer Continental Shelf.....	—3,267	—4,800	—6,000
Total.....	409,294	458,346	489,906

¹ Includes allowances for civilian and military pay raises for Department of Defense.

² The Department of Education assumes the education activities previously performed by the Department of Health, Education and Welfare.

³ The Department of Health and Human Services, formerly the Department of Health, Education and Welfare (HEW), retains the health and welfare activities of HEW.

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 in accordance with specific provisions of law, usually in order to permit completion of major procurement or major construction programs that are fully funded, to provide funding for activities of a continuing nature (such as research and development), for financing loan programs, for standby emergency purposes (such as backup financing for insurance of the Federal Deposit Insurance Corporation), or for reserves for losses and debt redemption.

Public enterprise funds.—The public enterprise funds conduct cycles of business-type operations, primarily with the public, on behalf of the Government. These funds are usually supplied with capital from the general fund, and in a few cases they may borrow from the public or from the Federal Financing Bank (FFB). These funds also obtain capital by selling financial assets to the FFB. Data on public enterprise funds are included on a net outlay basis in tables C-2 through C-4. Additional information on the gross outlays and applicable collections are shown in table C-5.

Collections of public enterprise funds are estimated at \$48.5 billion in 1981, and gross outlays are planned to total \$52.8 billion, resulting in net outlays of \$4.3 billion.

TRUST FUNDS

There are two types of trust funds—nonrevolving and revolving. Trust revolving funds are similar to intragovernmental revolving funds and public enterprise funds in that they conduct cycles of business-type operations and are normally stated net of collections.

Cash operations.—Trust fund receipts are estimated at \$265.1 billion in 1981, with outlays planned at \$234.3 billion, as shown in table C-6. The transactions of the Federal old-age and survivors insurance and disability insurance funds are far larger than any other trust fund.

In fiscal years 1979-81, trust funds have excesses of receipts of the following amounts (in millions of dollars):

	<i>1979 actual</i>	<i>1980 estimate</i>	<i>1981 estimate</i>
Total receipts, trust funds.....	189,641	222,196	265,107
Total outlays, trust funds.....	171,305	204,110	234,331
Excess of receipts or outlays (—), trust funds.....	18,335	18,086	30,776

Table C-4. FEDERAL FUND BALANCES OF BUDGET AUTHORITY

(In millions of dollars)

Department or other unit	Start 1979		End 1979		End 1980		End 1981	
	Obligated	Unobligated	Obligated	Unobligated	Obligated	Unobligated	Obligated	Unobligated
Legislative branch.....	167	210	218	138	229	89	219	83
The Judiciary.....	43	13	53	15	59	5	60	2
Executive Office of the President.....	14	*	13	*	14	.....	17	.....
Funds appropriated to the President:								
International security assistance.....	3,880	5	5,382	322	5,515	102	5,353	2
International development assistance.....	5,167	11,262	6,441	12,240	7,579	13,827	8,775	13,820
Other.....	1,341	1,862	1,423	1,887	1,509	1,832	1,576	1,832
Agriculture.....	10,197	1,653	10,477	4,942	12,124	4,180	12,368	6,497
Commerce.....	4,231	903	3,091	608	3,411	296	3,514	204
Defense—Military ¹	52,288	21,150	60,825	22,889	70,329	24,350	86,293	23,681
Defense—Civil.....	978	421	917	314	742	145	866	15
Education ²	9,192	2,433	9,430	3,217	12,265	1,743	14,334	1,670
Energy.....	7,256	2,479	7,559	4,346	10,447	3,152	10,475	2,152
Health and Human Services ³	10,595	365	11,985	646	13,775	224	15,642	129
Housing and Urban Development.....	194,876	33,856	223,741	10,413	250,165	6,873	277,785	6,669
Interior.....	2,199	1,039	2,647	968	3,624	279	4,112	175
Justice.....	1,037	196	956	228	949	100	948	83
Labor.....	3,099	237	3,908	522	3,536	6	4,110	6
State.....	291	152	380	112	469	27	531	46
Transportation.....	7,227	6,253	8,198	5,534	9,695	3,574	11,160	3,409
Treasury.....	429	5,162	440	9,253	436	27,577	477	28,081
Environmental Protection Agency.....	12,374	3,800	12,684	4,088	13,521	2,953	14,147	2,471
National Aeronautics and Space Administration..	718	452	1,006	523	1,694	93	2,015	68
Veterans Administration...	2,002	2,927	2,426	2,661	2,644	2,461	3,140	2,633
Other independent agencies:								
Export-Import Bank.....	2,849	3,232	4,014	1,936	6,199	.....	9,631	.....
Federal Deposit Insurance Corporation....	.....	3,000	.....	3,000	.....	3,000	.....	3,000
Federal Home Loan Bank Board.....	2	9,821	-22	10,333	-41	10,831	-35	11,426
General Services Administration.....	477	311	568	304	625	348	684	295
Office of Personnel Management.....	16	5	27	48	18	16	17	4
Railroad Retirement Board.....	.....	18	1	27	.....	*	.....	*
All other independent agencies.....	4,996	8,922	5,580	7,185	5,429	20,689	5,252	18,879
Allowances ⁴.....	.....	.....	.....	.....	50	.....	595	.....
Total.....	337,941	122,137	384,372	108,701	437,009	128,772	494,063	127,333

* \$500 thousand or less.

¹ Includes balances of allowances for civilian and military pay raises for Department of Defense.² The Department of Education assumes the education activities previously performed by the Department of Health, Education, and Welfare.³ The Department of Health and Human Services, formerly the Department of Health, Education, and Welfare (HEW), retains the health and welfare activities of HEW.⁴ Includes balances of allowances for civilian agency pay raises and contingencies.

Table C-5. PUBLIC ENTERPRISE FUND TRANSACTIONS

(In millions of dollars)

Description	Applicable collections			Gross outlays		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Legislative Branch	*	*	*	*	*	*
Funds appropriated to the President:						
Foreign assistance.....	159	92	97	126	85	76
Other.....	*	*	.....	1	1	1
Agriculture:						
Commodity Credit Corporation.....	7,830	8,493	8,525	11,612	11,651	10,645
Farmers Home Administration.....	15,275	16,525	19,352	16,628	18,656	17,572
Federal Grain Inspection Service ...	28	30	35	25	32	37
Federal Crop Insurance Corpora- tion.....	94	106	121	74	121	117
Rural Electrification Administra- tion.....	.....	*	1	.....	4	17
Commerce.....	129	84	299	80	74	318
Defense:						
Military.....	6	6	6	3	7	6
Civil (Panama Canal Company) ...	358	.....	.....	358	71	.....
Department of Education ¹	168	172	187	165	180	204
Department of Energy.....	452	835	904	503	612	1,023
Health and Human Services ²	53	162	206	104	196	247
Housing and Urban Development:						
Government National Mortgage Association	2,051	1,724	3,239	2,277	2,775	2,884
Urban renewal programs.....	188	73	21	469	314	191
Low-rent public housing.....	278	313	308	275	331	358
Federal Housing Administration Fund.....	1,186	1,399	1,476	1,379	1,547	1,405
Other.....	160	213	286	814	1,126	1,210
Interior:						
Water and Power Resources Serv- ice.....	210	239	350	216	243	337
Other.....	18	20	10	20	30	22
Department of Justice.....	*	*	*	*	*	*
Transportation.....	38	41	43	123	145	174
Treasury.....	222	492	489	652	1	1
Environmental Protection Agency.....	1	1	1	1	1	1
Veterans Administration.....	684	1,241	1,383	803	1,019	1,073
Other independent agencies:						
Community Services Administra- tion.....	2	2	4	*	23	9
Export-Import Bank.....	2,167	2,403	2,593	2,367	3,458	3,823
Farm Credit Administration	10	12	13	10	12	13
Federal Emergency Management Agency	156	171	191	407	337	310
Federal Home Loan Bank Board: Federal Savings and Loan In- surance Corporation	695	753	807	206	275	205
Revolving fund.....	94	22	58	94	21	58
General Services Admin- istration.....	3	3	3	2	2	2
National Consumer Cooperative Bank.....	.....	42	130	.....	42	128
National Credit Union Administra- tion.....	65	1,712	2,341	35	1,885	2,309

Table C-5. PUBLIC ENTERPRISE FUND TRANSACTIONS—Continued

(In millions of dollars)

Description	Applicable collections			Gross outlays		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Pennsylvania Avenue Development Corporation	5	7	5	22	25	26
Small Business Administration	908	1,034	1,106	2,356	2,170	1,951
Tennessee Valley Authority	2,756	3,747	3,871	4,640	5,725	6,035
Total	36,451	42,172	48,459	46,847	53,199	52,790
Offsetting collections from the public	(33,380)	(38,682)	(44,161)	.....	.....	.....
Offsetting collections from other accounts	(3,071)	(3,490)	4,298)	.....	.....	.....

* \$500 thousand or less.

¹ The Department of Education assumes the education activities previously performed by the Department of Health, Education, and Welfare.² The Department of Health and Human Services, formerly the Department of Health, Education, and Welfare (HEW), retains the health and welfare activities of HEW.

Table C-6. OUTLAYS AND RECEIPTS OF TRUST FUNDS

(In millions of dollars)

Description	Outlays			Receipts		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Federal old-age, survivors, and disability insurance trust funds	104,073	119,380	138,463	102,089	116,932	132,661
Railroad retirement account	4,279	4,748	5,157	4,158	4,440	5,042
Black lung disability trust fund	622	926	933	623	925	969
Veterans life insurance trust funds	856	872	995	1,021	1,065	1,094
Federal employees retirement funds	12,533	14,696	17,094	20,506	24,040	26,134
Unemployment trust fund	11,173	16,000	18,700	15,890	17,400	19,300
Health insurance trust funds	29,148	33,542	37,349	31,749	35,922	44,990
Highway trust funds	7,154	8,057	8,218	8,046	8,134	8,165
Airport and airway trust fund	1,114	1,236	2,302	1,809	2,110	2,579
State and local government fiscal assistance trust fund	6,848	6,863	6,857	6,855	6,855	6,855
Foreign military sales trust fund	7,111	9,500	9,500	8,545	8,300	9,500
Energy security trust fund .....	.....	1,858	3,653	.....	7,591	20,615
Other trust funds (nonrevolving)	679	913	969	955	1,103	1,120
Trust revolving funds	-1,681	-1,859	-1,938	.....	.....	.....
Subtotal	183,909	216,731	248,249	202,244	234,818	279,025
Intrafund transactions	-1,490	-1,479	-1,553	-1,490	-1,479	-1,553
Proprietary receipts from the public	-9,718	-9,569	-10,786	-9,718	-9,569	-10,786
Receipts from off-budget Federal entities	-1,395	-1,574	-1,578	-1,395	-1,574	-1,578
Total	171,305	204,110	234,331	189,641	222,196	265,107

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

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

Balances of the trust funds.—Total balances of the trust funds continue to increase, as shown in the following end-of-year figures (in millions of dollars):

	1978 actual	1979 actual	1980 estimate	1981 estimate
Open book balances.....	9,141	11,903	16,241	33,282
Investments in U.S. securities:				
Public debt.....	155,061	170,635	184,387	198,159
Agency debt.....	1,015	1,015	1,015	1,015
Total.....	165,217	183,553	201,642	232,456

A summary of the balances by fund is presented in table C-9. The amounts include both 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 exceed the cash balances because, for a few accounts, contract authority (a form of budget authority) has been provided to a trust fund in advance of receiving moneys (e.g., the airport and airway trust fund). The note to Table C-9 lists these accounts and reconciles the balances on a budget authority basis with the cash balances.

For 1981 the largest net investments are expected to be those of the Federal employees retirement fund.

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

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

[Amounts under proposed legislation are shown separately]

Description	1979 actual	1980 estimate	1981 estimate
Federal old-age, survivors, and disability insurance trust funds:			
Social insurance taxes and contributions.....	97,994	112,933	128,507
Interest on Federal securities.....	2,222	2,114	1,924
Federal payment as employer for employee retirement.....	1,114	1,207	1,358
Other (mainly receipts of special Federal payments).....	759	678	676
Proposed legislation.....			196
Subtotal, Federal old-age, survivors, and disability insurance trust funds.....	102,089	116,932	132,661
Railroad retirement account:			
Social insurance taxes and contributions.....	2,190	2,395	2,676
Interest on Federal securities.....	192	283	223
Receipts from other trust funds.....	1,477	1,467	1,542

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

[Amounts under proposed legislation are shown separately]

Description	1979 actual	1980 estimate	1981 estimate
Other (mainly receipts of special Federal payments)	298	295	328
Proposed legislation			274
Subtotal, railroad retirement account	4,158	4,440	5,042
Black lung disability trust fund:			
Excise taxes	222	249	263
Advances from general fund	401	676	706
Other	*		
Subtotal, black lung disability trust fund	623	925	969
Veterans life insurance trust funds:			
Interest on Federal securities	563	607	649
Other receipts	458	458	445
Subtotal, veterans life insurance trust funds	1,021	1,065	1,094
Federal employees retirement funds:			
Social insurance taxes and contributions	3,488	3,802	3,824
Interest on Federal securities	4,088	4,903	6,032
Federal payment as employer for employee retirement (including payment on prior year liabilities):			
Entities included in budget	11,526	13,369	14,689
Entities excluded from budget	1,395	1,574	1,578
Other receipts	9	10	10
Supplemental now requested		382	
Subtotal Federal employees retirement funds	20,506	24,040	26,134
Unemployment trust fund:			
Social insurance taxes and contributions	15,387	16,847	18,645
Interest on Federal securities	503	553	655
Subtotal, unemployment trust fund	15,890	17,400	19,300
Health insurance trust funds:			
Social insurance taxes and contributions	22,527	26,197	33,230
Interest on Federal securities	1,231	1,490	1,848
Federal payment as employer for employee retirement	228	249	318
Other (mainly receipts of special Federal payments)	7,764	7,986	9,611
Proposed legislation			-17
Subtotal, health insurance trust funds	31,749	35,922	44,990
Highway trust funds:			
Excise taxes	7,189	6,934	7,082
Interest on Federal securities	853	1,200	1,083
Other receipts	4		
Subtotal, highway trust funds	8,046	8,134	8,165
Airport and airway trust fund:			
Excise taxes	1,526	1,290	
Interest on Federal securities	282	376	

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

[Amounts under proposed legislation are shown separately]

Description	1979 actual	1980 estimate	1981 estimate
Proposed legislation		445	2,579
Subtotal, airport and airway trust fund	1,809	2,110	2,579
State and local government fiscal assistance trust fund: Deposits for general revenue sharing.....	6,855	6,855	6,855
Foreign military sales trust fund	8,545	8,300	9,500
Energy security trust fund: Proposed legislation: Windfall profits tax		7,591	20,615
Other trust funds (nonrevolving)	955	1,103	1,120
Subtotal	202,244	234,818	279,025
Intrafund transactions.....	-1,490	-1,479	-1,553
Proprietary receipts from the public	-9,718	-9,569	-10,786
Receipts from off-budget Federal entities	-1,395	-1,574	-1,578
Total receipts	189,641	222,196	265,107

*\$500 thousand or less.

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

[Amounts under proposed legislation are shown separately]

Description	1979 actual	1980 estimate	1981 estimate
Federal old-age, survivors, and disability insurance trust funds:			
Benefit payments	101,020	116,194	135,177
Payments to other trust funds.....	1,477	1,467	1,542
Administrative expenses and other.....	1,575	1,733	1,843
Proposed legislation		-14	-99
Subtotal, Federal old-age, survivors, and disability insurance trust funds	104,073	119,380	138,463
Railroad retirement account:			
Benefit payments and claims	4,245	4,709	5,190
Administrative expenses and other.....	34	39	37
Proposed legislation			-70
Subtotal, railroad retirement account.....	4,279	4,748	5,157
Black lung disability trust fund:			
Benefit payments	582	829	772
Federal administrative expenses.....	40	97	161
Subtotal, black lung disability trust fund.....	622	926	933
Veterans life insurance trust funds.....	856	872	995
Federal employees retirement:			
Benefit payments and claims	12,142	14,366	16,733
Refunds to former employees.....	360	304	332
Administrative expenses and other.....	31	27	28
Subtotal, Federal employees retirement.....	12,533	14,696	17,094

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

[Amounts under proposed legislation are shown separately]

Description	1979 actual	1980 estimate	1981 estimate
Unemployment trust fund:			
Withdrawals for benefit payments.....	8,727	13,094	16,085
Repayment of advances from general fund.....	800	900	400
Administrative expenses and other.....	1,646	2,006	2,215
Subtotal, unemployment trust fund.....	11,173	16,000	18,700
Health insurance trust funds:			
Benefit payments.....	28,158	32,426	37,247
Administrative expenses and other.....	990	1,115	1,178
Proposed legislation.....		1	-1,076
Subtotal, health insurance trust funds.....	29,148	33,542	37,349
Highway trust funds (mainly grants to States)	7,154	8,057	8,218
Airport and airway trust fund.....	1,114	1,236	2,302
State and local government fiscal assistance trust fund: Payments for general revenue sharing.....	6,848	6,863	6,857
Foreign military sales trust fund.....	7,111	9,500	9,500
Energy security trust fund:			
Proposed legislation.....		1,858	3,653
Other trust funds (nonrevolving).....	679	913	969
Trust revolving funds.....	-1,681	-1,859	-1,938
Subtotal.....	183,909	216,731	248,249
Intrafund transactions.....	-1,490	-1,479	-1,553
Proprietary receipts from the public.....	-9,718	-9,569	-10,786
Receipts from off-budget Federal entities.....	-1,395	-1,574	-1,578
Total outlays.....	171,305	204,110	234,331

Table C-9. TRUST FUND BALANCES

(In millions of dollars)

Description	As of Sept. 30			
	1978 actual	1979 actual	1980 estimate	1981 estimate
Federal old-age, survivors, and disability insurance trust funds.....	35,363	33,379	30,931	25,129
Railroad retirement account.....	3,147	3,056	2,748	2,634
Black lung disability trust fund.....	*	1		36
Veterans life insurance funds.....	8,267	8,432	8,625	8,725
Federal employees retirement funds.....	56,704	64,677	74,020	83,060
Unemployment trust fund.....	10,446	15,131	16,531	17,131
Health insurance trust funds.....	15,771	18,373	20,753	28,395
Highway trust funds.....	11,673	12,564	12,642	12,588
Airport and airway trust fund.....	3,698	4,392	5,267	5,544
State and local government fiscal assistance trust fund.....	1,789	1,796	1,788	1,786
Foreign military sales trust fund.....	4,907	6,341	5,141	5,141
Energy security trust fund.....			5,733	22,695
Other trust funds (nonrevolving).....	1,001	1,277	1,471	1,660
Trust revolving funds.....	12,452	14,133	15,992	17,930
Total.....	165,217	183,553	201,642	232,456

**\$500 thousand or less.

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

	1978	1979	1980	1981
Balance available on an authorization basis.....	179,316	195,149	209,537	225,368
Unfinanced contract authority:				
Airport and airway trust fund.....	-903	-961	-991	-1,026
Highway trust funds.....	-16,850	-17,878	-19,285	-20,492
Foreign military sales trust fund.....	-10,418	-8,091	-8,791	-8,791
Other.....	-1	-1		
Unappropriated receipts:				
Available as needed, on an indefinite basis.....	44	3	-35	38
Available for appropriation by Congress:				
Energy security trust fund.....			4,449	20,468
Soldiers' Home permanent fund.....	92	94	94	94
Airport and airway trust fund.....	3,187	3,755	4,552	4,731
Highway trust funds.....	10,740	11,475	12,103	12,058
Other.....	2	1	1	1
Retained as permanent endowment.....	6	6	6	6
Balance available on a cash basis.....	165,217	183,553	201,642	232,456

Table C-10. TRUST REVOLVING FUND TRANSACTIONS

(In millions of dollars)

Description	Offsetting collections			Gross outlays		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Office of Personnel Management (employees' life insurance and health benefits).....	4,109	4,672	5,365	3,691	4,285	4,968
Federal Deposit Insurance Corporation.....	1,432	1,520	1,552	214	70	52
All other trust revolving funds.....	453	478	504	407	456	462
Total trust revolving funds¹.....	5,994	6,670	7,421	4,312	4,811	5,482
Receipts from the public.....	(3,353)	(3,638)	(3,899)			
Receipts from other accounts.....	(2,641)	(3,032)	(3,521)			

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

SPECIAL ANALYSIS D

INVESTMENT, OPERATING, AND OTHER BUDGET OUTLAYS

This analysis divides outlays between those of an "investment" or capital nature, and those devoted to "current" or operating purposes. *Investment-type* programs are those that yield benefits in future years through the acquisition of physical or financial assets, or through expenditures for less tangible long-term benefits such as education. They include: the construction, rehabilitation, or acquisition of physical assets; education, training, and vocational rehabilitation; research and development; international development; and financial investments such as loans. *Current* programs provide benefits primarily in the year they are made. They include: payments for retirement, disability, and other income maintenance; social services; subsidies or other payments—to agriculture, businesses and transportation systems, and other institutions—that are not directly used to purchase physical assets; payments for the repair, maintenance, and operation of existing physical assets; and regulatory, law enforcement, and other operating costs of the Federal Government. Some budgetary transactions, notably the allowance for contingencies, cannot be classified as either investment or current in nature.

The Federal Government has never had a capital budget in the sense of financing capital or investment-type programs separately from current expenditures. One major reason is that a capital budget could be misleading as a measure of the Government's effect on the demand for economic resources. Another is that such a budget might favor programs with intensive expenditures for physical assets, such as construction, relative to other programs for which future benefits cannot be accurately capitalized, such as education or research. Likewise, physical assets might be favored relative to current operations in any given program, because deficit financing for capital would be easier to justify. A capital budget also would pose formidable accounting problems involving the measurement of depreciation on Government property, especially weapons systems.

There are inevitable classification difficulties in preparing the kind of analysis presented here. This analysis classifies programs in the category where most of the outlays are expected to occur. However, some programs—such as general revenue sharing or payments for individuals—can be utilized for both investment-type or

current purposes, and their classification into one category necessarily results in understating the other. A possible confusion of interpretation is that special assistance to a particular sector does not include investment-type outlays that also aid that sector. For example, the category "aids to agriculture, commerce, and transportation" reflects current benefits such as payments for subsidies and operating expenses to water and air transportation and railroad programs. It does not include related subsidies for the construction of private merchant ships, which are investment-type outlays included under "acquisition of major equipment". The Federal Government also assists many sectors through off-budget Federal outlays, loan guarantees, tax expenditures, and other ways that are not reflected in this analysis.

Even after the basic classification between investment-type or current programs has been made, several alternative subclassifications are possible. For example, grants for construction of education facilities could not only finance the acquisition of physical assets but are an important element in the conduct of education and training. In cases such as this, the preferred classification is that which is most "capital-like" and therefore appears first in the special analysis structure (i.e., construction and rehabilitation, then acquisition of major equipment, then conduct of research and development, etc.).

INVESTMENT, OPERATING, AND OTHER BUDGET OUTLAYS

(In billions of dollars)

	1979 actual	1980 estimate	1981 estimate
Investment-type programs	120.2	129.4	132.2
Current programs	373.5	434.1	481.9
Unclassified .....		.1	1.7
Total	493.7	563.6	615.8

Investment-type outlays account for over one-fifth of total estimated outlays in 1981. Of these, nearly two-fifths are for national defense programs, with procurement of major equipment and conduct of research and development predominant. (In this analysis, defense refers to the national defense function as defined in the budget.) The remaining three-fifths are for nondefense purposes, with "construction and rehabilitation of physical assets"—such as highways and mass transit, pollution control facilities, and energy-related facilities—being the predominant programs. Outlays for "conduct of education and training"—including student assistance, elementary and secondary education, and veterans readjustment benefits—are the second largest investment-type nondefense category.

Current outlays make up almost four-fifths of total estimated outlays in 1981. National defense programs account for about one-fifth of total current outlays, with half of that amount required for "repair, maintenance, and operation of physical assets". The remainder includes salaries for active military employees and retired pay for military personnel as well as general overhead costs. In the nondefense area, "provision of benefits"—including retirement, disability, health and welfare benefits—accounts for over three-quarters of nondefense current outlays and almost one-half of total budget outlays. Over 14% of nondefense current outlays—9% of total budget outlays—is for net interest.

A small portion of outlays are not classified as either investment type or current outlays. These include allowances for contingencies.

Four tables are presented in this analysis. Table D-1 summarizes budget outlays, divided between national defense and civil programs. Table D-2 contains detailed backup to the entries of table D-1. An alternative perspective on investment-type and current budget outlays is presented in table D-3, which separates outlays by grants-in-aid, loans, and direct Federal programs. This table makes no distinction between national defense and civil programs. Table D-4 provides detailed backup to table D-3.

Table D-1. SUMMARY OF INVESTMENT, OPERATING, AND OTHER BUDGET OUTLAYS

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
National defense:			
Investment-type programs:			
Construction and rehabilitation of physical assets	2,256	2,350	2,270
Acquisition of major equipment	26,786	29,332	32,576
Conduct of research and development	12,136	13,919	15,887
Other investment-type programs	397	320	433
Subtotal, investment-type programs	41,575	45,921	51,166
Current programs:			
Provision of benefits	10,323	11,993	13,732
Repair, maintenance, and operation of physical assets	37,733	42,324	47,950
Other current programs	28,050	30,130	33,164
Subtotal, current programs	76,106	84,447	94,846
Unclassified			229
Total national defense	117,681	130,368	146,241
Civil:			
Investment-type programs:			
Loans and financial investments	6,697	7,104	613
Construction and rehabilitation of physical assets	26,169	26,971	28,585
Acquisition of major equipment	732	717	709
Conduct of research and development	14,183	15,661	16,588
Conduct of education and training	25,442	26,268	26,812
Other investment-type programs	5,417	6,709	7,679
Subtotal, investment-type programs	78,640	83,431	80,984
Current programs:			
Provision of benefits	219,768	259,022	295,160
Social services and related programs	8,380	7,981	8,376
Aids to agriculture, commerce, and transportation	12,104	14,173	14,213
Repair, maintenance, and operation of physical assets	-220	-553	-2,225
General purpose fiscal assistance	8,620	8,953	10,040
Regulation, control, and law enforcement	5,672	6,623	7,024
Net interest	42,606	51,791	54,239
Other current programs	420	1,694	208
Subtotal, current programs	297,352	349,684	387,035
Unclassified		100	1,500
Total civil	375,993	433,215	469,520
Grand total	493,673	563,583	615,761

Loans and financial investments.—A loan creates a financial asset equal to the outlay. For domestic loans, the Government's asset is matched by the liability of the private sector. Most Federal domestic loans—to both State and local governments and private

borrowers—finance the acquisition or improvement of either physical assets or human capital. This is especially true for loans in the community and regional development, education, and transportation functions. Loans to foreign borrowers represent an increase in financial assets held by the United States. Most foreign loans are for economic development programs or the promotion of U.S. exports, including military equipment and farm commodities.

Net loan outlays are expected to total $-\$0.5$ billion in 1981. This is due in large part to asset sales by the Farmers Home Administration (FmHA) that result in negative outlays and a decline in loan outlays by the Commodity Credit Corporation (CCC) as a result of the decision to eliminate direct lending for export credit. A significant and growing Federal involvement in loan programs occurs through guarantees of private lending, where the Federal Government promises to pay a part or all of the principal or interest of a loan that is made by the private sector. Loan guarantees may achieve ends similar to those for direct loans, but budget outlays occur only in cases of default. Additional analysis of loan programs is contained in Special Analysis F, "Federal Credit Programs."

Financial investments in international organizations such as the World Bank are designed to enhance economic and social development in many parts of the world. This is expected, in turn, to be beneficial to U.S. interests in both the present and future. Outlays for financial investments are estimated to be $\$1.1$ billion in 1981.

Physical assets.—Construction and rehabilitation of physical assets, acquisition of major equipment, and establishment of commodity inventories are of a long term nature. Budget outlays designed specifically to purchase such assets are treated as investment-type outlays regardless of whether the asset is owned by the Federal Government, or by State, local, or private entities. Total outlays for physical assets are estimated at $\$68.0$ billion in 1981; of this amount $\$35.1$ billion is in the national defense function. Most national defense outlays for physical assets are for the procurement of military equipment. A large portion of Federal outlays for nondefense physical assets is in the form of grants-in-aid to State and local governments, especially for construction programs. Highway and mass transit programs and pollution control construction grants are the largest items in nondefense outlays for physical assets, accounting for $\$10.2$ billion and $\$4.0$ billion respectively, or over two-fifths of estimated nondefense outlays for physical assets in 1981.

Conduct of research and development.—Outlays for research and development are designed to increase our base of knowledge and to apply that knowledge for its future benefit to the Nation. Total

outlays for the conduct of research and development are estimated at \$32.5 billion in 1981. Defense programs account for nearly one-half of research and development outlays in 1981. Outlays for health, energy, and space account for more than half of nondefense research and development outlays in 1981. Additional information about Federal research and development programs is contained in Special Analysis K, "Research and Development."

Conduct of education and training.—Outlays classified in this category are designed to add to the stock of human capital by developing a more skilled and productive labor force. These outlays are direct payments to individuals, scholarships and grants to institutions, and other means of financing education and training. As with physical assets, the benefits accrue over a considerable period of time. Outlays are estimated at \$26.8 billion in 1981, with education (including veterans education benefits) programs accounting for over one-half of the total.

Collection of information.—This category includes outlays for collection of information, censuses, topographic or other natural resource surveys and programs that benefit both the present and future by establishing a base of knowledge. Outlays of \$1.7 billion are estimated for 1981.

International development.—Foreign assistance for general international economic development is included in this category. These outlays are expected to prove beneficial to U.S. interests by enhancing the economic development of friendly foreign nations. These outlays are estimated to be \$2.5 billion in 1981.

Current programs.—Programs that provide benefits in the current year are divided into several major categories. Outlays classified as current may be used for investment-type purposes; however, the principal effect of these outlays is to provide short-term benefits—such as unemployment compensation, and retirement and disability payments—rather than providing the means for future benefits. Total current outlays are estimated at \$481.9 billion in 1981.

Outlays for "provision of benefits"—including retirement, disability, and other income support payments, health care and nutrition, and housing subsidies—are estimated to be \$308.9 billion in 1981; this is more than three-fifths of current outlays and one-half of total budget outlays.

Current outlays for "social services and related programs" are estimated at \$8.4 billion in 1981, and "aids to agriculture, commerce, and transportation" are estimated to total \$14.2 billion.

Other current outlays are largely for operation of the Federal Government, including: the repair, maintenance, and operation of

physical assets; regulatory and law enforcement activities, and other administrative or operating expenses of the Government. Because proprietary receipts from the public—such as receipts from the sale of power and other utilities, the sale of publications and reproductions, and the sale of minerals and mineral products—are offsets to the outlays to which they most nearly apply, net current outlays for the operation of the Federal Government are negative in some cases. Net interest payments are estimated at \$54.2 billion in 1981.

Unclassified.—These outlays have not been placed in either the investment or the current category. The allowance for contingencies is not classified because it is for unforeseen circumstances and, therefore, how it will be used is not known.

Table D-2. INVESTMENT, OPERATING, AND OTHER BUDGET OUTLAYS

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
National defense investment-type programs			
Construction and rehabilitation of physical assets:			
Military construction	1,808	1,828	1,734
Family housing	121	64	101
Atomic energy defense activities	323	458	435
Other	4		*
Subtotal, construction and rehabilitation of physical assets	2,256	2,350	2,270
Acquisition of major equipment:			
Procurement	25,404	27,648	30,497
Atomic energy defense activities	1,382	1,684	2,079
Subtotal, acquisition of major equipment	26,786	29,332	32,576
Conduct of research and development	12,136	13,919	15,887
Other investment-type programs:			
Atomic energy defense activities—other physical assets		30	5
Other	397	290	428
Subtotal, other investment-type programs	397	320	433
Subtotal, investment-type programs	41,575	45,921	51,166
National defense current programs			
Provision of benefits:			
Retired military personnel	10,279	11,941	13,677
Other	44	52	55
Subtotal, provision of benefits	10,323	11,993	13,732

Footnote at end of table.

Table D-2. INVESTMENT, OPERATING, AND OTHER BUDGET OUTLAYS—Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Repair, maintenance, and operation of physical assets:			
Department of Defense, Military	37,655	42,212	47,801
Other	79	113	149
Subtotal, repair, maintenance, and operation of physical assets	37,733	42,324	47,950
Other current programs:			
Military personnel	27,972	30,071	31,181
Allowance for civilian and military pay raises			1,819
Other national defense	78	59	164
Subtotal, other current programs	28,050	30,130	33,164
Subtotal, current programs	76,106	84,447	94,846
Unclassified			229
Total national defense	117,681	130,368	146,241
Civil investment-type programs			
Loans and financial investments:			
Loans to State and local governments:			
Community and regional development	-18	-104	-37
Other	65	92	140
Subtotal, loans to State and local governments	47	-12	103
Loans to other borrowers:			
International affairs	1,745	2,543	2,402
Community and regional development	1,060	597	390
Agriculture	1,300	-1,130	-2,541
Transportation	798	751	369
Education	522	477	572
Other	542	2,889	-1,815
Subtotal, loans to other borrowers	5,967	6,126	-622
Other financial investments	683	990	1,133
Subtotal, loans and financial investments	6,697	7,104	613
Construction and rehabilitation of physical assets:			
Highways and mass transit	8,797	9,614	10,242
Air transportation	783	915	986
Other transportation	98	162	164
Community development block grants	3,161	3,500	3,805
Local public works	1,741	358	200
Other community and regional development	1,523	1,635	1,778
Pollution control and abatement	3,759	3,902	3,952
Water resources	2,391	2,467	2,318
Other natural resources and environment	833	933	824
Energy	2,093	2,383	3,098
Other	990	1,101	1,217
Subtotal, construction and rehabilitation of physical assets	26,169	26,971	28,585

Table D-2. INVESTMENT, OPERATING, AND OTHER BUDGET OUTLAYS—Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Acquisition of major equipment:			
Energy.....	201	132	89
Transportation.....	374	433	442
Other.....	157	152	178
Subtotal, acquisition of major equipment....	732	717	709
Conduct of research and development.....	14,183	15,661	16,588
Conduct of education and training:			
Income support programs:			
General education.....	2,798	3,206	3,238
Veterans benefits.....	2,996	2,488	2,225
Other.....	216	268	270
Subtotal, income support programs.....	6,011	5,963	5,734
Other education and training programs:			
Elementary, secondary, and vocational educa- tion.....	6,507	7,134	7,545
Other education.....	2,201	2,890	2,535
Training and employment.....	9,492	8,977	9,763
Health.....	427	465	390
Other.....	805	838	844
Subtotal, other education and training pro- grams.....	19,432	20,305	21,078
Subtotal, conduct of education and training	25,442	26,268	26,812
Other investment-type programs:			
Commodity inventories:			
Energy.....	1,132	848	1,468
Agriculture.....	133	-39	-105
Subtotal, commodity inventories.....	1,265	810	1,363
Other physical assets.....	1,588	2,125	2,247
International development.....	1,285	1,818	2,389
Collection of information.....	1,279	1,957	1,675
Other.....			5
Subtotal, other investment-type programs....	5,417	6,709	7,679
Subtotal, investment-type programs.....	78,640	83,431	80,984
Civil current programs			
Provision of benefits:			
Retirement and survivor benefits:			
Social Security and Railroad Retirement bene- fits.....	90,393	104,609	121,971
Civil Service retirement and survivors benefits.....	10,597	12,411	14,433
Other retirement and survivor benefits.....	1,078	1,158	1,333
Subtotal, retirement and survivor benefits...	102,068	118,178	137,737
Disability benefits:			
Social Security and Railroad Retirement disa- bility benefits.....	13,428	14,852	16,722
Civil Service disability benefits.....	2,319	2,743	3,193

Table D-2. INVESTMENT, OPERATING, AND OTHER BUDGET OUTLAYS—Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Veterans disability benefits.....	10,481	11,344	12,571
Other disability benefits.....	1,222	1,872	2,041
Subtotal, disability benefits.....	27,451	30,812	34,527
Other provision of benefits:			
Cash payments:			
Medicare.....	28,158	32,427	36,171
Medicaid.....	12,407	14,160	15,768
Supplemental security income.....	4,804	5,663	6,151
Nutrition programs.....	9,937	12,362	13,160
Unemployment compensation.....	9,734	14,355	17,354
Assistance payments program.....	5,638	5,974	6,260
Subsidized housing programs.....	4,192	5,127	6,290
Other.....	3,312	6,251	7,044
Subtotal, cash payments.....	78,182	96,319	108,198
Direct provision of services:			
Hospital and medical care for veterans.....	4,848	5,543	5,389
Other veterans benefits.....	614	671	669
Housing payments and subsidies.....	24	6	133
Other.....	118	16	196
Subtotal, direct provision of services.....	5,603	6,237	6,387
Subtotal, other provision of benefits.....	83,785	102,555	114,585
Administrative expenses:			
Social Security Administration.....	3,060	3,329	3,600
Nutrition programs.....	576	703	835
Unemployment compensation.....	1,047	1,295	1,442
Medicare.....	988	1,102	1,159
Other.....	794	1,048	1,274
Subtotal, administrative expenses.....	6,464	7,477	8,311
Subtotal, provision of benefits.....	219,768	259,022	295,160
Social services and related programs:			
Human development services.....	1,519	1,163	856
Employment programs.....	1,322	1,400	1,511
Social services and child welfare services.....	3,001	3,019	3,034
Other.....	2,539	2,399	2,974
Subtotal, social services and related programs.....	8,380	7,981	8,376
Aids to agriculture, commerce, and transportation:			
Agriculture.....	3,748	4,823	4,137
Postal Service.....	1,787	1,677	1,593
Small business assistance.....	581	795	646
General aids to commerce.....	670	633	958
Ground transportation.....	1,984	2,427	2,469
Air transportation.....	1,936	2,109	2,185
Water transportation.....	894	930	1,024
Other.....	505	778	1,201
Subtotal, aids to agriculture, commerce, and transportation.....	12,104	14,173	14,213

Table D-2. INVESTMENT, OPERATING, AND OTHER BUDGET OUTLAYS—Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Repair, maintenance, and operation of physical assets:			
Conservation and land management.....	409	551	437
Water resources.....	594	703	726
Recreational resources.....	435	469	511
Energy.....	-1,002	-1,272	-2,925
Other.....	-656	-1,004	-973
Subtotal, repair, maintenance and operation of physical assets.....	-220	-553	-2,225
General purpose fiscal assistance:			
General revenue sharing.....	6,848	6,863	6,857
Other general purpose grants-in-aid.....	671	940	1,945
Shared revenues.....	1,101	1,151	1,238
Subtotal, general purpose fiscal assistance..	8,620	8,953	10,040
Regulation, control, and law enforcement:			
Regulatory and inspection activities:			
Natural resources and environment.....	697	869	992
Transportation.....	633	804	770
Health.....	585	657	700
Energy.....	441	559	752
Agriculture.....	260	292	303
Commerce.....	-1,559	-1,723	-1,853
Other.....	732	828	884
Subtotal, regulatory and inspection activities.....	1,790	2,286	2,547
Law enforcement activities:			
Federal law enforcement.....	1,964	2,193	2,249
Federal litigative and judicial.....	1,120	1,377	1,459
Federal correctional activities.....	294	323	335
Other law enforcement assistance.....	505	444	434
Subtotal, law enforcement activities.....	3,883	4,337	4,477
Subtotal, regulation, control, and law enforcement.....	5,672	6,623	7,024
Net interest:			
Interest on the public debt.....	59,837	73,300	79,400
Other interest.....	-7,281	-9,970	-12,203
Interest received by trust funds (-).....	-9,950	-11,539	-12,958
Subtotal, net interest.....	42,606	51,791	54,239
Other current programs:			
International security assistance.....	-3	3,287	2,131
International affairs.....	2,160	1,416	1,561
Legislative branch.....	963	1,148	1,138
Other general government.....	2,708	3,304	3,127
Other.....	-136	-1,542	-2,658
Employer share, employee retirement (-).....	-5,271	-5,919	-6,161
Allowances for civilian agency pay raises.....			1,070
Subtotal, other current programs.....	420	1,694	208
Subtotal, current programs.....	297,352	349,684	387,035

Table D-2. INVESTMENT, OPERATING, AND OTHER BUDGET OUTLAYS—Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Unclassified		100	1,500
Total civil.....	375,993	433,215	469,520
Grand total.....	493,673	563,583	615,761

*\$500 thousand or less.

An additional view of Federal outlays is presented in tables D-3 and D-4, in which outlays are separated by grants-in-aid, loans, and direct Federal programs.

Grants-in-aid are resources provided by the Federal Government in support of State and local programs of governmental service to the public. Special Analysis H, "Federal Aid to State and Local Governments," discusses grants-in-aid in greater detail. *Loans* are made by the Federal Government to various borrowers to fulfill express program purposes; loans to State and local governments are identified separately from all other loans. *Direct Federal programs* are all other programs in the budget.

Table D-3. SUMMARY OF BUDGET OUTLAYS FOR GRANTS-IN-AID, LOANS, AND DIRECT FEDERAL PROGRAMS

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Grants-in-aid:			
Investment-type programs:			
Construction and rehabilitation of physical assets	19,846	19,970	20,977
Conduct of education and training.....	16,014	16,064	17,085
Other investment-type programs.....	626	794	1,002
Subtotal, investment-type programs.....	36,486	36,828	39,064
Current programs:			
Provision of benefits.....	28,098	33,519	37,045
Social services and related programs	7,323	6,935	7,254
Aids to agriculture, commerce, and transportation	1,005	1,139	1,244
General purpose fiscal assistance.....	8,654	8,988	10,075
Regulation, control, and law enforcement.....	758	737	795
Other current programs.....	534	799	834
Subtotal, current programs.....	46,372	52,117	57,247
Total grants-in-aid.....	82,858	88,945	96,312
Loans:			
To State and local governments.....	47	-12	103
To other borrowers.....	5,967	6,125	-622
Total loans.....	6,014	6,113	-520

Table D-3. SUMMARY OF BUDGET OUTLAYS FOR GRANTS-IN-AID, LOANS, AND DIRECT FEDERAL PROGRAMS—Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Direct Federal programs:			
Investment-type programs:			
Construction and rehabilitation of physical assets	8,579	9,351	9,877
Acquisition of major equipment	27,501	30,015	33,237
Conduct of research and development	26,063	29,270	32,160
Conduct of education and training	9,428	10,204	9,726
Other investment-type programs	6,144	7,571	8,605
Subtotal, investment-type programs	77,715	86,411	93,606
Current programs:			
Provision of benefits	201,993	237,496	271,847
Social services and related programs	1,058	1,046	1,122
Aids to agriculture, commerce, and transportation	11,099	13,034	12,969
Repair, maintenance, and operation of physical assets	37,195	41,321	45,256
Regulation, control, and law enforcement	4,915	5,886	6,229
Net interest	42,606	51,791	54,239
Other current programs	28,220	31,441	32,972
Subtotal, current programs	327,086	382,014	424,634
Total direct Federal programs	404,801	468,425	518,240
Unclassified		100	1,729
Grand total	493,673	563,583	615,761

Grants-in-aid to State and local governments are estimated to be \$96.3 billion in 1981. Of this amount, over two-fifths is for investment-type programs. Outlays for grants-in-aid for the construction and rehabilitation of physical assets and education and training programs are predominant.

Grants-in-aid providing current benefits account for the remaining three-fifths of estimated outlays for grants-in-aid in 1981. These funds are largely for health care or health services, nutrition, and housing assistance. General revenue sharing and shared revenues provide aid to State and local governments with few limitations on the use of the funds.

Outlays for Federal *loans* to State and local governments are estimated at \$0.1 billion in 1981; outlays for all other loans are estimated at -\$0.6 billion. Most Federal loans in 1981 are made for international programs. Other major direct loan programs in 1981 provide assistance to education, community and regional development, and transportation.

More than four-fifths of estimated 1981 outlays are for *direct Federal programs*. These programs are where the Federal Govern-

ment directly provides benefits, services, and other assistance. The largest share of these programs is for provision of benefits, including retirement and disability payments under social security and civil service, and military and foreign service retirement. Veterans' compensation and pensions and unemployment compensation also are included in this category.

Investment-type programs account for less than one-fifth of estimated 1981 outlays for direct Federal programs. These programs include military procurement and research and development; construction and rehabilitation of physical assets for natural resources and environment, including water resources and conservation, and land management projects; and research and development programs focused primarily on general science, space, and technological programs, energy, and health.

The remaining direct Federal programs include general administrative costs of the Federal Government, net interest, and other defense and nondefense programs.

Table D-4. BUDGET OUTLAYS FOR GRANTS-IN-AID, LOANS, AND DIRECT FEDERAL PROGRAMS

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Grants-in-aid			
Investment-type programs:			
Construction and rehabilitation of physical assets:			
Highways and mass transit.....	8,796	9,613	10,241
Other transportation	579	665	682
Pollution control and abatement.....	3,756	3,900	3,950
Other natural resources and environment.....	289	270	280
Community development block grants	3,161	3,500	3,805
Local public works	1,741	358	200
Other community and regional development.....	1,252	1,410	1,581
Other	271	254	238
Subtotal, construction and rehabilitation of physical assets.....	19,846	19,970	20,977
Conduct of education and training:			
Employment and training assistance.....	8,682	8,089	8,797
Elementary and secondary education.....	3,115	3,387	3,658
Other education	3,609	3,935	3,997
Other	608	654	633
Subtotal, conduct of education and training	16,014	16,064	17,085
Other investment-type programs	626	794	1,002
Subtotal, investment-type programs.....	36,486	36,828	39,064
Current programs:			
Provision of benefits:			
Medicaid.....	12,407	14,160	15,768
Nutrition programs	3,344	3,949	3,869
Assistance payments	5,638	5,974	6,260
Housing payments and subsidies.....	2,753	3,633	4,387
Other	1,612	2,920	3,534

Table D-4. BUDGET OUTLAYS FOR GRANTS-IN-AID, LOANS, AND DIRECT FEDERAL PROGRAMS—
Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Administrative expenses:			
Social Security Administration.....	943	1,028	1,122
Nutrition programs.....	447	542	610
Unemployment compensation.....	952	1,194	1,335
Other.....	1	120	160
Subtotal, administrative expenses.....	2,343	2,883	3,227
Subtotal, provision of benefits.....	28,098	33,519	37,045
Social services and related programs:			
Employment programs.....	1,082	1,155	1,250
Human development services.....	1,447	1,089	781
Social services and child welfare services.....	3,001	3,019	3,034
Other.....	1,793	1,672	2,188
Subtotal, social services and related programs.....	7,323	6,935	7,254
Aids to agriculture, commerce, and transportation:			
Transportation.....	952	1,101	1,185
Other.....	54	39	59
Subtotal, aids to agriculture, commerce, and transportation.....	1,005	1,139	1,244
General purpose fiscal assistance:			
General revenue sharing.....	6,848	6,863	6,857
Other.....	1,807	2,126	3,218
Subtotal, general purpose fiscal assistance..	8,654	8,988	10,075
Regulation, control, and law enforcement:			
Law enforcement.....	442	404	417
Other.....	316	333	378
Subtotal, regulation, control, and law enforcement.....	758	737	795
Other current programs.....	534	799	834
Subtotal, current programs.....	46,372	52,117	57,247
Total grants-in-aid.....	82,858	88,945	96,312
Loans			
To State and local governments:			
Community and regional development.....	-18	-104	-37
Other.....	65	92	140
Subtotal, to State and local governments....	47	-12	103
To other borrowers:			
International affairs.....	1,745	2,543	2,402
Community and regional development.....	1,060	597	390
Agriculture.....	1,300	-1,130	-2,541
Transportation.....	798	751	369
Education.....	522	477	572

Table D-4. BUDGET OUTLAYS FOR GRANTS-IN-AID, LOANS, AND DIRECT FEDERAL PROGRAMS—
Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Other.....	542	2,888	-1,815
Subtotal, to other borrowers.....	5,967	6,125	-622
Total loans.....	6,014	6,113	-520
Direct Federal Programs			
Investment-type programs:			
Construction and rehabilitation of physical assets:			
National defense.....	2,202	2,312	2,250
Water resource projects.....	2,269	2,410	2,262
Other natural resources and environment.....	669	722	602
Energy.....	2,093	2,383	3,098
Transportation.....	302	413	469
Veterans hospitals.....	236	264	371
Health.....	177	171	161
Other.....	630	675	665
Subtotal, construction and rehabilitation of physical assets.....	8,579	9,351	9,877
Acquisition of major equipment:			
National defense.....	26,782	29,330	32,576
Energy.....	201	132	89
Transportation.....	374	421	406
Other.....	143	131	166
Subtotal, acquisition of major equipment....	27,501	30,015	33,237
Conduct of research and development.....	26,063	29,270	32,160
Conduct of education and training:			
Assistance to veterans.....	3,011	2,511	2,264
Higher education.....	3,838	4,824	4,493
Elementary and secondary education.....	416	472	494
Employment and training assistance.....	744	815	901
Health.....	437	480	433
Other.....	983	1,103	1,142
Subtotal, conduct of education and training	9,428	10,204	9,726
Other investment-type programs:			
Financial investments.....	683	990	1,133
Commodity inventories.....	1,488	896	1,648
Other physical assets.....	1,328	1,858	1,873
International development.....	1,444	2,001	2,514
Collection of information.....	1,202	1,827	1,437
Subtotal, other investment-type programs....	6,144	7,571	8,605
Subtotal, investment-type programs.....	77,715	86,411	93,606
Current programs:			
Provision of benefits:			
Retirement and survivor benefits.....	112,391	130,171	151,469
Disability benefits.....	27,451	30,812	34,527
Medicare.....	28,158	32,427	36,171
Other health.....	775	941	955

Table D-4. BUDGET OUTLAYS FOR GRANTS-IN-AID, LOANS, AND DIRECT FEDERAL PROGRAMS—
Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Unemployment compensation.....	9,734	14,355	17,354
Nutrition programs.....	6,592	8,412	9,291
Housing payments and subsidies.....	1,464	1,500	2,046
Medical care for veterans.....	4,848	5,589	5,710
Supplemental security income.....	4,762	5,618	6,106
Earned income tax credit.....	773	1,696	1,570
Other.....	925	1,380	1,564
Administrative expenses:			
Social Security Administration.....	2,117	2,301	2,478
Nutrition programs.....	129	161	226
Unemployment compensation.....	94	102	107
Medicare.....	988	1,102	1,159
Other.....	793	928	1,114
Subtotal, administrative expenses.....	4,122	4,594	5,084
Subtotal, provision of benefits.....	201,993	237,496	271,847
Social services and related programs:			
Community and regional development.....	554	507	475
Other.....	504	539	647
Subtotal, social services and related programs.....	1,058	1,046	1,122
Aids to agriculture, commerce, and transportation:			
Agriculture.....	3,748	4,823	4,137
Postal Service.....	1,787	1,677	1,593
Small business assistance.....	581	795	646
Commerce.....	658	627	954
Ground transportation.....	1,035	1,329	1,287
Air transportation.....	1,936	2,109	2,185
Water transportation.....	894	930	1,024
Other.....	461	743	1,143
Subtotal, aids to agriculture, commerce, and transportation.....	11,099	13,034	12,969
Repair, maintenance, and operation of physical assets:			
National defense.....	37,731	42,322	47,948
Water resources.....	594	703	726
Conservation and land management.....	409	551	437
Other natural resources and environment.....	-409	-594	-620
Energy.....	-1,034	-1,446	-3,124
Other.....	-97	-215	-110
Subtotal, repair, maintenance, and operation of physical assets.....	37,195	41,321	45,256
Regulation, control, and law enforcement.....	4,915	5,886	6,229
Net interest.....	42,606	51,791	54,239
Other current programs:			
Military personnel.....	27,972	30,071	31,181
Other national defense.....	44	24	129

Table D-4. BUDGET OUTLAYS FOR GRANTS-IN-AID, LOANS, AND DIRECT FEDERAL PROGRAMS—
Continued

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Other nondefense.....	205	1,346	-1,227
Allowance for Department of Defense pay raises.....			1,819
Allowance for civilian agency pay raises.....			1,070
Subtotal, other current programs.....	28,220	31,441	32,972
Subtotal, current programs.....	327,086	382,014	424,634
Total direct Federal programs.....	404,801	468,425	518,240
Unclassified.....		100	1,729
Grand total.....	493,673	563,583	615,761

SPECIAL ANALYSIS E

BORROWING, DEBT, AND INVESTMENT

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

- the borrowing of cash to meet current outlays not covered by receipts and to refinance maturing debt;
- the investment of balances that trust funds and other Government accounts do not currently need for outlays; and
- the provision of assistance, including guarantees, for certain private borrowing.

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 abroad, agency borrowing, agency investment in Federal securities, the statutory debt limit, 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 funds raised by the nonfinancial sector of the economy. Excluded from this analysis are other types of Federal liabilities, which include accounts payable, obligations for undelivered orders, long-term contracts, insurance commitments, and the obligation for such future payments as social security and employee retirement.¹

Special Analysis F examines the related subject of Federal credit programs, which include direct loans, loan guarantees, and loans by Government-sponsored enterprises. The factors discussed in both Special Analyses E and F are significant in appraising the impact on financial markets of the programs contained in the 1981 Federal budget.

BORROWING AND REPAYING DEBT

The Federal Government sells debt for two principal reasons. First, it sells debt to the public, largely in order to finance the Federal deficit. Second, it sells debt to the Government agencies that accumulate surpluses in separate funds, primarily trust funds, that are required by law to be invested in Federal securities. Most Federal debt has been issued by the Treasury and is called "public

¹ Information on many of these liabilities is contained in "Statement of Liabilities and Other Financial Commitments of the United States Government," an annual report prepared by the Bureau of Government Financial Operations of the Department of the Treasury.

debt," but a small portion has been issued by other Government agencies and is called "agency debt."²

Borrowing from the public—whether by the Treasury or by an agency—has a significant impact on financial markets and the rest of the economy, and is consequently an important concern of Federal fiscal policy. Borrowing from the public includes borrowing from the Federal Reserve System as well as borrowing from commercial banks, foreign central banks, other financial institutions and businesses, and individuals. "Borrowing from the Federal Reserve System" does not ordinarily mean that the Treasury sells debt securities directly to the Federal Reserve. This occurs only in exceptional circumstances and then in amounts limited by statute. The Federal Reserve System normally buys debt securities in the open market.

For most purposes borrowing from the Federal Reserve System should be distinguished from borrowing from the rest of the public. Federal Reserve purchases of debt are undertaken to carry out monetary policy, not to earn income, and 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. The debt held outside the Federal Reserve System 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 System is returned to the Treasury as receipts, called deposits of earnings, so the Federal Reserve holdings of debt have only a small 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 System 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 1979 through 1983. In 1979 the total Federal borrowing (net of the refunding of securities)—i.e., the rise in gross Federal debt—was \$53.3 billion. The sale of debt to Government agencies was \$19.7 billion, and the sale of debt to the public was \$33.6 billion. Of the increase in debt held by the public, \$0.1 billion was purchased by the Federal Reserve System and \$33.5 billion by the rest of the public.

²The 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-6 but also the debt of the Government-sponsored enterprises listed in table E-10 and certain Government-guaranteed securities.

Table E-1. FEDERAL BORROWING

(In millions of dollars)

Description	Borrowing or repayment (-) of debt					Debt outstanding, end of year	
	1979 actual	1980 estimate	1981 estimate	1982 estimate	1983 estimate	1981 estimate	1983 estimate
Gross Federal debt:							
Treasury debt	54,975	59,596	47,111	NA	NA	933,226	NA
Agency debt	-1,649	-535	-566	NA	NA	6,131	NA
Gross Federal debt	<u>53,326</u>	<u>59,061</u>	<u>46,545</u>	<u>33,231</u>	<u>16,230</u>	<u>939,357</u>	<u>988,818</u>
Less debt held by Gov. agencies:							
Treasury debt	19,710	14,750	13,447	NA	NA	215,880	NA
Agency debt	-25	11	-3	NA	NA	1,487	NA
Debt held by Gov. agencies ¹	<u>19,685</u>	<u>14,761</u>	<u>13,445</u>	<u>23,965</u>	<u>28,965</u>	<u>217,368</u>	<u>270,298</u>
Total, debt held by public	<u>33,641</u>	<u>44,300</u>	<u>33,100</u>	<u>9,266</u>	<u>-12,735</u>	<u>721,989</u>	<u>718,520</u>
Composed of:							
Debt held by the Federal Reserve System	113	NA	NA	NA	NA	NA	NA
Debt held by others	33,528	NA	NA	NA	NA	NA	NA

NA = Not available.

¹ Estimates for agency investment in 1982 and 1983 are equal to the total trust fund surplus less the surplus of the energy security trust fund.

Borrowing from the public has fluctuated sharply. It rose from \$3.0 billion in 1974 to \$82.9 billion in 1976 primarily because the 1974-75 recession and its aftermath automatically reduced tax receipts and raised unemployment benefits and certain other spending, and because tax reductions and some expenditure programs were enacted to stimulate the economy. The decline in borrowing from 1976 to 1979 was mainly due to the economic recovery.

Borrowing from the public is estimated to rise to \$44.3 billion in 1980 due to the automatic effects on the deficit of the recession that is forecast for the first half of calendar year 1980. Borrowing in 1981 is then estimated to decrease to \$33.1 billion, just under the 1979 level, as the economy gradually recovers. By the end of 1981 gross Federal debt is estimated to be \$939.4 billion, with \$722.0 billion or 77% held by the public (including the Federal Reserve System) and the remainder by the agencies. Almost all of the gross Federal debt will have been issued by the Treasury.

Borrowing from the public for years beyond the budget year is estimated as part of the Government's multiyear budget planning. As explained in Part 3 of the *Budget* and amplified in the *Economic Report of the President*, the economic assumptions underlying the receipts and outlay estimates for 1982 and 1983 are not forecasts of the probable economic conditions in these years, unlike the

economic forecast underlying the 1980 and 1981 estimates. Instead, these assumptions are projections that assume progress in moving toward the administration's goals of a more fully employed economy and greater price level stability. Specifically, it is assumed that the economy will move progressively toward a 4% unemployment rate in 1985 and a 3% inflation rate in 1988. The receipts and outlay estimates also assume the continuation of current tax laws as modified by proposals in the budget and the continuation of existing and currently proposed programs at the levels tentatively planned for 1982 and 1983.

Under these assumptions, the total Government deficit declines considerably in 1982 and turns into a surplus in 1983. Borrowing from the public decreases to \$9.3 billion in 1982, and \$12.7 billion of debt held by the public is repaid in 1983. Despite the projected surplus, gross Federal debt continues to rise in 1983 because, as explained on page 133 of this analysis, the surplus is more than fully accounted for by the trust funds part of the budget. The projected surplus in 1983 may not, of course, actually occur. It simply indicates the resources that will be available to accommodate discretionary budget decisions—tax cuts, new or expanded programs, or reductions in the debt held by the public. Fiscal policy adjustments will probably be required in the future to achieve the goals of sustained economic growth and reduced unemployment.

BORROWING AND GOVERNMENT DEFICITS

Table E-2 shows the way in which borrowing from the public is related to the Federal deficit. Until a few years ago the budget deficit comprised practically the entire deficit of the Federal Government, but the deficit of the off-budget Federal entities is now significant. These entities, such as the Federal Financing Bank and the Postal Service, are parts of the Federal Government but have been excluded from the budget under provisions of law.

The Government deficit is financed either by borrowing from the public or by several other means. These other means of financing the deficit may be either positive, in which case they finance part of the deficit; or negative, in which case they, like the deficit, must themselves be financed by borrowing from the public. In 1979 the total Government deficit was \$40.2 billion. The greater part of this amount, \$33.6 billion, was borrowed from the public, and the remaining \$6.5 billion was financed by other means.

Table E-2. MEANS OF FINANCING THE FEDERAL DEFICIT¹

(In millions of dollars)

Description	1979 actual	1980 estimate	1981 estimate	1982 estimate	1983 estimate
Budget surplus or deficit (—).....	–27,733	–39,754	–15,773	4,818	24,509
Deficit (—) of off-budget Federal entities ²	–12,428	–16,766	–18,090	–15,078	–12,852
Total, surplus or deficit (—).....	–40,162	–56,519	–33,862	–10,259	11,657
Means of financing other than borrowing from the public:					
Decrease or increase (—) in cash and monetary assets.....	2,131	10,103	.....	.....	.....
Increase or decrease (—) in liabilities for:					
Checks outstanding, etc. ³	735	265	–269	.....	.....
Deposit fund balances.....	2,662	898	584	.....	.....
Seigniorage on coins.....	992	953	447	993	1,079
Total, means of financing other than borrowing from the public.....	6,521	12,219	762	993	1,079
Total, requirements for borrowing from the public.....	–33,641	–44,300	–33,100	–9,266	12,735
Change in debt held by the public.....	33,641	44,300	33,100	9,266	–12,735

¹ Several amounts have been assumed to be zero in 1981 and 1982 because they are usually small and would be very difficult to estimate accurately.² The off-budget Federal entities consist of the Rural Electrification and Telephone revolving fund, Rural Telephone Bank, Pension Benefit Guaranty Corporation, Federal Financing Bank, Postal Service fund, one program of the U.S. Railway Association, and the Energy Security Corporation.³ Besides checks outstanding, includes military payment certificates, accrued interest (less unamortized discount) payable on Treasury debt, and, as an offsetting change in assets, certain collections in transit.

The means of financing a deficit other than borrowing from the public are:

- A decrease in cash or monetary assets.
- An increase in monetary liabilities for checks outstanding, accrued interest payable to the public, etc.
- An increase in deposit fund balances, which include amounts held by the Government as an agent for others (such as State income taxes withheld from Federal employees' salaries and not yet paid to the State) or amounts held in suspense temporarily before being refunded or paid into some other fund.
- Seigniorage, which is the face value of minted coins less the cost of their production.

These 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, 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 year and tend to be 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.

Nevertheless, these other means of financing are at times significant, and in 1980 are estimated to finance \$12.2 billion of the

deficit. This amount is accounted for primarily by an extraordinarily large decrease of \$10.1 billion in cash and monetary assets. At the end of 1979 Treasury's cash balances were more than is ordinarily needed for operations, so Treasury plans to reduce them. As a result, the rise in borrowing in 1980 and the decline in 1981 are a good deal less than the rise and fall in the deficit for these years.

Table E-2 illustrates that, because of the off-budget Federal entities, balancing the budget is not enough to prevent an increase in the Federal debt held by the public. In 1982 the budget has a projected surplus, but the off-budget deficit is larger and the Government has to borrow from the public. Only in 1983, when the budget surplus is projected to be larger than the off-budget deficit, is the Government able to repay debt held by the public. The budget and the off-budget entities combined must be in balance in order for the Government not to have to borrow from the public (aside from the effects of the other means of financing).

The sale of debt to Federal agencies largely depends on the surpluses of the trust funds, which own 92% of the Federal debt held by Government agencies. Agency investment in Federal securities and the total trust fund surplus during 1978-81 are compared in the table below (in billions of dollars):

	1978 <i>actual</i>	1979 <i>actual</i>	1980 <i>estimate</i>	1981 <i>estimate</i>
Agency investment in Federal debt	12.2	19.7	14.8	13.4
Total trust fund surplus	12.7	18.3	18.1	30.8
Total trust fund surplus, excluding Energy security trust fund.....	12.7	18.3	12.4	13.8

As the table shows, the agency investment in Federal securities is similar in size to the total trust fund surplus in 1978 and 1979. This relationship has historically been close, with the small differences accounted for by two factors. Certain agencies other than trust funds buy or sell Federal debt, as shown in table E-7, and the trust funds may increase or decrease their open book balances.³

Beginning in 1980, however, the total trust fund surplus starts to become much larger than the agency investment in Federal debt. This is due to the proposed energy security trust fund. The fund has a large surplus in its early years because the windfall profit tax yields much more revenue than is spent, but it does not have the authority to invest its balances in debt. The total trust fund surplus excluding the energy security trust fund maintains the normal close relationship to agency investment in Federal debt during 1980 and 1981.

³ Open book balances are cash assets not currently invested. As shown in Special Analysis C, they are small relative to trust fund holdings of Federal debt.

SIZE AND GROWTH OF FEDERAL DEBT

Gross Federal debt has risen substantially over the past half century, from \$17 billion in 1929 to \$833.8 billion at the end of 1979. Table E-3 presents the detail of Federal debt since 1954 and shows that a sizable part of the increase is held in Federal Government accounts (primarily trust funds) rather than being owed to

Table E-3. COMPARISON OF TRENDS IN FEDERAL DEBT AND GROSS NATIONAL PRODUCT

(Dollar amounts in billions)

Fiscal year	Debt outstanding, end of year						Debt held by public as percent of GNP
	Gross Federal debt	Federal Government accounts	Held by			GNP	
			Total	Federal Reserve System	Other		
1954.....	270.8	46.3	224.5	25.0	199.5	363.6	61.7
1955.....	274.4	47.8	226.6	23.6	203.0	380.0	59.6
1956.....	272.8	50.5	222.2	23.8	198.5	411.0	54.1
1957.....	272.4	52.9	219.4	23.0	196.4	432.7	50.7
1958.....	279.7	53.3	226.4	25.4	200.9	442.1	51.2
1959.....	287.8	52.8	235.0	26.0	209.0	473.3	49.7
1960.....	290.9	53.7	237.2	26.5	210.7	497.3	47.7
1961.....	292.9	54.3	238.6	27.3	211.4	508.3	46.9
1962.....	303.3	54.9	248.4	29.7	218.7	546.9	45.4
1963.....	310.8	56.3	254.5	32.0	222.4	576.3	44.2
1964.....	316.8	59.2	257.6	34.8	222.8	616.2	41.8
1965.....	323.2	61.5	261.6	39.1	222.5	657.1	39.8
1966.....	329.5	64.8	264.7	42.2	222.5	721.1	36.7
1967.....	341.3	73.8	267.5	46.7	220.8	774.4	34.5
1968.....	369.8	79.1	290.6	52.2	238.4	829.9	35.0
1969 ¹	367.1	87.7	279.5	54.1	225.4	903.7	30.9
1970 ²	382.6	97.7	284.9	57.7	227.2	959.0	29.7
1971.....	409.5	105.1	304.3	65.5	238.8	1,019.3	29.9
1972.....	437.3	113.6	323.8	71.4	252.3	1,110.5	29.2
1973 ³	468.4	125.4	343.0	75.2	267.9	1,237.5	27.7
1974.....	486.2	140.2	346.1	80.0	265.4	1,359.2	25.5
1975.....	544.1	147.2	396.9	85.0	311.9	1,457.3	27.2
1976 ⁴	631.9	151.6	480.3	94.7	385.6	1,621.0	29.6
TQ.....	646.4	148.1	498.3	96.7	401.6	1,715.8	29.0
1977.....	709.1	157.3	551.8	105.0	446.8	1,843.3	29.9
1978.....	780.4	169.5	610.9	115.5	495.5	2,060.4	29.7
1979.....	833.8	189.2	644.6	115.6	529.0	2,313.4	27.9
1980 estimate.....	892.8	203.9	688.9	NA	NA	2,518.0	27.4
1981 estimate.....	939.4	217.4	722.0	NA	NA	2,764.4	26.1
1982 estimate.....	972.6	241.3	731.3	NA	NA	3,107.6	23.5
1983 estimate.....	988.8	270.3	718.5	NA	NA	3,513.0	20.5

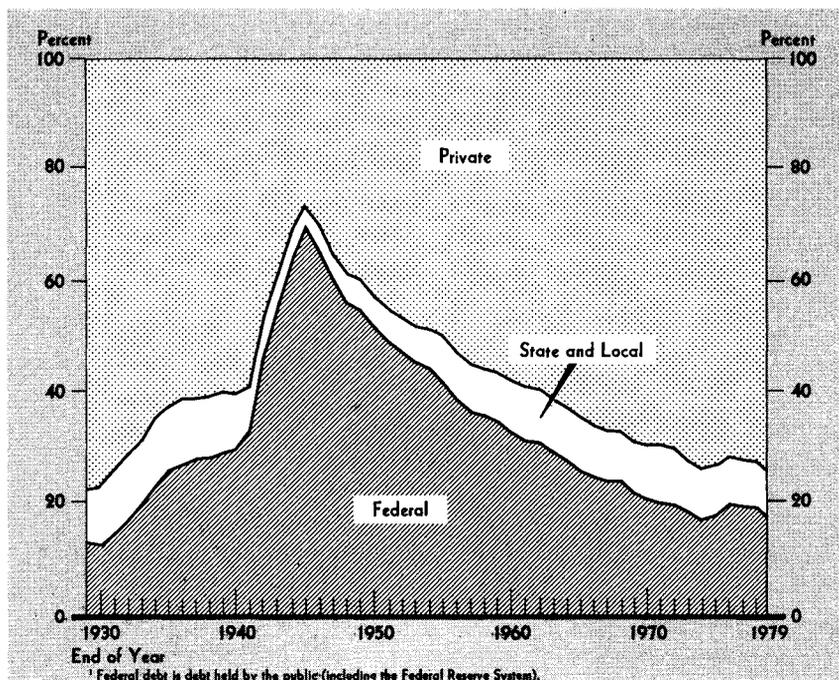
NA = Not available.

¹ During 1969, 3 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.

² 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.

³ 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.

⁴ 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.

Percent Distribution of Indebtedness¹

the public. From the end of 1954 to the end of 1979, gross Federal debt rose by 208% while debt held by the public rose by 187%. Federal debt held by the public apart from the Federal Reserve System rose still less, by 165%—an average annual rate of growth of 4.0% over the 25 years—because during this period the Federal Reserve System bought a large quantity of Federal debt in the market, thereby expanding the reserves of the banking system and increasing the Nation's money stock.

During the depression of the 1930's and during World War II, Federal debt held by the public increased greatly, not only in absolute amount but also, as shown in the preceding chart, as a proportion of the total credit market debt owed by nonfinancial sectors of the economy: Federal, State and local, and private.⁴ Whereas Federal debt held by the public was only 13% of total debt at the end of calendar year 1929, it had risen to 70% by the end of calendar year 1945. Federal borrowing was large during these years, particularly 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.

⁴The 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.

From 1945 to 1974, however, private debt increased as a proportion of total debt in every year but one, and likewise in every year but one the Federal debt held by the public decreased as a proportion of the total. This uninterrupted trend ended in 1975 because of the large Federal deficit caused by the recession. Another large Federal deficit in 1976 caused Federal debt held by the public to rise as a percentage of total debt again in that year, but in 1977 the Federal percentage of total debt resumed its downward trend. Over the last 20 years, from 1959 to 1979, the average annual compound rate of growth was 5.2% for Federal debt held by the public, 8.0% for State and local debt, and 10.2% for private debt. By the end of 1979, Federal debt held by the public had decreased to 17% of total debt. As a result of these trends, Federal debt and borrowing, though still important, have become relatively much smaller influences in the financial market.

During the same period Federal debt has decreased relative to gross national product (GNP). As shown in table E-3, debt held by the public equaled 62% of GNP at the end of 1954 but declined steadily to 25% by the end of 1974. In 1975, however, due to the recession, debt held by the public rose as a percentage of GNP, at the same time as it rose as a percentage of total debt; and it rose again in the following 2 years. The percentage declined in 1978 and 1979, especially in 1979, and is estimated to decline considerably more through 1981.

The interest cost of the debt may be more significant than the amount of the debt for some types of comparison designed to measure the importance of Federal indebtedness. Interest on the debt held by the public has risen much faster than the debt itself, due to a strong upward trend since World War II in the interest rates that must be paid on new borrowings and on refunded debt. The interest rates on 91-day Treasury bills, for example, averaged 10.0% in calendar year 1979 compared to 5.9% in 1970-78, 4.0% in the 1960's, and 2.0% in the 1950's. Consequently, whereas the Federal debt held by the public almost tripled between 1954 and 1979, table E-4 shows that the interest paid on this debt increased by nine times.

Interest payments to the public have tended to grow faster than GNP over this entire period. In the first 5 years interest was equal to 1.39% of GNP, whereas by the last 5 years the proportion had risen to 1.84%. The percentage was clearly higher in 1979 than in any preceding year and is estimated to be higher still in 1980 and 1981. These estimates assume that market interest rates will decline with the estimated decrease in the rate of inflation. Interest as a percentage of budget outlays, on the other hand, does not show a sustained trend over the period as a whole. However, this per-

centage has recently been rising steadily and in 1979 was clearly the highest in the last quarter century. In 1980 and 1981 this percentage is estimated to be higher still. Thus, by either measure the importance of interest on the debt is now relatively high and rising.

Table E-4. COMPARISON OF 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			Budget outlays ^{3}
			The public		Other			
			Total	Federal Reserve System ²				
1954.....	6.4	1.3	5.2	0.5	4.7	1.42	7.29	
1955.....	6.4	1.2	5.2	.4	4.8	1.36	7.56	
1956.....	6.8	1.3	5.6	.5	5.1	1.35	7.90	
1957.....	7.3	1.4	5.9	.7	5.3	1.37	7.73	
1958.....	7.8	1.4	6.3	.7	5.6	1.43	7.68	
1959.....	7.8	1.4	6.4	.8	5.6	1.35	6.96	
1960.....	9.5	1.5	8.1	1.0	7.1	1.62	8.73	
1961.....	9.3	1.5	7.8	1.0	6.8	1.53	7.96	
1962.....	9.5	1.6	7.9	1.0	6.9	1.45	7.40	
1963.....	10.3	1.6	8.7	1.1	7.6	1.50	7.78	
1964.....	11.0	1.8	9.2	1.2	8.0	1.50	7.80	
1965.....	11.8	2.0	9.8	1.4	8.4	1.49	8.29	
1966.....	12.6	2.1	10.4	1.7	8.7	1.45	7.75	
1967.....	14.2	2.6	11.6	2.0	9.6	1.50	7.36	
1968.....	15.6	3.0	12.6	2.4	10.2	1.52	7.07	
1969.....	17.6	3.5	14.1	2.9	11.2	1.56	7.66	
1970.....	20.0	4.4	15.6	3.5	12.2	1.63	7.95	
1971.....	21.6	5.3	16.3	3.7	12.6	1.60	7.73	
1972.....	22.5	5.8	16.6	3.7	12.9	1.50	7.16	
1973.....	24.8	6.3	18.5	4.3	14.2	1.50	7.49	
1974.....	30.0	7.7	22.4	5.5	16.9	1.64	8.29	
1975.....	33.5	8.8	24.7	6.1	18.6	1.69	7.56	
1976.....	37.7	9.0	28.7	6.3	22.5	1.77	7.84	
TQ.....	8.3	.6	7.6	NA	NA	1.78	8.07	
1977.....	42.6	9.6	33.0	6.8	26.2	1.79	8.20	
1978.....	49.3	10.2	39.2	8.0	31.2	1.90	8.68	
1979.....	60.3	12.1	48.3	9.5	38.8	2.09	9.78	
1980 estimate.....	73.7	14.1	59.6	NA	NA	2.37	10.57	
1981 estimate.....	79.8	15.8	64.0	NA	NA	2.31	10.39	

NA= Not available.

¹ Total interest significantly exceeds the outlays for the interest function in the budget, because the interest function includes collections of interest as an offset to outlays.² These figures are approximate. For most years they are estimated as the average of calendar year amounts. The 1979 estimate is tentative.³ Budget outlays for all years are published in the *Budget*, Part 9, table 23.

Since the end of World War II the composition of the Federal debt has changed. Until recently an increasingly large proportion of marketable securities had a short maturity. One contributing

factor was the statutory ceiling of 4¼% that has been maintained since 1918 on the interest rate for Treasury bonds. Because long-term market rates exceeded 4¼% after 1965, the ceiling eventually prevented the Treasury from selling long-term obligations.

This restriction on Treasury borrowing has been relaxed in two ways. One method has been to increase the maximum maturity of notes, which are 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 December 31, 1979, the amount of notes outstanding with a maturity over 5 years was \$118.2 billion, of which \$40.3 billion had a maturity over 7 years. The other method of relaxing the restriction has been to allow limited amounts of bonds to be sold at interest rates above the ceiling. In 1971 Treasury was allowed by law to issue up to \$10 billion of bonds at interest rates above 4¼%. In 1973 those bonds held by Government accounts and the Federal Reserve System were exempted from the interest rate limit, and since 1976 the amount of the exception has been raised in six steps to \$50 billion. As of December 31, 1979, \$59.4 billion of bonds outstanding had been sold since the change of law in 1971, of which \$40.3 billion were held by the public exclusive of the Federal Reserve System. The effective interest rates have ranged from 6.1 to 10.4%.

Notwithstanding the initial relaxations of the interest rate ceiling, the average maturity of marketable Treasury debt decreased steadily from 4 years at the end of 1967 to about 2½ years at the end of 1976. Since then, however, as the restriction has been relaxed further, the average maturity has gradually lengthened to about 3½ years.

DEBT HELD ABROAD

The Federal debt was historically 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% of the total debt held by the public. In the following years the debt held abroad tended to grow gradually, and, as shown in table E-5, rose to just over \$10.0 billion by the late 1960's. 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.

Table E-5. FOREIGN HOLDINGS OF FEDERAL DEBT

(In billions of dollars)

Fiscal year	Debt held by the public		Borrowing from the public		Interest on debt	
	Total	Foreign ¹	Total ²	Foreign	Total	Foreign ³
1965	261.6	12.3	4.1	0.3	9.8	0.5
1966	264.7	11.6	3.1	-.7	10.4	.5
1967	267.5	11.4	2.8	-.2	11.6	.6
1968	290.6	10.7	23.1	-.7	12.6	.7
1969	279.5	10.3	-1.0	-.4	14.1	.7
1970	284.9	14.0	3.8	3.8	15.6	.8
1971	304.3	31.8	19.4	17.8	16.3	1.3
1972	323.8	49.2	19.4	17.3	16.6	2.4
1973	343.0	59.4	19.3	10.3	18.5	3.2
1974	346.1	56.8	3.0	-2.6	22.4	4.1
1975	396.9	66.0	50.9	9.2	24.7	4.5
1976	480.3	69.8	82.9	3.8	28.7	4.4
TQ	498.3	74.6	18.0	4.9	7.6	1.2
1977	551.8	95.5	53.5	20.9	33.0	5.0
1978	610.9	120.9	59.1	25.4	39.2	7.9
1979	644.6	125.2	33.6	4.3	48.3	10.8

¹ Estimated by Treasury Department. These estimates exclude agency debt, the holdings of which are believed to be small.

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-3.

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

Foreign holdings began to grow much faster in 1970. This change arose in part out 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, and 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 denominated official reserves, they purchased a large amount of U.S. Government securities. The second principal reason for the growth of foreign holdings has been the massive current account surpluses of some countries, particularly the OPEC nations, since 1974. The counterpart to these surpluses has been the acquisition of financial assets, and the financial assets acquired in the United States have largely taken the form of U.S. Government securities.

The increase in foreign holdings of U.S. Government securities during the past decade has therefore been primarily the product of foreign decisions. By the end of 1979 foreign holdings of Treasury debt had reached \$125.2 billion, which was 19% of the total debt held by the public. Interest paid to foreign residents as a proportion of the total interest paid to the public grew over this period in roughly the same way as did the foreign holdings of debt.

In the years before 1970, when debt held abroad was so small, borrowing from the public was approximately the same as borrowing from the domestic public. Since 1970, though, borrowing from the domestic public has generally been quite different from total borrowing. The relative importance of borrowing from abroad has varied, as table E-5 shows, but for the period as a whole borrowing from abroad was 32% of borrowing from the public. For the last 3 years borrowing from abroad was 35%. Borrowing from abroad is, of course, an even larger proportion of total borrowing from the public exclusive of the debt sold to the Federal Reserve System.

Nearly all the Federal debt held abroad is owned by foreign central banks or other official institutions and is denominated in dollars. On November 1, 1978, however, the administration announced that as part of its plan to strengthen the dollar the Treasury would sell in private markets abroad up to \$10 billion of securities denominated in certain foreign currencies. Beginning in December 1978, the Treasury has sold the equivalent of \$5.3 billion of securities denominated in Deutsche marks and Swiss francs to residents of Germany and Switzerland, respectively. By selling these securities, the Treasury acquires foreign currencies for use in intervention operations that are designed to deal with disturbances in the foreign exchange market.

BORROWING BY FEDERAL AGENCIES

A few Government agencies are authorized to sell their own debt instruments to the public and to other Government agencies and funds. This agency borrowing is part of the gross Federal debt. The authorization to borrow is budget authority, and the disbursement of borrowed money is an outlay. Agency debt includes the borrowings of the off-budget Federal entities.

Agency borrowing was shown in total in table E-1 and is shown by agency in table E-6. In all years shown more debt is repaid than is newly borrowed, and over the period as a whole total agency debt decreases by \$2.7 billion or by one-third. The agency debt outstanding at the end of 1981 is less than 1% of gross Federal debt.

Table E-6. AGENCY BORROWING ¹

(In millions of dollars)

Description	Borrowing or repayment (-) of debt			Debt end 1981 estimate
	1979 actual	1980 estimate	1981 estimate	
Borrowing from the public:				
Agriculture: Farmers Home Administration ²				172
Defense	-108	-122	-110	452
Education:				
College housing loans ²				249
Health education facilities ²				91
Health and Human Services ²				5
Housing and Urban Development:				
Federal Housing Administration	-54	-64	-47	289
Housing for elderly or handicapped ²				52
Government National Mortgage Assoc. ²	-65	-58	-30	356
Revolving fund (liquidating programs) ²				68
Transportation: Coast Guard	*	*	*	1
Veterans Administration ²	-90	-99	-97	308
Export-Import Bank	-1,207	-204	-279	450
Postal Service				250
Small Business Administration ²				174
Tennessee Valley Authority	-100			1,725
Total, borrowing from the public	-1,624	-546	-564	4,644
Borrowing from other funds:				
Agriculture: Farmers Home Administration ²				146
Defense	-22	-10	-16	57
Education:				
College housing loans ²				215
Health education facilities ²				75
Health and Human Services ²				5
Housing and Urban Development:				
Federal Housing Administration	4	27	13	191
Housing for elderly or handicapped ²				45
Government National Mortgage Assoc. ²	-3	-2		292
Revolving fund (liquidating programs) ²				56
Veterans Administration ²	-5	-3		269
Small Business Administration ²				137
Total, borrowing from other funds	-25	11	-3	1,487
Total, agency borrowing included in gross Federal debt	-1,649	-535	-566	6,131
MEMORANDUM				
Borrowing from Federal Financing Bank:				
Export-Import Bank	1,385	1,289	1,567	10,809
National Credit Union Central Liquidity Facility		300		300
Postal Service	-527	-67	-232	1,288
Tennessee Valley Authority	1,905	1,900	2,200	11,225
United States Railway Association	89	68	68	581
Total, agency borrowing from Federal Financing Bank	2,852	3,490	3,603	24,203

* \$500 thousand or less.

¹ Excludes agency borrowing from Treasury.² Certificates of participation in loans issued by the Government National Mortgage Association on behalf of several agencies.

As shown in the memorandum section of table E-6, the amount of agency borrowing has been profoundly affected by the Federal Financing Bank (FFB).⁵ The FFB was created in December 1973 under the Treasury Department as an off-budget Federal entity and began financial operations in May 1974. Its purposes were to assist and coordinate agency borrowing and guaranteed borrowing and to reduce the cost to the Government of some of its borrowing operations. It was given the authority to purchase agency debt and guaranteed obligations and, in turn, to finance these transactions by borrowing from the Treasury. With the approval of the Secretary of the Treasury, the FFB is authorized to borrow from the Treasury without a statutory limit on the amount.⁶ 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 agency borrowing. The FFB thus serves as a conduit for agency borrowing, and Treasury securities replace the securities of other agencies in the market. 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 was necessary to provide the FFB with funds to lend to the agencies.

As a result of the FFB, several agencies that would otherwise borrow mostly in the market borrowed \$2.9 billion from the FFB in 1979 and are estimated to borrow \$3.5 billion in 1980 and \$3.6 billion in 1981. Because these agencies now borrow almost entirely from the FFB instead of the public, almost no new agency borrowing in the market took place in the last 5 years or is scheduled to take place in the future. The change in agency debt outstanding is therefore determined almost solely by the repayment of maturing debt and consequently is negative each year. If the FFB had not been created, the agency component of gross Federal debt would be substantially greater than it is now, though not by the exact amount that agencies have borrowed from the FFB. The Treasury component would be correspondingly less.

By the end of 1981, \$2.4 billion of agency debt, or two-fifths of the total, will be obligations of three of the five agencies listed in table E-6 that borrow almost exclusively from the FFB: the Export-Import Bank, Postal Service, and Tennessee Valley Authority. The other two agencies borrowing from the FFB were established more recently than the FFB and have never had to borrow from the public. A total of \$2.7 billion, or another two-fifths of all agency

⁵ FFB purchases of guaranteed obligations are shown in table E-11.

⁶ The FFB also is authorized to have outstanding up to \$15 billion of publicly issued debt. Treasury classifies this as public debt rather than agency debt. The FFB borrowed \$1.5 billion in 8-month bills from the public in July 1974. All of its other borrowing has been from Treasury, because Treasury can borrow from the public at slightly lower interest rates than FFB would have to pay. No further FFB borrowing from the public is planned.

debt, will consist of certificates of participation in pools of loans issued by the Government National Mortgage Association as trustee on behalf of several agencies, which are identified in table E-6. These certificates have not been issued since 1968. A further \$0.5 billion of agency debt will be family housing mortgages assumed by the Department of Defense (and Coast Guard) under a program terminated more than a decade ago. The remaining agency debt—\$480 million, or 8% of the total—will have been issued by the Federal Housing Administration, which conducts the only program that normally continues to borrow from the public. This agency issues debentures as payment for insurance claims on defaulted loans, and the nature of this transaction precludes these securities from being sold to the FFB.

The Treasury supplies capital to business-type Government enterprises in return for both capital stock and debt. The debt is shown as "borrowing from Treasury" on the statements of financial condition for enterprises 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 agency borrowing from the Treasury and the Treasury borrowing from the public that was necessary to provide the agencies with this capital. Therefore, agency borrowing from Treasury is excluded from figures on agency borrowing and debt in all other parts of the budget documents.

AGENCY INVESTMENT IN FEDERAL SECURITIES

Trust funds and some public enterprise funds accumulate cash in excess of current requirements in order to meet future claims and demands. Such cash surpluses are invested mostly in Treasury debt and, to a very small extent, in agency debt. Purchases of these securities are not counted as budget outlays, and redemptions are not counted as budget receipts.

Net investment by trust funds and other Federal agencies rose steadily from the relatively low level of \$4.3 billion in the recession year of 1976 to \$19.7 billion in 1979. This was caused primarily by the improvement in the economy, the growing payment from the general fund to the civil service retirement and disability trust fund, and the tax increase enacted by the Social Security Amendments of 1977. In 1980, however, as shown in table E-7, agency investment is estimated to decline to \$14.8 billion, and in 1981 it is estimated to fall a little further to \$13.4 billion.

The most important reason for this reversal is the recession forecast for the first half of calendar year 1980, with the unemployment rate estimated to average 7.0% in calendar year 1980 and 7.4% in calendar year 1981. The growth of tax receipts will be

Table E-7. AGENCY INVESTMENT IN FEDERAL SECURITIES

(In millions of dollars)

Description	Increase or decrease (-) in holdings			Holdings end of 1981 estimate
	1979 actual	1980 estimate	1981 estimate	
Investment in Treasury debt:				
Health and Human Services:				
Federal old-age and survivors insurance trust fund	-3,638	-4,480	-9,150	13,143
Federal disability insurance trust fund	1,230	2,070	3,348	11,001
Federal hospital insurance trust fund	1,406	2,476	7,139	22,728
Federal supplementary medical insurance trust fund	953	115	502	5,591
Housing and Urban Development:				
Federal Housing Administration	147	160	250	2,330
Government National Mortgage Association	108	74	53	1,506
Other	54	45	76	315
Labor: Unemployment trust fund	4,276	1,395	600	15,788
Transportation:				
Highway trust fund	891	77	-53	12,493
Airport and airway trust fund	691	880	277	5,534
Treasury:				
Exchange stabilization fund ¹	2,503	474	464	5,204
Federal Financing Bank ²	109	-149	-76	1
Veterans Administration:				
National service life insurance trust fund	207	229	264	8,318
Other trust funds	5	12	16	1,115
Veterans reopened insurance fund	28	6	7	451
Federal Deposit Insurance Corp.: Trust fund	1,220	1,450	1,500	12,202
Federal Home Loan Bank Board: FSLIC	497	483	602	6,568
Office of Personnel Management:				
Civil Service retirement and disability trust fund	7,849	9,299	8,941	81,975
Other trust funds	371	414	397	4,720
Postal Service ²	518	-329	-1,860	50
Railroad Retirement account: Trust fund	-23	-311	-114	2,629
Other Federal funds	133	193	112	1,062
Other trust funds	136	126	104	922
Other off-budget Federal entities	38	41	48	235
Total, investment in Treasury debt	19,710	14,750	13,447	215,880
Investment in agency debt:				
Agriculture: Commodity Credit Corp.	-6	-6	-6	5
Health and Human Services:				
Federal old-age and survivors insurance trust fund				555
Federal hospital insurance trust fund				50
Housing and Urban Development:				
Federal Housing Administration	-4			188
Government National Mortgage Association	-8	23	3	206
Veterans Administration: National service life insurance trust fund				
				135
Federal Home Loan Bank Board: FSLIC	-8	-5		73
Office of Personnel Management: Civil Service retirement and disability trust fund				
				275
Total, investment in agency debt	-25	11	-3	1,487
Total, investment in Federal debt	19,685	14,761	13,445	217,368
MEMORANDUM				
Investment by Federal funds	3,446	1,446	1,561	17,908
Investment by trust funds	15,574	13,752	13,772	199,174
Investment by off-budget Federal entities	665	-437	-1,888	286

¹ \$500 thousand or less.² The change in holdings in 1980 and 1981 is estimated as equal to interest collections.³ Off-budget Federal entity.

reduced, particularly for the social security trust funds, and unemployment benefits will rise. These benefits are estimated to increase by \$4.4 billion in 1980 and a further \$3.0 billion in 1981—or \$7.4 billion in total—although this increase cannot be attributed solely to the higher unemployment rate. If the economy were growing strongly enough to keep the unemployment rate at its current level, estimated agency investment would be higher in 1981 than in 1979.

The trust funds financed by the social security tax—old age and survivors insurance, disability insurance, and hospital insurance—increase their annual rate of investment in Federal debt by only \$2.3 billion from 1979 to 1981. This is in spite of the fact that the Social Security Amendments of 1977 increase the funds' tax receipts by \$5.4 billion in 1980 (compared to 1979) and by an additional \$7.2 billion in 1981—\$12.6 billion in total. During this period, from 1979 to 1981, the pattern of agency investment or disinvestment differs markedly among the three funds. The old age and survivors insurance trust fund disinvests substantially, while the other funds, particularly the hospital insurance fund, continue to accumulate. These tendencies will extend beyond 1981 in the absence of legislation, and by 1983 the old age and survivors insurance fund would use up its balances. Consequently, legislation will be proposed to permit these funds to borrow among themselves.

Total agency holdings of Federal securities will reach an estimated \$217.4 billion by the end of 1981. This will comprise 23% of the gross Federal debt. One major trust fund—the civil service retirement and disability trust fund—will account for 38% of total agency holdings, and all the trust funds together will account for 92%. Almost all of the holdings will be Treasury debt, and the holdings of agency debt will continue to decline by a small amount.

LIMITATIONS ON FEDERAL DEBT

Statutory limitations have customarily been placed on Federal debt. Until World War I, the Congress ordinarily authorized a specific amount for each debt 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 1942. The limit currently applies to the total of:

- almost all 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 1968 under the Participation Sales Act of 1966; and

- other debt issued by Federal agencies (and the District of Columbia Armory Board) that, according to explicit statute, is fully guaranteed as to principal and interest by the United States.

The debt subject to statutory limit⁷ includes virtually all Treasury debt. The small amount of Treasury debt not subject to limit is shown in table E-8. It 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 major part of agency debt is not subject to the general statutory limit. The only categories now included are the debentures issued by the Federal Housing Administration and the par-

Table E-8. DEBT SUBJECT TO STATUTORY LIMIT

[In millions of dollars]

Descriptions	End of year		
	1979 actual	1980 estimate	1981 estimate
Federal debt held by the public.....	644,589	688,889	721,989
Federal debt held by Government agencies.....	189,162	203,923	217,368
Total, gross Federal debt.....	833,751	892,812	939,357
Deduct:			
Treasury debt not subject to limit.....	609	609	609
Agency debt not subject to the general limit:			
Department of Defense.....	767	635	509
Export-Import Bank.....	933	730	450
Postal Service.....	250	250	250
Tennessee Valley Authority.....	1,725	1,725	1,725
Participation certificates ¹	1,869	1,707	1,580
Coast Guard.....	1	1	1
Total, Federal debt not subject to limit.....	6,154	5,656	5,124
Federal debt subject to statutory limit.....	827,597	887,156	934,233
District of Columbia Armory Board bonds.....	20		
Other debt subject to limit and adjustments.....	-2	-2	-2
Total, debt subject to statutory limit.....	827,614	887,154	934,231

* \$500 thousand or less.

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

ticipation certificates sold in 1968. These securities comprise about one-quarter of all agency debt. However, most other agency debt is subject to special 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. Subse-

⁷ 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.

quently, to enable TVA to finance additional facilities, Congress raised the limit several times. In October 1979, Congress raised the limit from \$15 billion to \$30 billion, with more than half of the increase for TVA's current construction program. The Postal Service is limited to \$10 billion of bonds outstanding and \$2 billion of annual borrowing, but proposed legislation would limit the borrowing in 1981 to \$1 billion.

The only other appreciable component of debt subject to limit at the end of 1979 was the small issue of stadium bonds sold by the District of Columbia Armory Board in 1960. These bonds matured on December 1, 1979. Unlike the rest of the debt subject to limit discussed above, the stadium bonds were not part of the Federal debt. The gross Federal debt further excludes a very small amount, less than half a million dollars, of matured principal and interest that is included in debt subject to limit. To derive the debt subject to limit from the gross Federal debt also requires a very small accounting adjustment.

The statutory limit on the Federal debt was \$798 billion from August 3, 1978, to March 31, 1979. This limit consisted of a permanent limit of \$400 billion, which has been in effect since 1971, and a temporary increment of \$398 billion. This temporary increment expired on March 31, 1979, without having been extended, so for a few days the Federal debt exceeded the statutory limit. This had also happened once in 1977 and again in 1978. The validity of debt issued prior to the expiration of the temporary ceiling was not affected, but the Treasury Department had to suspend all sales of savings bonds and other debt securities. This created uncertainty in the Government securities market. In order to raise as much cash as possible to pay the Federal Government's expenses, the Treasury called in all of its deposits in tax and loan accounts at commercial banks so as to increase its operating balance at the Federal Reserve Banks; it redeemed the entire \$2.7 billion of debt held by the Exchange Stabilization Fund so that it could borrow an almost equal amount from the Federal Reserve; and on April 2 it stopped investing the cash inflows of trust funds in new Federal securities. These measures incurred administrative costs and reduced the earnings of the Exchange Stabilization Fund and the trust funds.

On April 2, 1979, the Congress enacted legislation that temporarily raised the debt limit to \$830 billion. This increase was scheduled to expire on September 30, 1979, but new legislation on September 29 temporarily raised the debt limit to \$879 billion. The latest increase expires on May 31, 1980, at which time a further increase will be required to permit the Federal Government to

meet its obligations. Although on this last occasion the debt did not exceed the debt limit at any time, the uncertainty about when legislation would pass led Treasury to postpone its auctions for new securities.

The outstanding debt subject to limit is shown in table E-8 and compared with the gross Federal debt and the Federal debt held by the public. The debt subject to limit was \$827.6 billion at the end of 1979 and is estimated to rise to \$934.2 billion by the end of 1981. These amounts are a great deal more than the permanent limit of \$400 billion. As shown in table E-8, 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 agencies. The small difference between debt subject to limit and gross Federal debt is mostly accounted for by agency debt not subject to the general limitation.

The same legislation that temporarily raised the debt limit on September 29, 1979, also changed the method of enacting statutory debt limits in the future (Public Law 96-78). The purpose was to establish the debt limit as a part of the congressional budget process. The first and second concurrent resolutions on the budget (to be adopted by May 15 and September 15, respectively, for the forthcoming fiscal year) establish targets or ceilings for budget outlays and receipts and for the budget deficit and also recommend an appropriate level for the debt subject to limit. The recommendation as to the appropriate level of debt has not heretofore had the effect of law, nor has it been part of the direct process whereby the debt limit was established.

However, beginning with the resolutions to be adopted in 1980 for 1981, the concurrent resolution that is adopted by the Congress will have a direct effect. The vote in the House of Representatives will be deemed to have been a vote in favor of a joint resolution setting the statutory limit for the forthcoming fiscal year. The joint resolution will thus be deemed to have passed the House and will be transmitted to the Senate for further legislative action. Upon final passage, it will be sent to the President for his signature. This procedure is expected to relate 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. It is also expected to insure that a new increase to the debt limit will be enacted well before the previous increase is scheduled to expire, thereby reducing the uncertainty about extension of the debt limit and eliminating the costs that occur when the level of debt exceeds or is about to exceed the debt limit. The debt limit may still be changed by a separate bill as in the past.

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 total Government deficit, that is, by the sum of the budget deficit and the deficit of the off-budget Federal entities. The trust fund surplus or deficit, which makes up part of the budget surplus or deficit, for the most part has no essential effect. This is explained below in a discussion that is more technical than the rest of this special analysis. To simplify the exposition, the initial part of this section excludes the effect of the proposed energy security trust fund, which is to begin operation in 1980, and thus is completely correct only for 1979 and earlier years. The modification for the energy security trust fund is explained at the end of the section.

The budget consists of two major groups of funds: Federal funds and trust funds.⁸ The trust funds collect certain taxes and other receipts for specified purposes, such as paying social security and unemployment insurance benefits. The Federal funds comprise the rest of the budget. Their resources are derived mainly from taxes and borrowing and are used for the general purposes of the Government. The off-budget Federal entities make up a third group of fiscal operations, analagous to the Federal funds and trust funds groups. If the off-budget entities were included in the budget, almost all of them would be classified as Federal funds.

When the Federal funds have a deficit, that deficit must generally be financed by borrowing. Borrowing is necessary regardless of whether the trust funds have a surplus. This is because trust fund surpluses are mostly invested in Federal debt securities, and a trust fund investment in Federal debt securities issued by Federal funds is treated as Federal funds borrowing. Federal funds borrowing is done almost exclusively by the Treasury selling debt securities that are subject to the statutory limit. The deficits of the off-budget Federal entities are generally financed in the same way as the Federal funds deficit. Thus, the Federal funds deficit and the deficit of the off-budget Federal entities generally have to be financed by selling debt securities that are subject to the statutory limit; and these securities are sold to either the public, the trust funds, or certain Federal revolving funds.

Table E-9 shows in detail the relationship of the change in debt subject to limit to the Federal funds deficit and the deficit of the off-budget Federal entities. The sum of these deficits is an amount that has to be financed. Some relatively small portion may be

⁸Data for Federal funds and trust funds are presented in Special Analysis C, "Funds in the Budget."

financed by means other than borrowing, such as seigniorage and a decrease in those cash assets held by Federal funds and off-budget Federal entities (if the sum of these other means of financing is negative, then these other means must themselves be financed).⁹ A small portion may be financed by the Federal funds or off-budget entities selling their investments in Federal debt. Another small portion may be financed by their issuing debt that is not subject to the statutory limit. The remainder of the amount to be financed, ordinarily comprising most of the total, can only be financed by selling debt subject to the statutory limit. Thus, the deficits of the Federal funds and the off-budget Federal entities are together the principal determinant of the change in debt subject to statutory limit.

Table E-9. FEDERAL FUNDS FINANCING AND CHANGE IN DEBT SUBJECT TO STATUTORY LIMIT ¹

(In millions of dollars)

Description	1979 actual	1980 estimate	1981 estimate	1982 estimate	1983 estimate
Federal funds surplus or deficit (—).....	—46,069	—57,840	—46,549	—41,859	—28,124
Deficit (—) of off-budget Federal entities.....	—12,428	—16,766	—18,090	—15,078	—12,852
Total, amount to be financed.....	—58,497	—74,606	—64,638	—56,937	—40,975
Means of financing other than borrowing:					
Decrease or increase (—) in cash and monetary assets.....	2,131	10,103	.....	.....	.....
Increase or decrease (—) in liabilities for:					
Checks outstanding, etc.....	3,496	—1,134	—227	.....	.....
Deposit fund balances.....	2,662	898	584	.....	.....
Seigniorage on coins.....	992	953	447	993	1,079
Uninvested surplus of trust funds ².....	.....	5,733	16,962	22,712	23,667
Total, means of financing other than borrowing.....	9,281	16,553	17,766	23,706	24,746
Decrease or increase (—) in Federal funds and off-budget entity investments in Feder- al debt.....	—4,111	—1,009	327	.....	.....
Increase or decrease (—) in Federal funds and off-budget entity debt not subject to limit.....	—1,599	—498	—532	.....	.....
Total, requirements for borrowing subject to debt limit.....	—54,924	—59,560	—47,077	—33,231	—16,230
Change in debt subject to limit but not part of Federal debt ³	*	—20	.....	.....	.....
Change in debt subject to limit.....	54,924	59,540	47,077	33,231	16,230

* \$500 thousand or less.

¹ Several amounts have been assumed to be zero in 1982 and 1983 because they are usually small and cannot be estimated accurately.² Energy security trust fund only.³ Almost entirely District of Columbia Armory Board stadium bonds in 1980.

⁹ The means of financing other than borrowing that are shown in table E-9 exclude amounts attributable to trust funds. It is not known how the trust fund open book balances are divided between cash and monetary assets and liabilities for checks outstanding, etc. In this table they are all assumed to be in liabilities for checks outstanding, etc.

In 1979, for example, the total Federal funds and off-budget deficit to be financed was \$58.5 billion, and \$9.3 billion of this amount was financed by means other than borrowing. The Federal funds and off-budget entities increased their holdings of Federal debt by \$4.1 billion, which had to be financed by still further borrowing in the same way as their deficits had to be financed; and they decreased their debt outstanding that was not subject to limit by \$1.6 billion, which had to be replaced by an equal amount of debt that was subject to limit. Therefore, a total of \$54.9 billion had to be borrowed subject to the debt limit.

The trust fund surplus does not have an explicit effect in the 1979 column of table E-9. However, to the extent that trust fund surpluses are used to increase the trust fund holdings of open book balances instead of Federal debt securities, the debt subject to limit is reduced. The increase in open book balances is recorded as an increase in Federal funds liabilities for checks outstanding, etc., in table E-9. This increases the Federal funds means of financing other than borrowing, which in turn reduces the requirement for borrowing subject to the statutory limit. The trust fund open book balances do change from year to year, but they do not usually change a great deal. By law the trust fund surpluses must generally be invested in Federal debt, and during 1970-79 the increase in trust fund holdings of Federal debt equalled 92% of the cumulative trust fund surplus. Consequently, the effect of the trust fund surplus on debt subject to limit is minor.¹⁰

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 substantially 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. As can be calculated from table E-8, during 1980 and 1981 the debt subject to limit is estimated to increase by \$106.6 billion, whereas the debt held by the public is estimated to increase by \$77.4 billion.

The determination of the change in debt subject to limit is modified in 1980 by the proposed energy security trust fund. This trust fund has a large surplus in its early years because the windfall profit tax yields much more revenue than is spent, but it does not have the authority to invest its balances in debt. Therefore the surplus of the energy security trust fund will be available to finance the Federal funds and off-budget deficits without an increase in debt subject to limit (or in gross Federal debt). This

¹⁰ As explained in the preceding section, the debt subject to limit exceeded the statutory limit during April 1-2, 1979. Under these exceptional circumstances, Treasury used the net cash inflow of the trust funds to increase the trust funds' open book balances in order to finance Federal funds outlays that could not legally be financed by increasing the amount of debt subject to limit.

surplus is shown in table E-9 as one of the means of financing other than borrowing. In 1981, for example, this surplus finances \$17.0 billion of the Federal funds and off-budget deficit. The Federal funds and off-budget deficit plus the energy security trust fund surplus amount to \$46.9 billion, which is approximately equal to the \$47.1 billion increase in debt subject to limit. Thus, the change in debt subject to limit is principally determined by the Federal funds and off-budget deficit offset by the energy security trust fund surplus.

The present analysis helps to show the difficulties in preventing the Federal debt from continuing to rise. Table E-2 showed that the Government would have to borrow from the public even if the budget were exactly balanced, because it would have to finance the deficit of the off-budget Federal entities. Table E-9 shows that the debt subject to statutory limit would almost surely continue to rise even if the debt held by the public remained constant, that is, even if the budget had a large enough surplus so that the budget and the off-budget entities were together just in balance.

This is illustrated by the 1983 figures. The Government (including the off-budget entities) has a projected surplus of \$11.7 billion, and debt held by the public decreases by \$12.8 billion. The Federal funds and off-budget entities alone have a combined deficit of \$41.0 billion, however, of which \$17.3 billion is the amount not financed by the energy security trust fund. Debt subject to limit rises by nearly the same amount, \$16.2 billion. In order for debt subject to limit not to rise, the Federal funds portion of the budget must (as an approximation) have a large enough surplus so that the Federal funds and the off-budget entities are together in balance (or, when the energy security trust fund is in operation, so that the combined Federal funds and off-budget deficit is no larger than the energy security trust fund surplus). The same condition must be met in order not to have a rise in gross Federal debt, which is approximately equal to debt subject to limit.

FEDERALLY ASSISTED BORROWING

The effect of the Government on borrowing includes not only its own borrowing to finance Federal operations but also 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.

Government-guaranteed borrowing consists of loans for which the Federal Government guarantees the payment of the principal and/or interest in whole or in part. Guaranteed (or insured) 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, it may be a security sold in the capital market, or it may be a security sold to the Federal Financing Bank (FFB). Guaranteed borrowing is the same as guaranteed lending.

Guaranteed loans include most loan assets sold by Federal agencies. Loan asset sales occur when an agency makes a direct loan and then sells it. A guarantee by the selling agency is usually attached. Loan asset sales are offsets to the outlays of the agency that sells them. Therefore, if the selling agency is in the budget, the increase in budget outlays caused by the direct loans is offset by the sale of the loan assets.

In some cases the agency sells the direct loans themselves, and in other cases the agency sells securities (sometimes called participation certificates or certificates of beneficial ownership) that are backed by loans that the agency continues to hold and service. The certificates of beneficial ownership sold by the Farmers Home Administration (a budget agency) and the Rural Electrification and Telephone revolving fund (an off-budget Federal entity) would be classified as Federal debt according to the recommendations of the President's Commission on Budget Concepts.¹¹ However, according to statute these certificates are required to be treated as loan assets instead of Federal debt. Since the certificates are guaranteed, they are classified as guaranteed loans. These certificates of beneficial ownership are currently sold almost entirely to the FFB, but some certificates sold by Farmers Home before FFB was established are outstanding and continue to mature. The net amount of sales less repayments (i.e., the increase in certificates outstanding) is shown below for 1979-81 (in millions of dollars):

	<i>1979 actual</i>	<i>1980 estimate</i>	<i>1981 estimate</i>
Farmers Home Administration.....	8,445	5,653	7,890
Rural Electrification and Telephone revolving fund.....	586	760	845

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 guaranteed loans is to support housing, but in recent years guarantees have increasingly been used for other purposes. As shown subsequently in Table E-11, guaranteed borrowing net of repayments (but before purchases by Federal agencies) was \$39.3 billion in 1979 and is estimated to be \$50.3 billion in 1980 and \$56.6 billion in 1981. Special Analysis F presents detailed data on guaranteed loans and loan asset sales.

The other type of federally assisted borrowing is by Government-sponsored enterprises. They were established and chartered by the

¹¹ *Report of the President's Commission on Budget Concepts* (Washington: U.S. Government Printing Office, 1967), pp. 8, 47-48, and 54-55.

Federal Government to perform specific credit functions but are now entirely privately owned. The rule governing the budget treatment of these enterprises was established in 1967 in accordance with a recommendation by the President's Commission on Budget Concepts. The Commission, whose report led to the adoption of the unified budget, recommended that the budget exclude those Government-sponsored enterprises that are entirely privately owned.¹² Therefore the transactions of these enterprises are not included within the Federal budget, and their debt is not part of gross Federal debt.

The seven Government-sponsored credit enterprises are essentially financial intermediaries, borrowing in the securities market and lending 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 and the Federal Home Loan Banks are required to obtain Treasury approval of the terms and timing of specific offerings; the Student Loan Marketing Association borrows exclusively from the Federal Financing Bank.¹³ Besides their Federal sponsorship, all of these enterprises have a history of successful financial performance. Hence, despite the absence of Federal guarantees, the obligations of these enterprises are sold at interest rates only moderately higher than the rates on comparable Treasury issues.

The form of borrowing has recently been changed by the three enterprises regulated by the Farm Credit Administration—the Banks for Cooperatives, Federal Intermediate Credit Banks, and Federal Land Banks. Until September 1977 they borrowed separately on the market under their own names. At that time, however, the Farm Credit banks began to issue consolidated bonds to replace some of their separate offerings, and since January 1979 they have borrowed solely on a consolidated basis. This change was made in order to improve efficiency.

The Student Loan Marketing Association has not borrowed in the private market since the Federal Financing Bank was established. Under proposed legislation, moreover, its activities will be assumed in 1982 by the Government Student Loan Association, a division within the Department of Education, and these activities will be included within the budget totals.

¹² *Ibid.*, pp. 29-30.

¹³ The Student Loan Marketing Association is the only Government-sponsored enterprise whose new securities are currently guaranteed by the Federal Government and can therefore be bought by the FFB.

Borrowing by the Government-sponsored enterprises increased dramatically from \$7.0 billion in 1977 to \$24.1 billion in 1978 and, as shown in table E-10, increased a little further to \$25.7 billion in 1979. The borrowing in the last 2 years exceeded the previous highest level of \$14.9 billion in 1974. Borrowing is estimated to decline substantially in 1980 to a level that is nonetheless relatively high by past standards, \$16.2 billion, and then to remain about the same at \$16.7 billion in 1981. In order to show the borrowing by this sector as a whole from the rest of the market, these figures are calculated net of the borrowing by one Government-sponsored enterprise from another. Most of this adjustment is accounted for by the Federal Home Loan Mortgage Corporation (FHLMC) borrowing from the Federal Home Loan Banks or repaying its debt to them.

Table E-10. **BORROWING BY GOVERNMENT-SPONSORED ENTERPRISES**

(In millions of dollars)

Description	Borrowing or repayment (—)				Debt outstanding end 1981 estimate
	1978 actual	1979 actual	1980 estimate	1981 estimate	
Education: Student Loan Marketing Association	235	530	670	—215	1,730
Housing and Urban Development: Federal National Mortgage Association	6,802	7,705	3,296	6,698	55,993
Farm Credit Administration: ¹					
Banks for cooperatives	775	1,089	523	777	8,143
Federal intermediate credit banks	444	2,725	2,310	2,603	20,738
Federal land banks	2,725	4,921	4,022	4,648	35,852
Federal Home Loan Bank Board:					
Federal home loan banks	7,792	5,194	2,197	—1,401	30,942
Federal Home Loan Mortgage Corporation ...	5,188	4,547	3,400	4,130	25,885
Total	23,961	26,712	16,418	17,240	179,283
Less increase in holdings of debt issued by Government-sponsored enterprises	—98	962	244	578	4,355
Total, borrowing by Government-sponsored enterprises	24,060	25,750	16,174	16,662	174,928

¹ The debt represented by consolidated bonds is attributed to the respective Farm Credit banks.

Sharp shifts in borrowing, such as occurred in 1978 and are estimated to occur in 1980, are typical of this sector as a whole. They arise from the operations of the three Government-sponsored enterprises that assist the housing mortgage market. The degree of tightness in the mortgage market sometimes alters a good deal, and during periods of high and rising interest rates these enterprises usually increase their lending substantially.

The operations of the Government-sponsored enterprises are not subject to the Federal budget review process; and the economic assumptions on which their borrowing estimates are based for 1980-81 are not necessarily the same as the administration's economic forecast, which is used for the budget. The total extent of mortgage market support that these enterprises currently estimate for 1980 and 1981 is less than in 1979.

The year-to-year changes in Government-sponsored borrowing are primarily determined by the changes in Government-sponsored lending, and the enterprises estimate that in 1980 they will lend substantially less to support the mortgage market than in 1979. The Federal National Mortgage Association (FNMA) and the FHLMC both estimate that they will reduce their net mortgage purchases, with a total decrease of \$4.1 billion. The Federal Home Loan Banks estimate a \$5.9 billion reduction in their net advances (new advances less repayments) to their member savings institutions, primarily savings and loan associations, which lend most of their funds for new mortgages. This is due to fewer new advances. For 1981 the estimated changes in lending are relatively small and offsetting. The Federal Home Loan Banks estimate a continued decline in net advances, the decrease being \$3.9 billion and due almost entirely to a greater repayment of advances from their members. At the same time, FNMA estimates a \$3.8 billion increase in its net mortgage purchases. Thus, total Government-sponsored borrowing is about the same as in 1980. Special Analysis F discusses further the lending by Government-sponsored enterprises.

TOTAL FEDERAL AND FEDERALLY ASSISTED BORROWING

Table E-11 summarizes net Federal and federally assisted borrowing. Federal borrowing from the public is presented in total. Guaranteed borrowing and borrowing by Government-sponsored enterprises are presented both in total and as net amounts, the latter having been adjusted 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 Government-sponsored enterprise bought or sold a Federal or federally assisted debt security.

Table E-11. NET BORROWING BY GOVERNMENT, GOVERNMENT GUARANTEED BORROWERS, AND GOVERNMENT-SPONSORED ENTERPRISES

(In billions of dollars)

Description	Borrowing or repayment (—)			Debt outstanding end 1981 estimate
	1979 actual	1980 estimate	1981 estimate	
Federal borrowing from the public ¹	33.6	44.3	33.1	722.0
Government-guaranteed borrowing ²	39.3	50.3	56.6	421.8
Less increase in guaranteed loans held by:				
Federal agencies:				
Federal Financing Bank.....	13.3	16.2	16.2	79.6
Government National Mortgage Corporation.....	— .1	.6	— 1.0	2.7
Net Government-guaranteed borrowing.....	26.1	33.4	41.4	339.5
Borrowing by Government-sponsored enterprises ³	25.7	16.2	16.7	174.9
Less increase in holdings of Federal debt.....	.4	— .1	2.6	3.4
Less increase in Government-sponsored debt held by:				
Federal agencies:				
Federal Financing Bank.....	.5	.7	— .2	1.7
Less increase in holdings of guaranteed loans:				
Student Loan Marketing Association.....	.5	.7	— .2	1.7
Federal National Mortgage Association.....	3.1	.8	2.7	37.5
Federal Home Loan Banks.....	*	*	*	.2
Federal Home Loan Mortgage Corporation.....	— .2	— .2	— .1	.9
Net Government-sponsored borrowing.....	21.4	14.2	11.9	129.5
Total, Federal and federally assisted borrowing	81.2	91.9	86.4	1,191.0

* \$50 million or less.

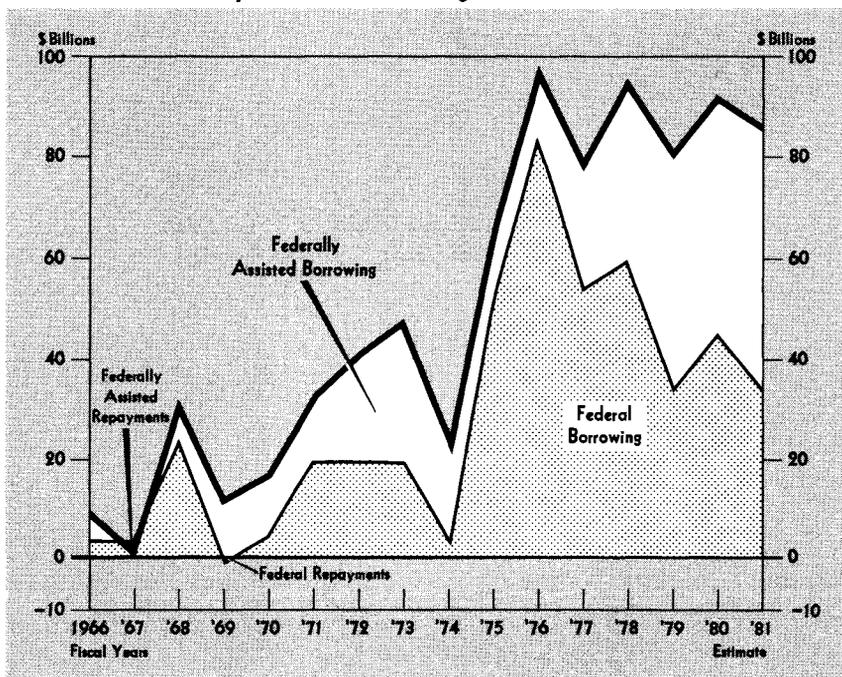
¹ See table E-1.² This line is the same as "guaranteed loans (net)" in table F-5 of Special Analysis F. To avoid double counting, it is calculated net of guarantees of loans previously guaranteed. "Net Government-guaranteed borrowing" in this table is the same as "primary guaranteed loans" in table F-5.³ See table E-10.

About one-quarter of Federal and federally assisted borrowing during 1979-81 is made up of Federal borrowing to finance the budget deficit. Federal borrowing also finances the off-budget deficit, most of which is accounted for by the Federal Financing Bank's purchases of guaranteed obligations. As shown in table E-11, the FFB is estimated to buy about a third of the total increase in guaranteed obligations outstanding. Since the FFB finances these purchases by borrowing from the Treasury, which in turn borrows from the public, these transactions substitute Federal borrowing in the market for guaranteed borrowing.

The following chart depicts the trends in Federal and federally assisted borrowing between 1966 and 1981. The series are volatile, and the fluctuations are dominated by the Federal deficit. Total Federal and federally assisted borrowing fell to \$24.2 billion in 1974 because of a sharp drop in the Federal deficit and then rose dramatically to \$98.0 billion in 1976 due to the large deficit in that year. The total fell to \$79.6 billion in 1977 but rose back up to \$95.3 billion in 1978 in large part because of the support given to the mortgage market by the Government-sponsored enterprises. The

large decrease in the Federal deficit in 1979 more than offset the rise in guaranteed borrowing, so total Federal and federally assisted borrowing fell to \$81.2 billion. From 1979 to 1981, Federal borrowing from the public is estimated to be essentially unchanged, but the rise in guaranteed borrowing is more than the fall in Government-sponsored borrowing. Consequently, Federal and federally assisted borrowing is moderately higher in 1981 than in 1979.

Federal and Federally Assisted Borrowing



As the chart shows, Federal and federally assisted borrowing is now a great deal higher than a decade ago. Much of the increase parallels the growth in the economy and in the total funds raised by the non-financial sector through the sale of debt securities and other forms of borrowing and through the sale of corporate equities. However, although the existence of trends is difficult to discern because of the volatility of the series, to some extent the total Federal and federally assisted borrowing seems to have increased as a proportion of the total funds raised. This proportion increased from 18% during 1960-69 to 25% during 1970-79 and was clearly higher in the last half of the 1970's than in the first half. Thus, on the average, Government programs recently seem to have influenced the allocation of funds raised in financial markets more than they did in the immediately preceding years, even though Federal debt has decreased relative to total debt.

Some of this increase, however, may not be maintained. By 1979, as Federal and federally assisted borrowing declined and the economy continued to expand, such borrowing as a percentage of total funds raised was down to 20%, just under the average for the last 20 years and the second lowest percentage since 1970. In 1980 and 1981 Federal and federally assisted borrowing is estimated to be moderately higher, and the economy (measured in current dollars) is expected to become larger. As a result, the proportion of total funds raised by Federal and federally assisted borrowing may continue to be near the average of the last 20 years.

SPECIAL ANALYSIS F

FEDERAL CREDIT PROGRAMS

Federal and federally assisted credit programs play a significant role in the functioning of the economy. These programs are primarily in three forms: direct loans from the Federal Government, Federal guarantees of private lending, and lending by privately owned Government-sponsored enterprises. Credit programs, much like Federal expenditures on goods and services, tax expenditures, or transfer payments, can be used to change the allocation of resources and the distribution of income. In this regard, they can be used to overcome market imperfections, to provide additional liquidity for investors, and to furnish funds to maintain stability in a particular sector of the economy during business cycle fluctuations. Credit programs have been designed to fill perceived needs in private capital markets by providing credit to certain classes of borrowers, or on special terms or conditions, or for special activities. An element of subsidy is involved in any Federal credit program since assistance is given on terms or conditions more favorable than would have occurred in private capital markets.¹

A subsidy is provided, in general, because the Federal Government is willing to accept risks that lenders in private capital markets are unwilling to bear or would bear only at higher interest rates than the Federal Government would charge. Interest subsidies are equivalent to cash grants to the borrower. In a wide variety of instances, similar programmatic objectives of the Federal Government can be achieved either with cash payments, credit assistance, or tax incentives. The interest subsidy is explicit when the Federal credit assistance provides an interest rate lower than could be provided in private capital markets, as in the case of direct loans. The interest subsidy is less explicit, if the Federal credit assistance provides for longer maturities, higher loan-to-value ratios, or greater liquidity than would have been available in private capital markets. For example, Government guarantees of some residential mortgages, combined with special borrowing privileges of Government-sponsored enterprises such as the Federal National Mortgage Association (FNMA) have helped create well organized special markets for mortgage credit. The subsidy is implicit in the case of guaranteed loans in which the Government assumes most or all of the risk of default. Another kind of implicit interest

¹ While in theory Federal credit could be provided without an explicit or implicit subsidy, there would be no point in doing so, since it would offer no advantage over private credit.

rate subsidy given to State and local governments is the result of the tax exemption of interest received on State and local government securities.

Direct loans are payments of cash, secured by a promise to repay the Government. The promise to repay may be in the form of a mortgage, a bond, a debenture, or a promissory note. Loan guarantees occur when a Government agency enters into a firm commitment to use Government funds as necessary to repay a lender upon default by the borrower.² The amount of the guarantee may be less than the full principal of the loan and may include the guarantee of interest. Loan insurance is a type of guarantee in which a Government agency operates a program of pooled risks, pledging the use of insurance premiums to secure a lender against default on the part of a borrower.³

This special analysis compiles basic information on Government credit programs and plans over the budget period. It is not an evaluation of such programs and plans. It summarizes major trends in the credit activity of the Federal Government and Government-sponsored enterprises and presents the estimates of direct loans and loan guarantees by major program groupings, agencies, and enterprises from 1979 to 1981.

Reporting on Federal credit activities in the budget has expanded considerably. Part 2 of the *Budget* contains aggregated data on those Federal credit activities that are part of the administration's new system to control Federal credit. The introduction to Part 5 of the *Budget* explains the system in greater detail, while the remaining sections of Part 5 integrates information about major credit programs in the context of meeting national needs. Part 5 also shows for the first time the lending activities of the Federal Financing Bank attributed according to function. Part 6 of the *Budget* examines the debt transactions of the Federal Government and the role of Government-sponsored enterprises. The *Appendix* volume of the Budget shows details and descriptions of the lending activities of individual budgetary accounts.

TRENDS AND DIRECTIONS

Table F-1 summarizes data on Federal participation in domestic credit markets during the last decade. This table uses two measures of Federal participation—lending (funds advanced) and borrowing (funds raised). The total amount of funds advanced under Federal auspices has risen three-fold in the last decade, reaching \$73.3 billion in 1979. However, because of the equally rapid rate of

² A loan guarantee can be thought of as the action of attaching a Federal guarantee to a loan. A guaranteed loan refers to the loan, usually contracted in the private sector, with a Federal guarantee attached. In some cases, however, one Federal agency guarantees a loan, and another Federal agency makes the loan.

³ For the remainder of this analysis, the term loan guarantees will include insurance. The Federal Government is, in essence, the co-signer of a federally-guaranteed loan.

increase in private lending over this same period, funds advanced under Federal auspices have been a fairly constant share of the amounts of funds advanced in domestic credit markets. This share has generally ranged between 13 and 16%.

The Federal participation rate generally moves countercyclically. For example, the participation rate reached relative peaks in 1970 and 1979. In 1970, private sector credit demands decreased and Federal mortgage credit programs increased significantly. In 1979, a year of high and rising interest rates and weakening economic activity, lending by the Federal home loan banks and FNMA and loans guaranteed by agencies in HUD to support mortgage credit markets increased dramatically. Lending by the Federal home loan banks and FNMA is estimated to return to more normal levels in 1980 and 1981.

The other measure of Federal participation is funds raised (borrowed) under Federal auspices, which includes funds raised for Federal and Government-sponsored credit programs as well as funds raised to finance the Federal deficit. This Federal participation rate is much more volatile, ranging from 19% to 39% of total borrowing over the past decade. The volatility is due primarily to swings in the budget deficit. The participation rate peaked in 1976 and has fallen sharply since, as the Federal budget deficit declined in response to improving economic conditions. The deficit is expected to fall in 1980 and 1981 from 1978 levels, thereby reducing overall Federal credit demands further.

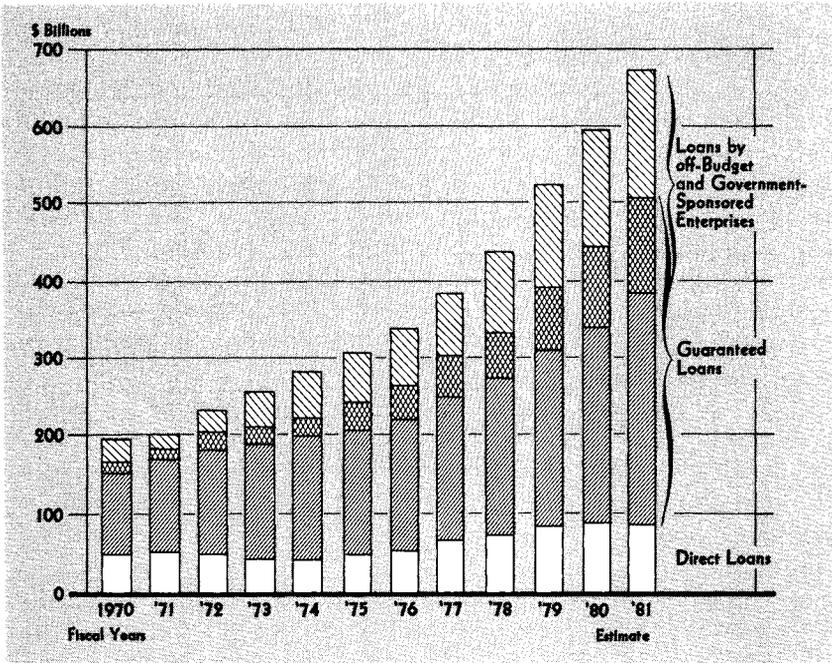
Certain credit programs are particularly volatile in responding to changes in economic conditions. The Federal home loan banks (a set of Government-sponsored enterprises), for example, make numerous loans to savings institutions during periods of tight monetary conditions in order to avert undue hardship in the mortgage market and the associated construction and housing industries. As monetary conditions ease, they make fewer loans and experience high repayment flows. Similar patterns occur in other programs related to housing finance, such as those of the FNMA. Such fluctuations have proved difficult to anticipate.

Table F-1. FEDERAL PARTICIPATION IN DOMESTIC CREDIT MARKETS (dollars in billions)

	Actual										Estimates		
	1970	1971	1972	1973	1974	1975	1976	TQ	1977	1978	1979	1980	1981
Total funds advanced in U.S. credit markets¹													
(includes equities).....	93.6	125.7	163.5	207.7	193.4	181.3	251.8	66.1	314.4	385.3	410.7	(²)	(²)
Advanced under Federal auspices.....	16.1	16.5	22.9	27.2	25.5	27.0	26.8	6.7	37.2	58.7	73.3	71.3	71.2
Direct loans:													
On-budget.....	3.0	2.0	2.7	0.3	1.9	4.3	3.3	0.9	2.5	8.4	6.0	6.1	-0.6
Off-Budget.....			0.2	0.7	2.2	8.5	7.6	2.9	9.0	11.4	13.6	16.6	16.6
Guaranteed loans.....	8.0	16.1	19.8	17.7	10.5	8.7	11.2	-0.1	14.0	13.9	26.1	33.4	41.4
Government-sponsored enterprise loans.....	5.2	-1.7	0.1	8.5	11.0	5.5	4.7	3.1	11.6	25.0	27.5	15.1	13.8
Federal participation rate including Government-sponsored enterprises (percent).....	17.2	13.1	14.0	13.1	13.2	14.9	10.6	10.1	11.8	15.2	17.8		
Total funds raised in U.S. credit markets¹.....	93.6	125.7	163.5	207.7	193.4	181.3	251.8	66.1	314.4	385.3	410.7		
Raised under Federal auspices.....	17.9	32.5	39.5	45.5	24.2	64.8	98.2	19.3	79.5	94.2	81.2	91.9	86.4
Federal borrowing from public.....	5.4	19.4	19.4	19.3	3.0	50.9	83.4	18.0	53.5	59.1	33.6	44.3	33.1
Borrowing for guaranteed loans.....	8.0	16.1	19.8	17.7	10.5	8.7	11.2	-0.1	14.0	13.9	26.1	33.4	41.4
Government-sponsored enterprise borrowing....	4.5	-3.1	0.2	8.5	10.8	5.3	3.6	1.4	11.9	21.2	21.4	14.2	11.9
Federal participation rate (percent).....	19.1	25.9	24.2	21.9	12.5	35.7	39.0	29.2	25.3	24.4	19.8		

¹ Nonfinancial sectors. Source: Federal Reserve Board Flow of Funds Accounts.² Not estimated.

Federal and Federally Assisted Credit Outstanding



The net funds advanced in a given year are simply the difference between the amount of loans outstanding at the beginning and at the end of that year. The accompanying chart shows the growth of Federal and federally-assisted credit outstanding in the last decade. Since 1970, the total amount of loans outstanding has risen by \$326.6 billion, to \$528.1 billion in 1979, an increase of 162%.

Most direct Federal outlays are covered within the budget totals and have been subject to periodic review in both the executive and congressional budget processes. Several direct lending programs are excluded from the budget outlay totals, as are all loan guarantees, except for payments of claims on defaults, certain repurchases, interest subsidies, or other installment payments. As a result, the budget understates the extent of Government involvement in credit markets. In the interest of developing of a more rational credit policy, the administration is establishing a new system to review and control Federal credit programs. A brief discussion is found in a separate section of this analysis and in Parts 2, 5, and 7 of the *Budget*.

DIRECT LOANS

The major Federal agencies and programs that make direct loans are identified in table F-2, which shows estimates of direct loans for 1979-81.

Table F-2. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)

Agency or program		Obligations			Loans		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
ON-BUDGET AGENCIES							
Funds Appropriated to the President:							
Energy Security Trust Fund	New transactions.....		50	50		50	50
	<i>Net change</i>					50	50
	Outstandings					50	100
International security assistance.....	New transactions.....	1,308	1,615	1,401	1,643	1,615	1,415
	<i>Net outlays</i>				903	894	699
	Outstandings	1,790	1,789	1,775	4,426	5,320	6,019
International development assistance.....	New transactions.....	3	15	522	392	291	284
	<i>Net outlays</i>				63	-53	-85
	Outstandings	1,001	708	930	11,724	11,671	11,586
Agriculture:							
Farmers Home Administration.....	New transactions.....	14,448	14,880	13,016	13,913	15,030	13,395
	<i>Net outlays</i>				475	745	-3,274
	Outstandings	3,896	3,917	3,734	3,138	3,883	609
Commodity Credit Corporation	New transactions.....	6,104	5,044	4,336	6,104	5,044	4,336
	<i>Net outlays</i>				594	-843	-1,063
	Outstandings				7,835	6,992	5,929
Public Law 480 long-term export credits	New transactions.....	778	850	781	778	850	781
	<i>Net outlays</i>				610	690	601
	Outstandings				6,483	7,173	7,774

Other	New transactions.....	10	34	.....	4	16
	<i>Net change</i>				4	16
	Outstandings	9	27	.....	4	20
Commerce:						
Economic Development Administration.....	New transactions.....	73	191	191	91	92
	<i>Net outlays</i>				58	63
	Outstandings	63	162	258	779	843
National Oceanic and Atmospheric Administration	New transactions.....	27	61	53	8	26
	<i>Net outlays</i>				8	25
	Outstandings	80	115	119	9	34
Maritime Administration.....	New transactions.....	29	10	250	35	10
	<i>Net outlays</i>				5	6
	Outstandings				132	138
Education:						
Student Assistance	New transactions.....	310	286	.....	164	301
	<i>Net outlays</i>				160	298
	Outstandings	466	450	175	3,811	4,109
Other education programs	New transactions.....	349	385	1,331	536	350
	<i>Net outlays</i>				390	190
	Outstandings	468	503	954	4,416	4,735
Health and Human Services:						
Health programs.....	New transactions.....	63	128	156	75	136
	<i>Net outlays</i>				49	18
	Outstandings	18	10	3	674	691
Housing and Urban Development:						
Housing programs.....	New transactions.....	1,196	1,419	1,357	881	1,336
	<i>Net outlays</i>				322	483
	Outstandings	841	939	1,082	4,872	5,355

Table F-2. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or program		Obligations			Loans		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Government National Mortgage Association	New transactions	2,053	2,065	1,826	1,492	1,931	1,760
	Net outlays				-170	604	-1,070
	Outstandings	5,529	5,439	5,302	3,308	3,912	2,843
Community planning and development	New transactions	333	265	265	318	262	257
	Net outlays				102	159	196
	Outstandings	118	121	129	527	686	882
New Communities Administration	New transactions		10			10	
	Net outlays				-29	10	
	Outstandings				120	130	130
Interior	New transactions	47	46	59	31	61	40
	Net outlays				28	48	24
	Outstandings	37	21	40	398	445	470
Transportation: Railroad programs	New transactions	73	213	253	86	105	177
	Net outlays				86	105	177
	Outstandings	264	376	456	198	304	481
Other	New transactions	12					
	Net outlays				-101		
	Outstandings	158	158	158	208	208	208
Treasury	New transactions	*			8	8	

	<i>Net outlays</i>				-116	-120	-99
	Outstandings	8			3,816	3,697	3,597
Veterans Administration:							
Housing loans and default claims	New transactions	394	569	612	713	986	1,042
	<i>Net outlays</i>				253	-201	-322
	Outstandings	9	10	11	1,726	1,526	1,203
Insurance policy and other loans	New transactions	181	177	176	181	177	176
	<i>Net outlays</i>				48	56	65
	Outstandings	*	*	*	1,274	1,329	1,394
To: District of Columbia	New transactions	141	185	174	141	185	174
	<i>Net outlays</i>				118	81	148
	Outstandings				1,434	1,515	1,663
Export-Import Bank	New transactions	3,367	5,318	6,826	1,629	2,634	2,836
	<i>Net outlays</i>				309	1,173	1,332
	Outstandings	4,204	6,400	9,855	11,859	13,032	14,364
Federal Home Loan Bank Board	New transactions	32	71	29	32	71	29
	<i>Net outlays</i>				15	58	12
	Outstandings				75	133	144
National Consumer Cooperative Bank	New transactions		54	182		29	156
	<i>Net outlays</i>					26	151
	Outstandings		25	51		26	176
National Credit Union Administration	New transactions	17	1,812	2,211	17	1,812	2,211
	<i>Net outlays</i>				11	301	
	Outstandings				23	324	324
Small Business Administration:							
Business and investment loans	New transactions	541	641	783	567	608	752

Footnotes at end of table.

OFF-BUDGET FEDERAL ENTITIES

Rural electrification and telephone revolving fund.....	New transactions.....	1,250	1,100	1,100	1,105	1,325	1,404
	<i>Net outlays</i>				206	212	194
	Outstandings	2,124	1,899	1,595	9,317	9,530	9,723
Rural Telephone Bank	New transactions.....	131	185	185	131	185	185
	<i>Net outlays</i>				125	178	176
	Outstandings	449	449	449	739	917	1,093
Pension Benefit Guaranty Corporation.....	New Transactions.....			5			5
	<i>Net outlays</i>						5
	Outstandings						5
Federal Financing Bank.....	New Transactions.....	16,045	22,004	23,941	16,045	22,004	23,941
	<i>Net outlays</i>				13,282	16,249	16,244
	Outstandings				47,100	63,349	79,593
United States Railway Association.....	New Transactions.....	53	22	22	53	22	22
	<i>Net outlays</i>				30		-3
	Outstandings				387	387	384
Subtotal, off-budget Federal entities.....	New transactions.....	17,479	23,311	25,253	17,334	23,536	25,557
	<i>Net outlays</i>				13,643	16,639	16,615
	Outstandings	2,573	2,348	2,044	57,544	74,184	90,799
Grand total	New transactions.....	51,402	61,212	63,139	49,197	59,112	59,367
	<i>Net outlays</i>				19,615	22,760	16,056
	Outstandings	22,062	23,980	27,589	140,516	163,277	179,333

Footnotes at end of table.

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Table F-2. DIRECT LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or program	Obligations			Loans		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
ADDENDUM						
Foreign currency loans ²						
	New transactions			1	1	1
	<i>Net outlays</i>			-104	-77	-78
	Outstandings	2	1	1,546	1,469	1,391

* Less than \$50 Million.

¹ Includes both debentures and repayable preferred stock of Conrail.² Foreign currency transactions are excluded from the budget totals.

Direct loans are made by both on-budget agencies and off-budget Federal entities and are financed from a variety of sources such as taxation, borrowing, and loan repayments.⁴ (For a discussion of off-budget Federal entities, see Part 6 of the *Budget*.) The table shows loan activity by the headings "obligations" and "loans". Obligations are firm written agreements by the Government to extend direct loans. Estimated obligations can be a good indicator of future financial flows. However, obligations in a given year need not always eventually result in an equal volume of new direct loans transactions since the conversion of obligations to loans can take time and plans change. Moreover, some prospective borrowers to whom obligations are made do not convert the obligations into borrowing. Loans, in turn, are the loans actually made in the specified time period.

New transactions are the amount of new loans in a given year. New direct loans transactions are the amount of gross loan disbursements, which in turn are the sum of disbursements to make new loans, disbursements to pay guarantee claims,⁵ and purchases of existing loans. Net outlays of direct loans are equal to new transactions less repayments⁶ of loans, liquidation of collateral, loan writeoffs, and sales of loan assets. Net outlays of direct loans are also equal to the difference between the volume of loans outstanding at the end of the year and the volume outstanding at the beginning of the year.⁷

Net outlays of direct loans by on-budget Federal agencies are counted as budget outlays and are reflected in the budget deficit. Because net outlays are sometimes much less than the level of new transactions,⁸ the latter may be a better indicator of new Federal direct lending activity.

In the case of obligations, new transactions are the new obligations entered into during a given year. Outstanding obligations are the total amount of obligations still outstanding at the end of a particular year.

Net outlays of direct loans on budget are expected to fall from \$6.1 billion in 1979 to -\$0.6 billion in 1981. The decline is due to decreases in lending in some programs, and increases in the sales of loan assets and repayments of existing loans. There were sharp decreases in lending by the Farmers Home Administration

⁴ Taxation and borrowing are in many cases indistinguishable sources of funds for a specific program. However, the treatment of loan repayments can differ from program to program.

⁵ Upon default of a loan guarantee, the guarantee is made good by the Government assumption of the guaranteed loan. The lender is reimbursed for the amount of the guarantee, while the borrower owes the Federal Government directly rather than the original lender. Claims paid under insurance or guarantee programs are considered as direct loans until the acquired loans or collateral are paid off or liquidated. Proceeds of liquidation are considered repayments and realized losses are writeoffs.

⁶ Loan repayments and receipts from the sale of loans are netted from gross loan disbursements in determining net loan outlays, rather than being counted by budget receipts.

⁷ The volume of loans outstanding is thus a stock concept referring to the total of loans that have ever been made, less principal repaid to date, loans written off and receipts from the sale of loans. Net loan outlays is a flow concept, the difference in loans outstanding at the beginning and at the end of a particular year.

⁸ The difference between new transactions and net outlays depends on the amount of loan repayments, asset sales, and write-offs relative to new loan disbursements.

(FmHA), the Commodity Credit Corporation (CCC), the Small Business Administration (SBA) and the United States Railway Association (USRA). The decline in FmHA loan outlays is due to increased asset sales. The decline in CCC loan outlays is due to the elimination of direct lending for export credit. Disaster lending by SBA declines due to a shifting of their activities to FmHA. The decline in USRA lending follows a decrease in purchases of Conrail preferred stock. Net outlays of direct loans off-budget are expected to rise from \$13.6 billion in 1979 to \$16.6 billion in 1981.

LOAN ASSET SALES

Loan asset sales are sales of direct loans. A guarantee by the selling agency is usually attached. Under budgetary practices, loan asset sales are treated as if they were the same as loan repayments and are considered offsets to agency outlays rather than borrowing to finance outlays. Loan asset sales reduce the agency's outlay totals, and if the agency is on-budget, reduce total budget outlays. After the sale, the loan is held privately or by a Federal account (usually an off-budget Federal entity), but the Federal Government continues to bear the risk of default of the borrower.

Loan asset sales generally occur in three instances. First, FmHA and Rural Electrification Administration (REA) carry out direct loan programs and issue certificates of beneficial ownership (CBOs). The President's Commission on Budget Concepts recommended that the sale of such securities be treated as borrowing, but in certain cases legislation requires that it be treated instead as the sale of loan assets. As the Commission argued, however, as a means of financing outlays there is no difference in substance between an agency selling securities labeled "certificates of beneficial ownership," the same agency selling securities labeled "debt" and the Treasury selling securities labeled "debt." Moreover, when CBOs are sold, the ownership of the specific loans is retained by the Government, interest payments on the loans continue to be made to the Government, and the Government continues to incur the servicing costs of the loans and to assume fully the risk of default on the loans.

Second, where some direct loans have been made or loans may have been acquired through payments on guarantee claims upon default, or through sale of collateral using purchase money mortgages,⁹ these direct loans may subsequently be sold off, usually with guarantees attached. Third, under its "tandem" program, the Government National Mortgage Association (GNMA) purchases designated types of mortgages at below-market prices. These mortgages are then resold to the private market at prices that are sufficiently low to afford a normal return to investors. The outlay

⁹ A purchase money mortgage is a sale of property for a financial asset, usually a mortgage, instead of for cash.

occurs—and is recorded—when GNMA purchases the loans. The sale to the private market at below-market interest rates results in collections that offset the outlays, except for the subsidy (losses). This purchase and resale mechanism both insures the availability of credit for the designated type of mortgage and provides an explicit interest subsidy. Loan asset sales by FmHA and under the GNMA “tandem” plan represent over 90% of all loan asset sales.

Traditionally, loan asset sales meant selling of title to the loans to the public. However, since the creation of the Federal Financing Bank (FFB) off-budget, most of such assets are sold by on-budget accounts to the FFB, converting them from direct loans on-budget to loans off-budget.

Table F-3. LOAN ASSETS SALES, LOAN REPAYMENTS, AND OTHER LOAN OFFSETS (in millions of dollars)

Agency or program	Transactions with	Loan assets sales			Repayments and adjustments			
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate	
ON-BUDGET AGENCIES								
Agriculture:								
Commodity Credit Corporation	the Public				Repayments, etc.*	5,655	6,029	5,565
	FFB				Non-cash adjustments	23	19	15
Agricultural credit insurance fund	the Public				Repayments, etc.*	1,844	2,613	3,065
	the FFB	5,395	4,221	3,512	Non-cash adjustments	11	11	12
Rural housing insurance fund	the Public	70	50	40	Repayments, etc.*	1,152	1,244	1,361
	the FFB	3,930	4,627	6,889	Non-cash adjustments	4	5	6
Rural development insurance fund	the Public	*	10	9	Repayments, etc.*	50	62	74
	the FFB	980	1,442	1,700	Non-cash adjustments	*	*	*
Department of Education	the Public				Repayments, etc.*	148	164	584
	the FFB				Non-cash adjustments	2		
Health and Human Services:								
Health maintenance organization loans	the Public	1			Repayments, etc.*		1	2
	the FFB	21	115	140	Non-cash adjustments	*	-1	-2
Housing and Urban Development:								
Federal Housing Administration fund	the Public	35	37	42	Repayments, etc.*	216	472	452
	the FFB				Non-cash adjustments	15	17	20
Other housing programs	the Public				Repayments, etc.*	506	428	388

	the FFB				Non-cash adjustments	32	3	3
Veterans Administration:								
Direct loan revolving fund.....	the Public.....	112	45		Repayments, etc.*.....	66	75	70
	the FFB				Non-cash adjustments	*	4	2
Loan guarantee revolving fund.....	the Public.....	394	612		Repayments, etc.*.....	410	556	580
	the FFB				Non-cash adjustments	-15	46	56
Export-Import Bank.....	the Public.....				Repayments, etc.*.....	1,321	1,461	1,504
	the FFB				Non-cash adjustments			
Small Business Administration.....	the Public.....				Repayments, etc.*.....	581	657	693
	the FFB				Non-cash adjustments	165	150	150
Other agencies and programs.....	the Public.....				Repayments, etc.*.....	1,109	2,591	3,463
	the FFB				Non-cash adjustments	536	541	511
Subtotal, excluding tandem plans ¹	the Public.....	107	603	747	Repayments, etc.*.....	13,057	16,351	17,802
	the FFB	10,326	10,405	12,240	Non-cash adjustments	773	795	772
Housing and Urban Development (GNMA):								
Tandem plan sales—FHA/VA mortgages.....	the Public.....	1,486	1,150	2,650	Repayments, etc.*.....	146	152	158
	the FFB				Non-cash adjustments	-3		
Subtotal, with tandem plan.....	the Public.....	1,592	1,753	3,397	Repayments, etc.*.....	13,203	16,503	17,960
	the FFB	10,326	10,405	12,240	Non-cash adjustments	770	795	772

Footnotes at end of table.

Table F-3. LOAN ASSETS SALES, LOAN REPAYMENTS, AND OTHER LOAN OFFSETS (in millions of dollars)—Continued

Agency or program	Transactions with	Loan assets sales			Repayments and adjustments			
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate	
OFF-BUDGET FEDERAL ENTITIES								
Rural electrification and telephone revolving fund..	the Public.....				Repayments, etc.*.....	314	353	365
	the FFB.....	586	760	845	Non-cash adjustments.....			
Other.....	the Public.....				Repayments, etc.*.....	2,791	5,784	7,732
	the FFB.....				Non-cash adjustments.....			
Subtotal, off-budget Federal entities.....	the Public.....				Repayments, etc.*.....	3,105	6,137	8,097
	the FFB.....	586	760	845	Non-cash adjustments.....			
Total.....	the Public ²	1,592	1,753	3,397	Repayments, etc.*.....	16,308	22,639	26,057
	the FFB ³	10,911	11,164	13,086	Non-cash adjustments.....	770	795	772

	Purchases or repurchases			Net sales		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
ADDENDUM						
Repurchases and tandem plan purchases: ⁵						
Farmers Home Administration	1,941	4,806	4,550	8,435	5,543	7,599
Tandem plan purchases of:						
FHA/VA guaranteed loans				1,486	1,150	2,650
Other on-budget agencies and programs	39	25	27	18	634	811
Off-budget Federal entities				586	760	845
Total	1,979	4,831	4,577	10,524	8,086	11,905

¹ All loans sold, except conventional tandem plan sales, are guaranteed upon sale, and reflected in the guaranteed loan totals in Table F-5.

² "Public" includes Government-sponsored enterprises such as FMHA and FHLMC which are among the principal purchasers of HUD and VA mortgages.

³ See Table F-4 for detail of FFB purchases.

⁴ Includes prepayments and other capital recoveries.

⁵ FmHA repurchases mainly reflect replacements of amortized mortgages underlying previously issued block notes.

Table F-3 shows all loan offsets—all repayments, asset sales, or other credits that reduce the recorded totals of direct loan transactions. Two of the loan entries in table F-2 are “new (direct loan) transactions” and “net (direct loan) outlays”; table F-3 provides a four-way distribution of those loan offsets that are the difference between these two measures of direct lending. The four way split is as follows:

Loan asset sales to the public result in a flow of cash from the public to the agency in exchange for title to direct loans. In most cases this form of transaction converts the loan into a privately held note guaranteed by the Government.

Loan asset sales to the FFB shift title to the loan (or CBO or participation certificate) from the agency to the FFB. For an on-budget agency, this reduces the recorded budget outlays by the amount of the sale but raises the off-budget outlays of the FFB by an equal amount. For an off-budget entity, sales to the FFB reduce the recorded off-budget outlays of the selling entity and raises the off-budget outlays of the FFB by an equal amount. Though not required by law, under current FFB policy all loans purchased by the FFB are fully guaranteed by some other Federal agency.

Repayments, prepayments, and other capital recoveries are cash paid to the Government, thereby reducing indebtedness. They are counted as a reduction in new transactions of direct loans.

Non-cash adjustments are non-cash accounting entries to take cognizance of losses, write-offs, or other adjustments in cases in which the recorded value of the loans is greater than the amount of money collected or collectable on the loans.

As a result, new direct loan transactions (shown in table F-2) less new direct loan offsets (shown in table F-3) equal net outlays of direct loans (shown in table F-2).

As the addendum to table F-3 shows, loan asset sales are not always final. In fiscal year 1979, for example, while \$12,504 million of loan assets were reported in table F-3 as being sold, agencies repurchased \$1,979 million to give net sales of \$10,524 million. The repurchases are included in table F-2 as part of new direct loan transactions.

THE FEDERAL FINANCING BANK

The Federal Financing Bank (FFB) began operations in May 1974 and has been a significant factor in financing Federal credit activities. The bank is staffed under the supervision of the Treasury Department and all its personnel are Treasury employees. Its transactions are excluded by law from the budget totals. Hence, its lending transactions are not counted as budget outlays.

The FFB was designed to serve as a financial intermediary for the efficient financing of obligations issued, sold, or guaranteed by

Federal agencies. The FFB performs three functions. First, with some exceptions, the Treasury may require agencies authorized to borrow from the public to borrow from the FFB instead. Second, the Treasury can direct most agencies to sell loan assets to the FFB rather than the public.¹⁰ Third the FFB is authorized to purchase guaranteed loans. Generally, the FFB makes loans directly to borrowers whose obligations are guaranteed by a Federal agency. These guaranteed loans are in effect converted into direct loans outside the budget. The FFB assures the efficient financing of these guaranteed loans and reduces borrowing costs.¹¹

Table F-4. FFB ACQUISITIONS (in millions of dollars)

Agency or program	1979 actual	1980 estimate	1981 estimate
Purchase of loan assets from:			
Overseas Private Investment Corporation:			
New acquisitions.....			
<i>Net outlays</i>	-4	-7	-7
Outstandings	36	29	21
Farmers Home Administration—CBOs:			
New acquisitions.....	10,305	10,290	12,100
<i>Net outlays</i>	<i>8,805</i>	<i>5,790</i>	<i>8,450</i>
Outstandings	31,080	36,870	45,320
Rural Electrification Administration—CBOs:			
New acquisitions.....	586	760	845
<i>Net outlays</i>	<i>586</i>	<i>760</i>	<i>845</i>
Outstandings	1,223	1,983	2,828
Medical facilities guarantees (HHS):			
New acquisitions.....			
<i>Net outlays</i>	-4	-4	-4
Outstandings	160	156	152
Health Maintenance Organizations (HHS):			
New acquisitions.....	21	115	140
<i>Net outlays</i>	<i>20</i>	<i>114</i>	<i>138</i>
Outstandings	77	192	330
Small business development company loans:			
New acquisitions.....			
<i>Net outlays</i>	-18	-19	-18
Outstandings	94	76	58
Subtotal, purchase of loan assets			
New acquisitions.....	10,911	11,164	13,086
<i>Net outlays</i>	<i>9,385</i>	<i>6,634</i>	<i>9,404</i>
Outstandings	32,671	39,304	48,709

¹⁰ When the FFB buys loan assets, it effectively converts direct loans that have already been made by another agency into off-budget direct loans of the FFB.

¹¹ There is a modest (1/8 percentage point) surcharge to cover administrative expenses.

Table F-4. FFB ACQUISITIONS (in millions of dollars)—Continued

Agency or program	1979 actual	1980 estimate	1981 estimate
Direct loans (purchases of loans guaranteed by agencies):			
International security loans (FAP):			
New acquisitions	1,615	2,900	2,600
<i>Net outlays</i>	1,293	2,420	1,990
Outstandings	5,271	7,691	9,681
Rural Electrification Administration (USDA):			
New acquisitions	1,735	3,400	3,900
<i>Net outlays</i>	1,735	3,400	3,900
Outstandings	5,926	9,326	13,226
Guarantees of SLMA obligations (DEd):			
New acquisitions	530	670	.....
<i>Net outlays</i>	530	670	-215
Outstandings	1,275	1,945	1,730
Low-rent public housing (HUD):			
New acquisitions .....	.....	1,575	.....
<i>Net outlays</i> .....	.....	1,557	-50
Outstandings .....	.....	1,557	1,507
Community development grants (HUD):			
New acquisitions	5	165	290
<i>Net outlays</i>	5	162	264
Outstandings	5	168	431
New Communities Administration (HUD):			
New acquisitions .....	.....	.....	.....
<i>Net outlays</i> .....	.....	-5	.....
Outstandings	38	34	34
Loans to territories (Interior):			
New acquisitions .....	.....	10	.....
<i>Net outlays</i>	*	9	-38
Outstandings	58	67	29
Railroad programs (DOT):			
New acquisitions	885	332	322
<i>Net outlays</i>	-25	305	241
Outstandings	562	868	1,108
Washington METRO bonds (DOT):			
New acquisitions .....	.....	.....	.....
<i>Net outlays</i> .....	.....	.....	.....
Outstandings	177	177	177
Public building CBI's ¹ (GSA):			
New acquisitions	92	45	100
<i>Net outlays</i>	90	43	98
Outstandings	360	403	501
Satellite leases (NASA):			
New acquisitions	184	132	101
<i>Net outlays</i>	184	132	101
Outstandings	420	552	653

Footnotes at end of table.

Table F-4. FFB ACQUISITIONS (in millions of dollars)—Continued

Agency or program	1979 actual	1980 estimate	1981 estimate
Small business investment companies (SBA):			
New acquisitions.....	87	190	187
<i>Net outlays</i>	<i>86</i>	<i>188</i>	<i>184</i>
Outstandings	336	524	708
Export-Import Bank:			
New transactions.....		50	350
<i>Net outlays</i>		<i>50</i>	<i>350</i>
Outstandings		50	400
TVA's Seven States Energy Corporation:			
New transactions.....		1,371	3,006
<i>Net outlays</i>		<i>684</i>	<i>16</i>
Outstandings		684	700
Subtotal, direct loans (purchase of loans guaranteed by agencies)			
New acquisitions.....	5,134	10,839	10,856
<i>Net outlays</i>	<i>3,897</i>	<i>9,615</i>	<i>6,840</i>
Outstandings	14,430	24,045	30,885
Subtotal, all direct loans and purchases of agency loan assets:			
New acquisitions.....	16,045	22,004	23,942
<i>Net outlays</i>	<i>13,282</i>	<i>16,249</i>	<i>16,245</i>
Outstandings	47,100	63,349	79,594
AGENCY BORROWING			
ADDENDUM:			
By: on-budget agencies:			
Export-Import Bank:			
<i>Net change</i>	1,385	1,289	1,567
Outstandings	7,953	9,242	10,809
Tennessee Valley Authority:			
<i>Net change</i>	1,905	1,900	2,200
Outstandings	7,125	9,025	11,225
National Credit Union Association:			
<i>Net change</i>		300	
Outstandings		300	300
By: off-budget Federal entities:			
U.S. Railway Association:			
<i>Net change</i>	89	68	68
Outstandings	446	513	581
Postal Service:			
<i>Net change</i>	-527	-67	-232
Outstandings	1,587	1,520	1,288
Agency borrowing:			
<i>Net change</i>	2,852	3,490	3,603
Outstandings	17,111	20,600	24,203

* \$500 thousand or less.

† Certificates of beneficial interest.

In certain cases, agencies are given authority to borrow from the public as well as to borrow from the Treasury. Since Treasury borrowing is less expensive than agency borrowing, the use of this authority could be expensive. This additional expense would be avoided if the agency borrows directly from the Treasury or from the FFB which, in turn, borrows from the Treasury. Borrowing by agencies from the FFB is not included in FFB outlays; the use of the proceeds from the borrowing is counted as outlays of the borrowing agency. However, the agency must pay interest to the FFB on these borrowings and in turn the FFB pays interest to Treasury on its borrowing.

Table F-4 lists the activities of the FFB for 1979-81 by agency and account. The first set of entries lists FFB purchases of agency loan assets. The second set of entries lists the FFB purchases of other loans guaranteed by Federal agencies which are in effect direct loans by the FFB to the public. The addendum lists borrowing (debt issues) by both on-budget agencies and off-budget entities from the FFB.

The FFB's net outlays in the purchase of loan assets are expected to fall considerably from \$9.4 billion in 1979 to \$6.6 billion in 1980. This is due to the reduction in purchases of CBO's issued by the FmHA. However, purchases of loan asset rises to \$9.4 billion in 1981 due to a large rise in purchases of CBO's issued by FmHA. On the other hand, FFB net outlays for direct loans (purchases of loans guaranteed by agencies) are expected to increase sharply from \$3.9 billion in 1979 to \$9.6 billion in 1980. This increase is due to a sharp increase in guaranteed loans originating from REA and the advent of the FFB financing loans guaranteed under low rent public housing. Purchases of agency guaranteed loans fall in 1981 to \$6.5 billion. Total FFB lending outlays rise from \$13.3 in 1979 to \$16.2 billion in 1981.

LOAN GUARANTEES

Loan guarantees are agreements in which a Government agency enters into a firm commitment to use Government funds as necessary to secure a lender against default on the part of the borrower. The loan guarantee is the Federal Government's contingent liability, which may be less than the full face value of the loan. A guaranteed loan is the resulting loan, with guarantee attached.

Loan insurance is a type of guarantee in which a Government agency operates a program of pooled risks, pledging the use of accumulated insurance premiums to secure a lender against default on the part of a borrower.

The major use of loan guarantees has been to support housing, but in recent years guarantees have increasingly been used for other purposes. The effects of loan guarantees on the economy are difficult to assess. Some portion of the private loans that are guaranteed would have been made without the guarantee, and those private loans that would not have been made otherwise tend to divert credit away from other economic activities.

The nature of the loan guarantee differs widely among programs. The loan 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, it may be a security sold in the capital market, or it may be a security sold to the FFB. In the case of fully guaranteed loans, the Government guarantees the repayment of all principal and interest. In the case of partially guaranteed loans, the Government guarantees only partial repayment of principal and interest. Guaranteed loans also include loans on which the Government promises to pay a share of the interest, but none of the principal. Credit may be indirectly guaranteed without being explicitly labelled as a loan guarantee program under various contractual agreements, including guarantees of private leases, contracts to make subsidy payments over extended periods and debt service grants. Guaranteed loans include most loan assets sold by Federal agencies.

Loan guarantees are not reflected in the budget outlays when credit is extended. Guaranteed loans generally result in budget outlays only when there is a default, requiring the Government to pay the lender's claims for losses. Losses from more traditional loan guarantee programs have been small, partly because most of the loans were protected with liens on marketable property. Some of the newer loan guarantee programs, such as student loans, have suffered greater losses.

Data for loans guaranteed by agency and program for 1979-81 are presented in table F-5. The table included the full amount of the principal of guaranteed loans, even though in some cases the Government guarantees are for less than the total amount. The structure of table F-5 is comparable to that for direct loans in table F-2.

Table F-5. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)

Agency or program		Commitments			Loans guaranteed		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Funds Appropriated to the President:							
Energy security trust fund.....	New Transactions		333	333		333	333
	<i>Net change</i>					<i>333</i>	<i>333</i>
	Outstandings					333	666
International security assistance.....	New transactions.....	5,165	1,690	2,140	1,622	2,900	2,600
	<i>Net change</i>				<i>1,207</i>	<i>2,260</i>	<i>1,835</i>
	Outstandings	4,693	3,483	3,023	5,670	7,930	9,765
International development assistance.....	New transactions.....	198	245	350	96	230	188
	<i>Net change</i>				<i>49</i>	<i>189</i>	<i>146</i>
	Outstandings	444	459	621	852	1,041	1,187
Callable capital contributions ¹	New transactions.....	883	1,135	1,604	883	1,135	1,604
	<i>Net change</i>				<i>883</i>	<i>1,135</i>	<i>1,604</i>
	Outstandings				11,545	12,680	14,284
Agriculture:							
Farmers Home Administration.....	New transactions.....	11,810	12,401	13,570	11,528	11,879	14,043
	<i>Net change</i>				<i>8,857</i>	<i>6,282</i>	<i>8,700</i>
	Outstandings	1,186	1,706	1,233	37,078	43,360	52,060
Commodity Credit Corporation	New transactions.....	136	938	2,000	136	938	2,000
	<i>Net change</i>				<i>136</i>	<i>907</i>	<i>1,656</i>
	Outstandings				136	1,043	2,699
Rural Electrification Administration.....	New transactions.....	6,015	5,928	5,990	2,650	4,268	4,854

	<i>Net change</i>				2,650	4,268	4,854
	Outstandings	9,630	11,293	12,429	7,535	11,803	16,657
Commerce:							
Economic development assistance.....	New transactions.....	714	1,000	1,800	714	1,000	1,800
	<i>Net change</i>				636	897	1,659
	Outstandings				883	1,780	3,439
National Oceanic and Atmospheric Administration.....	New transactions.....	63	87	100	63	87	100
	<i>Net change</i>				58	75	70
	Outstandings				106	180	250
Maritime Administration.....	New transactions.....	978	970	1,500	497	763	1,500
	<i>Net change</i>				266	515	1,209
	Outstandings	938	1,145	1,145	5,703	6,218	7,427
Education:							
Guarantees of SLMA debt issues.....	New transactions.....	530	670		530	670	
	<i>Net change</i>				530	670	-215
	Outstandings				1,275	1,945	1,730
Student loan insurance fund.....	New transactions.....	2,760	3,960	2,160	2,760	3,960	2,160
	<i>Net change</i>				1,477	2,557	483
	Outstandings				8,302	10,859	11,342
Other education programs.....	New transactions.....						
	<i>Net change</i>				-21	-22	-22
	Outstandings				1,305	1,283	1,261
Energy:							
Geothermal resources development fund.....	New transactions.....	1	300	206	1	330	206
	<i>Net change</i>				1	319	206
	Outstandings	30			14	333	539
Energy Conservation.....	New transactions.....		16	30		8	21

Footnotes at end of table.

Table F-5. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or program		Commitments			Loans guaranteed		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
	<i>Net change</i>					7	18
	Outstandings		8	18		7	26
Energy production, demonstration, and distribution.....	New Transactions.....	1	49			25	25
	<i>Net change</i>					25	24
	Outstandings	1	25			25	48
Energy Security Reserve.....	New transactions.....		1,500			1,500	
	<i>Net change</i>					1,500	
	Outstandings					1,500	1,500
Energy Security Corporation.....	New transactions.....		800	2,000		800	2,000
	<i>Net change</i>					800	2,000
	Outstandings					800	2,800
Health and Human Services:							
Medical facilities guarantees.....	New transactions.....				15	12	10
	<i>Net change</i>				-26	-22	-25
	Outstandings	22	10		1,321	1,299	1,274
Health programs.....	New transactions.....	33	205	258	33	205	258
	<i>Net change</i>				32	203	254
	Outstandings				167	369	623
Housing and Urban Development:							
Subsidized low-rent public housing.....	New transactions.....	13,081	11,366	14,647	9,451	10,000	10,825
	<i>Net change</i>				483	200	2,000
	Outstandings	15,148	16,264	19,836	15,050	15,250	17,250

Federal Housing Administration	New transactions.....	33,976	31,514	34,155	21,081	21,695	24,288
	<i>Net change</i>				<i>11,922</i>	<i>10,916</i>	<i>11,554</i>
	Outstandings	24,663	25,112	26,346	110,051	120,966	132,520
Community development grants.....	New transactions.....	31	200	300	12	165	290
	<i>Net change</i>				<i>12</i>	<i>162</i>	<i>264</i>
	Outstandings	17	52	62	12	174	437
Urban renewal.....	New transactions.....				43	30	145
	<i>Net change</i>				<i>-325</i>	<i>-227</i>	<i>-49</i>
	Outstandings	739	462	121	466	239	190
New Communities Administration	New transactions.....						
	<i>Net change</i>				<i>-2</i>	<i>-10</i>	
	Outstandings	33	11	11	141	131	131
GNMA: Mortgage-backed securities	New transactions.....	41,750	47,200	53,000	22,176	20,500	25,000
	<i>Net change</i>				<i>17,594</i>	<i>14,917</i>	<i>18,900</i>
	Outstandings	12,224	13,749	13,399	70,558	85,476	104,376
Interior:							
Indian programs	New transactions.....	38		2	2	36	2
	<i>Net change</i>				<i>-3</i>	<i>26</i>	<i>-7</i>
	Outstandings	36			49	76	69
Transportation:							
Rail programs.....	New transactions.....	159	594	410	213	332	322
	<i>Net change</i>				<i>40</i>	<i>308</i>	<i>305</i>
	Outstandings	175	438	526	1,102	1,410	1,715
Washington, D.C. METRO bonds	New transactions.....						
	<i>Net change</i>						

Footnotes at end of table.

Table F-5. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or program		Commitments			Loans guaranteed		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
	Outstandings	997	997	997	997	997	997
Aircraft loans.....	New transactions.....	11	444	444	9	446	444
	<i>Net change</i>				-19	430	400
	Outstandings	2			190	620	1,021
Treasury:							
Guarantee of New York City notes	New transactions.....	500	250	300	500	250	
	<i>Net change</i>				500	226	-47
	Outstandings			300	500	726	679
Chrysler Corporation loan guarantee program	New transactions.....		1,500			940	312
	<i>Net change</i>					940	312
	Outstandings		560	248		940	1,252
NASA: Long term satellite leases	New transactions.....	152			186	132	101
	<i>Net change</i>				186	132	101
	Outstandings	233	101		423	555	656
Veterans Administration (housing)	New transactions.....	17,682	20,837	22,653	16,159	18,718	20,432
	<i>Net change</i>				8,364	11,701	13,544
	Outstandings	3,547	4,890	6,232	89,158	100,859	114,403
Export-Import Bank.....	New transactions.....	5,902	9,194	10,462	5,401	6,161	7,302
	<i>Net change</i>				1,179	1,479	2,119
	Outstandings	6,475	7,546	8,486	6,586	8,065	10,184

General Services Administration	New transactions.....				35	45	100
	<i>Net change</i>				30	36	90
	Outstandings	280	235	135	1,242	1,278	1,368
NCUA: Credit Union share insurance fund.....	New Transactions.....	14	16	18	14	16	18
	<i>Net change</i>				4	5	6
	Outstandings				12	17	23
Small Business Administration: Business loan guarantees.....	New transactions.....	3,320	3,848	4,226	2,646	3,111	3,520
	<i>Net change</i>				720	1,113	1,146
	Outstandings	1,592	1,876	2,087	7,621	8,734	9,880
Lease and surety bond guarantees	New transactions.....	1,391	1,700	1,700	1,391	1,700	1,700
	<i>Net change</i>				93	104	
	Outstandings				596	700	700
Lease guarantees.....	New transactions.....						
	<i>Net change</i>				-32	-34	-34
	Outstandings				228	194	161
Disaster Loan fund.....	New transactions.....	2			1	2	
	<i>Net change</i>				-2	-1	-2
	Outstandings	2	*	*	7	7	4
Pollution control bond guarantees.....	New transactions.....	40	50	50	40	50	50
	<i>Net change</i>				40	50	50
	Outstandings				55	105	155
TVA: Seven States Energy Corp.....	New Transactions.....		1,371	3,006		1,371	3,006
	<i>Net change</i>					684	16
	Outstandings					684	700

Footnotes at end of table.

Table F-5. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or program		Commitments			Loans guaranteed		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Other agencies and programs	New transactions.....		30	37		40	37
	<i>Net change</i>				-49	-7	-32
	Outstandings	10			238	230	198
Subtotal, guaranteed loans (gross).....	New transactions.....	147,336	162,341	179,452	100,888	116,783	131,597
	<i>Net change</i>				57,469	66,050	75,424
	Outstandings	83,118	90,422	97,256	387,172	453,222	528,646
Less secondary guaranteed loans: ²							
GNMA guarantees of FHA/VA pools	New transactions.....	41,750	47,200	53,000	22,176	20,500	25,000
	<i>Net change</i>				17,594	14,917	18,900
	Outstandings	12,224	13,749	13,399	70,558	85,476	104,376
DEd guarantees of SLMA debt issues	New transactions.....	530	670		530	670	
	<i>Net change</i>				530	670	-215
	Outstandings				1,275	1,945	1,730
DOT guarantees of USRA debt.....	New transactions.....	80	159	133	110	164	133
	<i>Net change</i>				85	142	111
	Outstandings	13	8	8	537	679	790
Subtotal, guaranteed loans (net).....	New transactions.....	104,976	114,312	126,319	78,072	95,449	106,464
	<i>Net change</i>				39,260	50,321	56,628

	Outstandings	70,881	76,665	83,849	314,801	365,122	421,750
Less guaranteed loans held as direct loans: ^a							
By budget agency (GNMA)	New transactions	2,053	2,064	1,826	1,492	1,931	1,760
	<i>Net change</i>				<i>-137</i>	<i>631</i>	<i>-1,046</i>
	Outstandings	5,529	5,439	5,302	3,105	3,736	2,689
By off-budget Federal Financing Bank	New transactions	16,045	22,004	23,941	16,045	22,004	23,941
	<i>Net change</i>				<i>13,282</i>	<i>16,249</i>	<i>16,244</i>
	Outstandings				47,100	63,349	79,593
Subtotal, primary guaranteed loans	New transactions	86,878	90,245	100,551	60,535	71,515	80,763
	<i>Net change</i>				<i>26,115</i>	<i>33,441</i>	<i>41,430</i>
	Outstandings	65,352	71,226	78,547	264,596	298,037	339,467

ADDENDUM

Less guaranteed loans held as direct loans:

By Government sponsored enterprises:

Student Loan Marketing Association	New transactions	627	821		627	821	
	<i>Net change</i>				<i>529</i>	<i>670</i>	<i>-203</i>
	Outstandings				1,239	1,909	1,707
Federal National Mortgage Association	New transactions	5,962	4,768	6,805	5,384	3,054	5,252
	<i>Net change</i>				<i>3,069</i>	<i>842</i>	<i>2,720</i>
	Outstandings	3,062	2,290	2,016	33,971	34,813	37,533
Federal home loan banks	New transactions	21	35	40	21	35	40
	<i>Net change</i>				<i>15</i>	<i>28</i>	<i>34</i>
	Outstandings				91	119	153

Footnotes at end of table.

Table F-5. GUARANTEED LOAN TRANSACTIONS OF THE FEDERAL GOVERNMENT (in millions of dollars)—Continued

Agency or program		Commitments			Loans guaranteed		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Federal Home Loan Mortgage Corporation.....	New transactions.....						
	<i>Net change</i>				-155	-150	-125
	Outstandings				1,189	1,039	914
Total Enterprise holdings	New transactions.....	6,610	5,623	6,845	6,032	3,909	5,292
	<i>Net change</i>				<i>3,458</i>	<i>1,390</i>	<i>2,426</i>
	Outstandings	3,062	2,290	2,016	36,490	37,880	40,306

¹ In previous years, callable capital contributions had been included as a memorandum entry.

² Secondary guarantees by the Export-Import Bank of the debt of the Private Export Finance Corporation have not been estimated and are excluded from the table.

³ When loan guarantees are acquired by a budget account, they are direct loans. However, in this instance, GNMA is acquiring a guaranteed loan not only from different accounts, but different agencies.

Detailed information on the amount of the Federal contingent liability under these guarantees may be found in the *Budget Appendix* and Part 5 of the *Budget*.

Commitments for new guaranteed loans are agreements by the Government to guarantee loans upon the prospective borrowers' and lenders' fulfillment of specific conditions. Commitments for new transactions are considered to be a good indicator of future guarantees. The amount of loans guaranteed in a given year is measured by the amount of new guaranteed loans in that year. Commitments in a given year do not always result in new guaranteed loans in that year, since conversion of a commitment to a guaranteed loan can take time and some plans may change. Moreover, some prospective borrowers to whom commitments are made do not ever convert the commitments into borrowing. The net change in loans guaranteed is equal to the amount of new guaranteed loans less repayments and other adjustments. The net change is also equal to the difference in guaranteed loans outstanding at the end and at the beginning of the year.

The aggregation of loan guarantees for each program to derive a gross total involves some double counting. Elimination of this double counting requires two adjustments. The first deducts loans previously guaranteed, or secondary guaranteed loans. They occur, for example, in the case of the GNMA mortgage-backed securities program which guarantees securities that are backed by pools of federally guaranteed or insured loans held by the seller. The total after deducting secondary guarantees gives net guaranteed loans. The second adjustment deducts guarantees of loans that are also direct loans by the Government—by either on- or off-budget accounts. The total after these two deductions gives primary guaranteed loans. An addendum includes guaranteed loans purchased by a Government-sponsored enterprise. These guaranteed loans held by Government-sponsored enterprises have in past years been deducted from total primary guaranteed loans. Beginning this year, they are deducted from direct loans made by Government-sponsored enterprises found in table F-6.

The net change in primary guaranteed loans increases sharply from \$26.1 billion in 1979 to \$41.4 billion in 1981. The increase is primarily the result of increased guarantees by EDA for economic development, guarantees for the energy initiative, and guarantees for FHA housing. The increases in primary guaranteed loans must be examined in terms of past trends. In 1978, the net change in primary guaran-

teed loans was \$13.9 billion, so that the estimate for 1981 is three times larger.

GOVERNMENT-SPONSORED ENTERPRISES

Government-sponsored enterprises have been established and chartered by the Federal Government to perform specialized credit functions. They are financial intermediaries, designed to facilitate the financing of selected kinds of economic activity, by serving as reserve facilities, or performing secondary marketing functions. They are all privately owned and most are independent of Federal control to a substantial degree. Since they are private, their activities are not included in the budget totals. They are all subject, however, to some form of Federal supervision and by law or by custom consult with the Treasury Department in planning the marketing of their debt. The enterprises included in this category are the Student Loan Marketing Association (SLMA), the Federal National Mortgage Association (FNMA), three components of the Farm Credit System, and the Federal Home Loan Bank system (FHLBS) which includes the Federal Home Loan Mortgage Corporation (FHLMC). Part 6 of the *Budget* discusses Government-sponsored enterprises.

Government sponsorship has provided these enterprises with characteristics that differentiate them in credit markets from completely private institutions. They have been given special preferences, and certain tax exemptions and their securities may be offered as investments of federally regulated institutions. These advantages give their security obligations a preferred position in the securities markets, enabling them to borrow at rates only slightly higher than those of the Treasury.

Funds lent by Government-sponsored enterprises are generally obtained from private bond markets. However, SLMA borrows exclusively from the FFB. Sale of capital stock and retained earnings provide only a very small portion of the resources used for lending by these enterprises. The pattern of borrowing and lending varies widely over time. For example, some enterprises, such as FNMA, were created to establish secondary markets, thereby increasing liquidity in mortgage markets; others, such as the Federal home loan banks, are facilities advancing reserves to member institutions, in this case, savings and loan associations.¹² Enterprises in the latter grouping have a basic function of providing liquidity to primary lenders in times of tight monetary conditions, by either purchasing loans from the primary lenders or making advances to the

¹² The program of GNMA (a budget entity in HUD) to guarantee mortgage-backed securities achieves a similar purpose of financial intermediation. GNMA guarantees securities issued against privately held pools of Federally guaranteed or insured mortgages. The Federal Reserve Board flow-of-funds data includes this GNMA program within the definition of Government-sponsored enterprises. GNMA data for this activity appear as entries in Table F-5, Guaranteed Loans.

primary lenders. These loans and advances are then paid back as monetary and financial conditions improve. In recent years, this latter group of enterprises has expanded its role by seeking to draw new funds into mortgage markets even in periods of prosperity. By borrowing additional funds themselves, they can provide more funds to the basic mortgage lending institutions.

Table F-6. CREDIT ADVANCED AND RAISED BY GOVERNMENT-SPONSORED ENTERPRISES (in millions of dollars)

Agency or program		Obligations			Loans made		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
LENDING (FUNDS ADVANCED)							
Student Loan Marketing Association	New transactions.....	627	821	.....	627	821	.....
	<i>Net change</i>.....	.....	.....	.....	529	670	- 203
	Outstandings.....	.....	.....	.....	1,239	1,909	1,707
Federal National Mortgage Association.....	New transactions.....	11,476	9,218	14,880	11,129	6,904	11,252
	<i>Net change</i>.....	.....	.....	.....	7,983	3,605	7,174
	Outstandings	6,532	3,793	3,500	49,174	52,779	59,953
Farm Credit Administration: Banks for cooperatives	New transactions.....	17,027	19,933	22,486	17,027	19,933	22,486
	<i>Net change</i>.....	.....	.....	.....	1,101	570	839
	Outstandings.....	.....	.....	.....	7,222	7,791	8,630
Federal intermediate credit banks.....	New transactions.....	11,976	13,999	16,387	11,976	13,999	16,387
	<i>Net change</i>.....	.....	.....	.....	2,370	2,461	2,813
	Outstandings.....	.....	.....	.....	16,407	18,869	21,682
Federal land banks	New transactions.....	7,558	7,549	8,336	7,558	7,549	8,336
	<i>Net change</i>.....	.....	.....	.....	5,057	4,395	5,077
	Outstandings.....	.....	.....	.....	29,871	34,266	39,343
Federal home loan bank system: Federal home loan banks.....	New transactions.....	28,426	19,798	20,876	28,426	19,798	20,876
	<i>Net change</i>.....	.....	.....	.....	9,853	2,083	- 3,464
	Outstandings.....	.....	.....	.....	41,486	43,569	40,105

Federal Home Loan Mortgage Corporation:							
Corporation accounts	New transactions.....	6,453	6,000	7,200	6,453	6,000	7,200
	<i>Net change</i>				<i>1,305</i>	<i>158</i>	<i>490</i>
	Outstandings				2,528	2,687	3,177
Participation certificate pools ¹	New transactions	4,903	5,522	6,370	4,903	5,522	6,370
	<i>Net change</i>				<i>3,731</i>	<i>3,276</i>	<i>3,611</i>
	Outstandings				15,648	18,924	22,535
Subtotal, lending (gross)	New transactions.....	88,447	82,840	96,536	88,100	80,526	92,908
	<i>Net change</i>				<i>31,930</i>	<i>17,219</i>	<i>16,338</i>
	Outstandings	6,352	3,793	3,500	163,575	180,794	197,132
Less loans between sponsored enterprises:							
Federal home loan banks to FHLMC	New transactions.....	662	156	836	662	156	836
	<i>Net change</i>				<i>400</i>	<i>47</i>	<i>376</i>
	Outstandings				2,799	2,846	3,222
Less secondary funds advanced from Federal sources: ²							
SLMA from FFB	New transactions.....				530	670	
	<i>Net change</i>				<i>530</i>	<i>670</i>	<i>-215</i>
	Outstandings				1,275	1,945	1,730
Less guaranteed loans held as direct loans by:							
Student Loan Marketing Association.....	New transactions.....	627	821		627	821	
	<i>Net change</i>				<i>529</i>	<i>670</i>	<i>-203</i>
	Outstandings				1,239	1,909	1,707
Federal National Mortgage Association	New transactions.....	5,962	4,768	6,805	5,384	3,054	5,252
	<i>Net change</i>				<i>3,069</i>	<i>842</i>	<i>2,720</i>
	Outstandings	3,062	2,290	2,016	33,971	34,813	37,533
Federal home loan banks.....	New transactions.....	21	35	40	21	35	40
	<i>Net change</i>				<i>15</i>	<i>28</i>	<i>34</i>

Footnotes at end of table.

	Outstandings	15,825	18,135	20,738
Federal land banks	<i>Net change</i>	<i>4,921</i>	<i>4,022</i>	<i>4,648</i>
	Outstandings	27,182	31,203	35,852
Federal home loan bank system:				
Federal home loan banks	<i>Net change</i>	<i>5,194</i>	<i>2,197</i>	<i>-1,401</i>
	Outstandings	30,146	32,343	30,942
Federal Home Loan Mortgage Corporation	<i>Net change</i>	<i>4,547</i>	<i>3,400</i>	<i>4,130</i>
	Outstandings	18,355	21,755	25,885
Subtotal, borrowing (gross)	<i>Net change</i>	<i>26,712</i>	<i>16,418</i>	<i>17,240</i>
	Outstandings	145,624	162,042	179,283
Less borrowing from other sponsored enterprises: ⁴				
FHLMC from FHL banks	<i>Net change</i>	<i>400</i>	<i>47</i>	<i>376</i>
	Outstandings	2,699	2,746	3,122
Other	<i>Net change</i>	<i>562</i>	<i>196</i>	<i>202</i>
	Outstandings	834	1,030	1,233
Less borrowing from Federal sources:				
SLMA from FFB	<i>Net change</i>	<i>530</i>	<i>670</i>	<i>-215</i>
	Outstandings	1,275	1,945	1,730
Total borrowing from the public and Government.....	<i>Net change</i>	<i>25,220</i>	<i>15,504</i>	<i>16,877</i>
	Outstandings	140,817	156,321	173,198
Less investments in Federal securities:				
Investments in Federal securities.....	<i>Net change</i>	<i>352</i>	<i>-62</i>	<i>2,552</i>
	Outstandings	862	800	3,352

Footnotes at end of table.

Table F-6. CREDIT ADVANCED AND RAISED BY GOVERNMENT-SPONSORED ENTERPRISES (in millions of dollars)—Continued

Agency or program	Obligations			Loans made		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Less borrowings for guaranteed loans held as direct loans by:						
Student Loan Marketing Association.....	<i>Net change</i>			529	670	-203
	Outstandings			1,239	1,909	1,707
Federal National Mortgage Association	<i>Net change</i>			3,069	842	2,720
	Outstandings			33,971	34,813	37,533
Federal home loan banks.....	<i>Net change</i>			15	28	34
	Outstandings			91	119	153
Federal Home Loan Mortgage Corporation	<i>Net change</i>			-155	-150	-125
	Outstandings			1,189	1,039	914
Total.....	<i>Net change</i>			<u>21,409</u>	<u>14,176</u>	<u>11,898</u>
	Outstandings			103,465	117,642	129,540

¹ All new transactions are loans purchased from FHLMC corporation accounts.

² Since all SLMA borrowing comes from the FFB, when credit is extended by Government-sponsored enterprises and added to Federal lending (as in Table F-7), the inclusion of both FFB lending to SLMA and SLMA lending to the public in the totals is double-counting. Hence, lending from the FFB to SLMA must be excluded from the gross total of lending by Government-sponsored enterprises to give the total adjusted for double-counting.

³ Loans purchased at discount are recorded at their acquisition cost.

⁴ These deductions include those borrowings involved in double-counting to give the adjusted total that is carried over to Table F-7.

Table F-6 shows the lending and borrowing of Government-sponsored enterprises for 1979-81.¹³ The format of this table closely resembles that used in table F-2 for direct loans. See the section on direct loans for an explanation of terms. Total gross lending and borrowing is further adjusted to avoid the double counting that arises from loans between enterprises and between enterprises and the Federal Government. In addition, where the borrowing or lending of enterprises is added to Federal credit activities (as in table F-7), additional deductions must be made for double counting since SLMA lending is financed by its borrowing from the FFB; also some enterprise cash balances are invested in Federal securities. (In effect, this is enterprise lending to the Federal Government.) The deductions in the table identify the amounts necessary to remove this double counting.

Lending by Government-sponsored enterprises is particularly volatile in the period 1977-81. Sharp increases and decreases in the lending of Federal Home Loan Banks and FNMA to support mortgage credit markets together with sharp continuing increases in lending by FHLMC are the main sources of the overall movements in lending. In this period, total lending rises to \$27.5 billion in 1979, an increase of \$16.5 billion from 1977 levels. Lending is then expected to fall to \$15.1 billion in 1980 and fall to \$13.8 billion in 1981. The 1981 estimate, while about half of the 1979 actual is still high by historical standards. The economic assumptions on which the estimate rest are not necessarily the same as the administration's economic forecast, which is used for the budget. In order to finance this lending, Government-sponsored enterprises are expected to follow the same general pattern of borrowing in the 1978-80 period. Special Analysis E discusses the borrowing to Government-sponsored enterprises in detail.

SUMMARY

A summary of credit advanced and raised under Federal auspices is given in table F-7. Total credit advanced by the Federal Government reached \$45.7 billion in 1979, led by the sharp increases in guaranteed loans. Total credit advanced by the Federal Government increases sharply to \$57.5 billion in 1981 as guaranteed loans continue to grow sharply. Total credit advanced reached \$73.3 billion in 1979, led the sharp increase in lending by Government-sponsored enterprises. Credit advanced is expected to fall somewhat in 1980 and 1981, reaching \$71.2 billion in 1981. This fall occurs as two Government-sponsored enterprises—Federal Home Loan Banks and FNMA curtail lending in support of mortgage markets.

¹³ The Federal Reserve Banks are unique and not projected for budget periods and are hence not included in the table or other tabulations of the Government's operations in the Budget.

Outstanding direct loans and guaranteed loans of the Federal Government are estimated at \$518.8 billion in 1981, an increase of \$113.7 billion over 1979. Outstanding direct loans and guaranteed loans made under Federal auspices are estimated at \$670.7 billion in 1981, an increase of \$142.6 billion over 1979.

Table F-7. SUMMARY OF CREDIT ADVANCED AND CREDIT RAISED UNDER FEDERAL AUSPICES

(In billions of dollars)

	Net Change			Outstanding		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
LENDING (Credit advanced)						
Direct loans (from table F-2):						
On-budget agencies.....	6.0	6.1	-0.6	83.0	89.1	88.5
Off-budget entities.....	13.6	16.6	16.6	57.5	74.2	90.8
Guaranteed loans (primary, from table F-5).....	26.1	33.4	41.4	264.6	298.0	339.5
Total Federal Government credit advanced.....	45.7	56.2	57.5	405.1	461.3	518.8
Loans by Government-sponsored en- terprises (from table F-6).....	27.5	15.1	13.8	123.0	138.1	151.9
Total, credit advanced to the public under Fed- eral auspices ¹.....	73.3	71.3	71.2	528.1	599.4	670.7
Outside the budget.....	67.3	65.2	71.8	445.2	510.3	582.1
BORROWING (Credit raised)						
Federal borrowing from the public (from table E-1).....	33.6	44.3	33.1	644.6	688.9	722.0
Guaranteed borrowing (same as guaranteed loans, above).....	26.1	33.4	41.4	264.6	298.0	339.5
Total Federal Government credit raised.....	59.7	77.7	74.5	909.2	986.9	1061.5
Borrowing by Government-sponsored enterprises (net, from table F-6) .	21.4	14.2	11.9	103.5	117.6	129.5
Total, credit raised from the public under Fed- eral auspices ¹.....	81.2	91.9	86.4	1,012.7	1,104.6	1,191.0
Net credit advanced.....	-7.9	-20.6	-15.2			

¹ Excludes Federal Reserve credit.

FEDERAL RESERVE SYSTEM LENDING

The Federal Reserve System, created by Congress in 1913, is the central bank for the United States. Its principal purpose is to conduct the Nation's monetary policy, influencing the cost and availability of money and credit in order to improve the stability and growth of the economy. Most of the System's transactions are a form of lending, but they are conducted for the purpose of mone-

tary control, not for profit or to allocate credit. The Federal Reserve System also has many regulatory and supervisory functions, handles the official reserve transactions with foreign central banks, and engages in foreign exchange transactions. The system has an independent status and is not included in the budget totals.

The Federal Reserve System conducts monetary policy predominantly through open market purchases and sales of Treasury debt securities. By purchasing securities it creates bank reserves and money. The Federal Reserve also makes loans to member banks, which are used to help meet member bank reserve requirements, and buys small amounts of banker's acceptances. By the end of 1979 the Federal Reserve had accumulated \$115.5 billion of Federal debt securities. The interest on these securities and other investments, after covering the expenses of the System, is paid almost entirely to Treasury. These receipts are estimated to be \$10.9 billion in 1981.

Before 1972, the Federal Reserve's only significant lending transactions, apart from its open market operations in Treasury securities, were its loans to member banks and its purchases of banker's acceptances.

Since September 1971 the System has invested a portion of its open market portfolio in securities other than Treasury issues.¹⁴ These securities consist of (a) direct debt obligations of Federal agencies other than Treasury, such as the Export-Import Bank; (b) federally guaranteed loans in the form of marketable securities, such as those representing loans guaranteed by the Farmers Home Administration; and (c) debt obligations of FNMA and the other Government-sponsored enterprises.¹⁵

These acquisitions by the Federal Reserve System occur in the ordinary performance of its monetary function. The first type, the purchase of Federal agency debt, is not essentially different from the purchase of Treasury securities, from the perspective of the Federal Government. The other two types of acquisition, however, support identifiable borrowers, outside the Federal Government, selectively enhancing the marketability of their securities.

¹⁴ Since December 1966 the System had bought some such securities under repurchase agreements.

¹⁵ In Federal Reserve publications, these enterprises are called "Federally Sponsored Credit Agencies."

Table F-8. FEDERAL RESERVE BANK LENDING ¹

(In millions of dollars)

	1971	1972	1973	1974	1975	1976	TQ	1977	1978	1979
AMOUNTS OUTSTANDING:										
"Agency issues" held outright:										
Government-sponsored enterprises:										
Banks for Cooperatives (BCs)		16		13	47	78	78	106	86	35
Federal Intermediate Credit Banks (FICBs).....		103	68	63	251	407	407	418	480	146
Federal Land Banks (FLBs).....		73	168	363	655	910	910	1,124	1,380	1,175
Farm Credit System ²									68	889
Federal Home Loan Banks (FHLBs).....		134	194	525	1,216	1,810	1,783	1,871	2,210	2,271
Federal National Mortgage Association (FNMA)		648	783	1,451	2,321	2,908	2,886	3,202	3,199	3,245
Subtotal, sponsored enterprise issues		974	1,213	2,415	4,490	6,113	6,064	6,720	7,423	7,761
Federally guaranteed loans:										
Farmers Home Administration		17	60	173	263	294	294	248	196	196
DOT—WMATA bonds.....			16	67	82	117	117	117	117	117
GSA—Public building certificates.....				4	9	14	14	14	14	14
Subtotal, guaranteed loans		17	76	244	354	425	425	379	327	327
Federal agency debt:										
Export-Import Bank		64	98	117	130	142	142	106	81	16
GNMA—participation certificates		25	38	59	86	89	89	87	83	83
U.S. Postal Service.....		6	24	25	25	37	37	37	37	37
Subtotal, agency debt.....		95	160	201	241	268	268	230	201	136
Total, "agency issues" held outright.....		1,106	1,449	2,858	5,085	6,806	6,757	7,329	7,950	8,224
"Agency issues" held under repurchase agreements ²				270	61	277	323	310	647	1,099
Total, all "agency issues" held		1,106	1,449	3,128	5,146	7,083	7,080	7,639	8,597	9,323
Loans and acceptances.....	508	203	1,836	3,514	1,243	1,343	1,160	1,551	2,078	2,210

Combined total	508	1,309	3,285	6,642	6,389	8,426	8,240	9,190	10,675	11,533
NET INCREASES:										
"Agency issue" holdings		1,106	363	1,679	2,018	1,937	-3	559	958	726
Loans and acceptances	56	-305	1,633	1,678	-2,271	100	-183	391	527	132
Combined total	56	801	1,996	3,357	-253	2,037	-186	950	1,485	858

Source: Federal Reserve Board (Fiscal year detail by issuing agency is unpublished; calendar data available in FRB annual report).

¹ Data exclude certain special classes of loans not separately published. See text.

² Consolidated obligations of the three members of the Farm Credit System.

³ Detail by issuing agency is unavailable.

In addition to its security transactions, The Federal Reserve makes loans to commercial banks. The great bulk of these loans normally are made when banks, experiencing an unexpected reserve drain, turn to the Federal Reserve discount window to obtain funds for a short period until they can make other adjustments in their balance sheet positions. The Federal Reserve also makes loans to assist member banks that lack access to national money markets and need funds to meet seasonal loan and deposit pressures. Loans are occasionally made for more extended periods to member banks encountering exceptional circumstances. This is best illustrated by the \$1.7 billion loan to the Franklin National Bank in 1975. Following this bank's subsequent failure, the loan was assumed by the Federal Deposit Insurance Corporation and was repaid over a 3-year period.

Table F-8 shows fiscal year historical data for the Federal Reserve System's investments in securities other than Treasury issues and for its loans and acceptances. The first outright purchase of securities other than Treasury debt was made in 1972. The peak year for the purchase of such securities plus loans and acceptances was 1974, when \$3.4 billion was acquired. In 1979, the \$0.9 billion advanced was well below the \$1.4 billion average during 1972-79. Most of the securities other than Treasury debt are debt issues of the Government-sponsored enterprises. The \$9.3 billion increase in Government-sponsored debt since the beginning of 1972, while considerable, is much smaller than the \$49.9 billion increase in Treasury debt securities.

Federal Reserve lending and other transactions are excluded from the aggregates of Federal credit shown in tables F-1 and F-7. This is partly because current and budget year estimates cannot usefully be made, since they would depend upon future economic developments and Federal Reserve policy decisions. If Federal Reserve lending were included in Federal credit, much of the addition to the totals would require offsetting adjustments to avoid double counting.

CREDIT-RELATED TAX EXPENDITURES

Tax expenditures, which are the subject of Special Analysis G, "Tax Expenditures," are defined by the Congressional Budget Act as "revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provides a special credit, a preferential rate of tax, or a deferral of the tax liability." They are often the practical equivalent of explicit direct subsidies, and when applied to credit, can have the effect of lowering interest rates and increasing credit demands.

Tax expenditures have important and direct effects on the credit markets in at least four ways. These effects arise from (1) the exemption of interest on State and local debt from being subject to Federal income taxation, (2) investment tax credits, (3) personal deductions for mortgage interest and property taxes, and (4) various depreciation methods. This section considers the interest exemption because of its size and because it exerts the most direct influence on capital markets and credit availability.

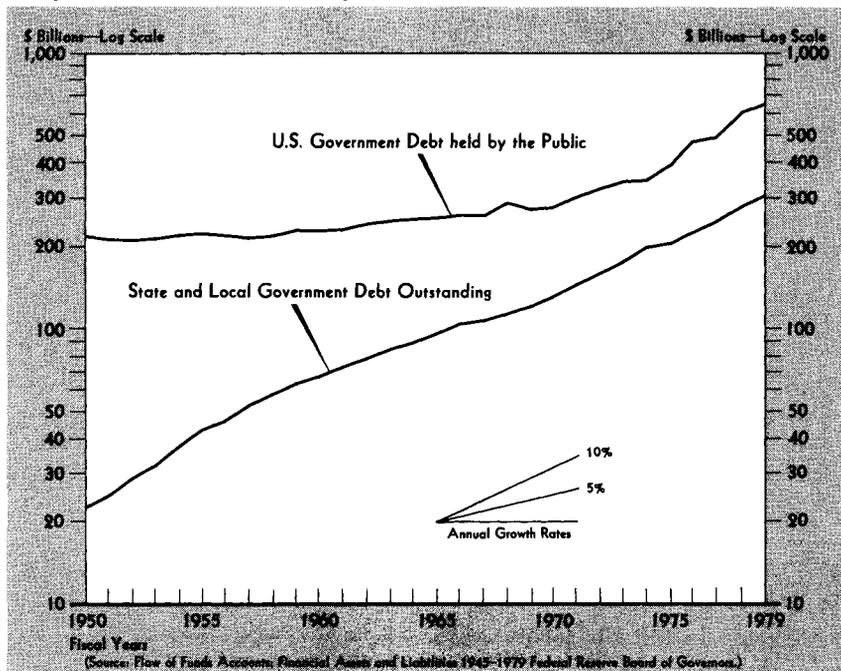
As the following chart shows, State and local government debt has grown at a more rapid rate than Federal debt. Since 1945, Federal debt has increased at a 2.5% average annual rate. In contrast, State and local debt has grown at a rate of 10%. Tax-exempt financing has steadily expanded in scope, to include financing of a broad array of purposes and borrower beneficiaries. State and local governments not only use tax-exempt borrowing to finance their own capital projects, but have been increasing their use of mechanisms that in effect lend the eligibility for tax-exempt borrowing to private borrowers. Tax-exempt debt includes general obligations for which taxing powers are pledged, and revenue bonds for which repayment is limited to specified non-tax resources—usually enterprise-type income. Pollution control bonds, industrial development bonds, and a variety of housing bonds¹⁶ are generally included in the revenue bond category. Revenue bonds may finance not only a publicly owned enterprise, but also facilities for use by private establishments.

As table F-9 shows, the tax loss¹⁷ to the Treasury from tax-exempt financing has grown substantially as the volume of outstanding issues has risen. The value of this tax loss can be estimated by calculating the amount of additional income that would have been subject to Federal taxation if State and local governments had

¹⁶Part 4 of the *Budget* discusses a proposal, supported by the administration, to restrict the use of tax-exempt bonds for mortgage financing.

¹⁷Whereas tax expenditures measure tax losses in a given year—from all outstanding tax exempt bonds issued in that year and previously—this analysis evaluates the future stream of tax losses that will arise from newly issued tax-exempt securities in a single year. The method is similar to that used in evaluating interest subsidies in table F-11; and the result is the capital equivalent (or "grant equivalent") of the subsidy stream.

Comparative Debt Outstanding



issued the same volume of taxable rather than tax-exempt debt. Comparisons using the Aaa corporate bond yield and the lower Aaa tax-exempt rate can help illustrate these relationships. Using Aaa rates is conservative because average State and local bonds are of lower quality, and therefore, if taxable, would have higher yields.

For example, in 1979, if \$42.7 billion in debt had been issued at the taxable rate of 9.63%, \$4.1 billion of interest would have been subject to taxation. Using an average marginal tax rate of 42%, this would have resulted in \$1.7 billion annually in higher Federal tax receipts due to borrowing just in that year.

To place the tax loss into perspective, it should be calculated in terms of the present value of the annual loss. This requires an appropriate interest rate to discount the future tax losses. The calculations in the table were made using the Aaa corporate bond yield. This rate is sensitive to market conditions and includes some premium for risk. The tax loss is calculated over 18 years, which is consistent with the average maturity of 15-18 years of securities in this market.

The annual tax loss discounted at the Aaa corporate rate over 18 years produces a "present value" tax loss over the life of the securities issued in 1979 of \$14.5 billion. This figure is the estimated tax savings to investors as well as the present value of the tax loss.

The present value of the benefit to State and local governments is less than the loss to the Treasury. The net saving to State and local governments is estimated as the difference between the taxable interest rate and the lower tax-exempt rate. Again using 1979 as an example, since the Aaa corporate rate was 9.63% and the State and local Aaa bond yield was 5.92%, the interest rate saving was 3.71%. This results in an estimated annual saving for new issues in 1979 of \$1.6 billion. Using the Aaa corporate rate to discount this amount through 18 years produces a present value benefit to the issuing State and local governments of \$13.3 billion. This is 92% of the loss to the Treasury in 1979. In all other years in this table, the benefit to the State and local governments is a smaller proportion of the loss to the Treasury.

The subject discussed above is usually taken solely as an issue of tax policy. However, subsidies of this magnitude create a strong incentive to allocate credit to the assisted borrowers, just as do Federal direct loan and loan guarantee programs.

Table F-9. TAX EXEMPT FINANCING, PRESENT VALUE OF TAX SUBSIDIES TO NEW ISSUES (in billions of dollars)

	Calendar years ¹													
	1958	1959	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
New long-term tax-exempt issues.....	7.4	7.5	16.3	11.7	18.1	24.9	23.6	23.9	24.2	30.5	35.2	46.7	48.5	42.7
Moodys Aaa State and local bond yields	2.92	3.35	4.20	5.45	6.12	5.22	5.04	4.99	5.86	6.42	5.66	5.20	5.52	5.92
Moodys Aaa corporate bond yields	3.79	4.38	6.18	7.03	8.04	7.39	7.21	7.44	8.57	8.83	8.43	8.02	8.73	9.63
Subsidy estimates ² :														
Annual tax loss, new issues	0.1	0.1	0.4	0.3	0.6	0.8	0.7	0.7	0.9	1.1	1.2	1.6	1.8	1.7
Present value, tax loss ³	1.5	1.7	4.5	3.5	5.7	7.6	7.1	7.3	7.8	10.0	11.3	14.7	15.9	14.5
Present value, benefit to borrowers	0.8	0.9	3.4	1.9	3.2	5.3	5.1	5.7	5.9	6.5	8.9	12.3	13.9	13.3
Memos:														
Net increase, all long-term issues	5.1	5.9	9.4	7.2	8.9	15.0	14.6	14.4	13.7	16.4	19.7	26.3	27.7	23.9
Net increase, all tax-exempt issues	5.5	6.3	9.5	9.9	11.2	17.4	14.7	14.7	16.5	15.6	19.0	29.2	30.3	30.0
Outstanding, all tax-exempt issues	59.2	65.5	123.2	133.1	144.4	161.8	176.5	191.2	207.7	223.2	242.2	271.3	299.6	324.1

Sources: Federal Reserve Board, Public Securities Association; subsidy estimates by Office of Management and Budget.

¹ 1979 values estimated from preliminary data.² Assumed: Average marginal tax rate = .46; Average maturity = 18 years.³ Equals present value of tax savings to investors.

FUNCTIONAL AREAS SUPPORTED BY FEDERAL CREDIT ASSISTANCE

The functional distributions of direct and guaranteed loans by major function are given in table F-10. The functions in which the largest Federal credit activity occurs are commerce and housing credit, international affairs, and veterans benefits. These three functions are expected to comprise 71.9% of total new transactions in 1981. In addition, Part 5 of the *Budget* discusses Federal credit activities in functions in which credit is significant.

Table F-10. DIRECT LOANS AND GUARANTEED LOANS BY FUNCTION

(In millions of dollars)

Function	New direct loans			New guaranteed loans		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
National defense.....	1				30	30
Total	1				30	30
International affairs:						
Security Assistance.....	1,643	1,615	1,415	1,622	2,900	2,600
Export-Import Bank.....	1,629	2,634	2,836	5,401	6,161	7,303
Other.....	1,179	1,151	1,066	979	1,365	1,792
Total	4,451	5,400	5,317	8,002	10,426	11,695
Natural resources, environment, and energy:						
National resources and environment.....	23	40	18			
Energy.....	1,126	1,487	1,695	2,651	8,626	10,436
Total	1,149	1,527	1,713	2,651	8,626	10,436
Agriculture:						
Farm income stabilization.....	6,104	5,044	4,336	136	938	2,000
Other.....	7,956	6,557	5,110	5,594	4,342	3,901
Total	14,060	11,601	9,446	5,730	5,280	5,901
Commerce and housing credit:						
Mortgage credit and thrift insurance.....	7,016	10,049	9,271	47,263	47,202	56,618
Advancement of commerce.....	16,661	24,524	27,089	4,154	5,904	5,706
Total	23,677	34,573	36,360	51,417	53,106	62,324
Transportation:						
Ground transportation.....	847	768	384	213	332	322
Air transportation.....				9	446	444
Water transportation.....	35	10	250	497	763	1,500
Total	882	778	634	719	1,541	2,266
Community and regional development	2,841	2,785	2,873	2,700	3,772	5,059
Total	2,841	2,785	2,873	2,700	3,772	5,059

Table F-10. DIRECT LOANS AND GUARANTEED LOANS BY FUNCTION—Continued

(In millions of dollars)

Function	New direct loans			New guaranteed loans		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Education, training, employment, and social services: Education	700	651	1,156	3,290	4,630	2,160
Health.....	75	136	163	48	217	268
Total	775	787	1,319	3,338	4,847	2,428
Income security.....	278	302	307	9,451	10,000	10,825
Veterans benefits and services.....						
Veterans housing.....	713	986	1,042	16,159	18,718	20,432
Other.....	181	178	176			
Total	1,172	1,466	1,525	25,610	28,718	31,257
General purpose fiscal assistance.....	141	185	174	500	250	
Other programs.....	47	9	5	221	187	201
Subtotal before deductions...	49,197	59,112	59,367	100,888	116,783	131,597
Less secondary guaranteed loans.....				22,816	21,334	25,133
Less guaranteed loans held by:						
GNMA.....				1,492	1,931	1,760
FFB.....				16,045	22,004	23,941
Grand total ¹	49,197	59,112	59,367	60,535	71,515	80,763

¹ Off-budget accounts are included.

INTEREST SUBSIDIES

To reallocate resources to specific areas of the economy, Federal credit programs provide credit to selected groups on more favorable terms than would be available in private capital markets. In most cases, the favorable terms take the form of an interest rate that is lower than the rate that would be charged by private lenders. The interest rate on guaranteed loans is lower because Federal participation removes any default risk. Direct loans contain an additional interest subsidy since they are financed more cheaply than guaranteed loans financed in the private sector. In some cases, the interest rate is even lower than Treasury borrowing rates. Those interest rate subsidies are estimated in this section. Federal credit terms may involve other factors but those other factors are not estimated in this section. In particular, the loan-to-value ratio and risk of the loan may also be higher or the maturity longer than is available in private capital markets. Other types of credit subsidies, also not treated in this section, may result from fees or premiums inadequate to cover costs of administration and losses on loan guarantee programs, waivers of such fees or premiums, or forgiveness of part or all of the loan principal. This section also does not consider the direct grants or other kinds of subsidies that may accompany Federal credit assistance.

The estimated interest subsidy is defined as the difference between the present value of the interest payments that the borrower makes under Government assistance and the present value of the interest payments that would have resulted from a comparable private loan.

Calculation of the interest subsidies requires estimating the interest rate that borrowers would have paid in private capital markets. For some loans, particularly in housing, private credit market interest rates are readily ascertainable and could be used in estimation, although the Federal loan may be made to higher risk groups than would be serviced in the private market. For many other programs, no comparable loans are made in private markets. The difficulty in determining the level of private, unassisted interest rates on a program by program basis has led to the arbitrary selection of a 13% interest rate. In some cases, the relevant market rates may well exceed 13%, and, in others, private markets may not exist in the absence of Government assistance. The table indicates the approximate value of the subsidy because the true measure cannot be calculated exactly.

Interest subsidies occur throughout the life of the loan. The measurement of interest subsidies therefore requires the conversion of interest payments into a single discounted present-value. This conversion, which capitalizes the interest payments, is computed by discounting future subsidies by the selected interest rate (constant over the life of the loan) before adding them into a single present value.

Table F-11. INTEREST SUBSIDIES OF DIRECT LOAN OBLIGATIONS AND GUARANTEED LOAN COMMITMENTS

Agency and program	Average loan		Obligation (millions)			13.0 discount			
	terms					Annual subsidy per \$100 million	Present value subsidy		
	Percent	Years	1979	1980	1981		1979	1980	1981
DIRECT LOANS									
International assistance programs:									
Foreign military credit sales.....	10.4	15.0	595	540	515	2.0	80	72	69
Economic support fund.....	3.5	4.0	713	1,075	886	5.4	119	179	148
Functional development assistance	2.5	30.0	0	0	507	8.5	0	0	326
Export-Import Bank.....	8.8	7.0	3,367	5,318	6,826	2.7	412	651	836
Farm export credits—Public Law 480.....	2.3	33.0	778	850	781	8.9	523	571	525
Other programs.....	11.0	10.0	3	15	15	1.4	0	1	1
Energy and natural resource pro- grams:									
Rural Electrification Administra- tion.....	4.4	35.0	1,250	1,100	1,100	7.5	715	630	630
Tennessee Valley Authority.....	5.6	13.9	21	90	229	5.2	7	30	77
Interior: Water resources.....	6.6	10.0	36	27	38	4.2	8	6	9
Energy security trust fund.....	12.0	10.0	0	50	50	0.7	0	2	2
Agricultural assistance programs:									
Price support and related pro- grams.....	10.5	0.6	6,104	5,029	5,184	3.3	112	93	95
Agricultural credit insurance.....	8.9	10.1	8,086	6,437	5,041	2.8	1,248	993	778
Commerce and housing credit:									
Rural housing insurance fund.....	4.5	36.3	4,925	7,007	6,353	7.5	2,819	4,011	3,637
Federal Housing Administration.....	9.0	20.0	102	277	244	3.3	24	64	57
Government National Mortgage Association.....	7.5	40.0	2,053	2,064	1,826	5.2	813	817	723
Housing for elderly/handicapped...	8.5	40.0	815	839	830	4.3	267	274	272
Small business loans.....	8.3	8.5	541	641	783	3.1	86	102	124
National Consumer Cooperative Bank.....	10.5	30.0	0	53	182	2.3	0	9	32
Other aids to business.....	8.0	12.0	32	71	29	3.5	7	15	6
Transportation:									
Purchase of Conrail securities.....	7.5	31.0	708	641	185	4.9	263	238	69
Other transportation.....	8.2	18.2	155	245	525	3.8	41	64	137
Community and regional develop- ment:									
Rural development insurance fund	5.0	40.0	1,434	1,434	1,617	7.3	799	799	901
Rural Telephone Bank.....	8.0	35.0	131	185	185	4.6	46	65	65
Rural communication.....	8.4	35.0	0	35	34	4.3	0	11	11
Coastal energy impact fund.....	8.5	20.0	27	61	53	3.6	7	16	14
Economic development assistance.	10.5	32.5	73	191	191	2.3	13	34	34
Disaster loan fund—SBA.....	5.8	10.0	1,288	750	575	4.7	339	197	151
NCUA: Central liquidity fund.....	10.0	1.0	0	1,800	2,200	1.7	0	28	35
Urban renewal.....	10.0	0.8	0	34	10	1.7	0	0	0
Housing rehabilitation.....	3.0	20.0	225	230	255	7.4	118	121	134
Education, health and income sup- port:									
Student financial assistance.....	3.0	10.0	310	286	0	6.3	109	101	0
Student loan insurance fund.....	7.0	10.0	259	296	1,221	4.0	58	66	271
Health maintenance organizations.	12.0	20.0	36	113	155	0.8	2	7	9
Health resources.....	7.0	15.0	23	14	0	4.4	7	4	0
Health education loans.....	3.0	40.0	90	89	110	8.8	60	60	74
Low rent public housing.....	11.8	0.3	277	300	300	0.8	1	1	1

Table F-11. INTEREST SUBSIDIES OF DIRECT LOAN OBLIGATIONS AND GUARANTEED LOAN COMMITMENTS—Continued

Agency and program	Average loan		Obligation (millions)			13.0 discount				
	Percent	Years	1979	1980	1981	Annual subsidy per \$100 million	Present value subsidy			
							1979	1980	1981	
Veterans benefits and services:										
Veterans housing programs.....	11.5	29.2	394	569	611	1.4	41	59	64	
Veterans insurance policy loans	5.0	30.0	159	156	154	6.8	82	80	79	
Education loan fund.....	7.0	10.0	8	9	8	4.0	2	2	2	
General purpose fiscal assistance:										
DC loans.....	9.4	27.0	140	185	174	3.2	34	44	42	
Total—Major subsidized direct loans.....							9,261	10,520	10,437	
LOAN GUARANTEES										
International affairs:										
Export-Import Bank.....	8.3	3.5	5,902	9,194	10,462	2.7	449	700	797	
Foreign military credit sales.....	10.1	10.0	5,165	1,690	2,140	2.0	574	188	238	
Overseas Private Investment Corp. Housing and other credit guaran- tee programs.....	8.8	10.0	53	70	150	2.9	9	11	24	
10.5	30.0	145	175	200	2.3	25	30	35		
Energy and natural resource pro- grams:										
Rural Electrification Administra- tion.....	9.4	35.0	6,015	5,905	5,990	3.4	1,565	1,536	1,558	
CCC: Pilot fuel projects.....	12.5	20.0	43	0	0	0.4	1	0	0	
Geothermal development.....	11.3	12.0	1	300	206	1.2	0	23	15	
Energy supply, R&D.....	7.1	10.0	0	20	10	3.9	0	4	2	
Energy security trust fund.....	12.0	10.0	0	50	50	0.7	0	2	2	
Energy conservation.....	14.5	9.3	0	16	30	-1.1	0	0	0	
Energy production.....	10.0	10.0	1	49	0	2.1	0	6	0	
Energy security reserve.....	12.0	10.3	0	1,500	0	0.7	0	60	0	
Energy Security Corporation.....	10.5	10.0	0	800	2,000	1.7	0	77	193	
TVA: Seven States Energy Corp....	12.9	2.0	0	1,371	3,006	0	0	1	1	
Agricultural assistance programs:										
Agricultural credit insurance.....	12.5	7.0	5,596	4,589	3,628	0.3	83	68	54	
Commerce and housing credit:										
Government National Mortgage Association.....										
9.5	12.0	41,750	42,200	53,000	2.5	6,325	6,393	8,030		
Federal Housing Administration....	12.1	23.0	33,796	31,514	34,155	0.8	1,928	1,798	1,949	
Rural housing insurance fund.....	11.0	33.0	4,012	5,177	7,204	1.9	572	738	1,027	
Pollution equipment contract (SBA).....	6.0	20.0	40	50	50	5.5	16	19	19	
Business and investment loans (SBA).....										
11.0	8.5	3,320	3,848	4,226	1.3	227	264	289		
Surety bond guarantees (SBA)....	0.0	0.8	1,390	1,700	1,700	7.3	79	97	97	
NCUA: Credit union share insur- ance.....										
6.5	20.0	17	12	11	5.1	6	4	4		
Chrysler Corporation program.....	10.5	10.0	0	1,500	0	1.7	0	144	0	
Transportation:										
Maritime Administration.....	9.7	20.0	978	970	1,500	2.7	189	187	290	
NOAA: Federal ship financing.....	8.8	20.0	63	87	100	3.5	15	21	25	
Assistance to railroads.....	9.0	15.0	159	594	410	3.0	32	118	81	
Aircraft loan guarantees.....	8.8	15.0	11	444	444	3.2	2	93	93	
Community and regional develop- ment:										
Rural development insurance fund	12.0	20.0	2,202	2,637	2,737	0.8	132	159	165	
Rural communication.....	10.6	35.0	0	24	0	2.3	0	4	0	

Table F-11. INTEREST SUBSIDIES OF DIRECT LOAN OBLIGATIONS AND GUARANTEED LOAN COMMITMENTS—Continued

Agency and program	Average loan		Obligation (millions)			13.0 discount			
	terms					Annual subsidy per \$100 million	Present value subsidy		
	Percent	Years	1979	1980	1981		1979	1980	1981
Community development grants	8.5	5.5	31	200	300	3.1	4	23	34
Economic development assistance. Indian loan guarantee and insur- ance fund	12.0	32.5	85	1,000	1,800	0.9	6	72	129
Health, education and income sup- port:	7.3	12.0	38	0	3	4.0	9	0	1
Student loan insurance fund	7.0	10.0	2,760	3,960	2,160	4.0	614	880	480
Guarantees of SLMA	7.5	0.0	530	670	0	20.1	1	1	0
Health professions graduate stu- dent fund	12.0	10.0	9	40	48	0.7	0	2	2
Health maintenance organizations.	12.0	20.0	24	165	210	0.8	1	10	13
Low rent public housing	7.0	0.5	13,081	11,366	14,647	3.6	224	195	251
Veterans benefits and services:									
Veterans housing programs	11.5	30.0	17,682	20,837	22,653	1.4	1,853	2,183	2,373
General purpose fiscal assistance:									
New York City	10.5	10.0	550	250	300	1.7	48	24	29
Other programs	9.5	11.0	152	0	0	2.4	22	0	0
Total—Major subsidized guaranteed							15,013	16,137	18,300
Grand total							24,274	26,657	28,738

¹ In cases where a program charges an interest greater than 13%, no subsidy value is reported.

Using this technique, table F-11 presents the estimated values of Federal subsidies for new direct loan obligations and guaranteed loan commitments by agency and program for 1979-81. The first two columns of the table give the average interest rate and maturity of the loan. The next three columns give the obligations or commitments for 1979-81. The next column gives the annual subsidy per \$100 million, which is the difference between the chosen interest rate, in this case 13%, and the interest rate given on the loan itself, found in this first column. The present value of the subsidy is shown for each year for 1979-81 using the 13% interest rate as the discount factor. Using the 13.0% discount rate, the present value of the interest subsidy reaches \$28.7 billion in 1981.

CONTROLLING FEDERAL CREDIT

Plans for direct and guaranteed lending under individual Federal credit programs have been given some review during the annual budget process. There has been, however, no established mechanism for regulating and closely reviewing total Federal credit activity. But starting in this *Budget*, both direct and guaranteed loans

have been brought under greater scrutiny and control. There are three goals of the administration's credit control system.

First, at the program level, the system should insure that credit programs meet the purposes for which they are intended, that they do so efficiently, and that the level of resources is justified. This is a matter of good budgeting.

Second, the system should result in a more systematic examination and rationalization of the distribution of Federal Credit among sectors of the economy. The control system will be the framework for analyzing the relative distribution of Federal Credit resources among economic sectors, e.g., education, housing, industrial development and export promotion.

Third, on the aggregate level, the system will be a framework for analyzing the impact of total credit activity on the economy as a whole—on public versus private needs, and on economic growth, inflation and employment.

The Federal credit control system integrates Federal credit programs more completely into the budget process. The budget is the chief instrument for allocating fiscal resources between public and private sectors and among different functions or needs; it also sets fiscal policy.

The proposed credit control system will result in two different forms of control. First, most programs are controlled by both authorizing legislation and appropriations limitations. Second, the remaining programs are controlled by authorizations and not appropriations. The activity in all these programs is estimated and reviewed in the budget. The limits apply to gross annual direct loan obligations and gross annual loan guarantee commitments. In the case of loan guarantees, limits on commitments are being set for the first time in most cases. Individual limits are proposed within appropriation bill language for each credit program and are shown in the *Budget Appendix*. The *Budget Appendix* also includes estimates of the lending activity by program.

In its initial phases, the credit control system has been deliberately limited to cover only part of Federal credit activities. Hence, the credit control coverage differs from the coverage in previous budgets and in this Special Analysis. The differences in coverage arise from three primary causes.

(1) The credit activities of the privately owned Government-sponsored enterprises are excluded from the credit control system because of their private ownership.

(2) In a number of programs, Federal loan guarantees cover less than the full principal of the loan. The credit control system includes only the amount of the loan guarantee, since that is the amount of the Government's contingent liability.

(3) A number of credit related activities have significant non-credit program characteristics. For example, Federal price or rental guarantees have significant non-credit characteristics as well as credit attributes. Transactions of these sorts are currently excluded from the credit control system, although they are frequently controlled through some other aspect of the budget, so that the control system can focus on clearly defined credit activities.

Specifically, the following kinds of direct loan and loan guarantee transactions were excluded from the credit control system:

- sale of Federal assets on credit terms for more than 90 days duration;
- investments in obligations or preferred stock of any privately owned enterprises;
- deferred or delinquent interest that is capitalized;
- long term Government contracts for the purchase or lease of goods or services or of real property where beneficial interests of such contracts are pledged or assigned to lenders or investors;
- loans supported by contracts to pay any portion of the debt service;
- callable capital contributions to multilateral development banks;
- contingency-type direct loan commitments;
- price guarantees;
- guarantees to purchase unsold output; and
- project completion guarantees.

Table F-12 reconciles the Federal credit activity reported in this Special Analysis to the activity of the credit control system shown in Part 2 of the *Budget*. There are five kinds of programs included in the credit control system that are excluded from appropriation limitations. For these programs, control is exercised only through authorizing legislation rather than through both authorizations and appropriations. The first kind is programs that represent a clear and unambiguous entitlement to the qualified applicant, such as veterans mortgage guarantees. The second kind is programs that provide insurance against unforeseen circumstances, such as insurance of bank deposits.

These two exemptions preclude the appearance of control where none can exist without changing the basic nature of the programs. If they were included in the credit control system limits, the need for mandatory supplemental appropriations actions would arise whenever the limitations authorized for these programs proved

insufficient. These two exemptions are similar in nature to those budgetary activities considered relatively uncontrollable, many of which are also not acted on annual appropriations.

The third exempts guarantees of certificates of beneficial ownership (CBO's) issued by the FmHA and the REA. The President's Commission on Budget Concepts recommended the sale of CBO's be treated as borrowing but current legislation requires REA and FmHA to treat them as the sale of loan assets. While in a technical sense they are guaranteed, they are primarily financing. Since the credit activity they finance, is covered in the control system, they need not be.

Fourth, the basic insuring activities of the FHA and the GNMA guarantees of mortgage backed securities are important instruments of Federal support of the housing market. Given the current uncertainty in the housing market, these two activities have been exempted from the requirement for limitations in appropriations. This exemption applies only to the 1981 budget and will be reviewed again during the 1982 budget preparation process.

Fifth, the energy conservation loans by TVA¹⁸ and the export promotion loans by CCC are also exempt. Under present circumstances, the administration did not wish to unduly restrict these activities.

As table F-12 indicates, the two significant differences between total Federal credit activity and total activity in the control system is the deduction of loans by Government-sponsored enterprises and the difference between the full principal of guaranteed loans and the Government's contingent liability. Due to exemptions, total transactions of programs under appropriations control is about one-third of total credit transactions in the control system.

Both experience and further effort are needed before the credit control system can be fully successful. As the administration seeks to establish effective controls, more will be learned about how to improve the control system. The establishment of the credit control system will strengthen the development of economic policy. Bringing credit programs more fully into the budget review process will thus help coordinate credit policy and help synchronize the allocative aspects of Federal credit activity with budget activity.

¹⁸The energy conservation loans by TVA are not reported in the credit control system.

Table F-12. RECONCILIATION: TOTAL FEDERAL CREDIT ACTIVITY TO FEDERAL CREDIT ACTIVITY IN THE CREDIT CONTROL SYSTEM

(In billions of dollars)

	1981		
	New transactions	Net change	Outstanding
Lending:			
Total, credit advanced to the public under Federal auspices (from table F-7)	227.1	71.2	670.7
Less loans by Government sponsored enterprises (from table F-6)	87.0	13.8	151.9
Less the difference between the full principal of guaranteed loans and the Government's contingent liability:			
Veterans Administration	10.8	7.1	59.6
Federal Housing Administration	2.6	1.0	6.0
Export-Import Bank	1.1	0.3	2.2
Other	0.6	0.4	2.1
Less guaranteed loan transactions excluded from the control system:			
IFI: Callable Capital Subscriptions	1.6	1.6	14.3
General Services Administration	0.1	0.1	1.4
TVA	3.0	*	0.7
Less direct loan transactions excluded from the control system:			
Veterans Administration	0.4	-0.3	0.8
USRA: Purchases of preferred stock of preferred stock of Conrail	0.2	0.2	2.3
TVA	0.2	0.2	0.3
Other	0.2	-*	0.3
Total, credit advanced to the public in the control system (from Part 2 of the Budget)	119.2	46.9	428.8
Less transactions in programs exempt from appropriations control:			
Entitlements:			
VA mortgages	10.4	6.5	56.6
Public housing	11.1	2.0	17.3
Insurance:			
CCC	6.3	0.6	8.6
Other	0.6	*	4.9
Purchases of CBO's by FmHA and REA ..	4.6	-1.1	0.2
Guarantees of FmHA and REA CBO's	13.0	9.3	48.2
FHA	21.9	10.3	129.1
Urban renewal	0.2	-0.1	0.2
Public Law 480 export sales	0.8	0.6	7.8
GMNA: Mortgage backed securities	25.0	18.9	104.4
FFB	23.9	16.2	79.6
Energy Security Corporation	2.0	2.0	2.8
Other	0.9	0.5	3.2
Plus:			
Secondary loans in programs exempt from appropriations control	25.1	19.0	104.9
Direct loans held as guaranteed loans	25.7	15.2	82.3
Total transactions in programs under appropriations control	49.3	15.2	153.2

*Less than \$50 million.

PROPOSED LEGISLATION

This budget makes a number of proposals that include significant credit assistance. As part of the energy initiative, the proposed Energy Security Corporation, financed by the proposed windfall profit tax, will assist private industry to finance the development of oil substitutes from coal, oil shale, biomass, and unconventional gas. Assistance would be in the form of direct loans, loan guarantees, price guarantees, and purchase agreements.

The energy initiative also authorizes a Solar Energy Bank to make payments to lenders who initiate below-market interest rate loans for the purpose of financing and installing solar energy devices. These payments would compensate the lenders between the interest rate charged and the comparable market rate.

A related energy proposal includes a \$3 billion program of direct loans and loan guarantees to encourage construction of small and medium scale plants on farms and rural areas to convert grain into inputs for gasohol.

Another proposal is to finance the low-rent public housing programs from the FFB. Previously, the programs were financed by rolling over short-term tax-exempt notes issued by local public housing authorities and guaranteed by the Federal Government.

The Small Business Administration is proposing a major restructuring of its direct and guaranteed business lending programs. The changes orient the lending more to minority and women-owned firms and emphasize guarantees over direct lending. The agency will seek legislation to consolidate its business loan program into one program, raise its loan limits on its guarantee from \$500,000 to \$750,000 and delegate administrative functions to selected lending institutions.

Another proposal is a major new direct loan program for postsecondary education. The new program provides loans on the basis of need but includes a supplemental loan program.

RECENTLY ENACTED LEGISLATION

This section lists and briefly describes legislation enacted during 1979 that authorizes new Federal credit programs or revises existing programs in major respects. It excludes simple extensions of expiring laws or changes in funds for continuing programs.

Interior Appropriations, Public Law 96-126.—This legislation authorizes funds appropriated to the Energy Security Reserve established in this law to support preliminary commercial development alternative fuel commercialization through direct loans, cooperative agreements, and loan guarantees.

Amendments to the Bankruptcy Act, Public Law 96-56.—This legislation amends the Bankruptcy Act to prohibit the writing off of any federally insured or guaranteed student loan prior to five years from the beginning of the repayment period.

Taiwan Relations Act, Public Law 96-8.—This legislation allows the Overseas Private Investment Corporation to provide direct loans and guarantees for projects in Taiwan.

Agriculture Appropriations, Public Law 96-108.—This legislation limits loan guarantees by the Commodity Credit Corporation for the production and marketing of industrial hydrocarbons and alcohols from agricultural commodities and forest products.

Temporary Business and Industrial Loans Act, Public Law 96-104.—This legislation repeals provisions of law that permitted specified financial institutions to charge interest on business and agricultural loans over \$25,000 at a rate of 5% above the Federal borrowing rate and which precluded such institutions from raising the defense of usury under such laws.

Health Planning Act Amendments of 1979, Public Law 96-79.—This legislation reduces by 25% per year for each year in which an agreement is not in effect for designation of a State agency for health planning the amount of any loan, loan guarantee, or grant which has been committed to the state under the Public Health Service Act, the Community Mental Health Act, the Comprehensive Alcohol Abuse, and Alcoholism Prevention, Treatment, and Rehabilitation Act of 1970, and the Drug Abuse Office and Prevention Act of 1972. This legislation further authorizes guarantees through 1982 for the payment of principal to non-Federal lenders or the FFB for their loans to the public and non-profit entities for medical facilities projects. It authorizes loans through 1982 for the discontinuance of unneeded hospitals or services, the conversion of existing facilities to needed health services and facilities, the modernization of medical facilities, the construction of new outpatient facilities, and the construction of new inpatient facilities in areas experiencing rapid population growth. It also provides the payment to the holder of a loan an amount sufficient to reduce by no more than one-half the net effective interest rate, if the loan holder is in a poverty area.

Nurse Training Amendments of 1979, Public Law 96-76.—This legislation authorizes an increase in the annual ceiling on federally insured loans to medical, osteopathic, and dental students from \$10,000 to \$15,000 upon the determination that the educational costs require such an increase. It also raises the principal amount from \$50,000 to \$60,000 for some student categories.

International Investment Cooperation Act of 1979, Public Law 96-53.—This legislation directs agencies that administer loan repayments in all international programs to conduct an annual review of bilateral concessional loan balances and to determine and identify those countries whose financial reserves make possible accelerated loan repayments.

Amtrak Reorganization Act of 1979, Public Law 96-73.—This legislation stipulates that the United States Railway Association shall have a direct claim on the amount of loans, plus interest which are forgiven pursuant to the Regional Rail Reorganization Act of 1973, as a current expenditure of the administration of a railroad in reorganization.

Milwaukee Railroad Restructuring Act, Public Law 96-101.—This legislation removes the requirement that Federal guarantees of railroads in reorganization be treated as expenditures of administration and receive the highest priority in bankruptcy, if the railroad is actively engaged in restructuring under an employee stock ownership plan or employee-shipper stock ownership plan. It increases the aggregate amount of loan principal that may be guaranteed by \$75 million and specifically requires DOT to guarantee the certificates of the Milwaukee Railroad for continued interim operation and subordinates the loan repayments to the creditors of the Milwaukee Railroad. It also guarantees obligations of the Milwaukee Railroad in order to provide employee protection and sets a \$75 million ceiling on the U.S. Government liability.

Veterans and Survivors Benefits Adjustment Acts, Public Law 96-128.—This legislation exempts VA guaranteed and insured home loans from state anti-usury laws and constructs provisions to conform to the treatment of mortgages under the National Housing Act.

Chrysler Corporation Loan Guarantee Act of 1979, Public Law 96-185.—This legislation extends a \$1.5 billion loan guarantee to assist the Chrysler Corporation in its short term difficulties.

Administrative expenses of the Chrysler loan guarantee program, Public Law 96-183.—This legislation sets the administrative expenses of the Chrysler loan guarantee program at \$1.578 million.

Rural Housing Amendments of 1979, Public Law 96-153.—This legislation makes a number of technical amendments. Among these is the exemption of FHA mortgages from state usury ceilings.

A bill to amend the Federal Reserve Act, Public Law 96-161.—This legislation permits federally insured commercial banks to offer automatic funds transfer from checking to savings accounts; it permits Federal credit unions to offer share draft accounts; and it preempts State usury laws on certain mortgages and other financial instruments.

While not newly enacted legislation, the Federal Home Bank Board (FHLBB) in January allowed member savings and loan associations to issue short term commercial paper. Also, the Federal Reserve announced several amendments to Regulation Q designed to help the small saver. Among these is the ability of federally-insured depository institutions to offer 2½ year savings certificates with their interest rate tied to the rate of comparable maturity treasury certificates.

SPECIAL ANALYSIS G

TAX EXPENDITURES

The Congressional Budget Act of 1974 (P.L. 93-344) requires a listing of tax expenditures 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 tax liability." Tax expenditures are one means by which the Federal Government pursues public policy objectives and, in most cases, can be viewed as alternatives to budget outlays, credit assistance or other policy instruments.

Tax expenditures have varied objectives. Nearly all tax expenditures are meant either to encourage certain economic activities or to reduce income tax liabilities for taxpayers in special circumstances. Among the economic activities encouraged by tax expenditures are investment, housing, petroleum exploration and development, borrowing by State and local governments and support of charitable institutions. The deductibility of medical expenses and casualty losses and personal exemptions for the aged and blind are examples of adjustments of tax liabilities for taxpayers in special circumstances.

The benefits of tax expenditures designed to encourage particular types of economic activity may not rest fully or even mainly with the corporations or individuals whose taxes are initially affected. Benefits often accrue to others in the form of lower prices for particular goods or services, or in other ways become widely diffused. For example, to the extent that the investment tax credit stimulates capital formation, productivity may increase and real wages may rise, benefiting recipients of labor income as well as capital income.

This special analysis contains quantitative estimates of tax expenditures but does not attempt to evaluate their effectiveness. It should be emphasized that the listing of specific tax expenditure items does not imply either approval or disapproval of specific provisions of the tax system.

DEFINING TAX EXPENDITURES

Income tax provisions resulting in tax expenditures are further defined in the legislative history of the Congressional Budget Act as exceptions to the "normal structure" of the individual and cor-

porate income taxes. They reduce tax liabilities for particular groups of taxpayers. No estimates are made in this analysis for negative tax expenditures or tax penalties—that is, exceptions to the normal structure of income taxes that result in increased tax liabilities for certain groups of taxpayers. At present there are only a few such exceptions. One example is the nondeductibility of gambling losses in excess of gambling gains where gambling is engaged in for profit. Also, under the Tax Reform Act of 1976 deductions for the costs associated with the demolition of certain historic buildings were disallowed and crediting of foreign taxes paid was denied taxpayers who cooperate with or participate in an international boycott.

The Internal Revenue Code contains individual income, corporate income, estate and gift, excise and employment taxes. This analysis deals only with deviations from the “normal structure” in the taxation of individual and corporate income.

The “normal structure” is not defined in the tax code. The concept has evolved from various Congressional and public reviews of the U.S. tax system focusing on the definition of the income tax base and the rates applied to that base. Tax expenditures might in principle be defined as departures from a theoretical income tax base. “Economic income,” defined as receipts available to support consumption or additions to net wealth, the imputed value of in-kind consumption, and imputed changes in net wealth, might be used for this purpose. Such theoretically pure treatment, however, is not possible in practice.

The concept of the normal structure recognizes that it is impractical for individual taxpayers to make the necessary imputations as, for instance, the imputed income derived from owner-occupied homes. Furthermore, for historical and administrative reasons the normal structure allows separate taxation of individual and corporate incomes even though it would be possible to define a normal income tax structure that would integrate these two taxes within the framework of a theoretically pure income tax structure.

Although a theoretically pure as well as normal structure for an income tax base can be specified with reference to generally accepted rules of income measurement, there is no similar point of reference for regarding as theoretically pure or normal any particular structure of income tax rates. However, for purposes of identifying tax expenditures, the progressive rate structure and the provisions that eliminate the tax liability of low-income persons are considered to be part of the normal tax structure. When the rate structure and threshold levels for tax liability are changed, for whatever reason, the new rates and threshold levels become part of the normal structure used in the analysis of tax expenditures. Reductions in the tax rates for individuals and the increase in the

personal exemption and the standard deduction (now called the zero bracket amount) in the Revenue Act of 1978 tend to reduce the estimated revenue losses associated with some tax expenditure items. This has occurred because fewer taxpayers have itemized their deductions and because tax preferences have less value at lower marginal rates.

Neither tax rates nor outlays can be presumed to be independent of current tax expenditures. If major tax expenditure items were repealed, tax rates could be set at lower levels or budget outlays could be increased to maintain an appropriate fiscal policy.

Some of the more technical issues involved in distinguishing between the normal structure of the income tax system and tax expenditure provisions are discussed in the following paragraphs.

- *Threshold levels for tax liability.* The normal structure includes those tax code provisions that determine threshold levels of income below which no tax liability is imposed for the different types and sizes of taxpaying units. Personal exemptions and the standard deduction have determined these thresholds in recent years. Legislation enacted during 1975, 1976 and 1977 temporarily added the general tax credit to these threshold provisions. The Tax Reduction and Simplification Act of 1977 made a permanent change in the provisions that establish threshold levels for tax liability by repealing the low-income allowance and the percentage standard deduction and substituting flat standard deductions (now called zero bracket amounts) for different types of filing units. The Revenue Act of 1978 again changed the threshold levels by not renewing the general tax credit for tax years after December 31, 1978, by increasing the standard deduction and by raising the personal exemption. The additional personal exemptions for taxpayers 65 and over and the blind result in tax expenditures because they are special provisions directed at groups in special circumstances.
- *The progressive rate schedules for the individual income tax.* A progressive rate schedule for the individual income tax is considered to be part of the normal tax structure, as would a proportional or even a regressive rate schedule, because the concept of tax expenditures is not characterized by any specific rate schedule. Therefore, tax expenditures do not result because some income is taxed at lower rates than other income. The income averaging provision of the code is also considered to be part of the normal structure. The maximum tax of 50% on personal service income is treated as a tax expenditure item because it is a "preferential rate of tax" as defined in the Congressional Budget Act.

- *The limited progressive rate schedule for corporations.* The Revenue Act of 1978 changed the treatment of the first \$100,000 of corporate income by taxing it at progressive rates ranging from 17 to 40%; all amounts over \$100,000 are taxed at 46%. Consistent with the treatment of the corporate surtax exemption in prior years, corporate tax rates below the 46% top rate are viewed as giving rise to a tax expenditure.
- *Separate rate schedules for single and married taxpayers, married taxpayers filing separately and heads of households.* Existing provisions regarding the definition of taxpaying units and separate rate schedules for different types of taxpayers are considered part of the normal tax structure. The concept of tax expenditures is not characterized by any specific set of rate schedules applicable to the particular tax filing units.
- *Imputed income from owner-occupied housing and other sources.* A theoretically pure income concept would include imputations for income received in kind from the occupancy of a home owned by the taxpayer and for in-kind income from the ownership of other durable assets. Because such imputations are difficult to make, they are not considered in the computation of tax expenditures, even though the exclusion of imputed income from income subject to tax affects the allocation of the economy's resources, particularly by stimulating owner-occupied housing. If income from owner-occupied housing were imputed, deductions for mortgage interest and property taxes would be an appropriate part of the normal structure in order to measure the amount of net income that should be included in the tax base. In the absence of an income imputation, those two deductions result in tax expenditures.
- *The value of government benefits received in kind.* The exclusion from income subject to tax of most direct cash payments to individuals by the government, such as social security payments, results in tax expenditures. Other government programs such as medicare and public education that extend benefits in kind to individuals are not included in income, but this exclusion does not result in tax expenditures. The dividing line is not clear cut between nontaxable government benefits that result in tax expenditures and those that do not. Food stamps, for example, are so nearly the equivalent of cash that their exclusion from income subject to tax might be considered to result in a tax expenditure, but in this analysis they are not so considered.
- *Capital gains and losses.* Although the base of a theoretically pure income tax would include net capital gains as they accrue, practical problems generally prevent the identifica-

tion and taxation of unrealized capital gains. Hence, the normal structure taxes such gains only when "realized." However, the exclusion from taxable income of 60% of capital gains (increased under the Revenue Act of 1978 from 50% in prior law) results in a tax expenditure.

An individual's assets held at death may have appreciated in value. Since these gains are not deemed to have been realized in the year of death under current law, they are completely excluded from the decedent's income subject to tax. The failure to include unrealized capital gains in the year of death in income is considered for purposes of this analysis to result in tax expenditure.

Prior to the enactment of the Tax Reform Act of 1976, the basis of the decedent's assets in the hands of the estate, heir or other beneficiary was their market value at the date of death. Thus, gains that accrued before death were never subject to tax. Under the 1976 act, the estate or beneficiaries must "carry over" the decedent's basis, adjusted to account for death taxes attributable to unrealized gains, and thus be subject to tax on gains that accrued during the lifetime of the decedent as well as gains that accrued subsequent to inheritance.

As a means of phasing in this provision, an asset's basis to the estate, heir or beneficiary is generally its value on December 31, 1976, or, if acquired later, the acquisition cost. The tax on such gains will partially offset the tax expenditure resulting from the failure to include capital gains in income subject to tax in the year of death. However, the Revenue Act of 1978 postponed the operation of the carryover of basis provisions, which will only be applicable to property passing from decedents dying after December 31, 1979. Hence, under current law, offsetting revenue gains will not begin until 1981.

- *Gifts and bequests.* The tax system subjects gifts and bequests to taxes separate from the income tax. Therefore their exclusion from the recipient's taxable income under the individual income tax does not result in a tax expenditure. While another set of tax expenditures could be defined for departures from a "normal structure" of gift and estate taxes, this would be beyond the scope of this analysis.
- *Forms of business organization.* The tax law recognizes different forms of business organization including corporations, partnerships, subchapter S corporations treated in a manner somewhat similar to partnerships, cooperatives, mutual insurance companies and individual proprietorships. The provisions of the tax law that accommodate different forms of business organization do not generally result in tax expenditures so long as income is subject to tax at either the corporate or the individual level.

- *Treatment of individuals and corporations as separate taxpaying entities.* It is possible to define a tax structure in which individual and corporate taxes are completely integrated in the sense that all corporate income would be allocated and taxed to shareholders. However, for purposes of this analysis, separate taxation of regular corporate entities is considered to be part of the normal tax structure.
- *Deduction of depreciation expenses.* The tax code allows a reasonable allowance for depreciation. Depreciation is defined as "the exhaustion, wear and tear (including a reasonable allowance for obsolescence) on property used in a trade or business or for the production of income." To measure actual depreciation the changes in market values of assets are required. This information is generally not available, so that estimates of an asset's useful life and its probable rate of depreciation are used instead. Depreciation over the useful life of an asset may be taken at a uniform rate, known as straight line depreciation, or at a rate that is faster in the earlier years of an asset's life, known as accelerated depreciation. For depreciation purposes a distinction is made between the treatment of machinery and equipment and that of buildings. The use of accelerated depreciation for machinery and equipment is considered to be part of the normal tax structure because they tend to lose more of their actual value in the first few years of useful life. However, under the asset depreciation range (ADR) system, a taxpayer may select a life for an asset of up to 20% shorter the guideline life published by the Internal Revenue Service without having to justify the choice. If an asset life within the 20% range but shorter than the guideline life is chosen, a tax expenditure is assumed to result. In the case of buildings, no comparable guideline lives are published. Thus, to the extent that lives claimed by taxpayers are justified on the basis of "facts and circumstances," tax expenditures do not result. For certain types of buildings, such as rehabilitated low income housing, the use of shorter lives is permitted by the tax code, thereby giving rise to tax expenditures. Furthermore, for all buildings, the straight-line method of depreciation is considered to be part of the normal tax structure, and the additional deductions resulting from the use of accelerated depreciation are regarded as tax expenditures.
- *Deduction of other business expenses.* The deduction of business expenses is necessary to determine taxable income. Tax expenditures do not ordinarily result when deductions for "ordinary and necessary" business expenses are taken. No attempt was made in this analysis to determine whether cer-

tain expenses such as those for entertainment and meals should not only reduce the taxable income of employers, but should also be excluded from the taxable income of the employees receiving these in-kind benefits. Tax expenditures do occur when the tax code permits business or investment expenditures that are capital outlays in economic terms to be treated as current expenses.

- *Foreign tax credits.* The normal structure of the income tax includes tax credits for foreign income taxes paid; this prevents the double taxation of income earned abroad. While there are some limitations on the credit, it generally conforms to the principle that total taxes paid by a U.S. resident should be independent of the source of his income.
- *Income of controlled foreign corporations.* The income of foreign corporations controlled by U.S. corporations or citizens is generally not subject to U.S. tax until that income is repatriated. There are certain exceptions in order to avoid abuse in tax-haven countries. The deferral of income of controlled foreign corporations is included as a tax expenditure in this analysis, because it is an exception to the basic precept of our tax system that U.S. corporations and citizens are subject to tax on their worldwide income when earned.

This discussion does not exhaust the definitional issues inherent in the tax expenditure concept nor does this analysis consider all special tax provisions. Also, some items are omitted because the revenue loss is relatively small (\$2.5 million or less).

Making distinctions between the normal tax structure and exceptions leading to tax expenditures does not imply that the features of the normal tax system should be exempt from periodic analysis and review. Many features of what is now defined as the normal tax structure, such as rate structure and exemption levels, have major effects upon the level and composition of economic activity and the distribution of income. Budget outlays, or other policy instruments, are alternative means to achieve the objectives of certain features of the normal tax structure just as they are often a potential substitute for tax expenditures.

MEASURING TAX EXPENDITURES

The tax expenditure estimates reported in table G-1 have been prepared by the Treasury Department and are based upon tax law enacted as of December 31, 1979. The estimates show the loss of budget receipts by fiscal year resulting from each of these particular features of the tax system. For those tax expenditures resulting from the exclusion from taxable income of Federal Government payments to individuals, the estimates of such payments upon which the tax expenditure estimates are based are those shown

elsewhere in the budget; hence they reflect any proposed changes in these programs.

Each estimate assumes that the tax provision in question had never been a part of the tax system but that all other features of the tax system, including the structure of rates, would remain unchanged. In most cases, the assumed deletion of the special tax provision would increase taxable income for certain corporations or individuals; existing marginal tax rates are then applied to the estimated change in taxable income to compute the tax expenditure. For each itemized nonbusiness deduction for individuals, this same procedure is followed. However, in some cases taxpayers will no longer have remaining deductions sufficient to itemize and will elect the standard deduction. Tax expenditures resulting from credits are simply equal to the estimated credits claimed by all taxpayers. Aggregate output and incomes are assumed to be unaffected by the deletion of the special features of the tax laws giving rise to tax expenditures. No "second order" effects are included in the estimates because it is assumed that some offsetting fiscal or other action would be taken to keep the economic aggregates at the levels that underlie the 1981 budget estimates.

Taxpayer behavior is also assumed to be unaffected by the assumed deletion of a tax expenditure provision even though, to the extent that tax expenditures intended to encourage certain economic activities have been successful, their elimination would presumably change taxpayer behavior. Such changes would alter the mix of economic activity. However, given the assumed unchanged economic aggregates, no effects on receipts of a different mix of activity are reflected in the estimates.

Some tax expenditures result from the timing of deductions or the receipt of taxable income. Examples are depreciation in excess of straight line for buildings and rental housing and the deferral of income by domestic international sales corporations (DISC's). These provisions create a permanent tax expenditure even though for a particular taxpayer, transaction or asset the special provision defers a tax rather than eliminates it. For a stable or growing business, the deferral of taxes continues indefinitely under most of these provisions.

As is the case with estimates of proposed changes in tax law, tax expenditure estimates are computed on a budget receipts or "cash-flow" basis. However, for purposes of the present analysis, the estimates show the difference between budget receipts under current law and budget receipts under the assumption that a law without the particular tax expenditure provision had always been in effect. These figures, therefore, generally show more revenue than could be obtained in the first years of transition from one tax law to another.

An alternative method of measuring tax expenditures that involve deferral would be to compute for each year the present value of the tax savings associated with the preference items. This method would make it easier to compare the values of subsidies that result from tax preferences that postpone tax liability with the values of those that reduce it permanently. Such a present value calculation would avoid the anomalous negative estimates that result when tax revenues calculated on a cash flow basis are higher than they would have been without the tax expenditure. This occurs in situations where taxpayers whose tax liabilities were reduced in earlier years have larger tax payments in later years than they otherwise would have.

Sample data from tax returns have been used to estimate tax expenditures whenever possible. These data, however, are not yet available for the years presented in this analysis. Consequently, the estimates have been made by extrapolating forward sample tax return data from past years by means of other, more current information, including the economic forecast used in estimating budget receipts and outlays. In addition, many tax expenditures result from excluded income not reported on tax returns. In these cases data for the estimates must be derived from other sources. The estimates take into account any changes scheduled under existing law, such as the phasing in or out of specific provisions.

The estimates are reduced by any minimum tax liabilities associated with particular items. The minimum tax on tax preferences was introduced in 1969 to assure that individuals and corporations receiving tax preferences do not escape bearing a share of the tax burden. Several tax expenditure items are included in the base of the minimum tax.

The Revenue Act of 1978 modified the minimum tax for individuals by excluding capital gains and excess itemized deductions as preference items subject to the minimum tax. However, a new alternative minimum tax may be applicable, levied on the sum of taxable income, certain deductions in excess of specified income limits and the capital gains deduction. The new alternative minimum tax is paid if tax liabilities under this tax exceed the sum of tax liabilities under the ordinary income tax and the minimum tax as revised. Any revenue gain under the alternative tax is assumed to offset the tax expenditures that would otherwise result from the capital gains preference. As a result of the Energy Tax Act of 1978 intangible drilling costs for oil and gas and geothermal wells are no longer minimum tax preference items to the extent that net income from the production of these wells offsets intangible drilling costs deductions. This change makes permanent the temporary rule which was enacted by the Tax Reduction and Simplification Act of 1977.

The Tax Reform Act of 1976 also introduced two "at-risk" rules that limit deductions attributable to a taxpayer's investment to the amount of cash investment plus the debts for which the taxpayer is personally liable. One rule applied to all taxpayers (other than regular business corporations) engaged in farming, motion picture films, equipment leasing and the exploring for and the exploitation of oil and gas. The other rule applied only to partners (including corporate partners) of a partnership engaged in any activity other than real estate. These at-risk rules succeeded in reducing tax expenditures. The Revenue Act of 1978 consolidated the at-risk rules into one rule, applicable to all taxpayers other than widely held corporations and to all activities other than equipment leasing by closely held corporations and real estate.

Tax expenditure estimates cannot be simply added together to obtain totals for functional areas or a grand total. However, where tax expenditures for both individuals and corporations result from the same tax code provision, such as the investment tax credit, the two estimates may be added together.

Simply adding tax expenditures produces inaccurate totals because tax expenditures affect the value of other tax expenditures. This interaction effect may be demonstrated by comparing the result of deleting two tax expenditures simultaneously to that of deleting them separately. In some cases, the revenue gained from the deletion of two tax expenditure items simultaneously would be greater than the sum of the gains from the deletion of the two items separately. For example, if interest income from State and local government securities were made taxable and capital gains were taxed at ordinary rates, many more individuals would be pushed into higher tax brackets than if just one of these sources of income became fully taxable; the combined effect on revenue would be greater than the sum of the two separate effects. In other cases, the revenue gain from the deletion of two items together would be smaller than the sum of the gains considered separately. For example, if the deductibility of mortgage interest payments and homeowner property taxes were both repealed and the standard deduction were left unchanged, many individuals who now itemize their deductions would opt for the standard deduction, thus limiting the revenue gain.

In general, elimination of several itemized deductions would increase revenue by less than the sum of the revenue gains measured by eliminating each item separately because more taxpayers would use the standard deduction. Conversely, elimination of multiple items that are exclusions from adjusted gross income would increase revenue by more than the sum of the individual gains because taxpayers would be pushed into higher tax brackets.

As a measure of this aggregation problem, the revenue loss resulting from all itemized deductions that result in tax expenditures would be \$44.5 billion in 1981, whereas the sum of these tax expenditures, taking each item separately, is \$58.9 billion. The aggregations of related tax expenditure items that are presented and discussed in the text have been specially estimated to take account of interaction effects.

TAX EXPENDITURES BY FUNCTION

Estimates of tax expenditures for 1979-81 are grouped together by functional category and presented in Table G-1. The estimates are shown separately for individuals and corporations. Each tax expenditure has been classified in the functional categories used for budget outlays into which they most closely fit. A brief description follows of each of the special tax provisions for which a tax expenditure estimate is shown in Table G-1.

National defense.—The housing and meals provided military personnel, either in cash or in kind, are excluded from income subject to tax. Most of the disability-related military pension income received by current retirees is also excluded.

International affairs.—Prior to January 1, 1978, a U.S. citizen was able to exclude foreign earnings of up to \$20,000 a year (in some cases \$25,000) if the taxpayer was a resident of a foreign country or remained outside the United States for 17 months in an 18-month period. The Foreign Earned Income Act of 1978 replaced the exclusion for taxpayers with deductions for certain foreign living costs and extended these deductions to U.S. resident aliens. (For a taxable year beginning in the 12-month period from January 1, 1978 to December 31, 1978, taxpayers could elect either the new law or the \$15,000 lump sum exclusion of the Tax Reform Act of 1976. For tax years beginning after December 31, 1978, only the new law applies.)

Under the new law, eligible taxpayers may deduct expenses for annual home leave travel, the cost of schooling from kindergarten through grade 12 equivalent to that prevalent in the United States, the excess of foreign living costs other than housing and education over those in the highest U.S. mainland city and the excess of reasonable housing costs over one-sixth of earned income less the special deductions. Taxpayers living in hardship areas will be allowed an additional deduction of \$5,000. Taxpayers living in hardship areas in camps set up by their employers may elect to exclude \$20,000 plus the value of meals and lodging furnished by the employer in lieu of taking the special deductions. The new law makes no change in the tax-exempt status of certain allowances received by Federal employees working abroad. These exemptions also result in tax expenditures.

The profits of a domestic international sales corporation (DISC) are not taxed to the DISC but instead are taxed to the shareholders when distributed or deemed distributed to them. For DISC's with more than \$150,000 in otherwise taxable income, the deemed distribution equals all income attributable to base-period exports plus 50% of income attributable to exports in excess of the base-period exports. Base period exports equal 67% of average annual exports during an earlier 4-year base period. For DISC's with less than \$150,000 in otherwise taxable income, the deemed distribution equals 50% of total income.

Except for certain tax-haven provisions, the income of foreign corporations controlled by U.S. shareholders is exempt from U.S. taxation until that income is distributed to the shareholders. The tax expenditure estimate assumes that if deferral were terminated the earnings of a controlled foreign corporation would be taxed to the parent corporation.

In 1980 the phase-out of the preferential treatment of Western Hemisphere trade corporations, begun by the Tax Reform Act of 1976, was completed.

General science, space, and technology.—Research and development expenditures are intended to result in new products or processes, cost reductions, or other effects whose benefits will in nearly all cases continue into the future. Businesses may deduct all research and development expenditures in the year when they are incurred rather than amortize them over several years.

Energy.—Certain capital costs necessary to discover and develop mineral properties may be deducted as current expenses rather than being spread over the useful life of the property. Included in this category are the intangible drilling costs of oil wells, such as the wages of drilling crews, and the cost of developing other mineral deposits, such as expenditures for mine shafts, tunnels and stripping. The Tax Reform Act of 1976 made intangible drilling costs for oil and gas wells a preference item for purposes of the minimum tax to the extent that such costs exceeded either cost depletion or 10-year amortization. The rule was liberalized for 1977 by allowing individuals to exclude intangible drilling costs from their minimum tax base to the extent that the deductions did not exceed oil and gas income. This temporary rule was made permanent by the Revenue Act of 1978. In addition, the Energy Tax Act of 1978 adopted the same rules for intangible drilling costs of geothermal wells.

Extractive industries generally use percentage depletion rather than cost depletion. Under cost depletion, actual outlays, to the extent not immediately recovered through expensing of exploration and discovery and development costs, may be deducted over the productive life of the property, much as businesses may take deduc-

tions for the depreciation of other capital goods. Percentage depletion is not likewise limited to the cost of the investment. Under percentage depletion, taxpayers may deduct a percentage of gross income from mineral production at rates ranging from 22% for oil and gas and certain other minerals to 5%; however, the deduction is limited to 50% of net income from the property or 65% of taxable income in the case of oil and gas. The Tax Reduction Act of 1975 restricted the availability of percentage depletion to limited quantities of output by independent oil and gas producers and royalty owners. In addition, the act phased down the percentage depletion rate for oil and gas from 22% through 1980 to 15% in 1984 and thereafter. The Energy Tax Act of 1978 made production after September 30, 1978 from geothermal deposits eligible for percentage depletion at the same rate as for oil and gas, but with no limit on output and no limitation with respect to qualified producers. In lieu of percentage depletion, royalties from coal deposits are treated as capital gains rather than ordinary income.

The Energy Tax Act of 1978 created a variety of tax incentives to stimulate energy conservation and to encourage conversions to energy sources other than oil or natural gas. The act provides a 15% income tax credit to individuals for home insulation and other energy-conserving components up to a maximum credit of \$300. A credit of 30% on the first \$2,000 of expenditures and 20% on the next \$8,000 is allowed for solar and other renewable energy source property. These credits are retroactive to purchases made after April 19, 1977.

For business, the act provides an additional 10% credit for investments in specified energy property. Such property includes alternative energy property (i.e., property using fuel other than oil or natural gas); solar or wind energy property; specially defined energy property (i.e., property used in an existing industrial, agricultural or commercial facility to reduce the amount of energy consumed or heat wasted); recycling equipment; shale oil equipment; and equipment for producing natural gas from geopressurized brine.

Natural resources and environment.—Interest on State and local government debt issued to finance the pollution control facilities of private firms is excluded from income subject to tax.

Certain payments made by customers to water and sewage disposal utilities for the purpose of aiding the construction of new facilities are treated by utilities as contributions to capital rather than as gross income from the sale of a constructed asset. Payments of this kind to public gas and electric utilities were given the same treatment retroactive to February 1, 1976 by the Revenue Act of 1978.

Pollution control facilities installed in existing buildings may be amortized over 5 years instead of over their longer useful lives. This results in a deferral of taxable income. The revenue effect of this deferral reflects both the revenue loss attributable to the excess of amortization over normal depreciation and the revenue gain resulting from the disallowance of depreciation deductions after the end of the amortization period. In a growing economy in which taxpayers consistently elect rapid amortization, the annual revenue loss from the amortization of current investments exceeds the gain from the lower depreciation deductions for past investments. In the case of pollution control facilities, taxpayers generally elected amortization for investments placed in service between 1969, when the provision was first effective, and 1971. In 1971 the investment credit, which had been repealed in 1969, was reinstated, but was not extended to facilities amortized over 5 years. Because 5-year amortization with no investment credit is less favorable than normal depreciation with the investment credit, taxpayers ceased electing amortization. The Government is now recapturing some of the benefits of deferral for investments made between 1969 and 1971, so that the effect of this provision for 1979 and 1980 is a revenue gain, producing a negative value of the tax expenditure.

The law was changed by the Tax Reform Act of 1976, which allowed taxpayers to elect amortization and one-half of the investment credit for facilities placed in service after December 31, 1976, and by the Revenue Act of 1978, which allows taxpayers the full investment credit for facilities placed in service after December 31, 1978 to the extent that such facilities are not financed with tax-exempt bonds. Thus, the election of the amortization provision is again favorable to the taxpayer. In 1981 the loss from amortization will exceed the gain from the recapture of past benefits, so that the tax expenditure will be positive.

Expenditures to preserve and restore certain historic structures are eligible for special accelerated depreciation. This provision does not apply to owner-occupied housing. Amendments by the Revenue Act of 1978 make the procedures for designating State and local historical districts similar to those for designating Federal districts.

The gains on the cutting of timber and royalties from iron ore deposits are taxed at rates applicable to long-term capital gains rather than ordinary income.

Agriculture.—Farmers, other than certain corporations and partnerships engaged in agriculture, are allowed to deduct certain costs as current expenses even though these expenditures are for inventories held at the end of the year or for capital improvements under normal accrual accounting. Capital gains treatment generally applies to the sale of livestock, orchards, vineyards, and other agricultural products.

Rural electric and telephone cooperatives are exempt from the corporate income tax. Payments of noncash patronage dividends to their patrons generally need not be considered income by the patron until received in cash. Other cooperatives are subject to corporate income tax but may deduct cash and noncash patronage dividends based on business done with patrons provided 20% of total dividends are paid in cash and the patron has agreed to include the entire dividend in income. Cooperatives marketing products for patrons also may deduct amounts retained by the cooperative on a per-unit basis ("per unit retains") if the patron has agreed to take the stated amount of the retain in income. Farmers' marketing and purchasing cooperatives meeting certain requirements are permitted to deduct dividends on capital stock and payments to patrons from nonpatronage income. The tax expenditures result from the deductibility of noncash patronage dividends, retains, dividends on capital stock and payments to patrons out of nonpatronage income. If noncash patronage dividends and retains were not deductible by cooperatives, they would no longer be taken into current income by patrons and hence individual income taxes would be lower.

The Revenue Act of 1978 allows certain payments made after September 30, 1979, under various Federal and State cost sharing conservation programs to be excluded from gross income. Payments may be excluded to the extent they serve specified conservation purposes and do not substantially increase the annual income derived from the property.

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 some depreciation rules and the investment tax credit, might alternatively have been classified under the natural resources and environment, energy, agriculture, or transportation categories.

The first \$100 (\$100 per spouse on a joint return) of dividend income may be excluded from income subject to tax.

The interest on industrial development bonds issued by State and local governments is excluded from income subject to tax.

Credit unions are exempt from Federal income taxes. Commercial banks, mutual savings banks, and savings and loan associations are permitted to deduct additions to bad debt reserves in excess of actual loss experience and reasonable expectations as to future losses. Mutual savings banks and savings and loan associations may deduct 40% of income in calendar year 1979 and thereafter, provided they maintain stipulated fractions of their assets in "qualifying assets," primarily residential mortgages.

Owner-occupants of homes may deduct mortgage interest and property taxes (but not maintenance outlays or depreciation) as itemized nonbusiness deductions. The 1981 tax expenditure from these two items combined is \$22.3 billion. This is less than the \$23.7 billion sum of the two separately because if both were deleted fewer taxpayers would itemize deductions.

Interest paid on consumer credit is allowed as an itemized deduction for individuals.

Prior to the Tax Reform Act of 1976 taxpayers deducted interest and property tax payments made while a building was under construction rather than including them with other costs of construction to be depreciated over the building's useful life. The 1976 act reduced this tax expenditure by requiring that construction period interest and taxes be capitalized and amortized over a 10-year period for noncorporate taxpayers. The provision is being phased in over a 7-year period with more generous transition rules available for Government-subsidized housing projects.

To the extent that allowable depreciation for tax purposes exceeds the rate at which assets actually depreciate, business tax liabilities are deferred. Businesses may employ a variety of depreciation schedules for tax purposes, some of which cause a much larger part of asset values to be written off in early years of the asset's useful life than do others. An extra first-year depreciation deduction of 20% may be claimed for \$10,000 of tangible personal property (\$20,000 on a joint return) having a useful life of at least 6 years. The revenue costs of allowing buildings and rental housing to be depreciated for tax purposes by methods that reduce asset value more rapidly than straight-line depreciation (the method typically used in financial statements) are shown as tax expenditures. The asset depreciation range (ADR) system permits the guideline lives of depreciable equipment to be reduced by 20%. The ADR system does not apply to property used abroad.

The Revenue Act of 1978 raised to 60% the share of net long-term gains from the sale of capital assets that may be excluded from income and eliminated the alternative capital gains tax for individuals. The excluded 60% of net long-term capital gains is no longer included as a preference item in computing the minimum tax. However, the capital gains exclusion is treated as a preference item in the new "alternative minimum tax." This new tax is applicable only if the sum of a taxpayer's regular income and minimum tax is less than his alternative minimum tax. Half of net capital losses may be offset against ordinary income up to a maximum of \$3,000 per year with an unlimited carry-forward.

As a result of the Revenue Act of 1978, corporations may elect a 28% alternative tax rate on capital gains instead of the 30% rate specified under prior law. The tax expenditure is estimated on the

assumption that these gains would otherwise be taxed at ordinary rates.

Capital gains on the sale of a home are recognized only to the extent that the "adjusted sales price" exceeds the cost of a new home purchased and occupied within 18 months before or after the sale. If a new house is constructed, it must be occupied within 2 years after the sale. The "adjusted sales price" is the amount realized (gross proceeds less selling expenses) minus qualified "fixing up" expenses. To the extent that the gain on the sale of a home is not recognized, the basis of the home purchased is reduced, thereby resulting in a deferral of the gain. A loss on the sale of a home is not deductible.

Capital gains on assets held at the owner's death are not subject to income tax. The estimate assumes that such gains would be taxed as ordinary income in the year of death, but is adjusted for any taxes paid by heirs on such gains under the carryover basis provisions of the Tax Reform Act of 1976. Under these provisions, accretions to the value of assets of a decedent's estate subsequent to December 31, 1976, after adjustment for death taxes attributable to such accretions, would have been taxable. However, the Revenue Act of 1978 suspended the carryover basis rule until after December 31, 1979.

The Revenue Act of 1978 changed the corporate income tax structure for the first \$100,000 of taxable corporate income. Beginning January 1, 1979, the first \$100,000 of taxable income is taxed progressively at rates from 17 to 40%. Income over \$100,000 is taxed at 46%. Estimates are separately shown for revenue losses resulting from the surtax exemption of prior law for taxable income up to \$50,000.

The investment tax credit was made permanent at 10% by the Revenue Act of 1978. The percentage is applied to the cost of qualifying property (generally, tangible personal property used in a trade or business) having a useful life of 7 years or more. Assets with shorter lives are entitled to a reduced credit. As a general rule, the credit cannot be claimed for investments in land or buildings or for property used abroad. The 1978 act modified this rule by allowing credits for the rehabilitation of buildings that are at least 20 years old and used for business or productive activities (other than for residential purposes).

Under the 1978 act, the investment tax credit is available for investments in single purpose livestock and horticultural structures or enclosures made in taxable years ending after August 15, 1971. Certain vans used to transport employees to and from work are also entitled to the investment credit. The investment tax credit may be claimed as progress payments are made on property that takes 2 or more years to construct. Under prior law, the

maximum credit allowed against income tax liability in a taxable year was generally limited to \$25,000 plus 50% of tax liability in excess of \$25,000. The 1978 Act raised the excess liability percentage to 60% for 1979 and increases it through annual increments of 10 percentage points to 90% by 1982. Excess credits may generally be carried back 3 taxable years and forward 7 taxable years, after which unused credits expire.

Transportation.—The Revenue Act of 1978 eliminated deductions by individuals for State and local taxes on gasoline, diesel and other motor fuels consumed for personal use beginning in calendar 1979. Thus, table G-1 shows no tax expenditure from this source in 1980 and 1981.

Specified classes of railroad rolling stock were eligible for amortization over a 5-year period rather than their longer expected useful life, whether owned by railroad companies or by lessors. If 5-year amortization was elected, the investment tax credit could not be claimed. These provisions applied only to rolling stock placed in service before January 1, 1976. Greater amounts of tax are currently paid than if this provision had not been enacted because in most cases the 5-year amortization period has expired. Hence, negative figures appear in table G-1.

Certain companies that operate U.S.-flag vessels on foreign trade routes receive an indefinite deferral of income taxes on that portion of their net income which is used for shipping purposes, primarily construction, modernization and major repairs of ships. An investment credit of one-half the regular credit may be claimed on the tax-deferred amounts withdrawn from capital construction funds.

Community and regional development.—Under certain conditions, taxpayers may elect to amortize rehabilitation expenditures for low- and moderate-income rental housing over a 5-year period. Rehabilitation expenditures may not exceed \$20,000 per dwelling unit and must exceed \$3,000 to qualify. This provision expires on December 31, 1981.

Education, training, employment, and social service.—Scholarships and fellowships are excluded from a recipient's taxable income subject to certain limitations. The exclusion of educational benefits under the GI bill is included in the veterans benefits and services function.

Taxpayers may claim personal exemptions for dependent children 19 or over who receive income of \$1,000 or more per year if the children are full-time students. The student may also claim an exemption on his own return, thus providing a double exemption. The extra exemption for parents results in a tax expenditure.

Many employers provide employee benefits that are excluded from employee income. The employer's costs for these benefits are

deductible business expenses. The exclusion from an employee's income of the value of meals and lodgings provided by an employer for his own convenience is a tax expenditure, as is the exclusion of housing allowances and the rental value of parsonages from the taxable income of ministers. The Revenue Act of 1978 allows an employer to set up an educational assistance program to provide educational benefits to his employees from January 1, 1979, through December 31, 1983. The program can pay for tuition, fees, books and supplies. 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 the plans are also excluded from employee income.

A corporation may claim an additional 1% investment tax credit if an equivalent amount of its common stock is set aside in an employee stock ownership plan (ESOP). A further one-half of 1% investment tax credit may be claimed to the extent that additional employer contributions to an ESOP are matched by employee contributions. Employees are generally prohibited from withdrawing their share of an ESOP for 7 years.

Contributions to charitable, religious and certain other nonprofit organizations are allowed as an itemized deduction for individuals, generally up to 50% of adjusted gross income. Taxpayers whose contributions to charitable or educational organizations are in the form of capital assets, usually securities that have appreciated in value above their cost, obtain a deduction for the contribution at the appreciated value of the asset without taxation on the appreciation in value. Corporations may deduct charitable contributions up to 5% of their income. Tax expenditures resulting from the deductibility of contributions are shown separately here for contributions to educational and other institutions. Contributions to health institutions are reported under the health function.

The 50% maximum tax rate on personal service income applies to earned income and certain pensions, annuities and deferred compensation. The amount to which the maximum tax applies is reduced by preference items included in the base of the minimum tax. Capital gains from transactions after October 31, 1978 are no longer includable in the minimum tax base, and so do not reduce income eligible for the maximum tax rate. The Revenue Act of 1978 also removed the 30% limit on income subject to preferential maximum tax treatment where the income is from a trade or business in which capital as well as personal service generates income. The maximum tax will now apply to reasonable compensation for personal services rendered.

A 20% tax credit may be claimed by married couples for child and dependent care expenses incurred when both spouses work full time or when one spouse works part time or is a student. 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 of \$2,000 for one dependent and \$4,000 for two or more dependents are eligible for the 20% credit. The Revenue Act of 1978 allows the credit to be taken for payments to relatives of the taxpayer even if their services are not qualified for coverage under the Social Security laws.

The AFDC-WIN job credit allows an employer to take tax credits on wages paid to individuals employed under the WIN (work incentive) program and other recipients of AFDC (aid for families with dependent children). Under the Revenue Act of 1978, this credit was liberalized. An income tax credit of 50% of first-year and 25% of second-year wages, up to 100% of the tax liability, can be claimed as a credit by the employer if the wages are paid for work performed in a trade or business. A credit can be claimed for wages paid for work performed outside a trade or business equal to 35% of an employee's first year wages up to \$6,000 with no more than \$12,000 of total wages paid by an employer eligible for the credit. The employer must reduce his deduction for wages by the amount of the tax credit.

The Revenue Act of 1978 has replaced the jobs credit of the 1977 Tax Reduction and Simplification Act which was available for wages earned in calendar years 1977 and 1978. The "targeted jobs credit" of the 1978 act allows tax credits for qualified wages paid to individuals certified as members of any of seven target groups, principally disadvantaged youths under 25. A credit of 50% of first-year wages and 25% of second-year wages up to \$6,000 of each employee's wages (the wage base for unemployment taxes) can be taken by the employer to offset up to 90% of his tax liability, provided that the credit may not be taken for first-year wages in excess of 30% of the employer's total unemployment tax wage base. For a given employee, either this credit or the AFDC-WIN credit can be taken, but not both. The employer's deduction for wages is reduced by the amount of the credit.

Health.—Payments by employers for health insurance premiums and other medical expenses are deducted as business expenses by employers and excluded from employee income. The exclusion from employee income gives rise to a tax expenditure.

Medical expenses in excess of 3% of adjusted gross income, including payments for prescribed drugs and medicines in excess of 1% of adjusted gross income, may be deducted by individuals as itemized nonbusiness deductions. Individuals may also deduct half of the premiums they pay for medical care insurance up to a maximum deduction of \$150 per year without regard to the 3% limit.

Expenditures up to \$25,000 per year for removing architectural and transportation barriers to the handicapped and the elderly in any facility or public transportation vehicle used in a trade or business that otherwise would have been treated as a capital outlay could be treated as a current expense prior to January 1, 1980.

Contributions to nonprofit health institutions are allowed as a deduction for individuals and corporations. Contributions to other charitable institutions are discussed under the education, training, employment, and social services function.

Income security.—Most government transfer payments to individuals, such as social security and welfare benefits, are excluded from taxable income. If the taxpayer had no other source of income, these payments, even if taxable, would not generally be large enough to result in tax liability, given present levels of personal exemptions and the zero bracket amount. However, because some recipients have property income, receive earnings (in some instances for only part of a year), or file jointly with working spouses, tax expenditures result from these exclusions.

The exclusion of unemployment benefits from taxation has been modified by the Revenue Act of 1978. If the sum of a taxpayer's adjusted gross income, unemployment compensation and excludable disability income is over \$20,000 (\$25,000 for a joint return), the lesser of his unemployment benefits or one-half of the amount over the \$20,000 (or \$25,000) limit is taxable.

Certain payments up to \$100 per week financed by an employer in lieu of wages during periods of employee injury or sickness are excluded from the taxable income of persons under the age of 65 who are permanently and totally disabled. For these individuals the exclusion is reduced dollar for dollar by adjusted gross income plus disability income in excess of \$15,000.

Certain contributions to pension plans by employers and amounts set aside by the self-employed and those not covered by an employer's plan are excluded from the individual's adjusted gross income in the year of contribution. Self-employed persons can make deductible contributions to their own retirement plans equal to 15% of their income up to a maximum of \$7,500 per year. Employees not covered by an employer's plan may deduct annual contributions of 15% of compensation up to a maximum of \$1,500, or \$1,750 if the retirement account is owned jointly by a husband and wife. The investment income earned by pension funds is not taxable when earned. Tax expenditures result from the lower effective tax rates after retirement, resulting from the lower incomes and special tax provisions received by the aged, and from the excess of aggregate current contributions and investment earnings over amounts paid out in benefits.

The exclusion from employee income of certain other employer payments, including payments for premiums of group life insurance and accident and disability insurance, are listed here because of their relationship to income security. The exclusion of certain other fringe benefits is listed under the education, training, employment, and social services function.

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 taxable neither as it accrues nor when received by beneficiaries.

A taxpayer who is 55 years of age or older at the time of the sale of his principal residence may elect to exclude up to \$100,000 of gain from the sale for sales after July 26, 1978. This is a once in a lifetime election that replaces the prior exclusion of gain allocated to the first \$35,000 of adjusted sales price for taxpayers 65 years of age or older.

Additional personal exemptions of \$1,000 may be taken by taxpayers who are 65 years of age or older or blind. These additional exemptions may not be claimed for a taxpayer's dependents.

The retirement credit for the elderly allows individuals who are 65 years of age or older to take a tax credit equal to 15% of earned and retirement income up to \$2,500 for single individuals and 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 \$2,500/\$3,750 base is reduced by tax exempt retirement income, e.g., social security payments, and 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.

The aggregate effect of excluding social security and railroad retirement benefits for retirees, the additional exemption for persons 65 years of age or older, and the credit for the elderly results in a 1981 tax expenditure of \$12.4 billion. This effect is greater than the \$11.3 billion sum of the individual estimates because more elderly persons would be pushed across the threshold of tax liability or into higher tax brackets if all of these items were simultaneously deleted from the tax code.

Taxpayers generally may take as an itemized nonbusiness deduction each loss due to fire, theft or other casualty in excess of \$100 to the extent not compensated by insurance or other payments.

The earned income credit, first established by the Tax Reduction Act of 1975, was modified and made permanent by the Revenue Act of 1978. The credit, which low-income workers with minor dependents may claim, was increased to 10% of earned income up to \$5,000, with a phaseout at the rate of 12.5% for amounts earned

over \$6,000. The maximum credit, which was \$400 for calendar year 1978, became \$500 for tax years beginning January 1, 1979, and later.

Earned income tax credits in excess of tax liabilities are paid to individuals. This portion of the credit is included in outlays while the amount which offsets tax liabilities is included as a tax expenditure. Only the latter appears in table G-1. In 1981 the tax expenditure will be \$360 million; the outlay will be \$1,570 million. For 1979 and 1980 the estimated tax expenditures are \$300 million and \$415 million and the estimated outlays are \$773 million and \$1,696 million, respectively.

Mortgage assistance is provided through State and local housing authorities for low income, and recently higher income, families. Interest on State and local debt issued to finance housing is excluded from income subject to tax.

Veterans benefits and services.—All compensation due to death or disability and pensions paid by the Veterans Administration are excluded from taxable income. GI bill benefits are also excluded.

General Government.—The Revenue Act of 1978 doubled the maximum political contribution on which a 50% credit may be claimed to \$100 (\$200 for joint returns). The act eliminates the \$100 deduction (\$200 on joint returns) permitted under prior law.

General purpose fiscal assistance.—Interest on State and local government debt is excluded from Federal taxation. Both corporations, mainly commercial banks, and individuals receive this tax-exempt income. As a result, these governments can sell debt obligations at a lower interest cost than would be possible if such interest were subject to tax. The exclusion of interest on State and local government securities issued to finance pollution control facilities, other industrial development bonds and housing bonds is classified elsewhere. Only the effect of excluding interest on general purpose obligations and revenue bonds for public purposes such as toll roads is included in this function. The estimated revenue loss from all tax-exempt bonds is \$9.4 billion for 1981.

The deductibility of nonbusiness State and local taxes gives indirect assistance to these governments. The estimates shown here are primarily for the deductibility of State and local income and sales taxes. The deductibility of property taxes on owner-occupied homes is classified under commerce and housing credit and excise taxes on gasoline under transportation.

Under certain conditions, U.S. corporations receiving income from sources in a U.S. possession can claim a special tax credit equal to the U.S. tax, but only on income from such sources.

Interest.—The interest on U.S. savings bonds is not taxable until the bonds are redeemed, thereby deferring tax liability.

Table G-1. TAX EXPENDITURE ESTIMATES BY FUNCTION

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1979	1980	1981	1979	1980	1981
National defense:						
Exclusion of benefits and allowances to Armed Forces personnel.....				1,360	1,470	1,585
Exclusion of military disability pensions.....				115	125	135
International affairs:						
Exclusion of income earned abroad by United States citizens.....				530	555	600
Deferral of income of domestic international sales corporations (DISC).....	1,210	1,400	1,470			
Deferral of income of controlled foreign corporations.....	530	445	480			
Special rate for Western Hemisphere trade corporations.....	15	5				
General science, space, and technology:						
Expensing of research and development expenditures.....	1,490	1,760	1,930	35	35	40
Energy:						
Expensing of exploration and development costs.....	1,275	1,580	1,815	470	610	750
Excess of percentage over cost depletion.....	1,010	1,160	1,350	820	1,150	1,670
Capital gains treatment of royalties on coal.....	10	10	10	65	75	90
Residential energy credits.....				645	460	460
Alternative, conservation and new technology credits.....	220	390	495	*	*	*
Natural resources and environment:						
Exclusion of interest on state and local government pollution control bonds.....	200	220	245	215	240	265
Exclusion of payments in aid of construction of water, sewage, gas and electric utilities.....	10	60	110			
Five-year amortization on pollution control facilities.....	-25	-10	15			
Tax incentives for preservation of historic structures.....	5	10	20	10	25	45
Capital gains treatment of certain timber income.....	385	420	470	110	120	135
Capital gains treatment of iron ore.....	10	10	10	10	10	10
Agriculture:						
Expensing of certain capital outlays.....	75	75	80	445	430	475
Capital gains treatment of certain income.....	15	20	20	365	385	405

See footnotes at end of table.

Table G-1. TAX EXPENDITURE ESTIMATES BY FUNCTION—Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1979	1980	1981	1979	1980	1981
Deductibility of noncash patronage dividends and certain other items of cooperatives	505	540	590	-170	-175	-190
Exclusion of certain cost-sharing payments				*	30	75
Commerce and housing credit:						
Dividend exclusion				460	490	515
Exclusion of interest on State and local industrial development bonds	240	280	335	255	305	360
Exemption of credit union income	90	100	115			
Excess bad debt reserves of financial institutions	780	855	965			
Deductibility of mortgage interest on owner-occupied homes				10,745	12,505	14,760
Deductibility of property tax on owner-occupied homes				6,760	7,740	8,975
Deductibility of interest on consumer credit				3,085	3,595	4,240
Expensing of construction period interest and taxes	525	555	585	90	140	160
Excess first-year depreciation	50	50	50	135	135	145
Depreciation on rental housing in excess of straightline	70	65	65	290	285	290
Depreciation on buildings (other than rental housing) in excess of straight line	135	135	140	120	120	125
Asset depreciation range	2,460	2,880	3,400	130	150	180
Capital gains (other than agriculture, timber, iron ore and coal)	655	715	810	10,190	13,855	14,885
Deferral of capital gains on home sales				1,125	1,010	1,111
Capital gains at death				4,440	4,750	5,085
Surtax exemption (through 1978)	3,110	115				
Reduced rates on the first \$100,000 of corporate income	3,285	7,555	7,510			
Investment credit, other than ESOP's and rehabilitation of structures	13,910	15,705	16,860	2,590	2,910	3,115
Investment credit for rehabilitation of structures	55	120	140	10	60	65
Transportation:						
Deductibility of nonbusiness State gasoline taxes				350		
Five-year amortization on railroad rolling stock	-40	-40	-40			
Deferral of tax on shipping companies	75	70	70			

See footnotes at end of table.

Table G-1. TAX EXPENDITURE ESTIMATES BY FUNCTION—Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1979	1980	1981	1979	1980	1981
Community and regional development:						
Five-year amortization for housing rehabilitation.....	5	5	10	10	10	15
Education, training, employment, and social services:						
Exclusion of scholarship and fellowship income.....				310	375	400
Parental personal exemption for students age 19 or over.....				935	1,030	1,045
Exclusion of employee meals and lodging (other than military) ...				325	350	380
Employer educational assistance ...				20	30	35
Exclusion of contributions to pre-paid legal services plans.....				15	20	35
Investment credit for ESOP's.....	650	700	740			
Deductibility of charitable contributions (education)	325	345	360	680	765	885
Deductibility of charitable contributions, other than education and health	405	430	450	5,110	5,725	6,645
Maximum tax on personal service income.....				1,215	1,265	1,580
Credit for child and dependent care expenses.....				715	820	900
Credit for employment of AFDC recipients and public assistance recipients under work incentive programs.....	45	45	50	5	5	10
General jobs credit.....	1,120	190	85	685		
Targeted jobs credit.....	15	115	275	*	10	40
Health:						
Exclusion of employer contributions for medical insurance premiums and medical care.....				11,080	12,965	15,215
Deductibility of medical expenses..				3,215	3,585	4,050
Expensing of removal of architectural and transportation barriers to the handicapped.....	10	*	*	*	*	*
Deductibility of charitable contributions (health).....	200	210	220	1,020	1,145	1,330
Income security:						
Exclusion of social security benefits:						
Disability insurance benefits				590	685	820
OASI benefits for retired workers				5,465	6,880	8,695
Benefits for dependents and survivors				845	990	1,205
Exclusion of railroad retirement system benefits				285	330	380
Exclusion of workmen's compensation benefits.....				980	1,165	1,385

See footnotes at end of table.

Table G-1. TAX EXPENDITURE ESTIMATES BY FUNCTION—Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1979	1980	1981	1979	1980	1981
Exclusion of special benefits for disabled coal miners.....				50	50	50
Exclusion of untaxed unemployment insurance benefits.....				1,885	2,495	3,110
Exclusion of public assistance benefits.....				345	395	450
Exclusion of disability pay.....				185	185	190
Net exclusion of pension contributions and earnings:						
Employer plans.....				11,335	12,925	14,740
Plans for self-employed and others.....				1,765	2,125	2,520
Exclusion of other employee benefits:						
Premiums on group term life insurance.....				1,350	1,485	1,635
Premiums on accident and disability insurance.....				85	90	100
Income of trusts to finance supplementary unemployment benefits.....				10	10	10
Exclusion of interest on life insurance savings.....				2,910	3,365	3,895
Exclusion of capital gains on home sales for persons age 65 and over.....				75		
Exclusion of capital gains on home sales for persons age 55 and over.....				225	535	590
Additional exemption for the blind.....				35	40	40
Additional exemption for elderly....				1,745	1,970	2,070
Tax credit for the elderly.....				145	135	135
Deductibility of casualty losses.....				530	590	665
Earned income credit.....				300	415	360
Exclusion of interest on State and local housing bonds.....	410	630	1,020	80	180	615
Veterans benefits and services:						
Exclusion of veterans disability compensation.....				915	1,050	1,115
Exclusion of veterans pensions.....				45	50	55
Exclusion of GI bill benefits.....				190	160	130
General government:						
Credits and deductions for political contributions.....				80	100	80
General purpose fiscal assistance:						
Exclusion of interest on general purpose state and local debt....	3,245	3,515	3,900	2,120	2,365	2,625
Deductibility of nonbusiness state and local taxes (other than on owner-occupied homes and gasoline).....				12,595	14,665	17,305

See footnotes at end of table.

Table G-1. TAX EXPENDITURE ESTIMATES BY FUNCTION—Continued

(In millions of dollars)

Description	Fiscal years					
	Corporations			Individuals		
	1979	1980	1981	1979	1980	1981
Tax credit for corporations receiving income from doing business in United States possessions.....	740	780	860	.....	.....	.....
Interest:						
Deferral of interest on savings bonds.....	.....	.....	.....	500	290	250
Memorandum						
Combined effect of provisions disaggregated above:						
Capital gains.....	1,075	1,175	1,320	16,605	20,740	22,310
Exclusion of interest on state and local debt.....	4,095	4,645	5,500	2,670	3,090	3,865
Deductibility of state and local nonbusiness taxes.....	.....	.....	.....	18,895	21,190	24,795
Deductibility of charitable contributions.....	930	985	1,030	6,810	7,635	8,860
Itemized deductions.....	.....	.....	.....	32,960	38,040	44,505
Deductibility of mortgage interest and property tax on owner-occupied homes.....	.....	.....	.....	16,545	19,095	22,340
Benefits for the elderly:						
Exclusion of social security and railroad retirement plus the additional exemption and tax credit for the elderly.....	.....	.....	.....	8,405	10,245	12,410

* \$2.5 million or less. All tax expenditure estimates have been rounded to the nearest \$5 million.

† The figures in the table indicate the effect of the earned income tax credit on receipts. The effect on outlays is: 1979, \$773 million; 1980, \$1,696 million; 1981, \$1,570 million.

PROPOSED CHANGES IN TAX EXPENDITURES

The administration has made several proposals as part of the 1981 budget that would create new tax expenditures and extend or change the value of currently existing tax expenditures. The estimates for these proposed changes are shown in table G-2.

On April 5, 1979, the President proposed a windfall profit tax to reduce U.S. oil producers unearned profits resulting from the phased decontrol of domestic oil prices and OPEC price increases. Both houses of Congress have passed versions of a windfall profit tax. It is anticipated that a tax will be enacted early in calendar 1980 after differences have been resolved by the conference committee.

The administration's windfall profit tax proposal includes several tax credits designed to encourage energy conservation and expand domestic supplies. In addition, a current energy tax expenditure would be reduced by the proposal to restrict the application of depletion allowances to nonwindfall profits. The administration also is proposing several other actions related to tax incentives for historic structures and housing. Each of the proposed tax expenditures, starting with the energy tax preferences, is described briefly below:

Table G-2. ESTIMATES OF PROPOSED CHANGES IN TAX EXPENDITURES

(In millions of dollars)

Description	Fiscal Years			
	Corporations		Individuals	
	1980	1981	1980	1981
Residential energy credits:				
Passive solar	*	5	5	5
Wood burning stoves			55	55
Total residential energy credits.....		5	55	65
Alternative conservation and new technology credits:				
Commercial passive solar credit	25	40		
Agricultural and industrial process heat equipment	5	10		
Tax credit for gasohol				5
Oil shale credit	¹	¹		
Unconventional gas credit	35	140		
Total alternative conservation and new technology credits.....	65	190		5
Excess of percentage over cost depletion.....	-45	-415	-140	-140
Tax incentives for preservation of historic structures.....		*		*
Exclusion of interest on state and local housing bonds.....	-105	-660	-25	-165
Exclusion of interest on general purpose state and local debt.....	*	-25	*	-10

*\$2.5 million or less. All tax expenditure estimates have been rounded to the nearest \$5 million.

Note: Details may not add to totals due to rounding.

¹ Projected oil prices exceed the phaseout limit for the credit so that this proposal will have no revenue effect.

Residential passive solar construction.—A tax credit of up to \$2,000 per unit would be provided to builders who use passive solar technology in the construction of new residential units. The amount of the credit would be based on the amount of energy conserved as a result of the passive solar design.

Woodburning stoves.—A 15% tax credit of up to \$300 would be allowed on the cost of a qualified woodburning stove.

Commercial passive solar construction.—A tax credit of up to \$10,000 per building would be provided to builders who employ passive solar technology in the construction of new commercial buildings. The amount of the credit would equal \$20 per million Btu that are saved because of the passive solar design employed. Btu saving would be measured in excess of a specified level above a baseline given by the Department of Energy's building energy performance standard.

Agricultural and industrial process heat.—Solar thermal energy equipment used to produce process heat in agricultural and industrial applications would be eligible for an investment tax credit in addition to the current 10% credit. The additional credit would equal 15% of the cost of the equipment.

Gasohol.—The proposal would extend until January 1, 2000, the 4 cents per gallon Federal excise tax exemption on gasoline and diesel fuels that are at least 10% alcohol and currently exempt. A tax credit of 40 cents per gallon would be provided in all other cases where alcohol is used as a fuel for internal combustion engines and is ineligible for the excise tax exemption. The excise tax exemption is not a tax expenditure, because the tax expenditure concept applies only to income taxes; the tax credit would be a tax expenditure.

Oil shale.—A \$3 per barrel tax credit would be provided to domestic producers of oil from shale. This proposal has no projected revenue effect because currently projected oil prices exceed the credit's phase-out range of \$22.00 to \$27.56 per barrel adjusted for inflation.

Unconventional natural gas.—A tax credit of \$0.50 per thousand cubic feet is proposed for unconventional natural gas derived from tight sands, Devonian shale, coal seams and geopressured brine. Except for tight sands gas the credit would phase out in the same manner as the oil shale credit. The credit for gas derived from tight sands would be phased out as the average price of high cost natural gas, adjusted for inflation, rises from \$4.17 to \$5.17 per thousand cubic feet.

Percentage depletion.—The gross income base for determining the percentage depletion deduction from taxable income would have to be reduced by the windfall profit. This windfall profit would be equal to the amount a producer receives for domestically produced

crude oil in excess of a base price. This proposal would increase receipts by reducing the value of the percentage depletion tax expenditure.

Preservation of historic structures.—Under the Tax Reform Act of 1976, expenditures to rehabilitate structures certified by the Department of the Interior to be historic became eligible for special accelerated methods of depreciation and the demolition of such structures became subject to special tax disincentives. These provisions, applicable only to income producing property, are scheduled to expire on June 30, 1981 and December 31, 1980, respectively.

Because of delays between enactment of these provisions and the time when tax returns were filed on projects using these tax incentives, information has not been available for assessing the impact, usefulness, and efficiency of these provisions. With data now becoming available, the administration will undertake the needed evaluation of the operation of these provisions during the coming year. The administration is, therefore, proposing a 1-year delay in the expiration of these provisions.

Restrictions on tax-exempt housing bonds.—State and local governments use the proceeds of tax-exempt borrowing to provide mortgage funds for private housing. The tax exemption of interest on State and local securities makes it possible to provide such funds at interest rates well below the rates for private mortgages. Tax-exempt housing bonds initially were used mainly to assist low-income, multifamily housing; recently, there has been a dramatic increase in the use of such bonds for owner-occupied housing, including housing purchased by middle and upper income families.

To halt this misuse of the tax-exempt borrowing provision and to prevent a large loss in tax revenues, the administration supports legislation to ban the use of tax-exempt bonds for owner-occupied housing. The ban would apply to such bonds issued after April 25, 1979, with exceptions allowed for bonds in process as of that date. The administration is also proposing to restrict the use of tax-exempt bonds for multifamily housing to projects in which at least 20% of the residents qualify as low-income under present HUD definitions.

Tax-exempt public housing bonds.—Local housing authorities finance the construction of public housing projects by issuing tax-exempt financial instruments to the public. Current law allows lenders to exclude from income subject to Federal tax any interest earned on such debt. The administration is proposing to phase out the use of this particular financing method and eventually end this tax expenditure. Beginning in 1980, a portion of the short term tax-exempt notes now sold by local housing authorities would be converted into long-term bonds and purchased by the Federal Financing Bank, an entity of the Treasury Department. To pay for these

purchases, taxable Treasury debt instruments would be issued. The interest differential between the taxable rate and the tax-exempt rate would be paid by the Department of Housing and Urban Development.

SPECIAL ANALYSIS H

FEDERAL AID TO STATE AND LOCAL GOVERNMENTS ¹

State and local governments play a vital role in meeting the Nation's needs. The Federal Government contributes directly to that role by providing grants-in-aid and loans to State and local governments, and it contributes indirectly through policies designed to improve economic conditions.

Federal grant-in-aid outlays to State and local governments are estimated to be \$96.3 billion in 1981, \$7.4 billion above the estimated 1980 total of \$88.9 billion, and \$13.5 billion higher than the 1979 total of \$82.9 billion. During the 20 years from 1958 to 1978, grants grew at an average annual rate of 14.6%. The slower growth in grants planned from 1978 to 1981 of 7.3% per year is a direct result of two major factors:

- a phasedown of outlays associated with economic stimulus grants enacted in response to the last recession; and
- the need for overall budget restraint as part of a major effort to hold down inflation.

Accompanying this restraint has been a continual effort to improve the administration of grant programs. Grant consolidations or increased flexibility in the use of grant funds has already been achieved for forestry programs, elderly assistance, and for vocational rehabilitation. Similar proposals for airport development, economic development, energy conservation, and environmental programs are currently before the Congress. Further efforts are proposed for health services, vocational rehabilitation, youth training and employment, and fish and wildlife grants.

Other improvements in grant administration, such as a comprehensive system of financial guidance and a major simplification of audit requirements, have also taken place.

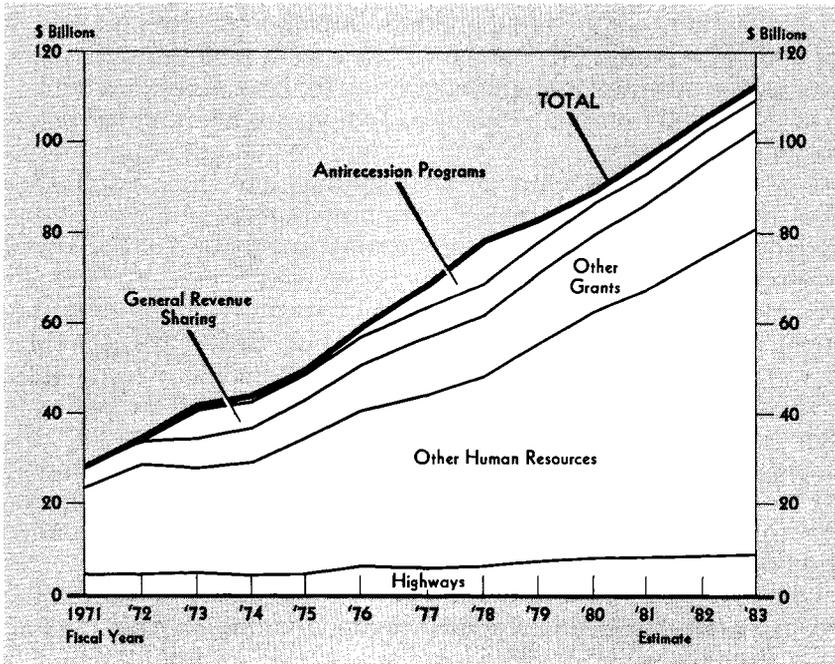
In addition to grants-in-aid, Federal lending to State and local governments and loan guarantees are also significant. In 1981 the Federal Government is expected to disburse \$1.4 billion for new loans to State and local governments. Loan outlays net of repayments and sales are expected to be \$94 million. New guaranteed loans are estimated to be \$12.6 billion in 1981.

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. Unless specifically indicated to the contrary, reference to "Federal aid" or "grants" in this analysis is confined only to grants-in-aid (including shared revenues).

The chart shows trends in major grant categories since 1971. Grants for highways remained fairly level through 1975, but will increase substantially from 1975 to 1981. Grants for human resources, which include those under education, training, employment, and social services; health; income security and veterans programs, account for 62% of the increase from 1971-1981. General revenue sharing has accounted for more than \$6 billion in grants per year since 1972.

While the phasedown of economic stimulus grants that were initiated in 1977 results in a substantial slowdown in overall growth between 1978 and 1980, the increase in grants other than for economic stimulus programs continues to be strong over this period and through 1983.

Federal Grants to State and Local Governments



HIGHLIGHTS OF THE FEDERAL AID PROGRAM

Summary of changes.—When this administration took office economic stimulus was needed to reduce unemployment and promote economic recovery. The economic stimulus programs proposed at that time were primarily grant programs, and total grant outlays increased 14% in just 1 year, from 1977 to 1978. These stimulus programs were designed to be temporary, and their phasedown through 1980 reflects the substantially different economic condi-

tions today from those prevailing when they were initiated. Table H-1 shows that, excluding stimulus programs, grant outlays increase from \$63.8 billion in 1977 to an estimated \$93.1 billion in 1981, an average annual rate of growth of 9.9%. The increase in stimulus grants in 1981 is related largely to increased funds for antirecession fiscal assistance. This assistance would channel funds to localities with high levels of unemployment and low economic growth.

Table H-1. FEDERAL GRANTS, EXCLUDING STIMULUS

(Outlays in billions of dollars)

	Actual			Estimate	
	1977	1978	1979	1980	1981
Total grants.....	68.4	77.9	82.9	88.9	96.3
Less stimulus grants:					
Local public works.....	0.6	3.1	1.7	0.4	0.2
Temporary employment assistance.....	2.3	4.8	3.3	1.9	2.0
Antirecession fiscal assistance.....	1.7	1.3	*	0.3	1.0
Subtotal, stimulus grants.....	4.6	9.2	5.0	2.5	3.2
Total, excluding stimulus.....	63.8	68.7	77.8	86.4	93.1

* \$50 million or less.

Today's economic problems are different from those of 1977. In part because of the economic stimulus programs, employment increased by 9.5 million between December 1976 and December 1979. On the other hand, the rate of inflation has increased and the burden that it imposes on the poor must be lightened, the continuing energy crisis must be dealt with, the persistence of high unemployment among disadvantaged youth and their lack of basic skills have become issues of major concern, and the special needs of States and localities that are hit hardest by limited economic growth deserve attention. These are the areas that have priority in the Federal aid programs budget for 1981.

Table H-2 shows outlay changes from 1978-81 divided into two categories: those that finance major State or local payments for individuals, and all other grants.

Grants that are subsequently paid as income support for individuals—mainly the public assistance, medicaid, housing assistance, and child nutrition programs and assistance to help low income persons pay high fuel bills—are estimated to increase \$5.4 billion from 1979 to 1980 and \$3.6 billion from 1980 to 1981. This increase covers changes caused primarily by inflation (especially for the cost of fuel) and increases in the beneficiary populations, and includes high priority medicaid expansions for low income women and children. Consistent with the President's emphasis on providing assist-

ance to the neediest, it does not reflect any major effort to impose budget stringency through benefit reductions. These grants, which will amount to \$38 billion in 1981, take a substantial financial burden off State and local governments and provide large supplements to the economies of the area in which the beneficiaries live.

All other grants, those that are made to, rather than through, State and local governments, are expected to increase by \$0.7 billion from 1979 to 1980 and \$3.8 billion from 1980 to 1981. Some of these larger increases are for employment and training assistance, highways, mass transit and antirecession fiscal assistance.

Table H-2. FEDERAL GRANT-IN-AID CHANGES, 1979-81

(In billions of dollars)

	Outlays
Total grants, 1979 actual.....	82.9
Changes	
Payments for individuals:	
Medicaid.....	1.8
Housing programs.....	.9
Low income energy assistance.....	1.1
Other.....	1.7
Subtotal payments for individuals.....	5.4
Other programs	
Economic stimulus grants:	
Local public works.....	-1.4
Temporary employment assistance.....	-1.4
Antirecession fiscal assistance.....	0.2
Subtotal, economic stimulus.....	-2.5
Highways.....	.7
Social services—retroactive claims.....	-.5
Employment and training assistance.....	.8
Other.....	2.2
Subtotal, other programs.....	.7
Total grants, 1980 estimate.....	88.9
Changes	
Payments for individuals:	
Medicaid.....	1.6
Housing programs.....	.8
Low income energy assistance.....	.5
Other.....	.7
Subtotal, payments for individuals.....	3.6
Other programs:	
Mass transit (oil import reduction program).....	.5
Employment and training assistance.....	.7
Anti-recession fiscal assistance.....	.8
Other.....	1.9
Subtotal, other programs.....	3.8
Total grants, 1981 estimate.....	96.3

Major proposals.—The major new grant proposals in this budget:—help low-income, unemployed youth acquire the basic education and training needed to find and hold a job;—meet continuing needs relating to energy problems, especially to increase aid for mass transit and to assist low income persons with higher fuel costs;—expand aid to low income persons through such programs as special supplemental food to needy women, infants and children; and—provide general purpose aid to States and localities through general revenue sharing and antirecession fiscal assistance.

Youth employment.—As part of a major effort to counter the ill effects of youth unemployment, a new grant program is being proposed to help local school districts provide intermediate and secondary school students with the basic mathematics and language competence required by employers. Schools with the greatest number of students needing such assistance will compete for the \$900 million proposed for this new program in 1981.

As the other part of this effort, the Congress is being asked to consolidate into a single grant program three of the experimental youth authorities enacted as part of the stimulus program in 1977. Requested budget authority in the Department of Labor for the new program for 1981 is \$1.1 billion, an increase of \$300 million over the amount that would otherwise be needed for current programs. States and localities will be able to mount a concentrated effort to provide those youth who have the hardest time finding and keeping a job with the basic work skills required by employers. Since the primary requisite is basic competence in language and mathematics, the new program will be operated in close conjunction with the proposed new education grant program for basic skills described above.

Energy.—The budget proposes grants that would provide additional aid for mass transportation and assistance to low-income persons to pay fuel bills and meet energy-related emergencies. The aid to low income persons would be distributed by the States primarily through the use of existing public assistance programs. Grant outlays are expected to be \$1.7 billion in 1981, \$0.5 billion higher than in 1980, when funds for this program were appropriated to the Community Services Administration.

The new mass transportation grants would provide \$13 billion over the next 10 years. All of these funds would go to State or local governments to improve and expand existing mass transit systems. Outlays are estimated to be \$0.6 billion in 1981.

The budget provides weatherization assistance to low-income individuals and to public and nonprofit schools and hospitals. Budget authority of \$200 million would be continued in 1981 for weatherization assistance to low-income people, and budget authority for assistance to schools and hospitals would be increased to \$202 million.

The budget also includes funding of the Energy Management Partnership Act, now pending in the Congress, which will consolidate three existing State energy conservation planning and "out-reach" programs for public education, and extend the assistance to include State emergency preparedness and supply planning activities. This proposal will give States more flexibility to use these funds to meet their needs. The legislative proposal will also be amended to include grants to support local government energy activities. Budget authority of \$152 million is included in 1981 for these initiatives, including \$50 million for the local grants.

As part of the administration's energy supply strategy, legislation is proposed that would broaden the scope of *energy impact assistance* to areas experiencing significantly higher employment as a result of energy supply development. Budget authority for grants would be increased from \$50 million in 1980 to \$150 million a year starting in 1981.

Aid to the disadvantaged.—The 1981 budget provides increases in a number of programs that aid the disadvantaged.

Budget authority for the special supplemental food program for women, infants, and children (WIC) is proposed to increase \$213 million to \$968 million in 1981. This represents a \$401 million increase in budget authority since 1979. Recent studies suggest the program leads to significant reductions in infant mortality and in the incidence of low birth-weight babies, both of which afflict poor families disproportionately, who are the program's beneficiaries.

Funding for *training and employment* has grown steadily over the years, with large temporary increases in 1977 and 1978 as part of the President's economic stimulus effort. As total employment increased from 88.4 million at the end of calendar year 1976 to 97.9 million at the end of calendar year 1979 the countercyclical public service employment program was reduced. In 1980, the relative funding of training and employment programs was changed to direct available resources to the economically disadvantaged and the long-term unemployed. In addition, greater emphasis will be placed on improvements in management and the increased control of fraud and abuse.

Outlays for *employment and training assistance* grant programs, including the initiatives for youth described above, which are primarily to meet the needs of the most disadvantaged, are estimated to be \$6.8 billion in 1981, \$0.7 billion higher than the 1980 estimate. Outlays for the *temporary employment assistance* program, are estimated to be \$2.0 billion in 1981, about the same as the 1980 estimate.

Not shown in these totals are substantial grants for additional work and training opportunities for welfare recipients under the administration's welfare reform program. Resources for these activities are covered in the allowance for contingencies, pending enactment of legislation.

The 1981 budget proposes further consolidation of *vocational rehabilitation* programs. In addition to the consolidation enacted in 1979, three more programs are proposed to be combined into one. These programs provide services to enable the handicapped to prepare and engage in gainful employment.

Grants for *social services* are designed to assist the disadvantaged and disabled to be self-sufficient. Outlays for 1981 are estimated to be \$3.2 billion, about the same as the 1980 estimate.

Revenue sharing and targeted fiscal assistance.—General revenue sharing has provided States and localities since 1972 with more than \$6 billion per year in grants with practically no Federal restrictions on their use. Under current law this program is scheduled to expire at the end of fiscal year 1980. As a major initiative, the administration proposes to reauthorize this program for 5 years at the current level of \$6.9 billion per year. States and localities will be asked to assess improvements that can be made to the intergovernmental fiscal structure that will improve the capacity of governments to provide necessary public services to their constituents. Funds to States would be contingent upon their cooperation in this effort. In addition, revisions to the local allocation formula would direct additional funds to localities most in need.

The administration is working with the Congress to develop an acceptable countercyclical fiscal assistance program. The budget proposal would provide general purpose fiscal assistance to needy State and local governments when the national unemployment rate reaches 6½%.

In addition to countercyclical assistance, the administration continues to support legislation authorizing highly targeted fiscal assistance for 1980. This 1-year program would provide general pur-

pose fiscal assistance to localities with high levels of unemployment and low economic growth. Payments to localities under this program would be offset by any payments they might receive under the countercyclical fiscal assistance program if unemployment rises to 6½% or more.

Outlays under targeted and countercyclical fiscal assistance are estimated to be \$250 million in 1980 and \$1.0 billion in 1981.

Other highlights.—Outlays for the Environmental Protection Agency's program for construction of *sewage treatment plants* are expected to be \$3.95 billion in 1981, slightly higher than in 1980. The budget requests budget authority of \$3.7 billion for the program in 1981, which, together with funds available from prior years, is estimated to make more than \$6.6 billion available to the States for obligation in 1981. This program provides grants to both State and local governments for 75% of the cost of planning, designing, and constructing sewage treatment plants. Under the Federal Water Pollution Control Act, as amended, more than \$31 billion has been provided to continue this program. With more than 11,000 projects currently underway, the administration is encouraging the States to assume responsibility for program management and implementation.

Grants to support the control of *hazardous wastes*, such as industrial chemicals, and to control air and drinking water pollution are proposed to increase substantially in 1981. Budget authority for these three programs is estimated to be \$156 million in 1981, an increase of \$20 million more than the 1980 estimate.

Grants assist States to manage their *fish and wildlife* resources. The administration proposes to consolidate administratively five of these programs into one in order to give the States more flexibility over the use of these funds. Outlays are estimated to be \$136 million in 1981.

Legislation proposed by the administration and enacted by Congress resulted in several important changes in existing *ground transportation* grants. States and localities now have substantially more flexibility in the types of highway and transit projects that can be supported with Federal aid. In addition, in order to encourage completion of the Interstate System, States are now required to complete all environmental impact statements by no later than 1983 and to begin construction by 1986.

Outlays for *highways* are estimated to be \$8.2 billion in 1981, slightly more than in 1980. Most of these funds go directly to State governments, and approximately half are used to continue construction of the interstate highway system.

Grant outlays for *urban mass transportation* including the new proposals noted above, are estimated to be \$3.2 billion in 1981, \$0.6 billion higher than the 1980 estimate. More than 75% of the grant funds go to the 25 metropolitan areas with a population of one million or more, a number of which have or are building rapid transit systems. The remaining outlays are primarily for bus transit systems in other communities.

The *community development block grant* funds will continue to provide assistance directly to local governments. Recipients have considerable freedom in selecting projects for this program, so long as they are within the general guidelines of community development. The enacted legislation provides that entitlements may be calculated using the original formula (population, poverty, and overcrowded housing) or an alternative formula (poverty, loss of population, age of housing). Outlays for the program for 1981 are estimated to be \$3.8 billion, an increase of \$0.3 billion over 1980.

The recently enacted *urban development action grant* program provides one-time grants to severely distressed cities and urban counties to supplement local government and private sector financing for major revitalization projects. Budget authority proposed for 1981 for this program is \$675 billion, the same as for 1980.

Legislation proposed by the administration would significantly expand resources for *economic development assistance* program grants beginning in 1980. The planning, public works, adjustment and technical assistance grants offered under the program assist State and local governments in their efforts to foster private investment, job creation, and job preservation in distressed areas. Outlays proposed for the program would increase from \$345 million in 1979 to \$437 million in 1980 and \$677 million in 1981.

Outlays for *elementary, secondary, and vocational* education are estimated to be \$7.2 billion in 1981, \$0.4 billion more than in 1980. The largest part of that amount will go to State and local education agencies for supplementary education services to low-income, low-achieving students.

The budget also includes a substantial reduction in the *impact aid* program, which is intended to compensate school districts for the burdens imposed by federally related activities. Much of the aid now goes to school districts where the Federal activity does not place a special burden on the local community. The budget provides for limiting impact aid to those districts where the aid is a significant part of their financing needs.

The budget proposes administrative consolidations for *health planning requirements and health services* grant programs. The Department of Health and Human Services would enter into comprehensive performance contract agreements with State and local governments for primary health care grants. In addition, actions

will be taken to unify current requirements that States submit eleven separate health care plans.

The *medicaid* program continues to be a large grant-in-aid with estimated outlays of \$15.8 billion in 1981. This program supports State efforts to provide health services to low-income residents. The budget proposes an expanded child health assurance program (CHAP) to provide early and periodic screening, diagnosis, and treatment to an additional two million low-income children and youth under the age of 18 currently not eligible for medicaid. Eligibility will also be expanded for low-income pregnant women and migrants.

Proposed *hospital cost containment* legislation and increased efforts to limit waste, fraud and abuse will provide Federal, State and local savings in the medicaid program. Federal savings are estimated at approximately \$300 million in medicaid in 1981. Medicaid savings for State and local governments in 1981 are estimated to be \$75 million as a result of hospital cost-containment and \$137 million as a result of other savings initiatives.

Other health grant initiatives in the 1981 budget include \$10 million for a formula grant for disease prevention, and \$46 million for cooperative agreements with States for the development of comprehensive mental health programs.

Outlays for *assistance payments* (aid to families with dependent children) are expected to be \$7.4 billion in 1981, \$0.4 billion above the 1980 estimate.

Outlays for the *public housing* and the State agency low-income housing assistance components of the Department of Housing and Urban Development's assisted housing programs are estimated to increase 25%, from \$2.9 billion in 1980 to \$3.6 billion in 1981. These increases reflect the additional number of low-income families receiving housing services from public housing and State agency housing projects and the increased costs of providing those services.

The administration proposes to continue *law enforcement assistance* to States, counties, and cities and to encourage government and non-profit organizations to carry out programs that have proved to be effective in improving the criminal justice system. Outlays for this program are estimated to be \$452 million in 1981, about the same as the 1980 estimate.

Additional information on many of these grant programs is in Part 5 of the Budget, which describes all major Federal programs and many minor ones.

Loans.—Another form of Federal aid to State and local governments is assistance in obtaining credit, either directly or through loan guarantees. Direct loan disbursements (excluding repayments) are expected to be \$1.4 billion in 1981 and \$12.6 billion of new guaranteed loans are expected in 1981.

One of the large guarantee loan programs was proposed by the administration and enacted by Congress to assist New York City. The legislation allows for the guarantee of principal and interest for \$1.65 billion through 1982 for loans not to exceed a period of 15 years.

Tax Expenditures.—Federal aid is also provided through tax expenditures. (More information on tax expenditures is provided in Special Analysis G and, on the assistance from tax-exempt financing, in Special Analysis F.) The two major tax expenditures are the deductibility of many State and local taxes and the exclusion of interest on State and local securities from Federal taxation.

Individuals can claim certain State and local sales, income and personal property tax payments 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 1981 tax expenditure for property taxes on owner-occupied homes is estimated to be \$9.0 billion and the tax expenditure for other nonbusiness State and local taxes—primarily income and sales taxes—is estimated to be \$17.3 billion. The Revenue Act of 1978 eliminated the individual income tax deduction for gasoline. In 1979, the last year for this provision, the tax expenditure was \$350 million.

Interest on virtually all State and local government securities is tax exempt. This permits State and local jurisdictions to borrow at reduced interest rates. The tax expenditure for the exclusion of interest on State and local general purpose debt is estimated to be \$6.5 billion in 1981.

Interest on State and local industrial revenue bonds is also tax exempt. These bonds finance industrial and transportation projects, pollution control facilities and public and, more recently, selected private housing. Tax expenditures in 1981 are estimated to be \$695 million for industrial facilities, \$510 million for pollution control facilities, and \$1.6 billion for State and local housing bonds.

State and local governments have been using the proceeds of tax-exempt borrowing to provide mortgage funds for private housing. The tax exemption of interest on State and local securities makes

it possible to provide such funds at interest rates well below the rates for private mortgages. At first, tax-exempt housing bonds were used mainly to assist low-income, multifamily housing; recently, there has been a dramatic increase in the use of such bonds for owner-occupied housing, including housing purchased by middle and upper income families.

To halt this abuse of the tax-exempt borrowing privilege and to stem a huge potential loss in tax revenues, the administration proposes to ban the use of tax-exempt bonds for owner-occupied housing. The ban would apply to such bonds issued after April 25, 1979, with exceptions allowed for bonds in process as of that date. The administration is also supporting legislation to restrict the use of tax-exempt bonds for multifamily housing to projects in which at least 20 percent of the residents qualify as low income under present definitions of the Department of Housing and Urban Development. Public housing has also been financed in the past through the sale of tax-exempt bonds. Beginning in 1980, the administration plans to begin eliminating this tax expenditure by having the Federal Financing Bank (FFB) of the Treasury Department purchase these bonds. The Department of Housing and Urban Development would reimburse the FFB for the extra cost of borrowing in the taxable market and purchasing tax-exempt housing bonds.

FEDERAL GRANTS-IN-AID BY FUNCTION, AGENCY, AND REGION

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 control. Part 5 of the budget discusses the entire Federal budget by function, and the associated national needs met by these programs.

Last year, the President initiated a 3-year budget planning system, so as to provide an improved means of understanding the longer term effects of current programs and proposals. As a result, the discussions and data in many parts of the budget include the 1981-83 planning period. Consistent with that approach, this Special Analysis shows estimates through 1983 in many of the tables and the chart on a previous page.

Table H-3 shows a functional distribution of Federal grant-in-aid outlays. Major trends in 1981 are discussed above. The total shows strong continued growth throughout the planning period. The increases beyond 1981 are primarily for income security, education, training, employment and social services, and health.

Table H-3. FEDERAL GRANT-IN-AID OUTLAYS BY FUNCTION

(In millions of dollars)

Function	Actual 1979	Estimate			
		1980	1981	1982 ¹	1983 ¹
National defense.....	94	77	57	59	59
Energy.....	183	472	660	887	957
Natural resources and environment.....	4,630	4,821	4,957	5,275	5,423
Agriculture.....	456	509	512	562	613
Commerce and housing credit.....	12	7	4	4	4
Transportation.....	10,438	11,513	12,260	13,349	14,400
Community and regional development.....	6,641	5,786	6,318	6,632	6,760
Education, training, employment, and social services.....	22,249	21,865	23,195	25,620	27,510
Health.....	14,377	16,209	17,817	20,501	23,207
Income security.....	14,740	18,364	20,298	21,962	23,340
Veterans benefits and services.....	86	86	82	67	69
Administration of justice.....	517	473	491	612	588
General government.....	202	194	214	226	240
General purpose fiscal assistance.....	8,233	8,569	9,446	9,546	9,182
Total outlays.....	82,858	88,945	96,312	105,303	112,351

¹ Data for 1982 and 1983 are included here to be consistent with the multi-year planning system. They have not received as much review as the estimates for 1980 and 1981.

The functional composition of the grant programs has changed significantly over the years, as shown in table H-4. The most dramatic growth has occurred in the health function, which has increased from 3% of Federal aid in 1959 to an estimated 18% in 1981 and in the education, training, employment and social services function, which increased from 7% in 1959 to an estimated 24% in 1981. Other changes are the addition of general revenue sharing, increases in outlays for environmental protection, and the relative decline in grants for highways and income security. The latter is primarily due to the assumption by the Federal Government of the food stamp program and the public assistance programs for the aged, blind, and disabled. The trends are similar through 1983.

Table H-4. PERCENTAGE DISTRIBUTION OF FEDERAL GRANT-IN-AID OUTLAYS BY FUNCTION

	Actual					Estimate			
	1959	1964	1969	1974	1979	1980	1981	1982 ¹	1983 ¹
Energy.....	*	*	*	*	*	1	1	1	1
Natural resources and environment ...	1	2	2	5	6	5	5	5	5
Agriculture.....	5	6	4	1	1	1	1	1	1
Transportation.....	41	37	22	12	13	13	13	13	13
Community and regional development	1	5	5	6	8	7	7	6	6
Education, training, employment, and social services.....	7	8	25	22	27	25	24	24	24
Health.....	3	5	16	17	17	18	18	19	21
Income security.....	39	34	24	20	18	21	21	21	21
General purpose fiscal assistance.....	2	2	2	16	10	10	10	9	8
Other.....	*	1	1	2	1	1	1	1	1
Total.....	100	100	100	100	100	100	100	100	100

*0.5% or less.

¹ Data for 1982 and 1983 are included here to be consistent with the new multi-year planning system. They have not received as much review as the estimates for 1980 and 1981.

Table H-5 shows grant outlays by agency. The new Department of Health and Human Services will provide 32% of total estimated grant-in-aid outlays in 1981, far more than any other agency.

Table H-5. FEDERAL GRANT-IN-AID OUTLAYS BY AGENCY

(In millions of dollars)

Agency	Actual 1979	Estimate	
		1980	1981
Funds appropriated to the President.....	521	601	2,902
Department of Agriculture.....	5,313	6,072	6,183
Department of Commerce.....	2,255	1,021	1,095
Department of Education.....	5,994	6,919	7,691
Department of Energy.....	83	367	549
Department of Health and Human Services.....	26,666	28,909	30,788
Department of Housing and Urban Development.....	6,405	7,701	8,837
Department of the Interior.....	1,029	1,234	1,321
Department of Justice.....	505	457	466
Department of Labor.....	10,390	10,131	11,058
Department of Transportation.....	10,353	11,301	11,572
Department of the Treasury.....	7,818	7,413	8,166
Environmental Protection Agency.....	3,963	4,108	4,187
Community Services Administration.....	739	1,779	511
Other.....	825	931	986
Total outlays.....	82,858	88,945	96,312

Distribution of grants by region.—Table H-6 shows that Federal aid on a per capita basis varies widely among regions. The thinly populated Western States traditionally rank high because of highway construction grants and shared revenues from Federal land holdings. For example, the Rocky Mountain States have the lowest regional population density, extensive Federal land holdings and, until recently, the highest per capita aid.

This effect has diminished in recent years, however, as human resource programs have grown relative to physical resource programs. Further, the addition of general revenue sharing has tended to equalize per capita figures among the regions. Region VIII, which had per capita grants 38% above the national average in 1969, now has grants only 9% over the average, while Region V has risen from 23% below the average to only 11% below. Grants to Region II have grown the most during the period, averaging 15.6% per year.

Table H-6. DISTRIBUTION OF GRANTS BY REGION, SELECTED FISCAL YEARS

Federal Region ¹	1979 ² Total grants	Dollars per capita		Average annual percent increase, 1969-79
		1969	1979	
I: Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island.....	\$5.3	\$101	\$430	15.2%
II: New York, New Jersey, Puerto Rico, Virgin Islands.....	13.0	104	459	15.6
III: Virginia, Pennsylvania, Delaware, Maryland, West Virginia, District of Columbia.....	9.6	96	398	14.9
IV: Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida.....	12.7	102	350	12.8
V: Illinois, Indiana, Michigan, Ohio, Wisconsin, Minnesota.	15.1	77	333	15.4
VI: Arkansas, Louisiana, Oklahoma, New Mexico, Texas.....	7.5	112	320	10.8
VII: Iowa, Kansas, Missouri, Nebraska.....	3.6	88	309	13.0
VIII: Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming.....	2.7	138	405	11.1
IX: Arizona, California, Nevada, Hawaii, other territories....	10.1	118	377	12.0
X: Idaho, Oregon, Washington, Alaska.....	3.2	120	420	13.0
United States.....	\$82.9	\$100	\$373	13.7%

¹ These are not the same regions as those used for national income account computations.

² Preliminary estimate, in billions of dollars.

See "Federal Aid to States," Department of the Treasury, for additional information concerning State distribution of Federal grants.

HISTORICAL PERSPECTIVES

Although grants from the National Government predate the Constitution, they were very small until the end of the 19th century and did not become a significant factor in Government expenditure until after World War II. In 1950, Federal grants to State and local governments were \$2 billion, and by 1965 they had risen to \$11 billion. In 1978, partially because of the economic stimulus grants, they were \$77.9 billion, an average annual increase of 16% since 1965. In 1981 Federal grants are expected to be 15.6% of total Federal outlays and 20.9% of domestic Federal outlays. Table H-7 shows historical data for grant outlays since 1950.

Table H-7. HISTORICAL TREND OF FEDERAL GRANT-IN-AID OUTLAYS

(Fiscal years; dollar amounts in millions)

	Composition of Grants-in-Aid			Federal grants as a percent of		
	Total grants-in-aid	Grants for payments to individuals ¹	Other	Budget outlays		
				Total	Domestic ²	State and local expenditures ³
Five-year intervals:						
1950.....	\$2,253	\$1,257	\$996	5.3%	8.8%	10.4%
1955.....	3,207	1,623	1,584	4.7	12.1	10.1
1960.....	7,020	2,479	4,541	7.6	15.9	14.7
1965.....	10,904	3,931	6,972	9.2	16.5	15.3
1970.....	24,014	9,023	14,991	12.2	21.1	19.4
Annually:						
1975.....	49,834	17,441	32,392	15.3	21.3	23.1
1976.....	59,093	21,023	38,070	16.1	21.7	24.4
1977.....	68,414	23,860	44,555	17.0	22.7	25.8
1978.....	77,889	25,981	51,908	17.3	22.9	26.4
1979.....	82,858	28,765	54,093	16.8	22.4	25.6
1980 estimate.....	88,945	34,202	54,744	15.8	21.0	25.3
1981 estimate.....	96,312	37,764	58,548	15.6	20.9	25.3
1982 estimate ⁴	105,303	42,037	63,266	15.3	20.6	NA
1983 estimate ⁴	112,351	46,061	66,290	14.5	19.5	NA

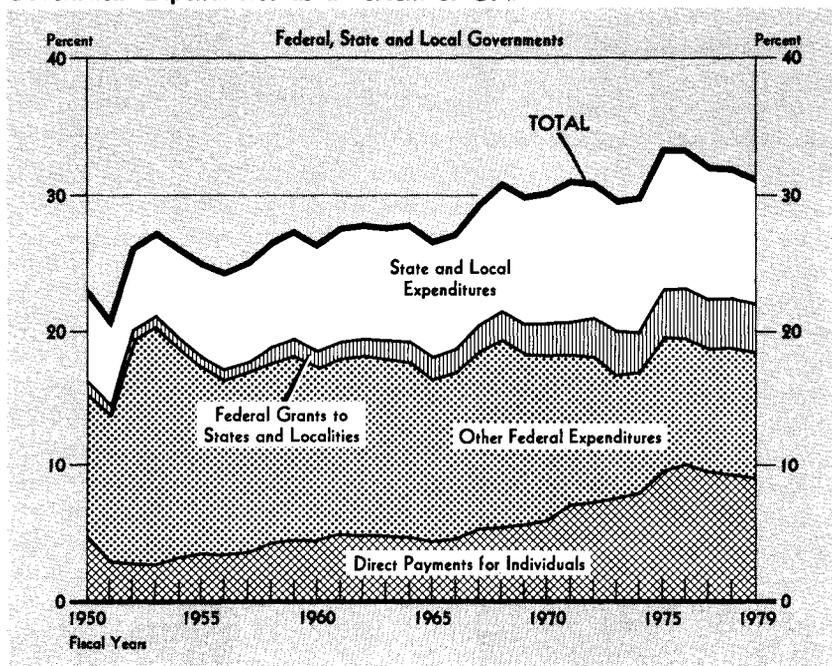
¹ For an identification of accounts in this category, see Table H-11 and footnotes.² Excludes outlays for the national defense and international affairs functions.³ As defined in the national income and product accounts.⁴ Data for 1982 and 1983 are included to be consistent with the multi-year planning system. They have not received as much review as the estimates for 1980 and 1981.

NA = Not available.

Approximately two-fifths of estimated 1981 grants are to States and localities for payments to individuals.² Most such grants are accompanied by State or local matching payments. Among the larger of these programs are medicaid, assistance payments, housing payments, and nutrition programs for children and the elderly. The public assistance program for the blind, disabled, and aged—now known as supplemental security income—became a direct Federal program in January 1974, as the food stamps program did in 1971. Almost all of the outlays for these programs are therefore included as grants through the year prior to their assumption by the Federal Government, but not since then.

Table H-7 also shows grants-in-aid as a percent of State and local expenditures. This percent increased from 15% in 1965 to 26% in 1978, and is estimated to continue to finance almost one-fourth of total State and local expenditures through 1981.

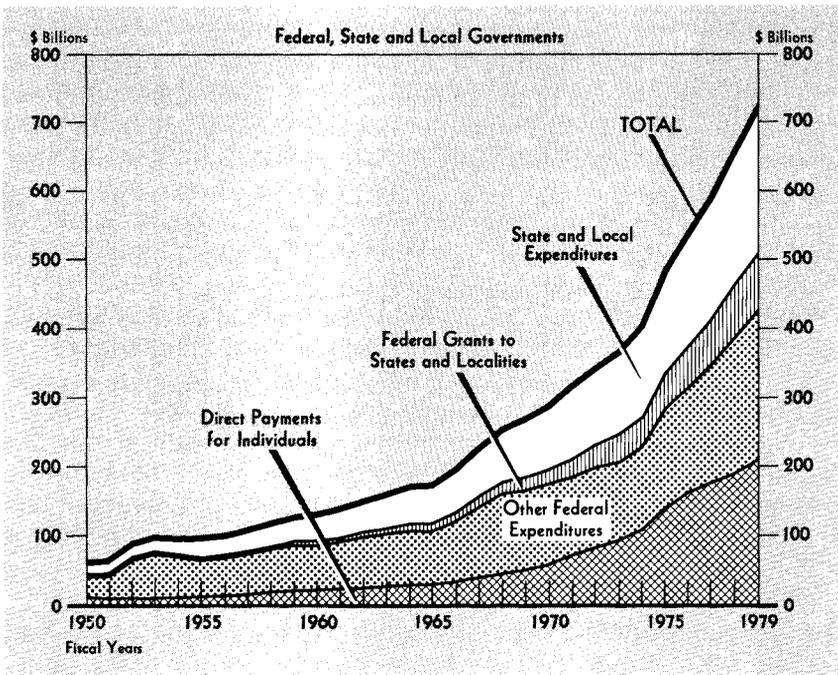
Government Expenditures as a Percent of GNP



The charts show the growth of total governmental expenditures since 1950, and these expenditures as a percent of gross national product. Federal expenditures including grants have increased as a percent of GNP from 16% in 1950 to 22% in 1979, while State and local expenditures including grants have increased from 8% in 1950 to 13% in 1979.

² The payments for individuals category has been revised and now includes some grant programs formerly excluded. The revision increased the recorded 1978 payments for individuals that are grants by approximately 5%. The grant totals were not affected. Additional information about the definition and data changes are available upon request from the Office of Management and Budget, Washington, D.C., 20503.

Government Expenditures



GRANTS ADMINISTRATION

The rapid growth of the grant system in the late 1960's and early 1970's was accompanied by increasingly complex administrative requirements. In earlier years, many grants were designated for specific categories by Federal legislation or regulation, and came to be known as categorical grants. They frequently required matching funds from the recipient governments, and gave little discretion in their use to State and local officials. In the 1960's and early 1970's, these grants expanded and many persons involved with grant administration at all levels of government looked for better alternatives. As a result, many new programs give considerably more discretion to State and local officials.

Table H-8 shows the increasing importance of general-purpose and broad-based grants since 1972. General-purpose grants give State and local governments almost complete discretion in determining their use; broad-based grants give State and local governments considerable discretion within a broadly defined program area, such as health or community development. In 1972 there were virtually no general-purpose or broad-based grants. In 1979 these grants were approximately one-fourth of total grants-in-aid.

Table H-8. OUTLAYS FOR GENERAL-PURPOSE, BROAD-BASED, AND OTHER GRANTS

(Dollar amounts in millions)

	Actual					Estimate	
	1972	1976	1977	1978	1979	1980	1981
General-purpose grants:							
General revenue sharing	0	\$6,243	\$6,758	\$6,823	\$6,848	\$6,863	\$6,857
Other general purpose fiscal assistance and TVA ¹	516	907	2,748	2,780	1,485	1,820	2,724
Subtotal, general-purpose grants	516	7,150	9,506	9,603	8,333	8,683	9,580
Broad-based grants:							
Community development block grants ..		983	2,089	2,464	3,161	3,500	3,805
Comprehensive health grants	90	128	65	88	73	59	54
Employment and training ²		1,698	1,756	1,992	1,845	1,948	2,011
Social services ³	1,930	2,251	2,534	2,809	3,634	3,108	3,150
Criminal justice assistance	233	674	519	417	368	337	324
School aid in federally affected areas...	602	558	719	706	858	737	453
Local public works			577	3,057	1,741	358	200
Subtotal, broad-based grants..	2,855	6,292	8,259	11,533	11,680	10,047	9,997
Other grants	31,001	45,651	50,649	56,753	62,845	70,215	76,735
Total	34,372	59,093	68,414	77,889	82,858	88,945	96,312
ADDENDUM: PERCENT OF TOTAL							
General-purpose grants	1.5%	12.1%	13.9%	12.3%	10.1%	9.8%	9.9%
Broad-based grants	8.3%	10.6%	12.1%	14.8%	14.1%	11.3%	10.4%
Other grants	90.2%	77.3%	74.0%	72.9%	75.8%	78.9%	79.7%
Total	100.0%						

¹ For detail, see grants in the general purpose fiscal assistance function, Table, H-11. Amounts in Table H-8 above include shared revenues from the Tennessee Valley Authority, shown in the energy function.

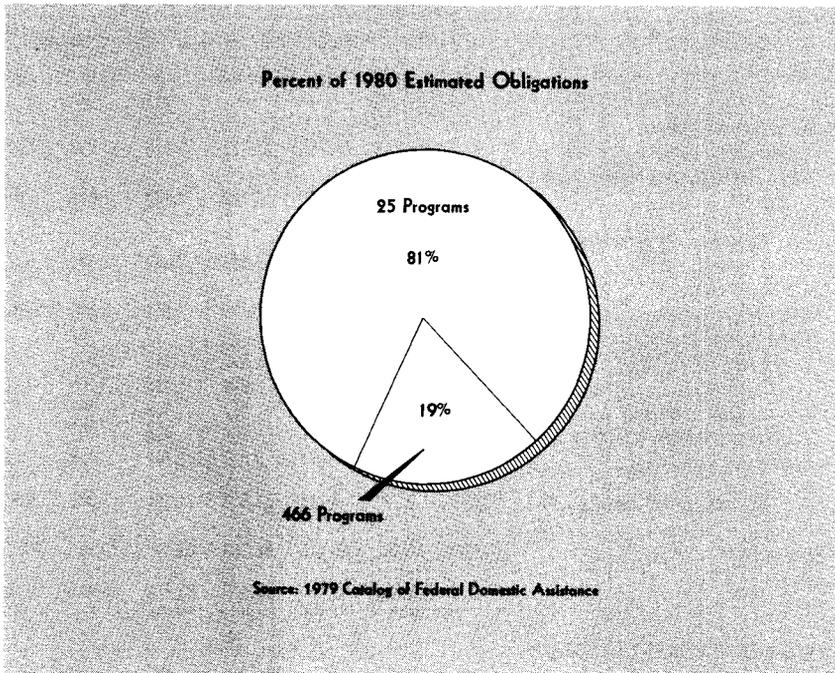
² Comprehensive Employment and Training Act (CETA), Title II A, B, and C. An additional \$6.8 billion of CETA grant-in-aid outlays are estimated for 1981, but they are limited to particular types of service (e.g. public service employment) or clientele (e.g. youth) and therefore they are included in other grants, not broad-based grants.

³ Includes \$543 million in 1979 only for retroactive social services claims, appearing in the Department of the Treasury.

Most general-purpose and broad-based grants reduce significantly or eliminate entirely 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 not changed significantly. In 1972, State and local governments were estimated to provide approximately \$1 of matching funds for \$3 of Federal aid, and this ratio is virtually unchanged for 1979. The decrease in matching requirements for general-purpose and broad-based aid has been offset by the significant growth in programs such as medicaid that require more than average matching aid.

The chart shows that 81% of the aid is in only 25 programs. Nevertheless, there continue to be hundreds of categorical grants with different matching requirements, timing difficulties, application procedures, duplication of programs, and other administrative problems.

Most Grants are Concentrated in a Few Programs



Numerous efforts undertaken recently or in the last few years to correct some of these problems include:

- A major revision of audit requirements. Nearly 100 audit guides have been replaced with a single guide, and a 6-month time limit has been set on audit resolution, with procedures for prompt settlement of differences. These new procedures will result in a major improvement in grants administration.
- Standard financial requirements. Hundreds of inconsistent and duplicative financial requirements of individual grant programs have been replaced by standard application forms, uniform cost principles, and streamlined reporting rules. Taken together, these new requirements form a comprehensive system of financial guidance for assistance programs. They lighten substantially the burden these programs place on State and local financial systems.
- Expanded use of letters of credit. Almost all grants now use letters of credit, which have the effect of practically eliminating a delay in the receipt of approved funds to grantees.
- Establishment by statute of Inspectors General in 15 departments and agencies to uncover and eliminate fraud, abuse, and waste in Federal programs. As this concept becomes fully operational, other agencies will follow. The President has directed all departments and agencies to step up their audit and investigation efforts and the Inspectors General have a major role in this effort.

- Improvements in the *Catalog of Federal Domestic Assistance*, the reference document used by communities and individuals applying for Federal assistance. Improvements include publishing the *Catalog* three times a year (one basic edition and two updates), assistance on how to write a proposal, and expanded functional and applicant eligibility indices.
- Improvements in the Federal Assistance Program Retrieval System (FAPRS). With FAPRS, one can (using a computer terminal) match the characteristics of a community with the requirements of Federal programs, and automatically identify those programs from the *Catalog* for which a community might apply. Changes include more categories of programs and applicants, additional eligibility criteria and procedures to display management circulars that apply to the programs.
- Revised procurement standards. OMB Circular A-102, “Uniform administrative requirements for grants to State and local governments”, now includes streamlined procurement standards that place greater reliance on State and local purchasing systems. The new standards permit governments with good systems to have them certified in advance, keeping Federal involvement in procurement under grants to a minimum.
- Efforts to share the benefits of applicable Federal research and development programs with States and localities through the Intergovernmental Science, Engineering and Technology Advisory Panel (ISETAP).
- A study of the Federal assistance system under the Federal Grant and Cooperative Agreement Act. A report will be submitted to the Congress by February 1980 that will address the feasibility of developing a comprehensive system of guidance for assistance activities and outline an agenda for further improvements in Federal assistance management.
- A test of the feasibility of providing on computer tape quarterly information on Federal assistance awards to State governments. Thirteen States and all major grantmaking agencies are participating in the test.
- Strengthened joint funding, which allows grants from several agencies to be combined for the applicant into one coordinated grant. Revised instructions have been issued to Federal agencies regarding this program.

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 (NIA) series (published in Special Analysis B of this document 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 series. They both omit the following items that the budget series includes:

- Federal aid to the Governments of Puerto Rico and U.S. territories;
- 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 NIA 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. Since both Census and the NIA 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. These items were either new or became large in 1976, when they were first included in the Census data. One major kind of outlay included in the budget and Census definitions but excluded from the NIA 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 NIA rather than as grants. Table H-9 shows these and other minor differences among the

Table H-9. THREE MEASURES OF FEDERAL GRANTS-IN-AID TO STATE AND LOCAL GOVERNMENTS, 1974-78

(In billions of dollars)

	1974	1975	1976	1977	1978
Budget (Special Analysis H).....	43.3	49.7	59.0	68.4	77.9
Less principal exclusions:					
Agricultural commodities.....	-0.6	-0.5	-0.5	-0.6	-0.6
Geographical exclusions.....	-0.7	-0.9	-1.0	-1.2	-1.6
Plus payments for research.....	1.3	1.5	1.8	1.8	2.2
Federal unemployment benefits and related.....			10.6	5.2	1.2
All other (net).....	-0.4	-0.2	-0.8	-0.6	0.9
Federal payments (Census).....	42.9	49.6	69.1	73.0	80.0
Less low-rent public housing.....	-1.1	-1.3	-1.6	-1.8	-2.3
Federal unemployment benefits and related.....			-10.6	-5.2	-1.2
All other (net).....	-0.2		0.6	0.2	-1.8
Grants-in-aid (national income and product accounts).....	41.6	48.3	57.5	66.2	74.7

three series, but the differences are largely offsetting and, thus, these three series exhibit similar patterns.

In addition to these data sources, *Federal Aid to States*, published by the Department of the Treasury, lists grant outlays for the most recently completed year by State for more than 90 programs, using the budget definition of grants. The *Catalog of Federal Domestic Assistance*, prepared by the Office of Management and Budget and available from the Government Printing Office, contains a detailed listing of grant-in-aid and other assistance programs, and information on eligibility criteria, application procedures, 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. This source also provides information on eligibility criteria and application procedures.

Geographic Distribution of Federal Funds (formerly entitled *Federal Outlays*), compiled by the Community Services Administration and available from the Government Printing Office, uses various proration techniques and financial concepts, primarily obligations, to estimate total Federal expenditures as well as grant payments at the State, county, and large-city level. Their grant estimates therefore differ from those in the budget. These estimates are cross-referenced where possible with the program identification number in the *Catalog of Federal Domestic Assistance*.

THE STATE AND LOCAL GOVERNMENT SECTOR OF THE NATIONAL INCOME AND PRODUCT ACCOUNTS ³

The national income and product accounts (NIA) 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. The State and local data are presented here to provide a context in which to compare the grants-in-aid.

There are three major differences between NIA 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 NIA data but are generally included in budgetary data. Second, a large number of transactions in the NIA accounts are recorded on an accrual basis, while many governments show transactions on a cash basis. Third, NIA data aggregate total State and local transactions, whereas many govern-

³ Special Analysis B of this volume provides general information on the Federal sector of the national income and product accounts.

ments separate their general fund from special funds. As a result of these differences, NIA totals are not the same as an aggregate of these governments' financial budgets. However, the NIA data do provide timely estimates of total State and local fiscal transactions not otherwise available and, with care, can be used as financial indicators.

NIA State and local sector.—Table H-10 is a historical tabulation of State and local data with the surplus or deficit divided between

Table H-10. NATIONAL INCOME AND PRODUCT ACCOUNTS, STATE AND LOCAL SECTOR

(Calendar years; in billions of dollars)

	Receipts	Expenditures	Surplus or deficit (-)		
			Total sector	Social insurance funds	Operating account
Five-year intervals:					
1950.....	21.3	22.5	-1.2	0.7	-1.9
1955.....	31.7	32.9	-1.3	1.3	-2.6
1960.....	49.9	49.8	0.1	2.3	-2.2
1965.....	75.1	75.1	-*	3.4	-3.4
Annually:					
1970.....	134.9	132.2	2.8	6.8	-4.0
1971.....	152.6	148.9	3.7	7.5	-3.8
1972.....	177.4	163.7	13.7	8.1	5.6
1973.....	193.5	180.5	13.0	8.9	4.1
1974.....	210.4	202.8	7.6	10.5	-2.9
1975.....	236.9	230.6	6.2	12.5	-6.2
1976.....	268.0	250.1	17.9	15.7	2.3
1977.....	298.8	271.9	26.8	19.6	7.3
1978.....	331.0	303.6	27.4	23.2	4.2
SEASONALLY ADJUSTED, ANNUAL RATES					
1977:					
I.....	285.4	261.3	24.2	17.9	6.3
II.....	293.7	269.5	24.2	18.9	5.4
III.....	305.2	275.1	30.1	20.1	10.0
IV.....	310.7	281.9	28.8	21.3	7.4
1978:					
I.....	319.0	288.8	30.2	22.4	7.9
II.....	330.5	301.0	29.6	23.1	6.5
III.....	331.8	309.1	22.7	23.6	-0.9
IV.....	342.6	315.5	27.1	23.8	3.3
1979:					
I.....	343.9	316.3	27.6	25.0	2.6
II.....	345.9	326.1	19.7	26.0	-6.3
III ¹	360.0	334.3	25.7	27.1	-1.5

* \$50 million or less.

¹ Preliminary.

two components, social insurance funds and the operating account.⁴ The social insurance funds, primarily retirement programs, have been in surplus since before 1950. The funds accumulate assets to pay for their future liabilities. However, despite their cash surpluses the accrued liability of many of these social insurance funds exceeds their assets, posing a serious potential threat to future State and local finances. Because these social insurance fund surpluses are not generally available to pay for deficits in operating accounts, the operating account is generally thought to be a better measure of State and local fiscal condition than the surplus or deficit for the sector as a whole.

It is reasonable for the operating account to be in deficit since it includes capital expenditures, often financed through borrowing, and the account was in deficit in the 1950's and 1960's.

In the 1970's however, the account was in surplus several years. Surpluses in 1972 and 1973 resulted from the first general revenue sharing distributions and higher tax receipts generated by rate increases and the rapidly expanding economy. In 1974, the operating account returned to a deficit. In part, this reflected a return to previous patterns, as State and local expenditure increases absorbed the increased revenues. It also reflected the recession, with State and local governments choosing to draw down balances accumulated during 1972-73 rather than enact new tax increases. Their fiscal position improved substantially in 1976 compared to 1975, and surpluses continued into 1978. The operating account had a surplus of \$7.3 billion in 1977, and \$4.2 billion in 1978. However, as Table H-10 indicates, by late 1979 the account had declined into a deficit.

DETAILED FEDERAL AID TABLES

The following two tables present detailed Federal aid data for the three budget years. Table H-11, "Federal Grants to State and Local Governments—Outlays and Budget Authority," provides detailed budget authority and outlay data for grants and shared revenues. Table H-12, "Credit Assistance to State and Local Governments," provides information on direct and guaranteed loans to State and local governments.

⁴The operating account contains all transactions except those of social insurance funds, including expenditures for capital investment.

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—OUTLAYS AND BUDGET AUTHORITY

(In millions of dollars)

1979 actual	1980 estimate	1981 estimate	Function, agency and program	Func- tional code ¹	1979 actual	1980 estimate	1981 estimate
OUTLAYS					BUDGET AUTHORITY		
			National defense:				
			Department of Defense—Military:				
49	38	20	National Guard centers construction	051	49	19	20
44	39	37	Federal Emergency Management Agency	054	41	39	39
94	77	57	Total, national defense	050	90	58	59
			Energy:				
	2	39	Funds appropriated to the President: Oil import reduction program (energy conservation)	272		10	110
76	351	484	Department of Energy: Energy conservation	272	378	465	569
7	6	3	Economic regulation	276	11	3	3
100	114	134	Tennessee Valley Authority (shared revenue)	271			
183	472	660	Total, energy	270	389	478	682
			Natural resources and environment:				
			Department of Agriculture:				
123	57	55	Watershed planning and flood prevention	301	49	48	47
2			Conservation operations	302	2		
16	12	21	Resource conservation and development	302	11	15	19
50	39	30	Forest management, protection and utilization	302	50	39	31
18	16	16	Youth conservation corps	302	18	16	16
			Department of Commerce:				
27	62	58	NOAA—Coastal zone management	302	60	64	45
43	50	59	NOAA—Operations research and facilities	306	43	50	59

	70	70	Department of the Interior:				
239	222	235	Urban park and recreation grants.....	303	19	121	121
96	97	98	Land and water conservation fund	303	370	312	320
37	39	33	Fish and Wildlife grants.....	303	121	137	137
12	33	71	Historic preservation.....	303	59	53	43
*	*	*	Office of Surface Mining, Reclamation, and Enforcement	302	47	67	101
			Bureau of Mines.....	306			
198	198	222	Environmental Protection Agency:				
8	10	15	Abatement and control	304	335	289	299
3,756	3,900	3,950	Enforcement.....	304	9		
3	16	23	Sewage treatment plant construction	304	4,200	3,400	3,700
			Water Resources Council.....	301	3	21	30
4,630	4,821	4,957	Total, natural resources and environment	300	5,396	4,633	4,969
			Agriculture:				
			Department of Agriculture:				
99	111	119	Cooperative research.....	352	103	112	116
273	262	276	Extension activities	352	275	286	298
84	133	117	Commodity Credit Corporation—Donations	351	84	133	117
1	3		Agricultural Marketing Service—Cooperative Projects in Marketing.....	352	2	2	
456	509	512	Total, agriculture.....	350	464	532	531
			Commerce and housing credit:				
	4	2	Department of Agriculture: Rural housing supervisory assistance.....	371	2	2	2
12	3	2	Department of Commerce:				
			Minority business development	376	2	2	2
12	7	4	Total, commerce and housing credit.....	370	5	4	4

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—OUTLAYS AND BUDGET AUTHORITY—Continued

(In millions of dollars)

1979 actual	1980 estimate	1981 estimate	Function, agency and program	Func- tional code ¹	1979 actual	1980 estimate	1981 estimate
OUTLAYS					BUDGET AUTHORITY		
			Transportation:				
			Funds appropriated to the President:				
	100	605	Oil import reduction program (mass transit)	401		1,276	1,472
			Department of Commerce:				
1	1	1	Maritime Administration	403	1	1	1
			Department of Transportation:				
4	2		State boating safety assistance	403	5		
556	620	665	Airport and airway trust fund	402	644	650	700
22	24	21	Highway beautification	401	12	8	6
193	133	128	Off-systems road programs	401	25	54	
27	21	16	Highways crossing Federal projects	401	16	14	
6,825	7,568	7,675	Federal aid highways (trust fund)	401	7,821	8,435	8,872
23	22	24	Highway related safety grants	401	24	24	24
71	112	131	Other highway aid	401	179	72	35
169	172	193	National Highway Traffic Safety Administration	401	178	198	262
53	86	72	Federal Railroad Administration	401	69	84	87
2,408	2,538	2,644	Urban Mass Transportation Administration	401	2,300	2,098	3,739
2	3	3	Research and special programs	407	3	3	3
84	111	83	Washington Metropolitan Area Transit Authority	401	61	66	66
10,438	11,513	12,260	Total, transportation	400	11,338	12,982	15,267
			Community and regional development:				
			Funds appropriated to the President:				
297	296	326	Appalachian regional development programs	452	373	348	360
224	203	197	Disaster relief	453	350	260	176
			Department of Agriculture:				
11	12	12	Rural development grants	452	10	10	10

287	301	303	Rural water and waste disposal.....	452	282	300	284
4	7	7	Rural development planning.....	452	5	7	5
3	4	2	Rural community fire protection grants.....	452	4	4	.....
			Department of Commerce:				
345	437	677	Economic development assistance.....	452	409	951	924
1,741	358	200	Local public works.....	452	11	.....	.....
10	2	2	Drought assistance program.....	453	.....	.....	.....
3	9	3	NOAA—Coastal energy impact fund.....	452	.....	.....	.....
64	68	69	Regional Development Program.....	452	64	72	71
			Department of Energy:				
.....	10	62	Energy conservation.....	452	20	50	150
			Department of Housing and Urban Development:				
3,161	3,500	3,805	Community development block grants.....	451	3,750	3,900	3,950
298	260	175	Urban renewal.....	451	.....	.....	.....
38	39	21	Other categorical programs replaced by block grants.....	451	.....	.....	.....
73	180	365	Urban development action grants.....	451	400	675	675
62	56	45	Comprehensive planning grants.....	451	53	42	40
*	2	2	New Communities Development Corporation.....	451	—8	.....	—1
*	9	10	Neighborhood self-help program.....	451	5	10	15
18	18	19	Department of the Interior: Bureau of Indian Affairs.....	452	18	18	19
3	5	3	Federal Emergency Management Agency.....	453	3	5	3
.....	12	13	Neighborhood Reinvestment Corporation.....	451	.....	12	13
6,641	5,786	6,318	Total, community and regional development.....	450	5,748	6,663	6,694
			Education, training, employment, and social services:				
			Department of Commerce:				
2	12	.....	Job opportunities program.....	504	.....	.....	.....
9	21	23	Public communications facilities, planning and construction.....	503	18	24	24
			Department of Education:				
3,115	3,387	3,658	Elementary and secondary education.....	501	3,649	3,719	4,968
57	66	79	Indian education.....	501	68	72	97
858	737	453	School assistance in federally affected areas.....	501	740	722	402

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—OUTLAYS AND BUDGET AUTHORITY—Continued

(In millions of dollars)

1979 actual	1980 estimate	1981 estimate	Function, agency and program	Func- tional code ¹	1979 actual	1980 estimate	1981 estimate
OUTLAYS					BUDGET AUTHORITY		
315	296	317	Equal educational opportunities.....	501	338	320	349
255	273	249	Library and learning resources.....	503	265	250	258
456	641	819	Education for the handicapped.....	501	822	900	947
.....	450	957	Rehabilitation services and handicapped research.....	506	.....	396	964
769	850	900	Vocational and adult education.....	501	779	891	914
62	77	77	Student financial assistance ²	502	77	77	77
24	21	13	Higher and continuing education.....	502	24	43	4
80	34	.....	Special projects and training.....	503	95	26	.....
.....	84	164	School improvement programs.....	501	.....	146	186
4	4	5	American Printing House for the Blind.....	501	4	4	5
			Department of Health and Human Services:				
625	716	779	Child development.....	501	688	747	837
372	352	371	Work incentives.....	504	372	352	371
3,091	3,108	3,150	Social services regular program.....	506	3,088	3,182	3,233
1,520	1,143	802	Youth, aging, and related programs.....	506	1,583	1,304	842
7	7	8	Department of the Interior: Bureau of Indian Affairs, Indian education programs.....	501	7	7	8
			Department of Labor:				
5,397	6,163	6,819	Employment and training assistance.....	504	6,200	5,716	7,318
35	53	61	Community service employment for older Americans.....	504	38	65	62
3,285	1,926	1,978	Temporary employment assistance.....	504	3,404	1,627	2,044
65	22	24	Grants for employment services.....	504	22	22	24
610	728	793	Unemployment trust fund: employment service.....	504	698	719	793
543	.....	.....	Department of the Treasury: Social services—retroactive claims.....	506	543	.....	.....
553	523	511	Community Services Administration.....	506	511	503	504
120	152	162	Corporation for Public Broadcasting.....	503	120	152	162
22	20	22	National Foundation on the Arts and Humanities.....	503	24	23	24
22,249	21,865	23,195	Total, education, training, employment, and social services.....	500	24,176	22,009	25,418

			Health:				
1	*		Special Action Office for Drug Abuse Prevention.....	554			
30	30	32	Department of Agriculture: Food Safety and Quality Service—Meat and Poultry.....	554	30	30	32
			Department of Health and Human Services:				
913	940	914	Health Services Administration ²	551	985	1,080	1,071
89	101	106	Center for Disease Control.....	551	101	99	162
5	9	17	Center for Disease Control.....	552	9	12	13
594	613	653	Alcohol, Drug Abuse, and Mental Health Administration ²	551	654	698	736
216	192	189	Health Resources Administration.....	551	183	159	171
78	117	92	Health Resources Administration.....	553	120	82	70
12,407	14,160	15,768	Medicaid ²	551	13,125	14,514	16,382
			Department of Labor:				
39	40	41	Occupational Safety and Health Administration.....	554	42	42	44
6	6	6	Mine Safety and Health Administration.....	554	6	6	6
<u>14,377</u>	<u>16,209</u>	<u>17,817</u>	Total, health	550	15,256	16,722	18,688
			Income security:				
		1,735	Funds appropriated to the President: Low income energy assistance ²	604			1,735
186	1,256		Community Services Administration: Low income energy assistance ²	604	189	1,193	
			Department of Agriculture:				
6	8	20	Rural housing for domestic labor ²	604	33	25	25
5	5	8	Mutual and self-help housing ²	604	14	5	
270	298	365	Food Safety and Quality Service—Funds for strengthening markets, income and supply—donations (child nutrition) ²	604	219	306	385
324	350	389	Food stamps—administration ²	604	316	370	409
130	145	102	Special milk program ²	604	138	149	107
2,732	3,161	2,961	Child nutrition program ²	604	2,668	3,289	3,139
542	732	900	Special supplemental food program (WIC) ²	604	567	755	968
64	104	126	Food donations ²	604	70	106	129
			Department of Health and Human Services:				
41	45	45	Supplemental security income ²	604	41	45	45

Table H-11. FEDERAL GRANTS TO STATE AND LOCAL GOVERNMENTS—OUTLAYS AND BUDGET AUTHORITY—Continued

(In millions of dollars)

1979 actual	1980 estimate	1981 estimate	Function, agency and program	Func- tional code ¹	1979 actual	1980 estimate	1981 estimate
OUTLAYS					BUDGET AUTHORITY		
6,584	7,005	7,385	Public assistance—maintenance ²	604	6,656	7,270	7,502
132	408	517	Refugee assistance ²	604	225	512	592
Department of Housing and Urban Development:							
2,119	2,878	3,591	Subsidized housing programs ²	604	13,834	17,381	20,019
654	773	811	Operation of housing projects ²	604	727	794	862
.....	4	6	Congregate services program ²	604	10	10	.....
952	1,194	1,335	Department of Labor: Unemployment trust fund: administration of payments ²	603	996	1,055	1,335
14,740	18,364	20,298	Total, income security	600	26,701	33,266	37,252
Veterans benefits and services:							
Veterans Administration:							
35	37	45	Medical care ²	703	35	37	45
1	1	*	Medical administrative expenses.....	703	1	1	.....
14	10	10	Grants for construction of State nursing homes ²	703	10	8	15
37	37	21	Health training.....	703	37	.....	.....
.....	2	5	Veterans cemetery construction.....	705	.....	5	5
86	86	82	Total, veterans benefits and services	700	82	50	65
Administration of justice:							
.....	1	6	Department of Housing and Urban Development: Fair housing assistance.....	751	.....	4	6
Department of Justice:							
8	8	8	National Institute of Corrections.....	754	8	8	8
497	446	452	Criminal justice assistance.....	754	515	384	456
.....	2	6	Research and statistics.....	754	.....	6	6
12	15	19	Equal Employment Opportunity Commission.....	751	15	15	20
517	473	491	Total, administration of justice	750	539	416	496

General government:							
Department of the Interior:							
77	65	100	Administration of Territories	806	51	86	99
105	111	94	Trust Territory of the Pacific Islands	806	113	120	79
19	18	20	Office of Personnel Management (intergovernmental personnel assistance)	806	20	20	20
202	194	214	Total, general government	800	185	226	199
General purpose fiscal assistance:							
241	279	320	Department of Agriculture: Forest Service (shared revenue)	852	241	279	320
6	5	5	Department of Defense: Flood Control Act (shared revenue)	852	5	5	5
Department of the Interior:							
105	108	111	Payments in lieu of taxes	852	105	108	111
300	362	428	Miscellaneous (shared revenues)	852	300	362	428
4	8	13	Fish and Wildlife Service	852	5	8	13
.....	83	42	Payments to U.S. territories	852	.....	83	42
27	10	.....	Internal revenue collections for the Virgin Islands (shared revenues)	852	27	2	.....
Department of the Treasury:							
214	78	84	Customs receipts for Puerto Rico and the Virgin Islands (shared revenue)	852	214	78	84
213	220	225	Internal revenue collections for Puerto Rico (shared revenues)	852	214	220	225
6,848	6,863	6,857	General revenue sharing	851	6,855	6,855	6,855
.....	250	1,000	Targeted and antirecession fiscal assistance	852	.....	375	1,000
*	2	.....	Antirecession financial assistance fund	852	.....	.....	.....
275	301	361	Federal payment to the District of Columbia	852	275	301	361
8,233	8,569	9,446	Total, general purpose fiscal assistance	850	8,240	8,676	9,444
82,858	88,945	96,312	Total, grants-in-aid	98,607	106,715	119,768	

*\$500 thousand or less.

¹ For a description of these codes, see Table 13 in the *Budget of the United States Government, 1981*.

² Programs included in the "Grants for payments to individuals" category shown in Table H-7.

Table H-12. CREDIT ASSISTANCE TO STATE AND LOCAL GOVERNMENTS ¹

(In millions of dollars)

Function, agency and program		Direct loans			Guaranteed loans		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Natural resources and environment:							
Department of the Interior: Drought emergency loan fund	New loans	1	*	.....	.....	.....	.....
	<i>Net loans</i>	8	*	-1	.....	.....	.....
	Outstandings	30	30	29	.....	.....	.....
Agriculture:							
Department of Agriculture:							
Agriculture credit insurance fund	New loans .....	.....	.....	.....	8	9	10
	<i>Net loans</i>	-1	-1	*	3	3	3
	Outstandings	2	1	1	11	14	17
Commerce and housing credit:							
Department of Agriculture:							
Rural housing insurance fund	New loans	7	12	13	7	8	17
	<i>Net loans</i>	9	2	-7	4	2	10
	Outstandings	8	10	3	32	34	44
Transportation:							
Federal aid highways (trust fund)	New loans .....	.....	.....	.....	.....	.....	.....
	<i>Net loans</i>	-100	.....	.....	.....	.....	.....
	Outstandings .....	.....	.....	.....	.....	.....	.....
Right-of-way revolving fund	New loans .....	.....	.....	.....	.....	.....	.....
	<i>Net loans</i> .....	*	.....	.....	.....	.....	.....
	Outstandings	161	161	161	.....	.....	.....
Urban mass transportation fund	New loans .....	.....	.....	.....	.....	.....	.....

	<i>Net loans</i>						
	Outstandings	47	47	47	997	997	997
Other programs	New loans						
	New loans	*	*	*			
	Outstandings	8	8	8			
Total, transportation	New loans						
	<i>Net loans</i>	-101					
	Outstandings	216	216	216	997	997	997
Community and regional development:							
Department of Agriculture:							
Rural development insurance fund	New loans	574	691	790	772	1,136	1,333
	<i>Net loans</i>	4	-97	-64	544	755	813
	Outstandings	244	147	83	3,132	3,887	4,700
Department of Commerce:							
Coastal energy impact fund	New loans	8	49	49			
	<i>Net loans</i>	8	49	49			
	Outstandings	8	57	107			
Department of Housing and Urban Development:							
Urban renewal programs	New loans	168	52	15	43	30	145
	<i>Net loans</i>	-17	-18	-5	-325	-227	-215
	Outstandings	23	5		466	239	23
Revolving fund (liquidating programs)	New loans	3	3	4			
	<i>Net loans</i>	-14	-15	-16			
	Outstandings	499	484	468			

Table H-12. CREDIT ASSISTANCE TO STATE AND LOCAL GOVERNMENTS ¹—Continued

(In millions of dollars)

Function, agency and program		Direct loans			Guaranteed loans		
		1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Community development loans.....	New loans				12	165	290
	Net loans				12	162	264
	Outstandings				12	174	437
Other programs	New loans	7	2				
	Net loans	9	-2	-4			
	Outstandings	116	114	110			
Total, community and regional development.....	New loans	759	798	858	826	1,331	1,768
	Net loans	-11	-82	-39	231	690	861
	Outstandings	890	808	768	3,610	4,300	5,161
Education, training, employment and social services:							
Department of Health, Education, and Welfare:							
Student loan insurance fund	New loans	32	15	5			
	Net loans	32	15	5			
	Outstandings	56	71	76			
Student financial assistance.....	New loans		*				
	Net loans		*				
	Outstandings	20	20	20			
Higher and continuing education.....	New loans						
	Net loans				-15	-16	-17
	Outstandings				979	962	945
Higher education facilities loan fund.....	New loans	4	3	3			
	Net loans	-10	-11	-11			
	Outstandings	431	420	409			
Total education, training, employment and social services	New loans	37	18	8			
	Net loans	23	4	-6	-15	-16	-17
	Outstandings	507	511	505	979	962	945

Table H-12. CREDIT ASSISTANCE TO STATE AND LOCAL GOVERNMENTS ¹—Continued

(In millions of dollars)

Function, agency and program	Direct loans			Guaranteed loans		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Health:						
Department of Health, Education, and Welfare:						
Medical facilities guarantee and loan fund.....						
New loans						
<i>Net loans</i>		*	*	-4	-4	-4
Outstandings	22	22	21	168	164	160
Income security:						
Department of Housing and Urban Development:						
Low-rent public housing						
New loans	277	300	300	9,451	10,000	10,825
<i>Net loans</i>	9			483	200	2,000
Outstandings	56	56	56	15,050	15,250	17,250
General Government:						
Department of the Interior:						
Administration of territories						
New loans		2	1		10	
<i>Net loans</i>	-1	1	*	*	9	-38
Outstandings	35	37	36	58	67	29
General purpose fiscal assistance:						
Department of the Treasury:						
New York City loan guarantees.....						
New loans				500	250	
<i>Net loans</i>				500	226	-47
Outstandings				500	726	679
Loans to the District of Columbia						
New loans	141	185	174			
<i>Net loans</i>	118	81	148			
Outstandings	1,434	1,515	1,663			
Grand total	1,222	1,316	1,354	10,793	11,608	12,620
<i>Net loans</i>	54	5	94	1,201	1,110	2,768
Outstandings	3,200	3,205	3,299	21,404	22,514	25,282

¹ Only direct loans are included in budget outlays. New direct loans 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" in the *Special Analyses* volume of the 1981 Budget.

SPECIAL ANALYSIS I

CIVILIAN EMPLOYMENT IN THE EXECUTIVE BRANCH

Total Federal employment in the executive branch (including the Postal Service) is estimated to be 2,768,300 at the end of 1981. Of this number, full-time permanent employment accounts for about 88%. The remainder is made up of part-time employees, intermittent employees (those employed on an irregular basis), and full-time temporary employees (generally, in positions occupied for less than 1 year). Unless noted otherwise, the 1981 estimates in this analysis—for total executive branch employment—reflect the fractional counting of part-time permanent positions (based on the average number of hours per regularly scheduled workweek)—as required by the Federal Employees Part-Time Career Employment Act of 1978 (Public Law 95-437).

Full-time permanent employment in the executive branch at the end of 1981 is estimated to be 1,909,000, excluding 532,100 Postal Service employees, who are not under the President's jurisdiction. (This group is discussed in greater detail under "Full-Time Permanent Civilian Employment.")

EMPLOYMENT LIMITATION

As a part of the Civil Service Reform Act of 1978 (section 311), the Congress placed an employment limitation on the executive branch. The limitation requires that "The total number of civilian employees in the executive branch on September 30, 1979, on September 30, 1980, and on September 30, 1981, shall not exceed the number of such employees on September 30, 1977." It includes all civilian employees within the executive branch of the Government (other than the United States Postal Service and the Postal Rate Commission), whether employed on a full-time, part-time, or intermittent basis. It also includes those employed on an indirect hire basis under master labor contracts with foreign governments. (The latter applies to the Defense Department.) The limitation excludes employment programs established for students and disadvantaged youth.

The statutory limitation also provides that the President may authorize employment in excess of the limitation if he deems that such action is necessary in the public interest. The upper limit of this additional flexibility is restricted to the percentage increase of the U.S. population since September 30, 1978, as estimated by the

Bureau of the Census. Using this criterion, the September 30, 1979, employment level could exceed that for September 30, 1977, by about 16,000 positions (0.7%). Another 16,000 positions could be added by September 30, 1980 and an additional 21,000 positions (0.9%) could be added by September 30, 1981—while remaining within the statutory limit.

Finally, the law provides that the number of part-time employees in excess of the number of such employees on September 30, 1977, may be counted on a full-time equivalent basis. Since this calculation will yield a smaller number than an actual count of such employees on a specific date, this provision would permit additional part-time employees to be added to the allowable executive branch totals.

The basis for determining the actual statutory limitation is the Monthly Report of Civilian Employment published by the Office of Personnel Management. A derivation of the statutory limitation on total employment follows:

Executive branch total employment, as of September 30, 1977	2,789,057
Less:	
U.S. Postal Service.....	- 657,832
Postal Rate Commission	- 81
Special employment programs—primarily disadvantaged youth	- 23,406
Plus:	
Indirect hires (Department of Defense)	83,383
Statutory limitation on total employment:	
Unadjusted for population growth	2,191,121

As indicated in the table below, on September 30, 1979, executive branch employment subject to the limitation was below the statutory limit, adjusted for growth in the U.S. population. The President determined this to be in the public interest.

	September 30		
	1979 actual	1980 estimate	1981 estimate
Statutory limitation on total employment, adjusted for population growth.....	2,207,121	2,223,121	2,244,121
Actual and planned employment	¹ 2,203,901	² 2,210,700	² 2,197,500
Difference	3,220	12,421	46,621

¹ Includes an allowable adjustment for part-time employees, added since September 30, 1977, on a full-time equivalent basis.

² End of year estimated count. Does not reflect adjustments for fractional counting of other than permanent positions.

The estimate for executive branch employment for 1980 is also within the permissible upper limit that results when population growth is taken into account. The 1981 estimate (unadjusted for fractional counting of part-time permanent positions), is slightly above the September 30, 1977, level. The President, in approving the employment estimates for 1980 and 1981, has determined that

use of a portion of the increase in employment permitted under the statutory provisions is necessary in the public interest.

TOTAL FEDERAL EMPLOYMENT

Table I-1, "Total Federal Employment," shows Government-wide Federal civilian employment exclusive of the indirect hire component of the statutory limitation, since indirect hire employees are not Federal employees. Estimates for indirect hire employment are, however, reflected in a footnote. Information on Postal Service employment (including that of the Postal Rate Commission) is also shown, together with data for the legislative and judicial branches and for active duty military personnel.

Table I-1. TOTAL FEDERAL EMPLOYMENT

Description	September 30		
	1979 actual	1980 estimate	1981 estimate
Civilian employment in the executive branch:			
Full-time permanent (including lapse)	1,893,391	1,910,300	1,909,000
Other than full-time permanent	240,797	221,900	199,300
Subtotal (including lapse)	2,134,188	2,132,200	2,108,300
Postal Service:			
Full-time permanent	532,627	531,800	532,100
Other than full-time	129,246	125,300	103,900
Subtotal	661,873	657,100	636,000
Exempt from ceilings ¹	26,591	25,000	24,000
Subtotal, executive branch civilian employ- ment ^{2 3}	2,822,652	2,814,300	2,768,300
Military personnel on active duty: ⁴			
Department of Defense	2,024,444	2,045,200	2,059,100
Department of Transportation (Coast Guard)	38,565	39,500	39,500
Subtotal, military personnel	2,063,009	2,084,700	2,098,600
Total, executive branch employment	4,885,661	4,899,000	4,866,900
Legislative and judicial personnel: ⁵			
Full-time permanent	31,834		
Other than full-time permanent	21,386		
Subtotal, legislative and judicial branches	53,220		
Grand total	4,938,881		

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 foreign nationals working under master labor contracts overseas. Actual employment for 1979 was 75,317; such employment is estimated to be 78,500 for 1980 and 79,300 for 1981.

³ For 1981, reflects fractional counting of part-time permanent positions, pursuant to the provisions of Public Law 95-437.

⁴ Excludes reserve components.

⁵ 1980 and 1981 estimates are not available for the legislative and judicial branches.

Note that within the sub-total for executive branch civilian employment, the "other than full-time permanent" entries for 1981

include adjustments to account for part-time permanent positions on a fractional basis, as required by the Federal Employees Part-Time Career Employment Act of 1978 (Public Law 95-437).

FULL-TIME EQUIVALENT EMPLOYMENT

In September of 1977, the President directed executive branch agencies to establish programs that would provide more opportunities for persons unable to work full-time by expanding employment opportunities for part-time permanent workers. In addition, the Office of Management and Budget and the Office of Personnel Management were directed to conduct an experiment with full-time equivalent (FTE) controls in a few agencies.

The selected agencies were given new 1979 employment ceilings stated in terms of full-time equivalents (FTE's), i.e., workyear ceilings. Commencing with the beginning of 1979, (October 1, 1978) these agencies began to measure and report on their employment in terms of the number of hours worked.

The experiment was designed to accomplish two objectives: (1) To break down artificial barriers that may have inhibited the employment of permanent part-time workers; and (2) to determine whether FTE controls can improve personnel management, overcome some of the other difficulties under the existing end-of-year control system, and, at the same time, not add significantly to the size of the Federal work force.

Preliminary findings indicate that, within the five test agencies, progress is being made toward achievement of both of the experiment's goals. The results have been sufficiently encouraging to expand the group to include five cabinet level agencies during 1981. Beginning with 1982, the entire executive branch will be shifted to a system of FTE controls.

In the meantime, with the objective of increasing the number of part-time career employees in the Federal Government, the Federal Employees Part-Time Career Employment Act of 1978 requires that employment for part-time career employees be controlled on a fractional basis, commencing on October 1, 1980. As indicated in the discussion of table I-1, the 1981 employment estimates reflect the requirements of that act.

FULL-TIME PERMANENT CIVILIAN EMPLOYMENT

This part of the analysis of Federal civilian employment identifies full-time permanent employment separately from total employment (which includes part-time employees, intermittent employees, and full-time temporary employees, as well as full-time permanent employees). Excluding Postal Service employment, which by law is not subject to Presidential control, and excluding other employment exempted from ceilings, full-time permanent employment in the executive branch on September 30, 1979, was 1,893,391, a de-

crease from the preceding year of about 28,300. As of September 30, 1980, such employment is estimated to be 1,910,300. For September 30, 1981, the corresponding estimate is 1,909,000.

Table I-2 shows actual 1979 full-time permanent employment and estimated 1980 and 1981 employment for the major departments and agencies of the executive branch. The table also contains an estimate of the anticipated lapse to take account of the fact that, on a Government-wide basis, end-of-year employment has ranged, over the past 10 years, from 0.3% to 2.3% below the budget estimates. The estimates for 1980 and 1981 anticipate lapses of slightly under 0.7% for full-time permanent employment.

Table I-2. SUMMARY OF FULL-TIME PERMANENT CIVILIAN EMPLOYMENT IN THE EXECUTIVE BRANCH ¹

(Excluding the Postal Service)

Agency	As of September 30			Change 1980-81
	1979 ^a actual	1980 estimate	1981 estimate	
Agriculture	83,899	85,200	85,100	-100
Commerce	29,127	30,800	31,200	400
Defense—military functions.....	885,990	886,000	885,000	-1,000
Defense—civil functions.....	28,592	28,400	28,400	.....
Education .....	.....	6,100	6,000	-100
Energy.....	19,005	20,300	20,300	.....
Health, Education, and Welfare.....	141,945	.....	.....	.....
Health and Human Services.....	.....	140,900	138,800	-2,100
Housing and Urban Development	16,101	16,000	16,000	.....
Interior.....	54,343	55,100	55,300	200
Justice.....	52,743	55,700	55,400	-300
Labor.....	22,148	23,000	22,700	-300
State.....	22,130	21,900	22,000	100
Transportation.....	70,166	71,700	72,200	500
Treasury.....	109,382	111,400	112,000	600
Environmental Protection Agency.....	10,153	11,000	11,200	200
National Aeronautics and Space Administration.....	22,633	22,600	22,700	100
Veterans Administration.....	193,641	201,900	200,800	-1,100
Other:				
Agency for International Development.....	5,753	.....	.....	.....
General Services Administration.....	32,787	34,700	34,900	200
International Communication Agency.....	8,020	8,400	8,400	.....
International Development Cooperation Agency.....	.....	5,900	5,800	-100
Nuclear Regulatory Commission.....	2,839	3,100	3,400	300
Office of Personnel Management.....	6,276	6,600	6,600	.....
Panama Canal Commission.....	11,666	8,300	8,300	.....
Small Business Administration.....	4,372	4,700	4,700	.....
Tennessee Valley Authority.....	17,065	17,700	17,700	.....
Miscellaneous.....	42,615	45,300	45,100	-200
Subtotal.....	1,893,391	1,922,600	1,920,000	-2,600
Contingencies ^a.....	.....	700	2,000	1,300
Subtotal.....	1,893,391	1,923,300	1,922,000	-1,300
Expected lapse.....	.....	-13,000	-13,000	.....
Total.....	1,893,391	1,910,300	1,909,000	-1,300

¹ Excludes developmental positions under the worker-trainee opportunity program (WTOP) as well as certain statutory exemptions.

² The 1979 column reflects the organizational structure as of September 30, 1979. Beginning with the 1980 column, the table reflects the changes from the Department of Health, Education, and Welfare to the Departments of Education and Health and Human Services. The table also reflects the change from the Agency for International Development to the International Development Cooperation Agency.

³ Subject to later distribution.

In keeping with the President's goal to hold 1980 and 1981 full-time permanent employment below the level of January 31, 1977 (1,911,900) and under the provisions of the statutory limitation prescribed by the Civil Service Reform Act, some agencies shown are experiencing declines in planned employment—in some cases to a level at or below that of 1979.

Reductions in full-time permanent employment between the end of 1980 and 1981 are planned in the following major agencies:

- *The Department of Defense (military functions).*—A decrease of 1,000 reflects the Department's estimate of the activities that will be converted to contract when lower costs result. Workload increases in such areas as naval shipyards and the Defense agencies will offset some of the reductions anticipated.
- *The Department of Education.*—Section 403 of the Department of Education Organization Act requires that the number of full-time equivalent positions in the Department be reduced by 500 by the end of 1981. One hundred of that reduction will be taken in full-time permanent positions, the remaining 400 from temporary, part time, and intermittent positions.
- *The Department of Health and Human Services.*—Employment will decrease in 1981 by 2,100. The decrease results from the proposed creation of a public corporation to manage St. Elizabeth's Hospital. Partly offset by increases provided for the Public Health Service (primarily the National Health Service Corps), to strengthen civil rights enforcement, and for administration of the medicare/medicaid programs.
- *The Department of Justice.*—A net decrease of 300 positions is planned. The Federal Bureau of Investigation will be reduced by about 300 clerical employees who were temporarily authorized for a special 3-year project that is now complete. Also, the FBI is planning to make more extensive use of part-time clerical personnel. A legislative initiative to transfer the service of process to the private sector will enable the U.S. Marshals Service to reduce 200 positions, and a declining number of prison inmates will reduce the need for prison staff by about 60 positions. More than 100 border patrol agents will be added to the Immigration and Naturalization Service, and litigative staff will grow by 70 positions.
- *The Department of Labor.*—Employment will decline by about 300, of which 200 reflect the departure of term employees as excessive backlogs are reduced in the administration of workers' compensation for Federal employees. The remainder re-

flects miscellaneous workload reductions or operating efficiencies.

- *The Veterans Administration.*—A net decrease of 1,100 end-of-year positions will result from a continuing decline in requests for services under the GI bill, increased office automation, and reductions of seasonal hiring peaks for medical care personnel that occur near the end of the fiscal year. Full-time equivalent staffing of VA medical facilities will continue to increase in 1981.

Over the same time period, increases are planned for:

- *The Department of Commerce.*—The Department will increase by about 400 positions to support the expanded program activities of the Economic Development Administration, export promotion efforts, implementation of the President's industrial innovation initiatives, and improvements in the operations and services of the Patent and Trademark Office. The acquisition of the Smithsonian Science Information Exchange is also reflected.
- *The Department of the Interior.*—An increase of about 200 positions is planned, chiefly to support preparations for oil and gas leasing in the National Petroleum Reserve in Alaska, implementation of the Surface Mining Act, resumption of coal leasing and improved supervision of oil and gas leasing on Federal and Indian lands, and operation of new national parks and refuges in Alaska. A portion of these increases is offset by decreases elsewhere in the Department.
- *The Department of Transportation.*—An increase of approximately 500 positions is primarily for the Federal Aviation Administration for more air traffic controllers to meet increasing aviation activity and for more aircraft and aviation safety inspectors. An increase of 60 positions for the Urban Mass Transportation Administration is associated with the recent and proposed rapid growth in the size, complexity, and number of Federal grants for public transportation projects.
- *The Department of the Treasury.*—A net increase of 600 positions is planned. The increase is composed of 700 additional positions in the Internal Revenue Service, partially offset by a reduction of 100 positions in other bureaus within the Department. The additional IRS positions will strengthen the effort to collect taxes that are due but unpaid, and to follow up on information concerning persons who have failed to file tax returns.
- *The Environmental Protection Agency.*—An increase of 200 positions is distributed throughout the agency, but chiefly for research and development, implementation of regulations, and the enforcement of the hazardous waste regulatory program.

- *The General Services Administration.*—An increase of 200 positions is for additions to the Office of the Inspector General, the transfer of the Federal Procurement Data Center from the Department of Defense, strengthening of the contracting and deregulation efforts in the area of personal property management, enhancement of regional management capabilities, for the conversion of historic archival film from nitrate-based to safety film, and for the expansion of business service centers and Federal information centers to additional locations.
- *The Nuclear Regulatory Commission.*—An increase of about 300 positions is planned, chiefly as a result of expanded activity in the inspection and enforcement functions as well as in research and technical support. Much of this increase results from the investigation of the accident at Three Mile Island. One hundred and fifty of these positions reflect the conversion of temporary support personnel to full-time status.

PERSONNEL COMPENSATION AND BENEFITS

Direct compensation of the 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. Related compensation in the form of personnel benefits consists primarily of the Government's share (as employer) of health insurance, term life insurance, and Federal retirement and old-age survivors' disability insurance.

Additional benefits include uniform allowances (when paid in cash), cost-of-living and overseas quarters allowances, and, in the case of uniformed military personnel, reenlistment bonuses.

Obligations for civilian personnel compensation and benefits in 1981 are projected to reach \$54.9 billion, excluding the Postal Service. The estimated costs for civilian and military pay raises for 1981 are covered by lump sum allowances in the 1981 budget.

Under the proposed Federal Employees Compensation Reform Act, compensation for Federal employees under the "General Schedule" and most other statutory pay systems will be adjusted periodically so as to relate to compensation paid for the same work levels in the non-Federal sector. The bases for these adjustments will be annual surveys conducted by the Bureau of Labor Statistics.

The 1981 budget assumes 1981 pay raises for civilian employees of 6.2% and 7.4% for military personnel, reflecting the provisions of the Administration's proposed comprehensive legislation to reform and improve Federal pay-setting systems and procedures. This is reflected in the estimates in the 1981 budget and in table I-3.

Table I-3. PERSONNEL COMPENSATION AND BENEFITS

(In millions of dollars)

Description	1979 actual	1980 estimate	1981 estimate
Civilian personnel costs:			
Executive branch: ¹			
Direct compensation	39,959	43,990	44,361
Personnel benefits ^{2 3}	6,878	7,676	7,767
Subtotal	46,837	51,666	52,128
Legislative and judiciary: ⁴			
Direct compensation	715	855	893
Personnel benefits ³	68	83	87
Subtotal	783	938	980
Allowance for civilian pay raise ⁷			1,787
Total, civilian personnel costs	47,620	52,604	54,895
Military personnel costs: ⁵			
Direct compensation	24,940	26,547	27,204
Personnel benefits ⁶	1,944	2,284	2,483
Subtotal	26,884	28,831	29,687
Allowance for military pay raise ⁷			1,174
Total, military pay costs	26,884	28,831	30,861
Grand total, personnel costs	74,504	81,435	85,756

¹ Excludes the Postal Service, reflecting conversion to independent status, consistent with the Postal Service Reorganization Act of 1970.

² In addition to the employing agency's contributions for the costs of life and health insurance, and retirement, 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 for employees (nonpostal) in the executive branch. The transfers amounted to \$2,441 million in 1979 and are estimated to be \$2,411 million in 1980 and \$2,785 million in 1981.

³ Excludes transfers for interest on unfunded liability for executive, legislative, and judiciary branches, which amounted to \$6,378 million in 1979 and are estimated to be \$7,868 million in 1980 and \$8,795 million in 1981.

⁴ Excludes members and officers of the Congress.

⁵ Excludes reserve components.

⁶ Excludes payments to current military retirees, which amounted to \$10,283 million in 1979 and are estimated to be \$11,452 million in 1980 and \$13,700 million in 1981.

⁷ These allowances assume absorption. Actual combined costs of the 1981 civilian and military pay raises are estimated to be \$4,525 million.

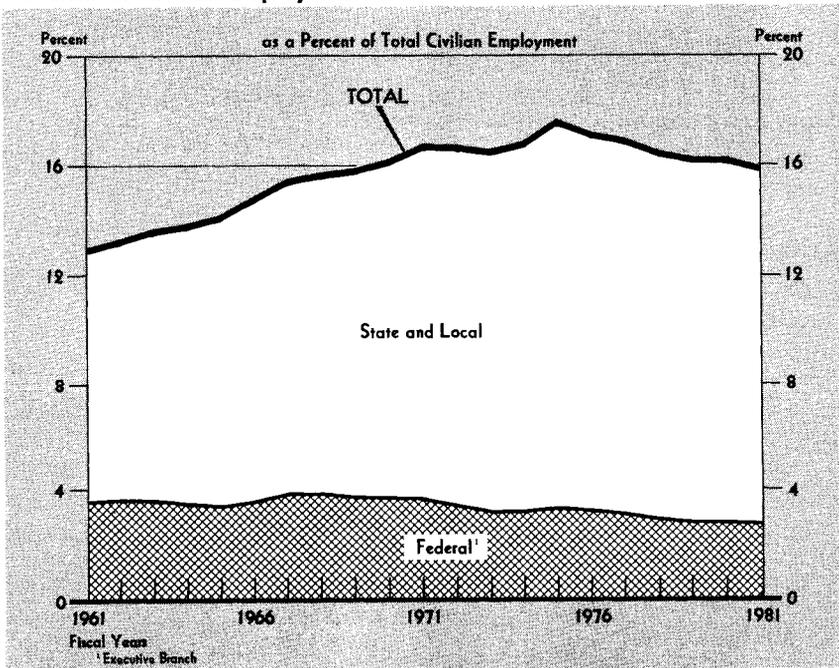
GOVERNMENT EMPLOYMENT AND LABOR FORCE COMPARISONS

As shown on the following chart, Government employment—Federal, State, and local—will comprise about 15.9% of the total employed civilian labor force in 1981.

Within this segment, Federal civilian employment in the executive branch accounts for 2.8% of the total employed civilian labor force in 1981, down from a high of 3.8% in 1968.

The percentage of the total employed civilian labor force attributable to State and local government has grown from 8.8% in 1958 to 13.1% in 1981.

Government Civilian Employment



GOVERNMENT EMPLOYMENT AND POPULATION COMPARISONS

As illustrated in the following chart and in table I-4, the Federal share of total governmental employment has declined significantly over the last three decades, from 38.4% in 1952 to an estimated 17.6% in 1981. Employment for all government has been rising steadily due to increases in State and local government employment.

The ratio of Federal civilian employment to the total U.S. population is expected to be 12.3 per thousand in 1981—which is lower than all of the 31 years displayed in table I-4.

Government Civilian Employment

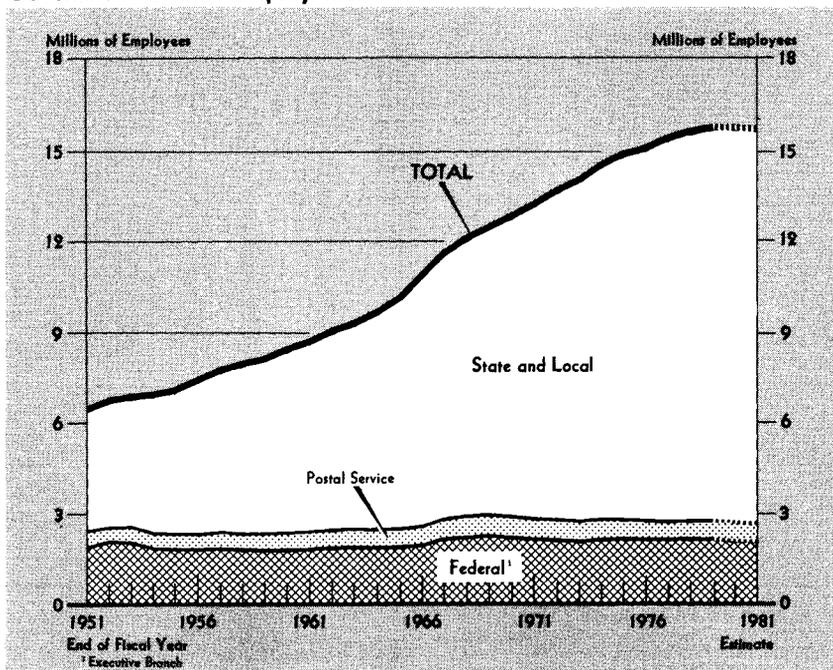


Table I-4. GOVERNMENT EMPLOYMENT AND POPULATION, 1951-81

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
1951 ²	2,456	4,031	6,487	37.9	154,878	15.9
1952.....	2,574	4,134	6,708	38.4	157,553	16.3
1953.....	2,532	4,282	6,814	37.2	160,184	15.8
1954.....	2,382	4,552	6,934	34.4	163,026	14.6
1955.....	2,371	4,728	7,099	33.4	165,931	14.3
1956.....	2,372	5,064	7,436	31.9	168,903	14.0
1957.....	2,391	5,380	7,771	30.8	171,984	13.9
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	204,878	14.4
1971 ²	2,883	10,372	13,255	21.8	207,053	13.9
1972.....	2,823	10,896	13,719	20.6	208,846	13.5
1973.....	2,775	11,286	14,061	19.7	210,410	13.2
1974.....	2,847	11,713	14,560	19.6	211,901	13.4
1975.....	2,848	12,114	14,962	19.0	213,559	13.3
1976.....	2,832	12,282	15,114	18.7	215,152	13.2
1977 ⁵	2,789	12,617	15,406	18.1	217,422	12.8
1978.....	2,820	12,810	15,630	18.0	219,247	12.9
1979.....	2,823	13,002	15,825	17.8	221,180	12.8
1980 (est.) ²	2,814	.....	.....	⁶ 17.8	222,672	12.5
1981 (est.) ^{2 7}	2,768	.....	.....	⁶ 17.6	224,744	12.3

¹ Covers total end-of-year 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 1951 through 1976 are as of June 30; for 1977 through 1981, as of Sept. 30.

⁶ The percentages shown for these years are consistent with reasonable estimates based on recent trends in State and local government.

⁷ Reflects fractional counting of part-time permanent positions, pursuant to the provisions of Public Law 95-437.

Part 3

SELECTED FEDERAL PROGRAMS

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INTRODUCTION

Part 3 furnishes Government-wide program and financial information in selected program areas—civil rights and research and development, designated J and K.

Special Analysis J (Civil Rights Activities) summarizes Federal spending for civil rights activities, concentrating on compliance, investigation, and enforcement efforts.

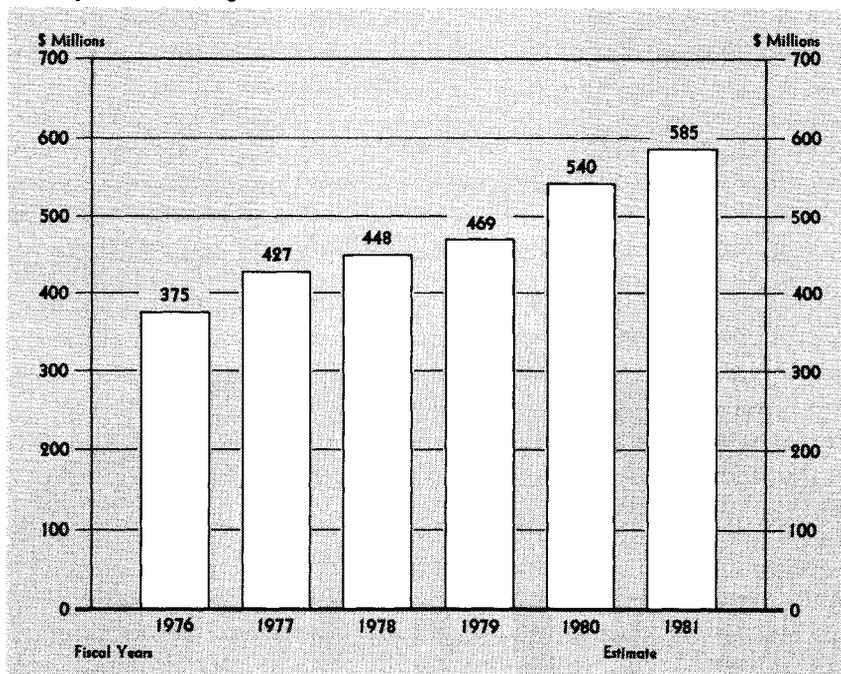
Special Analysis K (Research and Development) identifies Federal programs for the conduct of research and development, and for the support of facilities related to such activities.

SPECIAL ANALYSIS J
CIVIL RIGHTS ACTIVITIES

COVERAGE AND SCOPE OF THE ANALYSIS

This analysis of Federal civil rights activities summarizes the accomplishments of and plans for programs designed to protect individual rights in such areas as voting, public accommodations, fair housing, and equal employment opportunity in the public and private sectors. Also included are Federal programs concerning civil rights research, information dissemination, and the conciliation and prevention of racial disputes. Outlays for these civil rights activities are projected to increase by 25%, from \$469.1 million in 1979 to \$585.0 million in 1981.¹

Outlays for Civil Rights Enforcement



¹ Civil rights activities of the Postal Service, which by law is off-budget, are shown in the table as memorandum entries.

Table J-1. CIVIL RIGHTS OUTLAYS BY PROGRAM CATEGORY

(In millions of dollars)

Program category	1979 actual	1980 estimate	1981 estimate
Civil rights enforcement: ¹			
Federal service equal employment opportunities....	170.4	183.7	194.9
Military services equal opportunities ²	39.7	41.7	42.9
Private sector equal employment opportunities.....	135.5	167.5	189.9
Equal educational opportunity.....	14.8	29.9	40.7
Fair housing ³	15.2	17.3	17.5
Enforcement and investigation ⁴	76.7	82.5	80.7
Civil rights conciliation and prevention of dis- putes.....	5.3	5.3	5.5
Research and information dissemination.....	11.5	12.5	12.9
Total	469.1	540.4	585.0

¹ Civil rights enforcement programs guarantee and protect the basic civil rights as defined by law.² Excludes outlays for contract compliance, fair housing and title VI activities reported elsewhere, includes Coast Guard.³ Excludes funds for contract compliance and departmental personnel who directly administer housing and urban development programs but concern themselves with the objectives of fair housing laws.⁴ Includes all title VI efforts except those included in the Department of Health and Human Services (HHS) and the Department of Education (DE).

Monitoring and oversight responsibility.—On October 1, 1979, the Director of the Office of Management and Budget established an office for civil rights within his office. This component assists the Director of OMB in meeting his responsibility to oversee and coordinate the development of executive branch programs and budget policies and to assure efficient and economical conduct of Government activities. In fulfilling its responsibility, the civil rights office assists other components of OMB in the review of agency programs and budget submissions that affect civil rights activities. The creation of this office will help promote more unified and cohesive civil rights policies within the executive branch, directed at more effective enforcement of the rights of protected classes and the elimination of unnecessary burdens on those subject to regulations.

Federal service equal employment opportunities.—The head of each Federal department and agency is required by Executive Order 11478, section 717 of Title VII of the Civil Rights Act of 1964, Section 501 of the Rehabilitation Act of 1973, and the Civil Service Reform Act of 1978 to refrain from discrimination and to take affirmative action to assure equal employment opportunity for minorities, women and the handicapped. All Government personnel actions must be free from discrimination based on race, color, religion, sex, national origin, age, or handicap. Special procedures are available to Federal employees and other applicants who believe they have received discriminatory treatment in any aspect of the Federal workforce. These procedures include informal counseling through which over 400,000 persons contacted equal employment counselors in 1979. Formal complaints filed with Federal

agencies totaled 10,000 in 1979 and 8,000 were resolved. In 1980, the Equal Employment Opportunity Commission will initiate a pilot program in which it will conduct investigations of employment discrimination filed with selected Federal agencies. The purpose is to develop more effective techniques of investigation and conciliation for the Federal sector and to assist agencies in investigating and resolving complaints. During 1981, EEOC plans to direct increased resources toward consolidating, within the Commission, the investigation of all Federal sector employment discrimination complaints. This process is scheduled for completion in 1982.

Affirmative action by Executive departments and agencies to assure equal employment opportunities for minorities, women and handicapped are documented in written plans which include both goals and timetables for combating patterns and practices of discrimination, and for increasing participation of minorities, qualified handicapped persons and women in the Federal workforce. Careful consideration is to be given to assure that recruitment efforts reach all sources of job candidates, that present employee skills are fully utilized, that upward mobility opportunities are provided, and that supervisors are trained to assume their equal employment opportunity responsibilities.

Outlays for Federal service equal opportunity (including Upward Mobility) are expected to reach \$194.9 million in 1981, and work-years are projected at 9,226.

Under the Intergovernmental Personnel Act of 1970 (IPA), the Office of Personnel Management (OPM) provides technical and financial assistance in personnel management and employee development to State, local, and Indian tribal governments to promote and support equal employment opportunity efforts. During 1979, OPM:

- Awarded \$3.0 million in IPA grant funds to support projects that are designed to improve various aspects of State and local equal employment opportunity efforts;
- Provided technical assistance and advice related to equal employment opportunity to State and local governments;
- Developed and issued a variety of publications for State and local use, aimed wholly or partially at improving equal employment opportunity.

In 1980 and 1981, OPM will continue to provide financial and technical assistance to State and local governments in equal employment opportunity.

OPM also provides services to Federal, State, local, and Indian tribal governments in the following areas:

- Intergovernmental personnel program services in affirmative employment totaled 25 workyears and \$725,000 for 1979. This

is expected to increase to 26 workyears and \$750,000 in 1980 and 1981.

- Training in affirmative employment for 1979 totaled 24.1 work-years and \$1.7 million. This is expected to increase to 27.9 workyears and \$1.9 million for 1980 and to 31.2 workyears and \$2.1 million for 1981.
- Investigations of discrimination complaints totaled 6.0 work-years and \$123,000 for 1979. This activity is estimated at 6.0 workyears and \$112,800 for 1980 and 6.0 workyears and \$122,000 for 1981.

Military services equal employment opportunities.—Each of the military services, including the Coast Guard, has placed equal opportunity officers at various levels within individual command structures. They guide, monitor, and evaluate all matters related to equal opportunity and treatment of military personnel and their dependents, and participate in race relations councils, seminars, and training programs. In 1981, outlays are estimated at \$42.9 million to provide for more than 3,135 workyears for insuring equal opportunities for members of the Armed Forces.

Continued growth in the number of minorities and women is evidence of equal opportunity emphasis in this area. The number of women in the military increased by over 16,500, to nearly 150,000 in 1979, toward a goal of 254,000 women on active duty by 1985. Within the overall gains, there was a rise in the number of women at the Service academies, women participating in ROTC programs, and women receiving ROTC scholarship assistance.

Gains in minority participation in the active forces continue. The percentage of minority enlisted personnel has increased steadily from 20.3% in 1972 to 29.6% in 1979. Participation by minorities in ROTC programs has reached over 20,000 and minority enrollment at Service Academies over 16,000, or 12.4% of total enrollment.

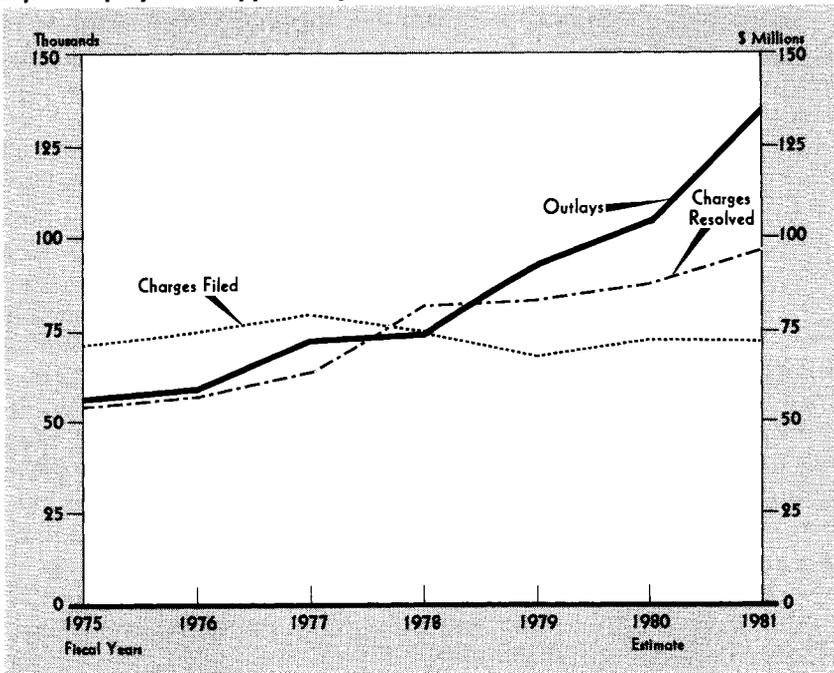
Efforts continue to ensure equitable promotions and job assignments for all military personnel. Thirty-nine minorities and seven women currently hold flag or general officer rank.

The Defense Race Relations Institute was recently renamed the Defense Equal Opportunity Management Institute, to more accurately reflect the Institute's objective to develop graduates trained to deal with such problems as racism and sexism, and to promote cultural awareness, and to develop staff advisors and organizational consultants on equal opportunity matters. The Institute has provided more than 5,000 graduates to the Military Services in its 8 years of operation.

Private sector equal employment opportunities.—Title VII of the Civil Rights Act of 1964, as amended, prohibits discrimination on the basis of race, color, religion, sex, or national origin by employ-

ers, unions, or employment agencies. The Age Discrimination in Employment Act Amendments of 1978 make it unlawful to require or permit the involuntary retirement of any individual because of age. The 1978 amendments to the Age Discrimination in Employment Act expanded coverage by raising the upper age limitation for protection under the Act from 65 to 70 years of age in the private sector and State and local governments, and removed the upper age limit altogether for the Federal sector. Under the Equal Pay Act of 1963, employees are protected from discrimination because of sex with regard to the payment of wages by employers. Executive Order 11246, as amended, requires Federal and federally assisted Government contractors or subcontractors to take affirmative action to avoid and overcome the effects of discrimination. Outlays for administering the programs are expected to reach \$189.9 million in 1981.

Equal Employment Opportunity Commission Activities



Outlays to administer the programs of the Equal Employment Opportunity Commission (EEOC) in 1981 are estimated at \$135.2 million. This amount will provide resources to fund the agency's ongoing program as well as functions transferred in 1979 from the Office of Personnel Management and the Labor Department.

In 1979, EEOC completed a total reorganization of its structure and individual charge processing system. The Commission's plans for 1981 also include (1) reducing the existing backlog of old

charges by 77% and (2) resolving a total 55,000 charges of discrimination. Another 40,000 charges are expected to be resolved by State and local Fair Employment Practices Agencies that have worksharing and funding agreements with the Commission. EEOC will be allocating increased resources in 1981 to enforcement efforts to combat systemic employment discrimination and bring about reform of identified discriminatory practices.

The Office of Federal Contract Compliance Programs (OFCCP) in the Department of Labor is responsible under Executive Orders 11246 and 11375, the Rehabilitation Act of 1973, and the Vietnam Era Veterans Readjustment Assistance Act of 1974 for programs requiring equal employment opportunity and affirmative action by Federal contractors and subcontractors. The basic enforcement tool is the review of contractor facilities to ascertain compliance. This comprehensive review encompasses all aspects of a contractor's hiring and promotion policies for handicapped workers, veterans, minorities, and women. Outlays for the Federal contract compliance program are estimated to reach \$51,790 million in 1980 and \$53,662 million in 1981. During 1980, OFCCP expects to carry out 7,000 compliance actions, and 8,000 in 1981.

Other highlights include:

- The Federal Communications Commission will continue to investigate complaints of employment discrimination by broadcasters, cable television systems, and common carriers; review licensees' annual reports of employment patterns; and foster representation of minorities in the ownership of broadcast facilities. In 1978, the Commission entered into a memorandum of understanding with EEOC to pursue a common goal—the elimination of employment discrimination in the broadcast industry—and to avoid duplication through coordination and cooperation. To date, 35 complaints have been referred to EEOC for processing. In 1979, the Commission revised its classification form to identify those areas where substantive changes are necessary or appropriate and to obtain a more accurate picture of minorities and women in the broadcast field.
- During the first three quarters of 1979, as a result of illegal pay practices, the Employment Standards Administration, in the Department of Labor, found 14,070 workers employed in violation of the Equal Pay Act who were owed \$10.2 million, of which \$6.4 million was remitted by employers to 11,595 employees. The Equal Pay Program was transferred to EEOC on July 1, 1979. During the last quarter of 1979, the Commission received 2,100 complaints under the Pay Act. One thousand were resolved and the remainder carried over into 1980 for further action.

Equal educational opportunity.—The new Department of Education, established under the Department of Education Organization Act of September 21, 1979, and the Department of Justice have the primary responsibility for assuring nondiscrimination in education programs and activities receiving Federal financial assistance. The main objectives are to eliminate inequality in educational opportunities for all students, and to develop a nondiscriminatory employment policy relating to faculty, administrators, and employees in public schools, colleges and universities. The Federal Government continues to help local schools provide equal educational opportunity for Spanish-speaking and other non-English speaking students through special education and bilingual education program grants. Additionally, Federal funds will be used to provide educational opportunities for Indian children and adults, ranging from remedial reading to studies dealing with Indian culture and heritage. In 1981, outlays of \$40.7 millions are proposed to support these activities.

Title IX of the Higher Education Amendments of 1972 prohibits discrimination based on sex in education programs and activities receiving Federal funds. The Department of Education is charged with the administration of this program and plans to spend \$12.5 million to enforce title IX in 1981. In 1979, the Department of Health, Education, and Welfare, which administered title IX, in that year received approximately 8,000 complaints of which 7,400 were resolved. Approximately 20,000 primary recipients of Federal funds are covered by title IX. The Women's Educational Equity Act is intended to develop programs and activities which seek to eliminate sex discrimination, bias, and stereotyping at all levels of education. The Women's Educational Equity program, transferred from the Department of Health, Education, and Welfare to the Department of Education in 1979, is directly responsible for implementation of this Act. In 1981, the program will focus, for the first time, on projects of local significance linked to compliance with title IX.

With the creation of the new Department of Education, resources of the Office for Civil Rights in the former Department of Health, Education, and Welfare, will be divided between the Department of Health and Human Services and the Department of Education on the basis of current workload. Responsibility for assuring compliance with sections 502 and 504 of the Rehabilitation Act of 1973 for education programs has been assigned to the Department of Education. Section 504 prohibits discrimination against persons on

the basis of physical or mental handicap in all federally assisted programs. In 1981, \$13.2 million will be spent by the Department of Education toward implementation of this activity through technical assistance to both recipients and beneficiaries.

Under section 502, the Architectural and Transportation Barriers Compliance Board is authorized to investigate and insure compliance with standards for public architectural, transportation, and communication barriers, including public conveyances, confronting handicapped individuals. In 1981, \$2.1 million is requested which represents a major increase over the amount currently available for 1980.

In April 1979, the Justice Department consolidated its equal education opportunities and housing functions in order to address more effectively the interrelated problems of residential segregation and segregation of public schools. The new combined function has targeted \$3.4 million in 1981 to enforce desegregation of public elementary and secondary schools and to insure nondiscriminatory treatment by all schools including colleges. During 1979, the Department placed a high priority on the desegregation of school districts in nonsouthern metropolitan areas, reinforcing the requirements for full desegregation of northern and western school districts which had previously practiced unlawful segregation. This increased activity in northern and western jurisdictions, however, did not detract from efforts by Justice to enforce court-ordered desegregation in Southern States. Justice participated in lawsuits involving more than 500 southern school districts in 1979. Other areas of equal educational opportunity receiving a high priority in 1979 included sex discrimination in education, and racial discrimination resulting from implementation of State competency laws and regulations.

Table J-2. CIVIL RIGHTS OUTLAYS BY TYPE OF ACTIVITY

(In millions of dollars)

Type of activity	1979 actual	1980 estimate	1981 estimate
Complaint conciliation.....	26.5	28.6	30.5
Complaint investigation.....	98.3	121.8	134.0
Compliance review and monitoring.....	113.1	143.2	151.8
Legal enforcement.....	25.2	28.3	30.4
Program direction and research.....	144.6	155.7	172.1
Technical assistance.....	23.9	24.4	24.6
Upward mobility.....	37.5	38.4	41.6
Military services equal opportunities.....			
Total.....	469.1	540.4	585.0

Fair housing.—Title VIII of the Civil Rights Act of 1968 prohibits discrimination in the sale, rental, or financing of housing, or provision of brokerage services on the basis of race, color, religion, sex,

or national origin. The act also prohibits "blockbusting", the pressuring of homeowners to sell or landlords to rent at below-market prices because households of different races, colors, religions or national origins are moving into a neighborhood. The Departments of Housing and Urban Development (HUD) and Justice are charged with administration and enforcement of the act. All executive departments and agencies are directed (1) to administer their programs and activities relating to housing and urban development in an affirmative manner to promote fair housing and (2) to cooperate with HUD in furthering that purpose.

During 1979, HUD closed 2,912 complaints out of a total of 3,339 complaints including cases carried over from the past year. In addition 348 out of 643 attempts to resolve complaints through conciliation were completed. Conciliation generally results in specific relief for the complainant and actions to eliminate any discriminatory practices found as a result of the complaint.

During 1980, HUD proposes to broaden and strengthen its ability to address discrimination in housing by significantly restructuring its complaint processing program to address more rapidly individual complaints and to establish special units to investigate complaints of systemic discrimination. Also in 1980, it plans to provide financial and technical assistance to State and local fair housing agencies as an incentive for these agencies to assume a greater share of the responsibilities for administering fair housing laws. Projections for 1981 include the completion of substantive Title VIII regulations which will authoritatively inform the public of those activities prohibited by law and to assure consistent application of the fair housing program by Federal, State, and local jurisdictions.

The Justice Department enforces both Title VIII of the Civil Rights Act of 1968, and the Equal Credit Opportunity Act of 1974, which forbids discrimination in all aspects of credit transactions, including those for commercial and other nonhousing purposes. In 1979, Justice filed 26 suits and two motions for contempt under the Fair Housing Act. These actions were taken in cases in 18 different States, potentially affecting 15,000 units of housing. They involve alleged discriminatory rental and sales practices based on race, sex, national origin and religion. Efforts were underway in 1979 to document possible housing discrimination against Hispanics for possible litigation actions. Five cases in violation of the Equal Credit Opportunity Act were brought by the Department during 1979. These involved complaints based on alleged discriminatory conduct relating to age, sex, or marital status, or alleged failure to provide credit applicants with adequate reasons for adverse action.

Expenditures proposed for the administration of fair housing programs total \$17.5 million in 1981. Defense plans to spend \$8.5

million to protect the rights of all military and civilian personnel, including Defense personnel in off-base housing, and the General Services Administration estimates \$0.2 million will be spent to study proposed locations for federally constructed or leased space to assure an adequate supply of low and moderate income housing on a nondiscriminatory basis.

Enforcement and investigations.—Primary responsibility for the enforcement of civil rights laws and constitutional guarantees rests with the Justice Department. This includes the development, negotiation, conciliation, and litigation of complaints and cases. Justice, along with other Federal agencies with enforcement responsibilities, expects to spend \$80.7 million in 1981. The Department will continue to coordinate Federal agencies' enforcement of Title VI of the Civil Rights Act of 1964, which prohibits racial and ethnic discrimination in all federally funded programs. In 1979, the Department negotiated and signed a memorandum of understanding with the Department of Housing and Urban Development to set out steps HUD should take to improve Title VI enforcement. Additionally, the Department completed a survey of Title VI enforcement efforts by the Small Business Administration, developed a Title VI training program for the Office of Personnel Management, and assisted the Department of Labor in resolving several outstanding complaints of discrimination in the Comprehensive Employment and Training Program. Justice also participated in a wide variety of litigative actions intended to remedy conditions in correctional institutions, mental hospitals, and juvenile homes.

The 1968 Civil Rights Act prohibits the use of force or threats of force to injure or intimidate any person involved in the exercise of certain Federal rights and activities. In 1979, Justice reviewed approximately 11,000 complaints alleging criminal interference with the civil rights of citizens. Over 3,100 of these were investigated by the FBI. The Department will continue to investigate and litigate the civil rights of citizens who have suffered violence or threats of violence, including special protection for migrant workers, prison inmates, and with the Department of the Interior, American Indians.

The Voting Rights Act of 1965 insures that all qualified citizens have the opportunity to register and vote without discrimination on account of race, color, membership in a language minority group, or age. Section 5 of the Voting Rights Act of 1965, as amended, requires that covered jurisdictions submit all changes in voting practices or procedures to either the U.S. District Court for the District of Columbia for judicial review or to the Attorney General for administrative review. In fiscal year 1979, 1,914 submissions involving a total of 3,420 voting-related changes were

submitted to the Attorney General under section 5. Provisions of the Voting Act authorize the Attorney General to assign observers to monitor elections to insure that the right to vote and to have the vote properly counted is not denied during the election process. Last year, 972 observers were assigned to cover nine elections in five States, including elections in three counties. Assistance was provided to the Department of Defense's Federal Voter Assistance Program to gather and prepare information for dissemination as required under the Overseas Citizens Voting Rights Act and the Federal Voters Assistance Act.

Civil rights conciliation and prevention of disputes.—The mission of the Community Relations Service (CRS) in the Department of Justice is to provide assistance to communities in resolving disputes, disagreements, or difficulties relating to discriminatory practices based on race, color, or national origin. CRS also aids communities in achieving the kinds of progress which will enable them to avoid racial upheavals.

In 1981, CRS estimates outlays of \$5.5 million for dispute resolution. Initiated in 1979 and continuing in 1980 is a cooperative agreement with a Federal judicial circuit to increase court referrals of appropriate disputes to CRS as an alternative to certain forms of litigation. CRS's conciliation and mediation efforts will continue to be directed toward fostering improved relations and understanding between law enforcement officials and minority groups.

Civil rights research and information dissemination.—Outlays in this area are estimated at \$12.9 million in 1981.

- The budget proposes \$11.9 million of outlays for the Commission on Civil Rights to carry out its factfinding function relating to denials of equal protection under the law.
- The Women's Bureau, within the Department of Labor, promotes the welfare and improved economic status of working women. The Bureau publishes and disseminates information to assist women directly and through employer and union organizations and government agencies. In addition, the Bureau provides services to both the National Advisory Committee for Women and the Interdepartmental Task Force on Women, established by President Carter by Executive Order 12050.

Table J-3. CIVIL RIGHTS OUTLAYS BY DEPARTMENT AND AGENCY

(In millions of dollars)

	1979 actual	1980 estimate	1981 estimate
Department of Agriculture.....	6.5	7.4	7.7
Department of Commerce .....	.1	1.8	2.1
Department of Defense	47.0	49.4	50.9
Department of Education ¹		18.5	41.8
Department of Health, Education, and Welfare ¹ ...	50.4	32.1	
Department of Health and Human Services		13.6	26.8
Department of Housing and Urban Development...	5.2	5.8	6.3
Department of Justice.....	32.2	36.8	39.1
Department of Labor.....	47.0	56.8	59.3
Department of Transportation	2.0	2.2	2.7
Office of Personnel Management	9.0	8.2	8.0
Department of State	*	*	*
Commission on Civil Rights.....	10.2	11.4	11.9
Equal Employment Opportunity Commission ²	255.0	290.5	322.1
Postal Service ³	(17.4)	(19.3)	(21.5)
Small Business Administration	1.1	1.2	1.8
All other.....	3.4	4.7	4.5
Total	469.1	540.4	585.0

* Less than \$100 thousand.

¹ Assumes transfer from HEW to the Department of Education.² Include outlays for all Federal service equal employment opportunity, including Upward Mobility.³ Postal Service outlays appear in the Annexed Budget and are included here for memorandum purposes only.

- The Fair Housing and Equal Opportunity program in the Department of Housing and Urban Development conducts research and demonstration projects on methods for broadening housing opportunities for minorities, including Native Americans, and women.
- The Women's Action Program in the Department of Health and Human Services, together with the Secretary's Advisory Committee on the Rights and Responsibilities of Women, has a 1981 budget of \$.02 million to analyze the effects of the Department's programs and policies on women and to recommend changes identified by this analysis.

SPECIAL ANALYSIS K

RESEARCH AND DEVELOPMENT

This analysis summarizes the funding of research and development (R. & D.) in the budgets of 31 separate departments and agencies. It consists of two parts. The first highlights the R. & D. programs and trends in the 1981 budget. The second describes in more detail the R. & D. programs of the 14 agencies whose 1981 obligations for R. & D. are each expected to surpass \$100 million.

R. & D. is not a separately budgeted activity of the Federal Government. Decisions on R. & D. funding, as reflected in the budget, are made primarily in the light of the potential contributions of science and technology to meeting particular national needs and specific agency mission requirements. However, the level and composition of total R. & D. funding is reviewed and adjusted in the preparation of the budget, particularly in the case of basic research, to reflect the overall Federal responsibility for the advancement of science in the national interest.

Federal R. & D. covers a wide range of activities. In varying degrees, agency R. & D. programs include:

- Basic research (discovering fundamental knowledge);
- Applied research (using that knowledge to meet identified needs);
- Development (designing, engineering, and demonstrating new devices, systems, or methods).

The R. & D. activities of the Federal Government may be categorized as meeting:

- Direct Federal needs—where the sole or primary user of the R. & D. is the Government itself; for example, national defense, space technology, air traffic control, and environmental regulation.
- General economic and social needs—where the Federal Government assumes major responsibility because there are insufficient incentives for the private sector to invest enough in the national interest; for example, Federal support of basic research and many areas of medical, agricultural, and educational research.
- Specific national needs—where the Government seeks to augment, but not supplant, the R. & D. efforts of the private sector because of an overriding national interest and the need to accelerate the development, or increase the range, of technological options available to the Nation; for example, support for the development of new energy technologies.

PART I. HIGHLIGHTS AND TRENDS

A significant feature of the 1981 budget is the continued Government-wide growth in the funding of basic research. Obligations for the conduct of basic research are estimated to be \$5.1 billion in 1981. This represents an increase of \$543 million, 12% over the 1980 dollar level, or nearly 3% growth above projected inflation.

Proposed Federal obligations for the conduct of all research and development, including basic research, are expected to total \$36.1 billion in 1981, an increase of \$4.2 billion or 13% over 1980, as displayed in table K-1. Obligations for R. & D. facilities are estimated to be \$2.0 billion in 1980 and 1981.

Table K-1. TOTAL FEDERAL FUNDING FOR CONDUCT OF R. & D. AND RELATED FACILITIES

(In billions of dollars)

	Obligations			Outlays		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Conduct of R. & D.....	28.9	32.0	36.1	26.6	30.5	33.7
R. & D. facilities.....	1.4	2.0	2.0	1.3	1.7	1.9
Total	30.3	34.0	38.1	27.8	32.2	35.6

CONDUCT OF RESEARCH AND DEVELOPMENT

Consistent with the view of the administration that R. & D. represents an important investment in the Nation's future, R. & D. has received close attention in the preparation of the 1981 budget. The funding of individual agency R. & D. programs reflects both a realistic assessment of how R. & D. can effectively contribute to national needs and a critical examination of the appropriate Federal role in R. & D. in meeting these needs.

Table K-2 below identifies the major R. & D. programs by agency and summarizes the total Federal obligations for R. & D.:

Table K-2. CONDUCT OF R. & D.

(In billions of dollars)

Department or agency	Obligations			Outlays		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Defense.....	12.5	13.8	16.6	11.5	13.3	15.2
National Aeronautics and Space Administration.....	4.4	5.1	5.6	4.1	4.9	5.3
Energy	4.6	4.9	5.1	4.4	4.9	5.1
Health and Human Services.....	3.5	3.8	4.0	3.1	3.4	3.7
National Science Foundation	0.8	0.9	1.1	0.8	0.9	1.0
All other	3.1	3.5	3.7	2.7	3.1	3.4
Conduct of R. & D., total.	28.9	32.0	36.1	26.6	30.5	33.7

Highlights of each of these agency programs are presented below:

Department of Defense.—At \$16.6 billion, the obligations for total conduct of R. & D. in the Department of Defense are larger than those of any other Federal agency and account for approximately 45% of total Federal support for R. & D. Obligations are estimated to increase by \$2.8 billion, or 20%, over 1980. Development of major strategic and tactical weapons will continue, and increased funding will be provided for research and technology related to longer-range military needs. In 1981 the Department plans to:

- Increase its support for basic research by 21%, from \$431 million to \$523 million, over 1980;
- Begin development of a new cargo transport aircraft, the C-X, to increase rapid deployment capabilities of U.S. forces; and
- Continue full-scale development of the M-X intercontinental ballistic missile.

Department of Energy.—Obligations for the conduct of R. & D. in the Department of Energy are estimated to total \$5.1 billion in 1981. In 1981, the Department plans to:

- Increase its support for basic research by 13% over 1980, from \$523 million to \$593 million; and
- Increase overall support for longer term solar, fossil, and fusion R. & D.

At the same time the Department will:

- Decrease support in nuclear fission R. & D. related to the breeder reactor; and
- Maintain strong support for conservation technology efforts, recognizing the increased emphasis that incentives such as tax credits have on accelerating energy conservation.

National Aeronautics and Space Administration.—Obligations for conduct of R. & D. in NASA are estimated to total \$5.6 billion in 1981, \$503 million or 10% over 1980. The 1981 budget reflects the administration's commitment to the Space Shuttle leading to a late 1980 launch and to a balanced and vigorous space program. In 1981, NASA proposes to:

- Complete the development of the Space Shuttle to meet national needs in areas such as space science, communications, remote-sensing of the Earth's environment and natural resources, and defense;
- Initiate the development of a gamma ray observatory that will be launched into space, using the Space Shuttle, to obtain fundamental knowledge of the nature and origin of our universe;
- Initiate the development of advanced space communications technology to increase the useful range of radio frequencies for communications; and

- Undertake new projects in aeronautics R. & D. for research on advanced propeller designs and turbine engine combustors to improve the performance of future aircraft.

Department of Health and Human Services.—Obligations for the conduct of R. & D. in the Department of Health and Human Services (HHS) are estimated to total \$4.0 billion in 1981, a 6% increase over 1980. The most significant component of the HHS budget for R. & D. is the National Institutes of Health (NIH). The 1981 budget proposal for NIH programs maintains a strong national effort in biomedical research, increasing from \$3.2 billion in 1980 to \$3.4 billion in 1981. In 1981 NIH plans to support a wide spectrum of biomedical and behavioral research designed to promote health and prevent and control disease. Special emphasis will be given to basic and applied research in such areas as nutrition, genetic research, diabetes, radiation and other environmental hazards, aging and senile dementia.

National Science Foundation.—The National Science Foundation is of particular importance among Federal agencies in its support for basic research across all scientific disciplines.

Obligations for the conduct of R. & D. of the National Science Foundation are estimated to total \$1,056 million in 1981, including \$952 million for the support of basic research. This represents an increase of \$138 million or 17% over 1980 and further reflects the administration's strong commitment to basic research. In 1981 the Foundation will:

- Assist in maintaining Government-wide balance in support of basic research across all fields of science and engineering in the national interest, with particular emphasis on the physical sciences and engineering;
- Expand several activities that encourage cooperation among scientists in industry and universities, as part of the administration's policy to foster industrial innovation;
- Embark on a 10-year, \$700 million program, funded jointly by industry, of scientific drilling on the ocean margins using the Government-owned ship, *Glomar Explorer*; and
- Initiate a cost-shared program of facility upgrading at the Nation's most productive research universities.

Interagency R. & D. programs.—Among the R. & D. programs proposed in the 1981 budget are seven of particular note that involve more than one department or agency. These are illustrative of many areas in which agencies cooperate in research and development to insure effective overall use of Federal funds.

- *Industrial innovation initiatives.*—The 1981 budget provides new and strengthened programs in the Department of Commerce and the National Science Foundation to facilitate innovation throughout American industry. These initiatives are part of a comprehensive effort to encourage industrial innovation and productivity. The chief thrust of the administration's industrial innovation program is in initiatives that do not have a budgetary impact, as in the improvement of the patent system or of the regulatory procedures. However, the budget does provide funds to implement some new initiatives. Obligations in the two agencies are expected to total approximately \$50 million in 1981.

Also contributing to industrial innovation and productivity over the long term are the following three interagency programs:

- *Cooperative automotive research.*—A new joint government/industry program in basic automotive research is proposed for Federal funding from the energy windfall profits tax. This research, supported by the Department of Transportation and involving other agencies including the NSF, will contribute to the automotive technologies of the future. The Government share of the costs of the program are estimated to be up to \$800 million over 10 years, with matching funds from industry of up to \$500 million.
- *Experimental computer science.*—Special efforts will be undertaken in 1981 by the Department of Defense and the NSF to increase the strength of experimental computer science in academic institutions. The two agencies are expected to obligate at least \$6 million in 1981. Computation and communication form a large and growing component of the economic, intellectual, and military strength of the Nation, and the results of this research will help to maintain U.S. supremacy in these areas in the future.
- *Microelectronics and submicron science and technology.*—Complementary efforts of the Department of Defense, the National Science Foundation and the National Bureau of Standards in the field of microelectronics and submicron science and technology will be strengthened in 1981. These efforts, begun in 1980, address a technology that is important for the industrial strength and defense of the Nation. This technology is the next step in the development of faster and less expensive electronic devices, as well as applications of other small-scale devices and structures, such as in biomedical and chemical research. Obligations across the three agencies are estimated to total about \$51 million in 1981.

Other significant interagency efforts that are supported in 1981 include:

- *Agriculture and resources inventory surveys through aerospace remote sensing (AgRISTARS).*—Five agencies plan expanded efforts to assess the value of space remote sensing data in two areas: obtaining early warnings and timely quantitative estimates of crop conditions; and improving worldwide agricultural production forecasting capabilities. The Departments of Agriculture, Commerce, Interior, and NASA and AID are the participating agencies. Total funding is estimated to increase from \$31 million in 1980 to \$51 million in 1981. The 6-year program features the development of improved yield models using satellite obtained weather, soil moisture and crop spectral data.
- *National oceanic satellite system.*—In 1981 the administration is proposing a national oceanic satellite system (NOSS) to be developed jointly by the National Aeronautics and Space Administration and the Departments of Defense and Commerce. This operational demonstration system would provide global ocean data for use in marine weather forecasting and climate studies, marine transportation, and defense applications. Obligations for this program are estimated to be \$24 million in 1981.
- *Minority research apprenticeships program.*—A joint effort among the National Science Foundation, the National Institutes of Health, the Environmental Protection Agency, the Departments of Energy, Agriculture, and Defense, and NASA, this program is intended to stimulate broader interest in minority communities in careers in science and engineering, and to establish individual working relationships between students and active researchers. Individual researchers who wish to participate in the program will submit a request to supplement existing or pending research grants, contracts, or intramural project statements. The participating agencies are expected to obligate \$5 million in 1981 to establish 2000 apprenticeships.

CONDUCT OF BASIC RESEARCH

The Federal Government supports about two-thirds of the Nation's basic research effort, that is, the search for new knowledge and understanding of fundamental natural phenomena and processes. Research in such fields as chemistry, physics, biology, astronomy, materials, oceanography, and Earth sciences precedes and underlies the advancement of applied science and long-term technology development. Universities and colleges, other nonprofit organizations, and a number of industrial firms also support basic research. But from a national point of view, as a whole they tend

to underinvest in such research either because their resources are limited (as in the case of universities or nonprofit organizations); or because the results do not lead in the near-term to the development of patentable and marketable new processes and products (as in the case of private industry).

Obligations for the conduct of basic research (included in funds for the conduct of R. & D.) are estimated to increase from \$4.5 billion to \$5.1 billion in 1981, an increase of 12%. Taking into account anticipated cost increases in 1981, this will provide a real-dollar growth of nearly 3%.

The allocation of funds provided in the 1981 budget for basic research recognizes the need not only to maintain a vigorous national research effort in all areas of scientific inquiry, but also to strengthen basic research in specific areas of national concern and Government responsibility. These two aspects of Federal support for basic research—to expand the knowledge base and to address critical problems—have resulted in several relatively large increases in agencies where both purposes are served—e.g., DOE, DOD, and USDA—in addition to increases in the NSF. Special emphasis is also being given in these agencies to strengthening basic research in the physical sciences and engineering, which have not shared fully in funds appropriated for basic research.

While the administration recognizes the special role of the Federal Government in supporting basic research in the national interest, private investment in basic research is critical to the overall national effort. Industry, as well as the Federal Government, should seek to strengthen its support.

Table K-3 summarizes Federal support for the conduct of basic research by agency.

Table K-3. CONDUCT OF BASIC RESEARCH BY MAJOR DEPARTMENTS AND AGENCIES

(In millions of dollars) ¹

Department or agency	Obligations			Outlays		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Health and Human Services.....	1,576	1,728	1,840	1,390	1,561	1,694
(National Institutes of Health).....	(1,461)	(1,604)	(1,704)	(1,295)	(1,445)	(1,578)
National Science Foundation.....	730	814	952	704	774	869
Energy.....	464	523	593	456	524	584
National Aeronautics and Space Ad- ministration.....	513	535	581	465	502	542
Defense—military functions.....	362	431	523	320	383	471
Agriculture.....	257	289	324	232	244	262
Interior.....	77	76	78	74	72	79
Smithsonian Institution.....	36	39	44	36	39	43
Commerce.....	25	28	36	24	28	37
Education.....	20	20	25	15	19	22
Environmental Protection Agency.....	10	14	19	3	8	18
All other ²	30	32	58	31	30	58
Total.....	4,101	4,531	5,074	3,748	4,184	4,679

¹ Amounts reported in this table are included in totals for conduct of R. & D.² Includes the Departments of Justice and Labor; the Veterans Administration, the Federal Emergency Management Agency, the Tennessee Valley Authority, the Corps of Engineers, the Federal Trade Commission, the Library of Congress and Funds Appropriated to the President.

SUPPORT OF R. & D. AT COLLEGES AND UNIVERSITIES

Within the \$36.1 billion proposed for R. & D. in 1981, \$4.6 billion will be obligated by the Federal agencies for the conduct of research and development in colleges and universities (including medical schools). More than two-thirds of the direct support of R. & D. in these institutions is provided by the Federal Government. This does not include funds that flow indirectly to colleges and universities through the support of national laboratories or other intermediaries.

Researchers at colleges and universities continue to be the primary performers of basic research not only for the Federal Government, but also for the Nation as a whole. Academic researchers will benefit significantly from the continued growth in basic research provided in the 1981 budget. This growth is intended not only to encourage academic scientists to undertake innovative research, but also to assist in ameliorating some of the problems currently associated with the performance of research in colleges and universities, including the growing obsolescence of equipment and the lack of opportunities for young investigators.

Approximately half of the Federal R. & D. funds that colleges and universities receive is for the conduct of basic research; approximately one-third for applied research (primarily medical), and the remainder for development activities. HHS and the National Science Foundation are the major sponsors of R. & D. conducted at colleges and universities.

Table K-4 summarizes Federal R. & D. support at universities and colleges by agency.

Table K-4. SUPPORT OF RESEARCH AND DEVELOPMENT AT UNIVERSITIES AND COLLEGES

(In millions of dollars) ¹

Department or agency	Obligations			Outlays		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Health and Human Services.....	1,932	2,097	2,244	1,691	1,896	2,075
(National Institutes of Health).....	(1,770)	(1,929)	(2,057)	(1,564)	(1,749)	(1,921)
National Science Foundation.....	602	670	794	580	637	725
Defense—military functions.....	364	401	443	341	376	416
Energy.....	292	323	364	281	320	361
Agriculture.....	206	223	236	169	194	215
National Aeronautics and Space Administration.....	144	163	174	127	147	157
Agency for International Development.....	67	53	58	49	40	49
Environmental Protection Agency.....	50	53	53	34	42	42
Education.....	47	49	53	38	34	47
Interior.....	40	45	49	38	42	44
Commerce.....	29	37	37	28	36	36
Transportation.....	19	20	21	18	19	19
Institute for Scientific and Technological Cooperation.....		18	13		6	10
Labor.....	13	11	12	13	11	12
All other ²	27	30	39	25	27	37
Total.....	3,833	4,192	4,590	3,430	3,828	4,246

¹ Amounts reported in the table are included in totals for Conduct of R. & D.

² Includes Departments of Justice, State, Treasury, and Housing and Urban Development; the Nuclear Regulatory Commission, the Smithsonian Institution, the Corps of Engineers, the Federal Emergency Management Agency, the U.S. Office of Personnel Management, the Veterans Administration, the Arms Control and Disarmament Agency, the Tennessee Valley Authority, the Consumer Product Safety Commission and Funds Appropriated to the President.

R. & D. FACILITIES

Amounts for scientific and engineering facilities are considered separately from funding for the conduct of R. & D. Obligations for the construction or renovation of facilities, including research libraries; the acquisition of major items of equipment and demonstration plants used for conducting R. & D. or for testing and evaluation will remain nearly constant, at about \$2.0 billion in 1981.

The majority of the funds for R. & D. facilities are for applied research and development projects and demonstrations. Included in the 1981 budget, for example, are funds for:

- Solvent-refined coal and high-Btu gas demonstration plants in the Department of Energy budget;
- Facility construction for the Solar Energy Research Institute in Golden, Colo.;
- Matching funds to upgrade facilities at the Black land-grant colleges of 1890, part of the agricultural research system; and

- Facility construction by NASA at Moffett Field, Calif., to investigate factors that cause human error in aircraft accidents.

The 1981 budget also proposes funds for several basic research facilities that will upgrade the Nation's capability and capacity to seek new knowledge at the frontiers of science, for example:

- Continued funding by the Department of Energy of the intersecting storage accelerator (ISABELLE), at Brookhaven National Laboratory, which will be the most powerful physics research facility of its type in the world;
- Funding for the highest priority construction project in nuclear physics, the Argonne Tandem Linac Accelerator at Argonne National Laboratory; and
- Funding for the construction of a coastal research vessel by the National Science Foundation to continue a long-term program of modernizing the academic oceanographic research fleet.

Table K-5 summarizes Federal support for R. & D. facilities by major departments and agencies.

Table K-5. RESEARCH AND DEVELOPMENT FACILITIES BY MAJOR DEPARTMENTS AND AGENCIES

(In millions of dollars) ¹

Department or agency	Obligations			Outlays		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Energy	822	1,309	1,257	690	1,032	1,179
Defense—military functions	270	369	445	236	306	383
National Aeronautics and Space Administration	148	156	120	133	155	163
Health and Human Services	51	46	47	74	66	42
(National Institutes of Health)	(49)	(42)	(32)	(73)	(64)	(36)
Agriculture	23	38	37	22	36	42
All other ¹	99	113	93	100	134	98
Total	1,412	2,029	2,000	1,254	1,729	1,907

¹ Includes the Departments of Transportation, Interior, and Commerce; the Tennessee Valley Authority, the National Science Foundation, the Veterans Administration, the Environmental Protection Agency, the Consumer Product Safety Commission, and the Smithsonian Institution.

PART II: AGENCY R. & D. PROGRAMS

Funding of R. & D. by the 31 agencies reporting obligations and outlays for this purpose is shown in table K-6.

Summaries follow of the R. & D. activities of the 14 agencies that support more than 98% of federally funded R. & D.

Table K-6. CONDUCT OF RESEARCH AND DEVELOPMENT BY MAJOR DEPARTMENTS AND AGENCIES

(In millions of dollars)

Department or agency	Obligations			Outlays		
	1979 actual	1980 estimate	1981 estimate	1979 actual	1980 estimate	1981 estimate
Defense—military functions	12,463	13,781	16,565	11,454	13,253	15,169
National Aeronautics and Space Administration	4,411	5,114	5,617	4,064	4,858	5,277
Energy	4,588	4,919	5,106	4,413	4,871	5,088
Health and Human Services	3,485	3,784	4,011	3,068	3,428	3,661
(National Institutes of Health)	(2,952)	(3,191)	(3,355)	(2,637)	(2,895)	(3,100)
National Science Foundation	805	897	1,056	775	853	964
Agriculture	670	743	786	611	652	670
Environmental Protection Agency	410	415	445	337	384	413
Interior	405	419	415	393	396	413
Labor	137	279	385	102	277	374
Transportation	357	353	379	340	332	348
Commerce	334	371	379	305	347	394
Nuclear Regulatory Commission	157	204	228	141	182	204
Education	164	146	156	128	151	154
Veterans Administration	130	134	142	117	126	135
All other ¹	368	397	465	331	368	456
Total, conduct of R. & D.	28,883	31,956	36,136	26,578	30,477	33,717

¹ Includes the Departments of Housing and Urban Development, Justice, Treasury and State; the Tennessee Valley Authority, the Agency for International Development, the Institute for Scientific and Technological Cooperation, the Smithsonian Institution, the Corps of Engineers, the Federal Emergency Management Agency, the Arms Control and Disarmament Agency, the Consumer Product Safety Commission, the Federal Communications Commission, the Advisory Commission on Intergovernmental Relations, the Federal Trade Commission, the Library of Congress, the U.S. Office of Personnel Management, and Funds appropriated to the President.

DEPARTMENT OF DEFENSE

At \$17.0 billion, obligations for DOD research and development budget, including R. & D. facilities, comprise about 45% of total Federal funding for research and development in 1981. DOD will received 69% of the overall increase for Federal R. & D. DOD research and development ranges from support of basic research, primarily in the physical sciences, to full scale development of hardware and its test and evaluation. The primary purpose of DOD R. & D. is to provide new strategic and tactical weapons and supporting systems to improve the Nation's defense.

In 1981, DOD obligations for the conduct of R. & D. will increase by \$2.8 billion to \$16.6 billion, or by 20%. DOD funding of basic research will increase 21%, from \$431 million in 1980 to \$523 million in 1981. Funding for R. & D. facilities will increase by \$76 million in 1981 to a total of \$445 million. By mission category, major R. & D. efforts for 1981 include:

Technology base and advanced technology development.—There will be real growth in this category above the 1980 level to provide choices for future systems development and to avoid technological surprise. Examples of areas being emphasized include materials research, electronics, environmental research, and behavioral re-

search relevant to combat situations. Also, efforts on high energy lasers and particle beams will continue for potential weapons applications. Work on very high speed integrated circuits will proceed to provide improvements in electronic processing, volume, weight power consumption, and reliability to meet future military system needs. Collaborative efforts with other agencies will be pursued in several areas.

Strategic programs.—Full-scale development of the M-X intercontinental ballistic missile and of the air-launched cruise missiles will continue. Options for a new cruise missile carrying aircraft will be explored. Efforts will continue on ballistic missile defense and on anti-satellite system development.

Tactical programs.—These R. & D. programs support the development of systems to increase the capability of U.S. general purpose and theater nuclear forces to enhance the defense of NATO and to develop the capability to project force rapidly anywhere in the world. Major Army programs include development of the Pershing II theater nuclear missile system and a series of antitank missiles, integration of a larger gun with the XM-1 tank, and development of an attack helicopter. The Air Force is developing airfield and armor attack munitions, night all-weather capabilities for its aircraft, the ground-launched cruise missile and the CX long-range transport aircraft. The Navy is developing a lower cost attack submarine, a new destroyer, the sea-launched cruise missile and the LAMPS III antisubmarine helicopter. Subsystems to enable more effective use of existing weapons systems will be emphasized over the next several years as several major systems make the transition from development to production. These subsystems include avionics, command and control systems, and munitions.

Intelligence and Communication, Program Management and Support.—R. & D. supported by these programs is directed toward improvements in defense intelligence systems, command control and communications programs, and test and evaluation capabilities. Major increases in strategic communications and selected tactical radios are planned in 1981. Work will also continue in such areas as the use of technology to reduce manufacturing costs and to extend the life and capability of existing defense systems.

NATO cooperation.—A framework will be developed for improved cooperation with U.S. allies. Efforts are underway to to utilize for common advantages the capabilities of NATO's defense industry and to encourage dual production of new weapon systems, as, for example, production in the United States of the French/German-developed ROLAND air defense system. An approach to obtain greater efficiency within NATO development programs is a proposal for the United States to develop an advanced medium-range air-to-air missile, while the NATO countries develop the next generation short-range missile.

Table K-7. DEPARTMENT OF DEFENSE—MILITARY RESEARCH AND DEVELOPMENT

(In millions of dollars)

Type of activity	1979 actual	1980 estimate	1981 estimate
OBLIGATIONS			
Conduct of R. & D.:			
Research, development, test, and evaluation:			
Technology base.....	1,976	2,150	2,656
Advanced technology development.....	542	619	612
Strategic programs.....	2,078	2,231	3,267
Tactical programs.....	4,984	5,371	5,715
Intelligence and communications.....	748	1,114	1,530
Programwide management and support.....	1,693	1,788	2,254
Other appropriations.....	441	508	532
Total conduct of R. & D.....	12,463	13,781	16,565
Total conduct of basic research, included above.....	(362)	(431)	(523)
R. & D. facilities.....	270	369	445
Total, obligations.....	12,733	14,149	17,011
OUTLAYS			
Conduct of R. & D.....	11,454	13,253	15,169
R. & D. facilities.....	236	306	383
Total, outlays.....	11,690	13,559	15,552

DEPARTMENT OF ENERGY

The Department of Energy, established in 1977, is the major Federal agency for the planning, coordination, and conduct of energy R. & D. programs. DOE also funds a substantial program of R. & D. related to the development and testing of nuclear weapons.

Obligations for the conduct of R. & D. by DOE will total \$5.1 billion in 1981. Of this total, obligations for the conduct of nonmilitary R. & D. are estimated to be \$3.8 billion in 1981. Obligations for the conduct of R. & D. for military purposes will increase from \$1.2 billion in 1980 to \$1.3 billion in 1981. Obligations for the conduct of basic research in DOE will grow from \$523 million in 1980 to \$593 million in 1981, 13% above the 1980 level. Obligations for construction and equipment will total \$1.3 billion in 1981, a decrease of \$52 million below the 1980 level.

Energy.—Continuing increases in the price of energy have provided greater incentives for both conservation and expanded energy exploration and development.

In energy R. & D., more intensive efforts will be made in solar, fossil, and fusion technologies, and a strong R. & D. base in nuclear fission will be maintained. The emphasis on solar reflects the administration's belief that solar can, in time, make a significant contribution as an environmentally attractive, renewable energy

supply. The overall increase of 20% in solar applications funding will expand activities necessary to establish cost and performance goals in the market place and to facilitate market development. Emphasis in solar technology will include systems developments for strengthening the technological base, specific developments in photovoltaics and solar thermal electric, and support for international agreements to exchange information and to cooperate in solar projects.

R. & D. on other nonnuclear technologies will be increased in 1981. R. & D. on coal conversion processes places emphasis on improving efficiency, and on the economics of products from new processes. Improvements in coal liquefaction science are expected from fundamental studies of coal structure, chemistry, mechanisms of hydrogen transfer, catalysts, and improved instrumentation and reaction diagnostics. Exploratory research in indirect liquefaction to produce hydrocarbons similar to gasoline from synthesis gas will be expanded. Attempts will be made to integrate the gasification step with new synthesis gas conversion systems. Continuing advanced research will be directed to upgrading of coal derived liquid products for engine fuels.

R. & D. on nuclear technologies will focus on safety, waste management, and breeder research. The gas cooled breeder reactor program will be brought to an orderly conclusion in 1981 and the gas cooled thermal reactor program will be phased out. Additional developments in thermal reactor technology will include technical investigations of the disabled reactor at Three Mile Island in order better to understand the recent accident and to help prevent such accidents in the future.

In 1981, DOE will increase both inertial confinement and magnetic fusion funding. In inertial confinement this will mean broadening and deepening the program's technology base in order to guarantee understanding of the dominant physics issues of inertial confinement. In magnetic confinement there will be increased support of concepts beyond present-day tokamaks, which have intrinsic disadvantages as reactors. This focus on a number of critical technical issues will permit upcoming major decisions to be made with greater confidence.

In the conservation program, new studies and analyses of diverse building types will be conducted to provide information on energy savings from conservation measures. This information will also contribute to the development of effective energy audit criteria and motivate consumers to adopt energy cost saving strategies in their purchase decisions. In the industrial energy conservation program, R. & D. on waste heat reduction, industrial cogeneration, and process efficiency improvements should contribute to further energy savings. In the transportation energy conservation program,

developmental activities will continue on electric and hybrid vehicles and advanced automobile engines.

Basic energy science initiatives to strengthen and support the spectrum of DOE energy technologies are being continued. These include broadened use of new facilities for research on combustion, nuclear, electromagnetic and diagnostic phenomena. Materials sciences research includes emphasis on waste isolation and high temperature materials. Chemical sciences initiatives include solar photoconversion, catalysis and combustion research. Several new exploratory energy concepts, not yet mature enough for funding in the energy technology program, are being evaluated in an advanced energy concepts program.

General science.—The general science programs of the Department of Energy—high energy and nuclear physics, and life sciences research and nuclear medicine applications—support long-range, basic research that provides fundamental scientific knowledge. In 1981, DOE will continue its emphasis on providing new facilities for the advancement of knowledge in high energy and nuclear physics. The research effort will be maintained at slightly above the current level.

National defense.—The nuclear weapons programs will support the continued development and production of new nuclear weapons for the Nation's nuclear arsenal. These programs also support the development of improved technologies for monitoring nuclear weapons treaties, and the development of improved technologies and methods for safeguarding nuclear materials. Efforts have been increased to develop improved technologies and methods for the safe storage and disposal of radioactive wastes produced by the national defense programs. Efforts will be continued to develop improved propulsion reactors for naval vessels.

Facilities.—The energy R. & D. budget includes construction funds for two solvent-refined coal demonstration plants and for a high Btu gas demonstration plant. Funds are also provided for facility construction at the Solar Energy Research Institute in Golden, Colo.

The high energy physics program includes funds for continuation of the Isabelle accelerator at the Brookhaven National Laboratory and the energy saver project at the Fermi National Laboratory. In addition in 1981 funds would be used to start the Tevatron, phase I project at Fermilab and the Argonne Tandem Linac Accelerator System (ATLAS) project at Argonne National Laboratory.

Table K-8. DEPARTMENT OF ENERGY—RESEARCH AND DEVELOPMENT

(In millions of dollars)

Type of activity	1979 actual	1980 estimate	1981 estimate
OBLIGATIONS			
Conduct of R. & D.:			
Energy.....	3,148	3,418	3,404
General sciences	309	342	377
National defense	1,131	1,159	1,325
Total conduct of R. & D.....	4,588	4,919	5,106
Total conduct of basic research, included above	(464)	(523)	(593)
R. & D. facilities	822	1,309	1,257
Total obligations	5,410	6,227	6,363
OUTLAYS			
Conduct of R. & D.....	4,413	4,871	5,088
R. & D. facilities	690	1,032	1,179
Total outlays.....	5,103	5,904	6,266

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

The entire NASA budget is classified as research and development. In 1981, the agency will continue flight missions launched in prior years (e.g. Voyagers to the outer planets) and development of major projects including the Space Shuttle. The budget plan for the conduct of R. & D. will increase by \$503 million in 1981 to a total of \$5.6 billion, and the plan for construction of facilities will decrease by \$36 million to a total of \$120 million as a result of the completion of Space Shuttle facilities and major wind tunnels. These R. & D. changes are related to the development, procurement, and operational planning of the Space Shuttle, the development of major space science and space applications flight projects mentioned below, advanced space and aeronautical technology development, and basic supporting activities.

Shuttle development, testing and procurement of a fleet of four orbiters will continue in the space transportation systems program area. The Shuttle will provide the capability for a wide variety of uses, with greater flexibility and cost savings than is possible with expendable launch vehicles. It will make possible the retrieval of spacecraft from orbit for reuse; service and repair of spacecraft in orbit; and the operation of space laboratories, such as the European-built Spacelab, for scientific and technology application purposes. Shuttle approach and landing tests were first performed in 1977, and the first manned orbital flight is planned for late in 1980. NASA plans to achieve an operational capability not earlier than the end of 1981 to launch and land shuttle orbiters from the

Kennedy Space Center in Florida and, in 1984, to do the same from the Vandenberg Air Force Base in California.

Major space science projects are continuing flight missions and others are being developed. Inflight projects are conducting deep space astronomy from Earth orbit and others are exploring the solar system. During 1979, the High Energy Astronomy Observatory-C (HEAO) joined other spacecraft in Earth orbit; most of these spacecraft will continue their flight missions well beyond 1981. Planetary flight projects will continue their exploration of the planets: Pioneer 10 and 11 explored Jupiter in 1973-74, Pioneer 11 encountered Saturn in 1979, and both spacecraft will escape the solar system; two Voyager spacecraft, launched in 1977, have successfully encountered Jupiter and are now enroute to Saturn, and Voyager 2 is planned to go on to Uranus; and Pioneer-Venus will continue sending back data from orbit around Venus through 1981.

Development work is planned to continue through 1981 on projects approved in prior years. The most powerful astronomical instrument ever built, the space telescope, is expected to be launched by the Shuttle in 1983. The telescope will be capable of viewing objects as far away as 60 billion light-years from an Earth orbit well above the obscuring effects of the Earth's atmosphere. In addition, development work will continue on astronomy experiments to be flown inside the European-built Spacelab in the Shuttle. The International Solar Polar Mission is being developed for an expected launch in 1983 to study the Sun's polar regions for the first time. Finally, the Galileo mission to Jupiter is planned to continue in the development phase for planned dual Shuttle launches in 1984.

The 1981 budget provides for the initiation of a new project in high energy astrophysics, the gamma ray observatory (GRO). The GRO will be launched in 1985 and will provide the highest sensitivity study of space in the gamma ray spectral region. The project is expected to increase significantly basic knowledge about the universe by studying objects such as quasars and black holes in the relatively unexplored gamma ray region.

In space and terrestrial applications, the 1981 budget continues to emphasize the development and demonstration of the practical applications of space technology to explore the potential use of such technology in meeting national needs (e.g., land use management and conservation of natural resources).

The NASA activities involving civilian land remote sensed data from space will be managed under an integrated plan involving several Federal agencies. The President has recently designated the National Oceanic and Atmospheric Administration in the Department of Commerce to manage an operational Earth resources remote sensing system. NASA will continue to carry out the neces-

sary research and development. The NASA Landsat-3 is continuing operations in space, and Landsat-D, scheduled for launch in late 1981, or early in 1982, is expected to enhance the experimental use of space based platforms in a variety of applications, such as forecasting crop production for the agriculture initiative. The Landsat-D is expected to insure the continuity of Landsat data for foreign and domestic users into the mid-1980's.

The 1981 budget provides for a continued agriculture research initiative in cooperation with the Department of Agriculture and other Federal agencies, to investigate further the value of space remote sensing data for global, repetitive monitoring of agricultural crop conditions. This initiative will place emphasis on the evaluation of remote sensing data to improve our ability to forecast worldwide production of crops such as corn, wheat, soybeans, barley, and rice. Data from spacecraft have the potential for determining conditions early in the growing season, monitoring progress of the crop and assessing the extent of crop damage caused by adverse weather conditions or blight. Early assessment of the likely status of foreign crops is important in agricultural planning in the United States.

As part of the administration's program in climate research, the 1981 budget proposes funds for continued development of Earth radiation budget instruments that will be included on NOAA satellites to be launched in 1982 and 1983 by the Shuttle. NASA plans to launch a satellite in 1983 with similar instruments. The Earth's radiation budget is the amount of solar energy absorbed by the Earth in a given region minus the energy emitted back to space by the region.

In the area of ocean monitoring, the 1981 budget includes a national oceanic satellite system to provide, in cooperation with the National Ocean and Atmospheric Administration and the Department of Defense, an operational capability to obtain oceanic data by remote sensing from space.

Space remote-sensing techniques have the potential to improve our ability to manage critical Earth resources. Studies to define the most effective and economic combination of instruments and platforms will be conducted to determine the best ways for providing such remote sensing data through the 1980s. Additional studies for better integration of current remote sensing capabilities are also planned. In addition, NASA is developing ways to use the Spacelab (to be flown in the Shuttle) for materials processing, technology development, and other applications.

Aeronautical research and technology programs will continue to develop technology for greater fuel efficiency, safety and reduced noise in future civil aircraft and to maintain the U.S. technological lead in the field of aeronautics. New initiatives are being proposed

for advanced turboprop technology that have the potential of increasing the fuel efficiency of future aircraft by more than 20% over current designs, and for the study of the "hot section" (i.e. combustor parts) of turbine engines to improve their durability and performance. Emphasis is also being placed on helicopter research to improve the performance and noise characteristics of helicopters and on variable cycle engine technology for improved high speed aircraft engines.

Table K-9. NATIONAL AERONAUTICS AND SPACE ADMINISTRATION—RESEARCH AND DEVELOPMENT

(In millions of dollars)

Program and type of activity	1979 actual	1980 estimate	1981 estimate
BUDGET PLAN			
Conduct of R. & D.:			
Space transportation systems	2,012	¹ 2,404	2,738
Space science	505	601	668
Space and terrestrial applications	284	344	395
Space research and technology	107	116	115
Aeronautical research and technology	264	308	291
Energy technology	5	3	4
Supporting activities	300	332	359
Research and program management	934	1,006	1,047
Total conduct of R. & D.	4,411	5,114	5,617
Total conduct of basic research, included above	(513)	(538)	(581)
R. & D. facilities	148	156	120
Total, budget plan	4,559	5,270	5,737
OUTLAYS			
Conduct of R. & D.	4,064	4,858	5,277
R. & D. facilities	133	155	163
Total outlays	4,197	¹ 5,013	¹ 5,440

¹ Includes proposed supplemental for Space Shuttle:

Budget authority	1980 300	1981 90
Outlays	200	90

DEPARTMENT OF HEALTH AND HUMAN SERVICES

With the establishment of a separate Department of Education in 1979, the former Department of Health, Education, and Welfare became the Department of Health and Human Services. Department of Health and Human Services (HHS) obligations in 1981 for the conduct of R. & D. will increase by \$227 million over the 1980 level, to \$4.0 billion. Within this total, basic research will increase 6.5% to \$1.8 billion. Obligations for R. & D. facilities will be \$47 million.

Over 80% of the Department's R. & D. funds are devoted to the National Institutes of Health. The primary mission of the National Institutes of Health is to advance the Nation's capabilities for the prevention, diagnosis, and treatment of disease through biomedical research. The level of R. & D. obligations in 1981 is estimated to be \$3.4 billion, an increase of \$165 million above the 1980 level of \$3.2 billion. This increase will insure stability and continuity in the vast biomedical research enterprise permitting approximately 5,000 new and competing awards to individual researchers or research teams. The following efforts are among the most significant activities to be supported:

- Studies of the cause and prevention of diseases associated with such environmental agents as chemicals and radiation;
- Studies to provide a better understanding of the role of nutrition in cancer, cardiovascular disease, childhood development, and aging;
- Research in the neurosciences and genetics, including areas related to neurologic disorders such as Huntington's disease;
- Increased research on reversible causes of mental deterioration in the elderly;
- Emphasis on research into the causes, treatments, and prevention of diabetes; and
- New initiatives in international health to expand research on tropical diseases.

Additional R. & D. funds are devoted to health related research supported by several agencies: the Alcohol, Drug Abuse and Mental Health Administration (ADAMHA), The Food and Drug Administration (FDA), the Center for Disease Control (CDC), the Health Services Administration (HSA), the Health Care Financing Administration (HCFA), and the Office of the Assistant Secretary for Health (OASH). At ADAMHA, increases for 1981 will permit an emphasis in mental health research on such areas as the neurosciences and opiate receptors in the brain, mental illness in children and the elderly, health services and treatment assessment research for special population groups; and in alcohol and drug abuse research, on the health effects of marijuana, genetic markers for alcoholism, and the special alcohol and drug abuse problems of women, youth, and other population groups. Increases are provided for FDA's research in support of its regulatory responsibilities, including funds for construction of a modern research facility; CDC's research undertaken by the National Institute for Occupational Safety and Health (NIOSH) to develop criteria on toxic materials and other workplace hazards; and for research undertaken by the OASH on health services and health statistics, as well as health care technology assessments. The research programs of the HSA in community health, involving primarily Public Health Serv-

ice hospitals and maternal and child health, will decrease slightly. HCFA will undertake new initiatives to measure the impact of health care financing programs and to determine the most effective means of delivering these programs.

The total obligations for the conduct of R. & D. in human services programs will increase by \$11 million to \$104 million. The Office of Human Development Services will continue to fund R. & D. activities that support its role in providing services to the aged, native Americans, and children. The Social Security Administration will support applied research on income security, the effects of social insurance benefits, and the economic situation of low-income persons not attached to the labor force.

Obligations of \$28 million are also included under Departmental Management for policy research to support basic and applied economic, social, and statistical research. The activities include experiments in income maintenance and national health insurance, and a Survey of Income and Program Participation.

Table K-10. DEPARTMENT OF HEALTH AND HUMAN SERVICES—RESEARCH AND DEVELOPMENT

(In millions of dollars)

Program areas and organizational units	1979 actual	1980 estimate	1981 estimate
OBLIGATIONS			
Conduct of R. & D.:			
Health:			
National Institutes of Health.....	2,952	3,191	3,355
Alcohol, Drug Abuse and Mental Health Administration.....	216	237	262
Center for Disease Control.....	74	92	95
Food and Drug Administration.....	61	64	67
Health Care Financing Administration.....	31	47	58
Office of Assistant Secretary for Health.....	40	42	52
Health Services Administration.....	18	18	17
Health Resources Administration.....	5		
Subtotal, Health.....	<u>3,397</u>	<u>3,691</u>	<u>3,907</u>
Human Services:			
Office of Human Development Services.....	49	51	54
Departmental Management.....	29	28	28
Social Security Administration.....	11	14	23
Subtotal, Human Services.....	<u>89</u>	<u>93</u>	<u>104</u>
Total conduct of R. & D.....	<u>3,485</u>	<u>3,784</u>	<u>4,011</u>
Total conduct of basic research, included above.....	(1,576)	(1,728)	(1,840)
R. & D. facilities.....	51	46	47
Total, obligations.....	<u>3,536</u>	<u>3,830</u>	<u>4,058</u>
OUTLAYS			
Conduct of R. & D.....	3,068	3,428	3,661
R. & D. facilities.....	74	66	42
Total, outlays.....	<u>3,142</u>	<u>3,494</u>	<u>3,703</u>

NATIONAL SCIENCE FOUNDATION

NSF supports long-term fundamental research in all fields of science and engineering, applied research on selected problems, and efforts to improve the teaching and learning of science. The Foundation has a broad mandate to support the advancement of basic science and engineering in the United States and to balance Federal support across all scientific disciplines. Most NSF funds are awarded on a competitive basis to researchers in colleges and universities, the primary source of much of this Nation's new knowledge in science.

NSF obligations for the conduct of R. & D. will increase from \$897 million in 1980 to \$1,056 million in 1981, an increase of \$159 million or 18% above 1980. In addition, \$20 million will be obligated for research facilities in 1981. Funding for basic research programs will increase from \$814 million to \$952 million, or about 17%, with particular emphasis on the physical sciences and engineering.

In 1981, the Foundation expects to emphasize basic work in a number of areas, among which are computer research, engineering, physics, chemistry, materials research, astronomy, earth sciences and ocean sciences. Special emphasis will also be placed on research to underpin technological innovation and to promote cooperation among industry, universities, and government. Funding will also be maintained for problem-focused research in such areas as earthquake hazards mitigation.

Highlights of the Foundation's 1981 budget include:

- Strengthening fundamental experimental work in computer science, microstructures, and other physical science and engineering research that underlie improvements in the Nation's technological capability;
- Initiation of a 10-year program of scientific deep ocean drilling on the continental margins (a jointly funded program with the petroleum industry);
- Expansion of support for high-quality research projects proposed jointly by industry-university teams in all fields of science and engineering;
- Full operation of the Very Large Array radio astronomy facility at Socorro, N. Mex., and initial design of another advanced astronomical instrument, a 25-meter, millimeter-wave telescope; and
- Expansion of international science and technology activities, including increased scientific cooperation with the People's Republic of China.

DEPARTMENT OF AGRICULTURE

Obligations of the Department of Agriculture for the conduct of research and development, excluding the construction of facilities, will increase from \$743 million in 1980 to \$786 million in 1981. Of USDA's increase of \$43 million, 80% will be for basic research including the expansion of the agriculture and resources inventory surveys through aerospace remote sensing (AgRISTARS). AgRISTARS is an effort to develop the capability of applying space technology to the forecasting of crop yields.

Almost all of the R. & D. conducted by the Department of Agriculture falls within three units: the Science and Education Administration; the Forest Service; and the Economics, Statistics, and Cooperatives Service. The Science and Education Administration obligates over 75% of the Department's R. & D. funds through its intramural programs (Agricultural Research) and the state cooperative experiment stations (Cooperative Research). Agricultural Research will obligate \$407 million in 1981 to conduct R. & D. on the production of plants and animals and their protection from pests and diseases; on the use and improvement of soil, water, and air resources; on human nutrition; on the processing, marketing, safety and nonfood uses of agricultural products and by-products; and on consumer services. Research emphases in 1981 include integrated pest management, human nutrition and health, aerospace technology, and basic research related to food production.

Cooperative Research administers funds to State agricultural experiment stations and other institutions for comparable research. In 1981, its obligations will increase from \$191 million to \$199 million. Cooperative Research also administers a competitive extramural grant program, initiated in 1978. In 1981, \$25 million is requested for this program for critical basic research questions in such areas as the ability of plants to fix nitrogen and the ability of humans to utilize vitamins and minerals.

In 1981, the Economics, Statistics, and Cooperatives Service will obligate \$45 million for economic research. Emphasis will be placed on research on world demand for U.S. agricultural commodities, food demand research and policy analysis, and analysis of policy issues involving cooperatives.

Forest Service R. & D. provides land managers with scientific knowledge to manage, protect and utilize forest and rangeland resources. Forest Service's 1981 research effort includes research on reforestation practices, new systems for producing high quality products from small trees and residues, biomass for energy, as well as research on mine-land areas, specifically oil shale and arid lands. The Forest Service will obligate \$126 million for R. & D. in 1981.

ENVIRONMENTAL PROTECTION AGENCY

EPA supports research and development to determine the sources and effects of pollution. Total obligations will increase for the conduct of R. & D. from \$415 million in 1980 to \$445 million in 1981. This continues the efforts of the administration to strengthen and to improve the scientific bases for environmental standards and control strategies, and to evaluate and identify the most critical long-range environmental problems.

The single largest effort is the environmentally related energy research and development program designed to improve the basis for standard setting in the energy area as well as to evaluate improved emission standard technology. This program will increase from \$101 million to \$108 million in 1981. This effort will be directed primarily at improving the standard setting data for anticipated synthetic fuel installations.

The next two largest program efforts are air and water quality research and development, comprising \$70 million and \$60 million, respectively, for 1981. The increases provided in the air program will supplement those resources in the energy area to improve standard setting for new energy sources.

The research and development effort in the safe drinking water program will be increased by over \$4 million in 1981 to a level of \$27 million, primarily to fund an initiative to improve the ability of small communities in meeting national drinking water standards. The initiative will provide information to small communities on the applicability and feasibility of existing systems designed for small drinking water systems.

The most significant increases in research and development will be in the hazardous waste program within the solid waste programs. Research in this area will increase by 86% in 1981, to a level of \$26 million. The effort is designed to increase the scientific information to improve EPA's ability to evaluate permit requests. In addition, the funds will be utilized to assess and improve existing control technology for containing hazardous wastes.

The toxic substances research program will also receive a substantial increase in 1981 of 32% to a level of \$37 million. The thrust is to improve the scientific basis of the regulatory effort by expanding the development of test standards and environmental hazard evaluations of toxic substances.

The basic research effort in EPA's interdisciplinary program was established in 1978 to identify and characterize emerging environmental problems before crises arise, provide a commitment of support to important long-term studies, and support the development of new knowledge about fundamental environmental principles and concepts. Obligations for basic research will increase \$5 million to

\$19 million in 1981. Program emphasis will be placed on carcinogens, environmental benefits, biological monitoring, integrated assessments of emerging or latent environmental problems. In addition, EPA will be contributing to a multiagency effort on acid rain.

In addition to these areas of significant increase in 1981, EPA supports research in pesticides and radiation amounting to \$12 million in 1981 devoted to improving the regulatory efforts in these program areas.

DEPARTMENT OF THE INTERIOR

Obligations for the conduct of research and development for the Department of the Interior for 1981 are estimated at \$415 million. This is a decrease of approximately \$4 million below the level of the 1980 program. This total includes increases for the research and development programs of the Water and Power Resources Service, the Office of Water Research and Technology, the Fish and Wildlife Service, and the National Park Service. The Bureau of Mines will show a decrease because of the termination of the mined land demonstration program.

The Department's R. & D. activities derive from a broad range of responsibilities for encouraging wise development of the Nation's energy and nonenergy mineral, water, land, and recreation resources, and for managing those resources on the public lands in the public interest.

In 1981, \$154 million of the Department's R. & D. funds will be obligated in support of U.S. Geological Survey programs. These include research programs directed toward providing an accurate appraisal of the Nation's mineral resources, including new or improved methods, techniques, and instruments for mineral exploration on land and on the submerged continental shelf. Basic data will be developed on geologic principles and processes, on terrain and foundation conditions, and on causes of earthquakes. A better understanding is sought of basic principles of hydrology necessary for the appraisal and evaluation of the Nation's water resources, including the effects of underground waste storage. Research is also conducted on methods of applying Earth science resource data in urban decisionmaking processes and to the application of aircraft and satellite acquired remote-sensed data in the Earth science field.

The Bureau of Mines will obligate \$110 million in 1981 for a program to investigate new technologies for surface and underground coal, as well as nonfuel mining and mineral processing. This research is designed to lead to improvements in environmental control technology and in mine health and safety; research in nonfuel mining technology emphasizes productivity improvement

as well. Research on extraction, processing, and use of nonenergy minerals will help to assure an adequate supply of raw materials to meet expanding national needs.

The Fish and Wildlife Service conducts basic and applied research to increase knowledge about fish and wildlife, e.g., their nutrition, habitat needs, diseases, and migration patterns. The relationship of fish and wildlife to their environments, particularly the adverse impacts of toxic chemicals and other changes on the habitat of species also is studied. Obligations for this R. & D. will total \$85 million in 1981.

The Office of Water Research and Technology will support research on water conservation, water reuse, land/water problems of urbanization, floods and droughts, and desalting research. The Water and Power Resources Service supports research on the efficient allocation and conservation of scarce water and water-related resources. Its programs include precipitation management with weather modification techniques, the development of water technologies for use in the solution of water and water-related problems, energy research and development of hydropower, and a new dam safety R. & D. program. Obligations for these programs will total \$47 million in 1981.

Other units within the Department with small R. & D. programs under \$10 million include the Bureau of Land Management, the National Park Service, the Office of Surface Mining, and the Office of the Secretary.

DEPARTMENT OF LABOR

Obligations for the conduct of research and development in the Department of Labor are estimated to be \$385 million in 1981, an increase of \$106 million over the 1980 level. The Employment and Training Administration undertakes almost all of the Department's R. & D. to develop and improve employment and training policies. Major R. & D. projects include:

- development of program models to improve service for welfare recipients and youth;
- better effectiveness measures for the Job Service;
- the net effects of CETA on participants' future earnings;
- the most effective preventive and compliance strategy for OSHA;
- the adequacy of private pensions;
- the incentives for a safe and healthful workplace and the role of workers' compensation; and
- the impact of the Targeted Employment Tax Credit.

Almost all of the Department's increase in R. & D. funds will go to the Employment and Training Administration to develop and test models for the jobs portion of the administration's welfare

reform proposals. The increase will support the full operating level of these projects, involving 22,000 participants in 15 cities and counties. This program will provide job search assistance and federally assisted work and training opportunities to persons eligible for welfare. Under this activity, \$281 million will be obligated in 1981.

An additional \$66 million will be obligated by the Employment and Training Administration to explore the relative effectiveness of different approaches in assisting economically disadvantaged and other youth to complete high school, enter the world of work and achieve job stability and advancement; to continue R. & D. in such areas as job sharing and flexible hours, wage systems and sex discrimination, and artificial barriers to employment; to focus on the effect of current and alternative unemployment insurance program provisions; and to develop additional information on appropriate strategies for serving welfare recipients in employment and training programs.

Other offices and agencies which conduct small R. & D. programs are the Labor Management Services Administration, the Employment Standards Administration, the Occupational Safety and Health Administration, the Bureau of Labor Statistics, the Bureau of International Labor Affairs, and the Office of the Assistant Secretary for Policy, Evaluation and Research.

DEPARTMENT OF TRANSPORTATION

Obligations for the conduct of research and development for the Department of Transportation are estimated at \$353 million for 1980 and \$379 million in 1981. The Department's R. & D. program is oriented toward providing the information and new technology needed for its own operational (e.g., air traffic control) and regulatory (e.g., automotive safety standards) programs, with a smaller effort designed to support new or improved transportation options for the Nation (e.g., automated guideway transit).

The Federal Aviation Administration, which accounts for approximately one-third of the Department's R. & D. funds (\$115 million in 1981), will support programs to continue the engineering development for the present air traffic control system and to maintain the technological momentum generated by the various development activities such as discrete address radar beacons, automated traffic advisory and resolution service, and airborne separation assurance systems. These types of technological advances are expected to reduce delays, to enhance safety, and to increase the capacity of the Nation's airports.

The Federal Highway Administration will conduct programs in highway planning and safety, and in motor carrier safety, at a level of \$48 million in 1981. Major attention is focused on increas-

ing highway, vehicle, driver, and pedestrian safety. Other areas include reduction of highway construction and maintenance costs, pollution control, and the development of advanced traffic management systems to increase the capacity and energy efficiency on the Nation's highway system.

The National Highway Traffic Safety Administration will obligate \$63 million primarily to continue programs in driver and vehicle safety factors, to continue assessment and analysis efforts on automotive fuel economy, and to expand the National Accident Sampling System.

The Federal Railroad Administration will obligate \$46 million in 1981 with major emphasis on safety research. Programs associated with improvements in freight and passenger systems will also be emphasized.

The Urban Mass Transportation Administration will obligate \$60 million to assist in the development and introduction of improved public transportation equipment and systems.

The U.S. Coast Guard program will support activities at a level of \$24 million to maintain and expand the technology base and to develop equipment crucial to the successful execution of Coast Guard operational and regulatory missions such as search and rescue, aids to navigation, commercial vessel safety, and marine environmental protection.

The Research and Special Programs Administration will obligate \$12 million to provide support to stimulate innovation in advanced transportation technology and to provide a focal point for coordination and development of technologies that can be used by more than one transportation mode.

DEPARTMENT OF COMMERCE

Department of Commerce obligations for the conduct of research and development will increase from \$371 million in 1980 to \$379 million in 1981. The National Bureau of Standards (NBS) will receive an \$8 million increase primarily to expand its basic research activities. Little change in funding in 1981 is expected for R. & D. programs of the National Oceanic and Atmospheric Administration (NOAA), the Maritime Administration (MARAD), and the Economic Development Administration (EDA). The principal objectives of the research and development programs in the Department of Commerce are to continue to improve the Nation's environmental prediction and warning capabilities, develop technology to improve the competitive position of U.S. industry, including the maritime industry, and encourage technological advancement through improved performance and measurement standards.

In 1981, NOAA will obligate \$218 million for research and development to improve the detection and tracking of weather systems and violent storms, extend environmental forecasting and data gathering programs, and modify severe storms and hurricanes. NOAA will continue to strengthen its research and development in the area of mapping, charting, fisheries management, and marine description. Some specific new activities included in the 1981 budget are: the development of advanced weather radar equipment to improve severe weather warnings, rehabilitation and upgrading of the research vessel fleet, initiation of an ocean heat storage field experiment for climate research, and multispecies (fisheries) management research. NOAA will also be participating in the new national ocean satellite system (NOSS).

In 1981, the technology development and utilization programs of NBS will be increased by work on new measurement techniques needed in the development and commercialization of very large scale integrated (VLSI) circuits. (See also the discussion of microelectronics in the section on "Interagency R. & D. Programs"). Funding will also increase in 1981 to continue building of the basic research competence of NBS and for acquisition of additional computing services. A \$5 million initiative will include work in basic metallurgy and materials science as well as a number of other basic research projects. In 1981, NBS programs will total \$84 million.

Social science research and development activities conducted by EDA explore the causes and consequences of economic distress and methods of alleviating such conditions. This research attempts to determine appropriate, specific actions to support instructional and demonstration projects of direct benefit to local and regional economic development groups. In 1981, \$46 million will be obligated for these activities.

Major MARAD research and development efforts will be directed to improve the productivity of building ships in U.S. shipyards, development of new, improved ship machinery and automation aboard ships. Increased funding is also being provided in 1981 for the development of programs in support of the Port and Tanker Safety Act. The National Marine Research Center at Kings Point, N.Y., supports program efforts by providing technology assistance. In 1981, the computer aids operations research facility (CAORF) capabilities will be expanded to provide an "interactive" bridge function necessary in conducting human factors and training requirements. R. & D. obligations for these activities will total \$21 million in 1981.

In 1981, the Department of Commerce will also undertake the establishment of three non-profit technology centers, to be jointly financed with private industry. The centers will focus on the development and transfer of generic technologies to private industry. This program is part of the larger effort described under industrial innovation initiatives in the section, "Interagency R. & D. Programs."

Other organizations within the Department of Commerce which maintain small research and development programs are the Bureau of the Census, the Patent and Trademark Office, and the National Telecommunications and Information Administration, for a total of \$10 million.

THE NUCLEAR REGULATORY COMMISSION

Obligations of the Nuclear Regulatory Commission for the conduct of R. & D. will increase from \$204 million in 1980 to \$228 million in 1981. These additional research funds will be directly employed to improve light water reactor safety.

The Commission's R. & D. base program is directed toward the improvement of data needed to verify the safety of nuclear power plants in order to assure an independent technical basis for licensing these facilities; the health effects associated with the nuclear power fuel cycle; the environmental impact of nuclear power; waste management and disposal; and the transportation of radioactive materials. Priority emphasis will be given to human factors analysis, man-machine interaction under crisis, and accident risk assessment. Increased emphasis will also be given to waste management research to support development of design and performance criteria, evaluation methodology, and the necessary regulations and guides for licensing of waste repositories. Work on long-term projects, such as experiments at the loss-of-fluid test facility (LOFT), international three-dimensional flow distribution experimental program (3-D), and boiling water reactor-counter current flow (BWR-CCFL), will continue.

DEPARTMENT OF EDUCATION

The Department of Education will obligate \$156 million for the conduct of R. & D. in 1981. This represents an increase of \$11 million, or 7%, over the 1980 level. Much of the Department's increase in basic research (\$5 million) to \$25 million in 1981 is associated with improving educational equity and practices by the National Institute for Education. The National Institute for Education and the National Institute for Handicapped Research will account for more than 80% of the R. & D. obligations of the newly formed Department of Education in 1981.

The primary mission of the National Institute for Education (NIE) is to further educational equity and to improve the practice of education. NIE will support research in several areas: improved teaching and learning practices; more effective standardized testing and evaluation of competencies especially for bilingual and minority students; continued study of the educational and occupational barriers facing women and minorities; understanding literacy and individual achievement; and studies of learning and development processes used to master basic skills especially as influenced by social and cultural differences among students. NIE's obligations for R. & D. will increase to \$88 million in 1981.

The R. & D. obligations of the National Institute for Handicapped Research (NIHR) will increase \$6 million to \$37 million in 1981, and will be conducted within the Department's Office of Special Education and Rehabilitative Services. These activities will complement ongoing R. & D. in the area of Education for the Handicapped and Vocational Rehabilitation. Research initiated at NIHR will focus on improving the rehabilitation of the severely handicapped individual through improved equipment, devices and systems suitable for resolving problems encountered in the rehabilitation process.

An additional \$13 million will be obligated by the Office of Special Education and Rehabilitative Services for innovation and development in education for the handicapped. The objectives of this program include the development and testing of educational and instructional materials and evaluation of the appropriateness of standardized tests for the handicapped. These programs constitute a response to the presidential and congressional mandates to encourage equal educational opportunities for the handicapped.

The Department of Education also supports R. & D. in such areas as language training, Indian education, and vocational education. Obligations for such programs will total \$18 million in 1981.

VETERANS ADMINISTRATION

Obligations for the Veterans Administration for the conduct of R. & D. will be \$142 million in 1981, an increase of 6% above 1980. Research and development activities in the Veterans Administration consist of medical research, rehabilitative research, and health services research programs. The medical research program is a broad intramural biomedical research program comprised of fundamental and applied medical and scientific investigations designed to benefit patients by increasing the quality and effectiveness of health care delivery. The program includes special research emphasis on alcoholism and geriatrics.

Rehabilitative research activities are directed toward developing and testing prosthetic, orthopedic and adaptive equipment to improve the care and rehabilitation of disabled eligible veterans, including amputees, paraplegics, and the blind. The health services research program provides support for projects at VA health care facilities to improve the delivery and accessibility of health services to veterans.

Increases for 1981 will provide for expanded biomedical research and additional support for rehabilitative engineering.

OTHER AGENCY PROGRAMS

An additional 17 agencies reporting R. & D. funds account for approximately 1% of federally funded R. & D., or \$465 million. Like the programs of the 14 agencies providing the majority of R. & D. support, the R. & D. programs of these agencies are closely related to the accomplishment of their missions. Taken collectively, they represent an estimated increase of approximately \$68 million, with the largest increase of \$21 million going to the Tennessee Valley Authority (TVA). Other agencies scheduling increased obligations for R. & D. are the Department of Housing and Urban Development (HUD), the Smithsonian Institution, the Corps of Engineers, and the Federal Emergency Management Agency. Obligations for R. & D. by the Department of Justice will decline. Two agencies which account for a significant portion of these R. & D. funds are the Agency for International Development (AID) and funds transferred from AID to the proposed Institute for Scientific and Technical Cooperation (ISTC), which show a combined estimate of \$125 million for R. & D. in 1981. AID will participate with other agencies in the agriculture remote sensing effort by working with potential foreign users.

This category also includes \$20 million in Funds Appropriated to the President (Energy Security Trust Fund) which will be used to initiate a new cooperative automotive research program, jointly funded by industry and government. Federal funds will be distributed among the Department of Transportation and other agencies, including the National Science Foundation.

A portion of the R. & D. budget of many agencies reporting such funds goes to economic and policy studies concerning agency activities. In some cases, such policy studies constitute the agencies' entire R. & D. effort.

SUPPLEMENTARY INFORMATION

The following table provides additional information on the long-term trends in Federal R. & D. funding.

Table K-11. TRENDS IN CONDUCT OF R. & D. BY MAJOR PROGRAM AREA

(Obligations in billions of dollars)

Year	Defense	Civilian (other than space)	Space	Total
1953.....	2.8	0.3	.....	3.1
1954.....	2.5	.3	.....	2.9
1955.....	2.2	.4	.....	2.5
1956.....	2.5	.5	.....	3.0
1957.....	3.3	.6	.....	3.9
1958.....	3.8	.7	0.1	4.6
1959.....	5.6	.9	.3	6.7
1960.....	6.1	1.1	.4	7.6
1961.....	7.0	1.3	.8	9.1
1962.....	7.2	1.6	1.4	10.3
1963.....	7.8	1.9	2.9	12.5
1964.....	7.8	2.1	4.3	14.2
1965.....	7.3	2.3	5.0	14.6
1966.....	7.5	2.7	5.1	15.3
1967.....	8.6	3.3	4.6	16.5
1968.....	8.3	3.5	4.2	15.9
1969.....	8.4	3.6	3.7	15.6
1970.....	8.0	3.8	3.5	15.3
1971.....	8.1	4.5	2.9	15.5
1972.....	8.9	4.9	2.7	16.5
1973.....	9.0	5.2	2.6	16.8
1974.....	9.0	5.9	2.5	17.4
1975.....	9.7	6.8	2.5	19.0
1976.....	10.4	7.5	2.9	20.8
1977.....	11.9	9.0	3.1	24.0
1978.....	12.6	10.7	3.1	26.4
1979.....	13.6	11.7	3.6	28.9
1980 (estimate).....	14.9	12.9	4.1	32.0
1981 (estimate).....	17.9	13.7	4.6	36.1

Section II

MAJOR ACCOMPLISHMENTS

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INTRODUCTION

Section II provides a detailed look at some of the areas that have been the focus of efforts to make Government work better. It covers the key issues addressed, the actions taken, and the improvements achieved in the six areas, described below:

1. *Improving the Efficiency of the Federal Government* describes a wide range of initiatives that have been undertaken to address problems encountered in conducting governmental operations and thereby to increase the efficiency of the Federal Government.

2. *Conserving the Nation's Natural Resources and Protecting the Environment* enumerates the steps that have been taken to protect and preserve the environment and natural resources of the United States.

3. *Solving Our Nation's Energy Problem* describes the comprehensive national energy policy, including reducing U.S. oil imports and shifting a significant part of the Nation's energy production to renewable resources.

4. *Investing in the Nation's Scientific and Technological Future* explains the increased emphasis that is being placed on basic research to increase scientific knowledge and understanding, and describes actions taken to increase the Nation's pace of technological innovation.

5. *Improving the Nation's Health* provides a comprehensive description of the efforts to improve the health services available to the American people.

6. *Maintaining National Security* specifies the actions taken to retain an equivalent strategic effort, revitalize NATO defenses, increase capability to deploy forces to troubled areas, maintain a high quality All Volunteer Force, and improve efficiency in defense programs.

1. IMPROVING THE EFFICIENCY OF THE FEDERAL GOVERNMENT

In the last two decades, there has been a dramatic expansion of the role of Government in American life. Between 1955 and 1978 the Federal Government workforce grew from 2.4 million to 2.8 million workers, an increase of 17%. At the same time the size of the State and local government workforce grew from 4.7 million to 12.8 million, an increase of 172%. With this expansion has come increased public concern about the cost and efficiency of Government operations. Much of this concern can be ascribed to disagreements over the appropriate role of the Federal Government in any given sphere of activity. A program that is considered essential to the public welfare by some is considered a waste of the taxpayers' money by others. Furthermore, the importance of efficiency as a goal may be subordinated to other goals in some programs. For example, requirements for public participation in a program can result in delayed decisions and can be criticized as causing inefficiency. But from a different point of view, such participation may be essential for the success of the program.

While the charge of inefficiency is sometimes inappropriately made and often subsumes much that is beyond the power of the executive branch to change, there are areas where the charge is legitimate and leveled at practices or conditions within Government that are clearly objectionable and subject to remedy. It is this set of practices and conditions toward which the Administration has directed significant attention. This presentation discusses in detail some of the steps that the Administration has undertaken to improve the efficiency of the Federal Government. Discussions of achievements in this area are also found throughout the budget documents, particularly in Parts 2 and 5 of the main budget volume.

The following problems are most often cited as the principal causes of governmental inefficiency (and sources of the public's complaint):

- inadequate motivation and management of the Federal work force;
- excessive and burdensome Government regulation;
- organizational confusion and duplication;
- administrative complexity involving paperwork, redtape, and delay;
- inefficiency in Federal grant programs; and

- fraud, abuse and mismanagement.

In each of the above problem areas, the Administration has initiated specific programs to attack the source of the problem. Through these efforts, organizational, procedural, and legislative changes have been developed to simplify and streamline governmental operations. The following represents a brief analysis of some of the problems addressed, and a description of the programs initiated and the results achieved.

MOTIVATING AND MANAGING THE FEDERAL WORK FORCE

Because the provision of Government service is labor intensive, the efficiency of the Federal Government depends greatly on the productivity of the Federal work force. Although available data indicate that the productivity of the Federal work force has grown at a relatively constant rate over the past 10 years, the lack of managerial flexibility allowed by the civil service system and the inadequate incentives for employees under that system had come under increasing attack when the Administration took office. Managers complained that the process of hiring employees was unduly complex and tedious, and that firing employees who performed unsatisfactorily required at best a protracted process that often involved litigation, and was usually unsuccessful. Increases in pay for almost all employees had become virtually automatic and senior managers had few tangible incentives to encourage better efforts.

To solve these problems, the President directed the Office of Management and Budget and the Civil Service Commission to develop recommendations for reforming the civil service system. After a year of study and consultation with industry, union, governmental, and Congressional representatives, the President proposed, and Congress approved, the most significant overhaul of the civil service system in the past 100 years—the Civil Service Reform Act of 1978 (P.L. 95-454). Under this act and the accompanying Reorganization Plan No. 2 of 1978, Federal managers have been given greatly increased authority, flexibility, and incentives to manage the Federal work force. Among the most important provisions are those that call for:

- the creation of a new Office of Personnel Management to provide leadership in managing the Federal work force and establishing personnel policies governing that work force.
- the creation of a Senior Executive Service (SES) for the very senior Government managers. Members of the service will be eligible for substantial bonuses based upon their performance. They can be more easily transferred within their agency as needed, and promoted or removed from the service as their performance warrants.

- a new system of performance appraisal for employees. The new system will be used as the basis for decisions to train, assign, retain, promote, reward, demote, or remove employees. The new system will be developed by each agency and must incorporate performance standards that will permit accurate evaluation of job performance on the basis of objective job-related criteria.
- a new system of merit pay for managers and supervisors. The new merit pay system for managers in grades GS-13 through GS-15 will allow differential merit pay increases based upon performance rather than length of service.
- the creation of a Merit Systems Protection Board (MSPB) to safeguard both the merit system and individual employees against abuses and unfair personnel actions. An independent Special Counsel to the Board was also established to investigate charges of prohibited personnel practices and to bring disciplinary charges before the MSPB against those who violate merit system law.
- the creation of a Federal Labor Relations Authority to oversee and improve labor-management relations within the Federal Government.

The overall civil service reform will substantially increase the incentives for efficiency within the Federal work force. It represents potentially the most significant and far reaching management achievement of any Administration in recent years.

In addition, the President has proposed a comprehensive reform of the systems used to determine compensation of Federal civilian workers. The reforms would compensate employees more fairly, improve management of the Federal work force, and save the taxpayers money. The proposals—which affect approximately 1.4 million white-collar and 0.5 million blue-collar employees—will yield annual savings of at least \$3 billion in future payroll costs upon full implementation. The legislation's centerpiece is the introduction of the concept of "total compensation" (benefits as well as pay) in determining comparability between Federal workers and private sector employees.

REDUCING THE REGULATORY BURDEN

Perhaps nowhere has the expansion of the roles and functions of the Federal Government been more apparent than in the regulatory area. The public has demanded increased safety and protection in their lives. This demand has coincided with a much greater public awareness of, and apprehension about, the consequences of complex industrial processes, chemical usage, environmental degradation, and health threats in the workplace.

In response to these demands the Government has acted to regulate those activities that potentially threaten the public's welfare. To protect the public interest, regulations covering such matters as air and water pollutants, food additives, workplace and product safety standards, health safety standards, and auto emissions have been issued by over 90 regulatory agencies at the rate of thousands of rules each year.

With this increased regulatory activity, both the public and the Government have come to understand more fully some of the negative consequences of regulatory efforts. The business community has noted the rising costs of compliance, citing increased paperwork, the cost of modifications required to comply with air and water pollution requirements and workplace safety standards, the costs arising from delays, and the loss of productive capacity. Economists cite the indirect effects of regulation in increasing inflation, lowering national productivity and restricting the U.S. competitive position in world markets. Some of the older regulatory programs have been allowed to go unreviewed for years with little attention to changed conditions.

To address these very real problems, the Administration has acted forcefully to bring the governmental regulatory system under systematic review. The President initiated a comprehensive regulatory reform program designed to revise the way regulations are developed, issued, reviewed, and implemented. Under this general program, the President has initiated several actions including:

- issuance of Executive Order No. 12044 that requires agencies to analyze the economic consequences of all major new regulations; to insure that compliance costs, paperwork, and other burdens on the public are minimized; to expand opportunities for public participation; to write rules in clear and simple English; and to eliminate unnecessary rules and update needed regulations.
- establishment of a Regulatory Analysis Review Group to prepare reports on alternative methods considered in developing particularly important proposed rules; and
- creation of a Regulatory Council that consists of executive branch regulatory agencies, to deal with areas of conflicting or overlapping regulations and to prepare a regulatory calendar that identifies all proposed major rules well in advance.

In addition, as part of the Administration's regulatory reform effort:

- The Department of Health and Human Services (HHS, formerly HEW) has eliminated 700 pages of rules, the Occupational Safety and Health Administration (OSHA) has voided nearly 1,000 unnecessary rules, and the Federal Trade Commission has cancelled 145 regulations.

- The Federal Communications Commission (FCC) rewrote its rules on citizens band broadcasting in plain English, and
- The Environmental Protection Agency (EPA) significantly streamlined its permit procedures.

Finally, in legislation proposed in 1979, the Administration's regulatory reform program would be made permanent and extended to the independent regulatory commissions.

It is clear that the protection of the public is the fundamental objective of the Government's regulatory activities. In the past 3 years, much has been done to insure that the Government's regulatory role is carried out in the most effective and least burdensome manner.

IMPROVING THE ORGANIZATION OF GOVERNMENT

As the responsibilities of the Federal Government have grown, efficiency has often taken a back seat to politics in the assignment of new functions and programs to agencies and departments. The executive branch agencies, Congressional committees, and special interest groups often have competing views about which organization should have responsibility for particular functions. The result is frequently either a diffusion of responsibility for a particular issue among different agencies, or overlapping responsibilities shared by several agencies. This confusion of responsibility often makes Government ineffective in carrying out its functions and unaccountable for its failures. Agency conflicts, duplication of effort, policy disputes, bureaucratic competition, and uncoordinated actions become the norm.

To improve the organization and management of the Federal Government, the Administration initiated the President's Reorganization Project (PRP), led by the Office of Management and Budget (OMB). The project utilized interagency teams and outside resources to identify needed organizational reforms. Since 1977 the President has proposed 13 reorganization initiatives to Congress and all were approved (9 organizational initiatives have been proposed in the form of reorganization plans, 4 in the form of legislation). Additional reforms have been made through Executive orders and administrative action, including reducing the number of Federal advisory committees by almost 30 percent.

These initiatives, described below, have strengthened the Federal Government's capacity to deal effectively with such critical issues as energy, education, national security and crisis management, and international trade and development.

ENERGY

In 1977, President Carter proposed, and the Congress approved, creation of a Department of Energy to consolidate and give unified

direction to three major energy organizations that were addressing related energy issues with little or no coordination. In 1979 it became evident that new and innovative energy organizational reforms were needed to help reduce our dependence on foreign oil importation. The President has, therefore, proposed the creation of two new energy organizations: an Energy Mobilization Board to expedite Federal, State, and local decisions on proposed energy facilities critical to meeting our goals for reducing our dependence on foreign energy sources, and an Energy Security Corporation to spur development of a domestic fuels industry through a program of financial risk-sharing with the private sector. Reorganization authority has already been used to consolidate enforcement functions related to the proposed Alaska Natural Gas Transportation System under a single Federal inspector. This reorganization creates a unique institution to manage the Federal role in a critical energy project, insuring timely completion of the natural gas pipeline at the lowest possible cost consistent with Federal regulatory policies.

In another energy-related initiative, the President will soon submit to Congress a reorganization plan to strengthen the internal management and effectiveness of the Nuclear Regulatory Commission (NRC). This reform is aimed at increasing the ability of the NRC chairman to integrate and lead the agency in activities which require prompt and disciplined action, such as inspection, enforcement, and emergency response. This is an important step in the President's effort to insure that nuclear power is a safe and acceptable domestic energy source.

EDUCATION

One of the most significant accomplishments of the reorganization effort is the creation of the Department of Education. For the first time, one agency and Cabinet official is responsible for Federal aid-to-education programs. It gives education the Cabinet voice and national leadership this important function deserves. Through consolidation of 152 programs from six agencies (the Departments of Health and Human Services (formerly HEW), Housing and Urban Development, Justice, Labor, and Defense, and the National Science Foundation) and the reduction of redtape, the Federal Government will be able to manage its education role more efficiently.

INTERNATIONAL TRADE, DEVELOPMENT, AND COMMUNICATIONS

Congress recently approved a major reorganization to strengthen the Federal Government's international trade functions. By centralizing authority and focusing accountability for overall trade policy in the Office of the U.S. Trade Representative, and by strengthening the Commerce Department's ability to implement

this trade policy, this reorganization will help the Federal Government insure that trade opportunities for American business under the Multilateral Trade Negotiations (MTN) agreements are fully realized. In conjunction with MTN, this reorganization of trade functions is a major step in increasing the Government's capacity to strengthen the export performance and import competitiveness of U.S. industry.

Changes have also been made in the organization of U.S. international development activities. In 1979, a reorganization plan combined several U.S. international development assistance programs into a new International Development Cooperation Agency. This reorganization will strengthen coordination of U.S. economic policies affecting the developing countries, providing a more coherent development strategy and insuring that U.S. bilateral programs, and the multilateral programs to which we contribute, better complement each other. This plan carries out reforms in the organization of foreign aid programs first proposed by the late Senator Hubert Humphrey.

Another successful reorganization in the field of international relations was the creation of the International Communication Agency to coordinate U.S. international cultural affairs and information programs. This reorganization provided a more efficient and objective setting for the conduct of U.S. public diplomacy by unifying in Washington the management of activities which were already administered together in the field. Creation of the International Communication Agency provided a new framework to foster and encourage the interchange of information and experiences between the United States and other nations.

NATIONAL SECURITY AND CRISIS MANAGEMENT

Reorganization initiatives have been proposed to strengthen the Government's ability to better manage and coordinate its national security apparatus and to respond quickly and effectively to both international and domestic crises. In the area of national security policy, the Administration conducted a review of executive branch coordination processes with the goal of making national security actions more consistent with each other and with national priorities. The project examined the Government's capacity to identify early those issues requiring interagency or Presidential decisions and to oversee implementation of decisions. The project has resulted in more effective coordination among agencies involved in national security planning and decision-making, particularly in preparing staff work for the President, developing defense policy, programs and budgets, and preparing for potential crises.

To improve crisis management in civilian emergencies, the Administration proposed, and Congress approved, the consolidation of

five organizational units responsible for handling emergency preparedness and response functions for the Government into the Federal Emergency Management Agency. State and local government officials were strong supporters of the consolidated agency, having previously criticized the Federal Government's uncoordinated preparation for, and response to, emergencies. The Federal Government's swift response to communities damaged by Hurricane Frederick in 1979 demonstrates the improved effectiveness in service delivery resulting from this reorganization.

PERSONNEL MANAGEMENT

Reorganization authority was also used to make needed organizational improvements in the civil service system as part of the overall civil service reform effort discussed above. This reorganization, dividing the civil service system into an Office of Personnel Management (OPM) and an independent Merit Systems Protection Board (MSPB), clearly established responsibility for personnel performance in OPM, and protection of employee merit system rights in the MSPB. The reorganization plan also created a Federal Labor Relations Authority to improve labor/management relationships within the Federal workforce.

REORGANIZATION OF REGULATORY ACTIVITIES

Complementary to the comprehensive regulatory reform efforts discussed above, organizational reforms have been implemented in several areas to reduce the burden of compliance with Federal regulations. For example in the area of pension regulation, a reorganization plan was used to clarify the responsibilities of the Departments of Labor and Treasury for implementing the Employee Retirement Income Security Act (ERISA), to reduce the paperwork burden involved in the administration of this program, and to require more timely responses to applications.

The Administration has also used reorganization authority to streamline civil rights enforcement, reducing jurisdictional overlap and duplication. In 1978, the Administration began movement toward a consolidation of the Government's equal employment opportunity enforcement activities. Formerly, employers had to deal with 18 different agencies to insure compliance with Federal regulations. With the passage of Reorganization Plan No. 1 of 1978, the Equal Employment Opportunity Commission (EEOC) was given principal responsibility for fair employment enforcement. A related executive order also gave the Department of Labor the responsibility, formerly spread among 11 agencies, for insuring that Federal contractors comply with equal employment standards. A civil rights unit has recently been established in the Office of Manage-

ment and Budget to strengthen monitoring of the Government's overall civil rights enforcement effort.

USING ZERO-BASE BUDGETING IN THE FEDERAL GOVERNMENT

Over the years, as the Federal Government's programs, functions and responsibilities continue to expand and compete for limited resources, the efficient and effective use of the taxpayers' dollars has become a major concern of the public. Recognizing the importance of budgeting techniques in determining not only the level and type of services provided but also how well they are provided, the President was prompt to carry out his commitment to institute zero-base budgeting (ZBB) in the Federal Government.

Beginning with the 1979 *Budget*, the Federal Government began to use ZBB, a systematic process in which management undertakes a careful examination of the basis for allocating resources in conjunction with the formulation of budget requests and program planning. The results of the 3-year experience with ZBB have been highly satisfactory.

One of the major goals in establishing ZBB was to increase managerial involvement in the budget process. Because of ZBB, there is now increased participation at all levels of management in the budget process, and consequently a better understanding throughout the Federal establishment of the relationship among policy initiatives, program planning, resource allocation and effective program execution. ZBB also provides for increased emphasis on setting objectives and priorities and greater emphasis on alternative methods of accomplishing these objectives.

Even more important, ZBB requires managers to analyze systematically the effects of various funding levels on the agency's ability to carry out its mission. It requires ranking of activities and resources in priority order. These rankings indicate how program objectives can best be achieved at a given funding level. As a result, the ZBB process provides an explicit statement of priorities, facilitates comparisons between programs, and stimulates consideration of trade-offs within and between programs. It has proved helpful in identifying areas where savings could be realized with the least sacrifice of program performance and service to the public.

In addition to these benefits, the zero-base budgeting system has also permitted significant innovations in OMB's central review techniques. In the last 2 years, several interagency reviews have resulted in more integrated, systematic examination of programs with similar or related objectives.

Similarly, zero-base packages ranked by each agency at the margin of its budget total were reranked on a Government-wide basis.

This provided a more systematic basis for balanced even-handed decisions.

In sum, ZBB has proved useful in efforts to improve Federal programs by making it possible for decisionmakers at every step of the process to examine budgets and programs with greater understanding and facility. It provides the basis for more rational and orderly decisionmaking in the Federal Government. It has also proved helpful to the President in his evaluation of budget requests and has provided him with the analytical tools to facilitate—but not substitute for—the trade-offs that are a legitimate part of decisionmaking.

The current inflation continues to require restraint in the growth of Federal spending. ZBB is ideally suited to the task. ZBB has made it possible to compare programs more easily, to make more informed judgments, and it has facilitated the decisionmaking process necessary to assure that the best Government services possible will be provided for the taxpayer's dollars.

REDUCING PAPERWORK AND ADMINISTRATIVE COMPLEXITY

With the expansion of Government responsibilities, there has been a corresponding increase in the complexity and paperwork associated with these activities. While the economic costs of this paperwork burden are difficult to estimate, it is generally agreed that the costs could be billions of dollars each year.

Some paperwork is both important and necessary. It enables the Government to accurately determine citizens' eligibility for benefits such as social security, unemployment compensation, and disability payments; to collect tax revenues; to account for Government expenditures; and to prevent fraud and misuse of public funds. However, the great number and variety of Government programs create paperwork burdens that are at times excessive, duplicative, or wholly unnecessary. To combat the problem of growing administrative complexity and paperwork, the Administration has initiated a number of efforts to simplify procedures and reduce the burden of paperwork on the public. Two of these efforts are described below.

PAPERWORK REDUCTION PROGRAM

Implementing the recommendations of the Commission on Federal Paperwork, the Administration revised its method of measuring the annual paperwork burden imposed on the public by Government agencies and programs and worked with agencies to consolidate, streamline, and simplify forms and reporting requirements. The result has been a decrease since January, 1977, of almost 15% in the number of hours the public spends filling out Government forms. This represents a reversal of the trend toward increased Government paperwork experienced in the 1960's and early 1970's and has resulted in greater governmental efficiency in collecting

necessary information. To insure continued progress in this area, in 1979 the President issued Executive Order No. 12174 that established a mandatory paperwork budget for all executive branch agencies and required a "sunset" review of all existing forms.

In addition, the Administration has submitted legislation to the Congress to eliminate or modify 224 recurring reports that executive branch agencies are required to submit to the Congress. These reports appear to be redundant and unnecessary. Passage of this legislation, combined with the elimination or modification of 56 other reports by administrative action, will result in estimated annual savings of \$5.5 million to the Federal Government and much more to the public.

SIMPLIFICATION OF ELIGIBILITY REQUIREMENTS

One of the most difficult tasks that Government agencies have in operating public assistance programs is to determine with precision who is eligible for these programs. The numerous assistance programs with varying eligibility criteria have generated confusion in the minds of clients and inconsistency in program operation. To remedy this, in the fall of 1979 a Task Force created by the President and chaired by the Office of Management and Budget and the Department of Health and Human Services (HHS, formerly HEW) recommended a series of steps to standardize Federal requirements, to simplify the eligibility process for the clients, and to assure consistent Government-wide implementation of policies regarding eligibility in seven major assistance programs. These recommendations could serve as an important first step in simplifying the eligibility process and as a model for further efforts.

STREAMLINING THE FEDERAL AID SYSTEM

The expansion of the Federal Government's role and responsibilities has been matched by an increase in the number and complexity of different Federal grant programs, each having somewhat different requirements and guidelines, and administered by different agencies. In addition, major national policy objectives, such as eliminating discrimination, protection of the environment, payment of prevailing wages, and provision for the handicapped have been imposed as general assistance program requirements. Procedural duplication, administrative delays and inconsistencies, and further increases in paperwork and personnel have been the result.

OMB is completing a 2-year study of ways to improve Federal assistance management. A report will be submitted to Congress in February documenting assistance problems, describing what the Administration is doing to solve them, and recommending congressional actions, where appropriate. This study, the first of its type, has involved hundreds of Federal employees, aid recipients, and informed observers of assistance programs across the Nation. Its

recommendations are built upon the proposals of State and local governments, universities, and other recipients, as well as the Federal agencies. The report will present a multi-year agenda for improving the management of Federal assistance.

SIMPLIFICATION OF PLANNING REQUIREMENTS

One of the major sources of complaints from grant recipients is the duplicative and burdensome planning requirements associated with Federal programs. Intended to insure coordinated and comprehensive planning prior to using Federal funding, these requirements sometimes call for the generation of extensive information in annual plans to satisfy Federal officials that adequate planning is being done for each Federal program. OMB is presently leading an effort to simplify grant planning requirements, make them more uniform across programs, and reduce the burden they impose. Agencies are also being encouraged to revise, consolidate, and simplify their grant requirements. In 1980, for example, the Department of Health and Human Services will begin integration of the eleven separate State plans now required for health programs.

STANDARDIZATION OF FINANCIAL REQUIREMENTS

The financial requirements established by Federal agencies for the recipients of Federal assistance have been standardized and simplified. Prior to standardization, each Federal agency developed and issued its own requirements. There was no consistency among the requirements of the various agencies. This created a major administrative problem for recipients who were awarded grants from different sources.

To remedy this problem, a comprehensive system of financial guidance for all Federal assistance programs has been established. Under the new rules for State and local governments:

- one application form replaces hundreds that were previously in use;
- standard financial reports fill the needs of all programs;
- bonding and insurance provisions are the same; and
- grant records are required to be kept no more than 3 years, regardless of the source of Federal aid.

In addition, during the past year, principles for determining costs under grants to educational institutions have been revised and clarified, standard audit rules have been issued, and, for the first time, uniform principles for the determination of costs under grants to nonprofit institutions have been developed. Some of these improvements are discussed in more detail later in this section.

GRANT CONSOLIDATION

Part of the complexity in the Federal grant system arises from the large number of different grant-in-aid programs. The number of such separate grant programs has risen from approximately 160 to over 470 since 1962, despite the fact that most of the aid (81%) is found in only 25 programs. To reverse this trend toward an increasing number of small grants, the Administration has proposed to consolidate within the budget process several grant programs having similar objectives and serving similar client groups. This would allow more efficient grant administration without sacrificing program objectives or quality.

Grant consolidations, or actions to give States and localities more flexibility in the use of grant funds, were approved or have been achieved or proposed in 10 program areas:

- Consolidations have been achieved in three areas. Grant consolidations in the cooperative forestry program were authorized by the Cooperative Forestry Act of 1978. Some programs for the elderly were consolidated in the 1978 Amendments to the Older Americans Act, and some consolidations were requested by the Administration and approved by the Congress in 1979 for vocational rehabilitation.
- Legislation that would permit some consolidation actions in four areas (airport development, economic development, energy conservation, and environmental programs) is currently before the Congress.
- Three additional consolidation proposals are in the 1981 budget: health programs, youth training and employment programs, and fish and wildlife grants. A new consolidation is proposed for vocational rehabilitation programs in addition to those already achieved.

Another major program coordination effort, known as the Employment Initiatives, has made procedural changes linking the Federal economic development programs in various agencies with the Department of Labor's employment and training programs. These changes are intended to provide direct access for persons in Federal job training programs to new permanent, private sector jobs created through Federal development projects.

URBAN AND COMMUNITY IMPACT ANALYSIS

As part of the President's urban policy, announced in March 1978, a new procedure was established to identify the potential urban and other community impacts of major Federal Government initiatives in advance of decisions. This reflected the Administration's recognition of the need for more effective analysis of Federal policy initiatives to anticipate their potential for adverse impacts

on the cities and regions of the country. This new policy requires urban and community impact analyses of all major budgetary, legislative, and regulatory initiatives proposed by Federal agencies. An interagency system for preparing these analyses, under the supervision of OMB, has now been in operation for nearly 2 years. It represents a major innovation in the Administration's effort to more effectively coordinate the effects of Government policies.

IMPROVING MANAGEMENT IN THE FEDERAL GOVERNMENT

The size of the Federal budget and the large number of diverse programs supported by this budget make strong program management and financial accountability essential to promote economy and prevent fraud and abuse. In addition to the implementation of zero-base budgeting described earlier, the Administration has taken a number of other specific steps to increase Government financial controls and management capacity.

PRESIDENT'S MANAGEMENT IMPROVEMENT COUNCIL

In the spring of 1979, the President created a Management Improvement Council to address particular management problems which the Government faces. Chaired by the Directors of the Office of Management and Budget and the Office of Personnel Management, its members are drawn from industry, labor unions, universities, Federal agencies and State and local governments. The Council's purpose is to advise the President about specific management improvements that the Federal Government could undertake to improve its operations and to assist in implementing those reforms.

One of the first tasks of the Council is to provide advice and assistance to the debt collection project of the Financial Priorities Program. The Council has also initiated efforts to assist both the Health Care Financing Administration in improving the administration of its experimental programs and the General Services Administration in the provision of Federal Government supplies and services. The Council represents an example of the Administration's commitment and efforts to bring in outside expertise to assist with Government programs.

PREVENTION OF FRAUD AND WASTE

To uncover, investigate, and prevent fraudulent and wasteful practices in the Government, in 1978 Congress approved Administration-backed legislation establishing an Office of Inspector General in 12 Departments and agencies, bringing the total number of statutory Inspectors General (IG's) to 15. The IG's are given a substantial measure of independence and control over audit and investigation responsibilities in their agencies. The legislation rep-

resents an important step in insuring honesty and integrity in Government operations and the President has directed that the significant features of the act be extended throughout the Government. In doing so, the President emphasized to the heads of departments and agencies that "eliminating waste, fraud, and error should be as important to you as your program objectives."

To coordinate the functions of the Inspectors General, the President has established an Executive Group to Combat Fraud and Waste in Government. This Group, consisting of the Inspectors General, and representatives from the Federal Bureau of Investigation, Office of Management and Budget, Internal Revenue Service, Postal Inspection Service, and Office of Personnel Management, and chaired by the Attorney General, will focus its attention on ways in which the Administration can prevent fraudulent practices in Government.

In addition, through the Inspector General Offices, the agencies and departments are initiating their own efforts to fight fraud and waste in their programs and exercise tighter control over program resources. For example, the Department of Health and Human Services program to reduce fraud and abuse has generated reductions in costs totaling approximately \$900 million in 1979 and projects cost reductions of \$1.3 billion in 1980, principally through better financial management, more effective audit follow-up, and better eligibility determination procedures. This effort focused on reducing costs in two major program areas, health care financing and income maintenance.

FINANCIAL MANAGEMENT IMPROVEMENT

The Administration has developed two programs to increase the efficiency with which the Government manages its funds.

The first program, the President's Cash Management Project, was designed to improve the way cash is handled by the major agencies and departments in an effort to more efficiently manage the cash flow of the Federal Government. This program developed more effective ways of paying the Government's bills on time, thus avoiding the interest costs associated with the early payment of bills and penalties for late payments. It also involved investing idle cash-on-hand to generate greater interest payments. This program, alone, is expected to generate savings of over \$400 million in 1980, and in 1981 and 1982 annual savings totaling almost \$1 billion are expected.

A second program launched by the Administration, the Financial Priorities Program, is designed to direct top management attention to needed improvements in agency financial systems. The priorities were worked out by OMB in consultation with the Congress, the

Comptroller General, and the agencies. The priorities that were approved by this group focus on:

- *Accounting systems:* The goal of this effort is to obtain General Accounting Office approval of all accounting systems.
- *Internal control:* The program will upgrade control systems to reduce the risk of fraud, abuse, waste, and inefficiency.
- *Cash management:* The program will build upon the work of the President's Cash Management Project.
- *Audit follow-up:* The purpose of work in this area will be to resolve audit findings promptly and properly.
- *Outlay estimating:* The program will seek to improve accuracy and timeliness in estimating outlays.
- *Debt collection:* The program will encourage proper accounting, and prompt aggressive debt collection.
- *Overtime:* Accurate accounting, and tighter control of overtime are the objectives in this area.
- *Grant financing:* The program will try to increase the use of letters-of-credit and electronic funds transfer, and recover unspent funds.
- *Grant accountability:* The program will seek the full implementation of cost principles and standard administrative requirements.

When this program began, agency financial systems had many weaknesses. There were reports of major breakdowns in fund control, with millions of dollars being overobligated. Audit reports citing billions of dollars in questioned costs were going unresolved, sometimes for years. Hundreds of millions in unspent grant funds were being retained by recipients. Cash management practices and debt collection practices were extremely sloppy.

The Financial Priorities Program is showing gratifying results. The backlog of unresolved audit findings has been substantially reduced. One agency alone has collected unspent grant funds of \$75 million. Letters-of-credit are now used for over \$100 billion in Federal aid, and the President's debt collection project is expected to make substantial progress in reducing the amount of the Federal Government's bad debts. This program represents an ongoing Government-wide effort to be continued over several years and will significantly increase the Government's ability to manage its resources wisely.

AUDIT REFORM

As suggested earlier, major changes are also taking place in the way Federal programs are audited. Audits are now in the hands of Inspectors General (IG's), as a result of the Inspector General Act of 1978.

Audit coordination has always been a problem in Federal aid programs. Since many grant recipients receive funds from more than one program, State and local governments have had to undergo repeated audits of the same set of books by several Federal auditors—each representing a different funding source. Many grant recipients were audited by State and local auditors as well.

The President, in his first year in office, called upon the heads of departments and agencies to improve their audit systems, particularly as they relate to grant programs. He urged them to upgrade audit planning, and to “use their audit plans as a basis for making greater efforts to improve interagency cooperation on audits, to increase Federal coordination with State and local auditors, and to increase reliance on audits made by others.”

To improve the effectiveness of audits, steps have been taken in the following areas:

- *Audit followup.*—In order to correct the long delays that have been experienced regarding administrative action on audit findings and recommendations, regulations have been issued that set a 6-month time limit on the resolution of audit findings and recommendations, establish procedures for resolving major disagreements between audit and program officials, call for semiannual reports to agency heads, and require periodic evaluations of audit followup systems.
- *Single audit guide.*—Regulations have been issued setting forth standard audit rules for the audit of grants to State and local governments. The regulations call for a single, coordinated audit on a Government-wide basis; incorporate a standard audit guide to replace more than 100 that are now in use; and call for a system of audit cognizance that would allow one Federal agency to act for all agencies in dealing with a single grantee.
- *Reliance on State and local audits.*—Negotiations are continuing with State and local officials to upgrade audit capability and eliminate duplication of audit work by Federal auditors when State and local government audits satisfy Federal requirements and needs.
- *University audits.*—Regulations have been revised with regard to the auditing of grants to universities. The revision continues the policy of relying on a single agency to act for all agencies in auditing universities and in negotiating their indirect cost rates. It adds to those duties the responsibility to follow-up on audits by assuring correction of system deficiencies and by negotiating appropriate monetary recoveries.

IMPROVED QUALITY CONTROL IN FEDERAL BENEFIT PROGRAMS

Federal programs provide essential income and in-kind benefits to millions of eligible individuals each year. These programs are complex; some are not under Federal control but are administered by State agencies; and each one involves millions of individual calculations and items of information collected from the public.

In order to monitor the accuracy of benefits received by persons participating in these programs, insure that eligible individuals receive all benefits to which they are entitled, and reduce payments in error, the Administration has undertaken a broad initiative to implement and improve quality control systems for these programs. Under the Administration initiative, new quality control systems have been established, existing systems have been improved, quality control techniques have been pilot-tested in selected programs, and quality control requirements for the State-administered aid to families with dependent children, medicaid, and food stamp programs have been integrated.

PROGRAM REFORMS

In its efforts to manage the Government better, the Administration has instituted the Government-wide reforms described above. It has also taken a number of specific actions designed to improve the operations of individual programs and resolve unique problems. These actions often receive little or no attention outside of the agencies affected and may not be recognized by the public as making a large contribution to improving Government. Taken together, however, they can have a significant impact on the Government's ability to deliver services efficiently and effectively. While it is impossible to describe all of the reforms undertaken by Government agencies, some examples of the kinds of projects that have been initiated to improve specific Federal programs are outlined below.

IMPROVEMENTS IN PROGRAM STRUCTURE

Several agencies have found that a more decentralized program structure would enable them to reach their goals more effectively. For example, in 1979 the Economic Development Administration (EDA) found it worthwhile to delegate expanded authority to Regional Directors. As a result, fewer than 25% of all EDA projects now need to be approved in Washington. In addition, plans are continuing that would further expand this decentralization to 10 regions to conform to the standard Federal regional structure. This should improve the coordination of these programs with other Federal agencies and provide better service to EDA's clients.

In a similar way, the Administration's restructuring of Federal criminal justice assistance and research will substantially improve the operation of programs in this area. The Administration proposed and the Congress enacted legislation authorizing the reorganization of the Law Enforcement Assistance Administration. An Office of Justice Assistance, Research, and Statistics (OJARS) has been created to provide support and coordination for (1) a National Institute of Justice to undertake civil and criminal research, (2) a Bureau of Justice Statistics to gather and disseminate statistics on criminal and civil matters and to provide assistance to State and local governments in their development of statistics, and (3) a Law Enforcement Assistance Administration to administer grant programs. These changes will reduce redtape and paperwork, and give cities and counties more direct control over the Federal funds they receive for criminal justice assistance. Also, by creating a National Institute of Justice separate from the financial assistance programs, the Administration hopes to assure the objectivity and independence of research and development.

SIMPLIFICATION OF PROGRAM REQUIREMENTS

As discussed earlier, the Government-wide efforts to simplify planning and eligibility requirements in Federal programs are producing promising results. Yet, just as significant have been the initiatives undertaken by individual agencies to simplify their requirements, rules, and guidelines.

For example, as the result of a policy decision to focus Food Stamp resources on those most in need of services, the administration of the food stamp program has been greatly simplified by ending the cumbersome requirement to purchase food stamps.

In three other areas, similar results have been achieved:

- The Administration's youth initiative legislation will combine and enhance programs now making grants to States and local governments for youth training and employment. In addition, it will integrate into the revised program the planning and administration of the summer youth employment program. As a result, local recordkeeping, applications and reports, and program administration will be greatly simplified.
- As a result of the Social Security Financing Amendments of 1977, employers now report employee wages annually rather than quarterly, a change that has significantly reduced administrative costs and paperwork for both the private sector and the Federal Government.
- The Occupational Safety and Health Administration (OSHA) has undertaken a major overhaul of safety standards to make

them simpler, more sensible, and more effective in preventing job-related injuries and deaths:

- Construction industry standards were consolidated into a single, readily usable package.
- Fire-protection standards are being streamlined. OSHA has proposed that 2,400 old “consensus” standards be replaced with simpler rules. If the proposal is promulgated as proposed, 400 pages of regulations will be condensed to 32.
- Electrical safety standards are being simplified and refined. In 1979, OSHA proposed to shorten existing electrical standards for general industry from 250,000 words to 15,000, while retaining all provisions necessary for worker protection. The proposed changes will make requirements both performance-oriented and easier to understand.
- An OSHA policy has been proposed which will identify and classify potential occupational cancer hazards and establish models for future specific standards for these carcinogens.
- OSHA paperwork requirements have been reduced, particularly for small businesses. The Federal Commission on Paperwork has estimated that OSHA has saved businesses more than \$100 million a year through paperwork reforms. Almost all small businesses with 10 or fewer workers have been exempted by the Department of Labor from health and safety recordkeeping requirements. The number of entries required of businesses on the standard reporting form, “Log and Summary of Occupational Injuries” has been reduced by 75% (from 80 entries to 19). This streamlined form replaces three old forms.

TERMINATION OF PROGRAMS

Large budget savings are usually achieved more by cutting back or redirecting large programs, rather than by terminating them. Programs that are terminated tend to be small and, individually, the savings are not large compared to the budget totals. Such terminations, however, are essential if Government is to be efficient. A few of the programs already terminated or proposed for termination in this budget are:

- health professions training programs that are no longer needed to increase the supply of health professionals.

- grants for the development of private, nonprofit home health agencies. Where needed, funds are provided through medicare and medicaid reimbursements, and thus, a separate grant program is no longer needed.
- highway programs. These include aid for roads that are not part of the Federal aid highway system, the Alaska highway, access highways to some public recreation areas, and demonstration projects for railroad crossings.
- Twelve consulates abroad that the President has decided are no longer needed for essential services. Annual savings of about \$3 million and 80 employees will result from the closing of these consulates.

PREVENTION OF FRAUD AND ABUSE

In response to the President's call for vigorous efforts to prevent fraud and waste in Government programs, the departments and agencies have taken a number of specific actions to achieve this end. Some examples of these actions are:

- In the food stamp program, pending legislation would permit a system under which administrative funds could be withheld from States with excessive errors. It is expected that the possibility of withholding funds would be sufficient incentive for States to improve their administration of the food stamp program. These and other changes could save as much as \$1 billion over the 1981-85 period.
- Several initiatives would reduce the incidence of fraud and abuse in the school nutrition programs. The administration has proposed the assessment, improvement, and monitoring system program (AIMS) to assure that reimbursements are made within the provisions of current law and that school authorities meet clear standards of performance for meal service. This program is expected to take effect in 1981 and produce \$65 million in savings in the first year.
- For the summer feeding program, legislation is being proposed to restrict the participation of private sponsors who use private vendors to provide meals. This action is expected to save approximately \$266 million over the 1981-85 period.
- The Inspectors General in the Departments of Agriculture and Health and Human Services have instituted a computer matching system to compare names of welfare recipients with the names of persons receiving State unemployment benefits and the names of wage earners on Federal, State or local government payrolls. This fairly simple technique has frequently identified aid recipients whose income makes them ineligible. And it has been highly effective in the detection of fraud.

- In 1979 the Department of Health, Education, and Welfare began a major initiative to collect defaulted higher education loans guaranteed by the Federal Government. This effort will continue in 1980 in the new Department of Education and be expanded to include defaulted direct student loans. An estimated \$73 million in defaulted loans will be placed in repayment status. Additional savings of over \$100 million will be achieved through more rigorous review of basic educational opportunity grant awards to higher education students. The Department of Education will also continue the intensive reviews of grants to States for compensatory elementary and secondary education for disadvantaged children begun in 1979. It is estimated this effort will identify nearly \$30 million in misspent funds.

IMPROVEMENT THROUGH TECHNOLOGY

The Administration has also sought to apply modern information technology—computers and telecommunications—to agency programs in order to expand the capability and productivity of the Federal work force without increasing its size. Examples of specific programs that have benefited from the use of this technology follow:

- The use of electronic funds transfer by the Department of the Treasury has resulted in significant interest savings by permitting faster deposits of receipts from the sale of gold, foreign military sales, and similar transactions. These savings totaled \$18 million in 1977, \$26 million in 1978, and \$60 million in 1979. The savings are expected to reach at least \$350 million between 1980 and 1984. The Department of the Treasury has also significantly increased the use of electronic funds transfer as an improved Government payment system. These transfers now account for approximately 25% of all Government payments, and by 1985 this could increase to 55%. This has not only saved resources but also decreased the chances of both theft and forgery of Government checks.
- The Federal Bureau of Investigation is developing the automated identification division system (AIDS) to perform fingerprint identification by computer and replace the current methods of identification. The new system will be implemented in 1982 and will save \$9.4 million by 1986.
- Social security applicants can now frequently complete their application with a single visit to the local office because of computer access to social security employment records. Formerly, a second visit was necessary with delays of weeks while records were processed manually and mailed to the local offices.

- In 1981, the Patent and Trademark Office will begin automation of its trademark search files. It is expected that this will increase the productivity of trademark examiners by as much as 10% and result in cost savings of over \$750,000 annually.
- The Internal Revenue Service installed an automated data system to check the accuracy and currency of taxpayer identification data, enabling the Service to reduce its staff by 200 individuals.

SAVINGS THROUGH PROGRAM EFFICIENCIES

Reducing the costs of Government operations and services is an ongoing objective of the Administration. Again, although the actions of the departments and agencies in generating savings are too numerous to list, the following are illustrative:

- The Corps of Engineers has saved \$1.2 million by tightening eligibility requirements for the rehabilitation of nonfederally owned flood control projects. The Corps has also generated energy savings by modifying the operation of hydropower generators to increase output during peak hours of demand and thus help public cooperatives and private utilities achieve savings. During the last year, approximately 216,000 barrels of oil were estimated to be saved and continuation and improvements in this program should result in an annual saving of over one-half million barrels of oil.
- The Federal Railroad Administration recently initiated a comprehensive review of its safety rules that could eventually result in annual savings of as much as \$500 million to the financially troubled railroad industry without adversely affecting safety.
- In the Federal Aviation Administration, employment savings were realized through: (1) major reorganizational changes which reduced headquarters staffing, (2) the updating of staffing standards to insure that operational personnel were properly assigned to efficiently meet the demand for services, and (3) the initiation of a maintenance program requiring less frequent maintenance visits. These actions allowed the agency to assign over 1,100 more personnel to high priority activities such as air traffic control and flight safety inspections.
- The Federal Aviation Administration is also reviewing air routes to provide for more efficient flight paths. Flight paths between the West Coast and Hawaii have already been changed and, without sacrificing safety, the changes could save up to 25 million gallons of aviation fuel annually.
- Last May, the President directed that the State Department and the Office of Management and Budget review staffing levels of American employees of all agencies assigned to diplo-

matic missions abroad. These efforts have resulted in a reduction of 626 positions proposed by agencies for 1981.

- In April 1979, as part of his energy message, the President announced plans to phase in parking fees for Federal employee parking lots in urban areas. The fees are intended to encourage carpooling and transit use. This plan, implemented on November 1, 1979, affects about 13,000 parking spaces nationwide, and will recover about \$20 million in 1980. By 1982, the Government expects to save about \$40 million annually.
- The Federal Government is committed to phasing out its own use of gas-guzzling automobiles by requiring new automobiles to be more fuel efficient. For model year 1980, for example, the national average is 20 miles per gallon (mpg), while Federal automobiles purchased must average at least 24 mpg. Because about one-sixth of the Federal fleet is replaced each year, major progress has already been made since the fuel-efficient requirements began in 1978.
- Since January 1977, the Department of Defense has eliminated approximately 24,000 military and civilian positions as a result of base realignments, consolidations, and closures. The estimated annual savings that will ultimately result from these actions are over \$375 million. In addition, final decisions are pending on actions that would increase the annual savings to over \$500 million a year.
- Reductions are proposed in this budget that would eliminate duplication in energy-related programs in environmental control and mining research, with savings of about \$29 million.
- In an effort to reduce the cost of Government operations through the appropriate use of private sector versus Government personnel, the Office of Management and Budget conducted a two year study and, in 1979, issued revised guidance on contracting out, Circular No. A-76. The guidance to Government agencies stresses a balanced approach and an emphasis on comparative cost considerations in determining whether to rely on the private sector or the Government to carry out particular functions. Over the next 3 years, all Government activities providing a product or service that could be obtained by contract, and contracts for services that could be performed by the Government directly, are to be studied under this new circular to determine the most cost-effective method of performance. For example, the first two studies completed under the new guidance indicate that agency implementation will result in substantial savings to the taxpayer. In a Department of the Treasury study of gold refining at the New York Assay Office, the Government oper-

ation was streamlined to save approximately \$400,000 per year which made it more economical than commercial refining and justified continuation of the activity. On the other hand, the Department of Interior's Bureau of Mines reviewed the operation of a Government plant at Bruceton, Pa., and determined that contract operation of the plant would result in savings of \$2.7 million.

In this presentation, some of the more important improvements in the efficiency and operations of the Federal Government have been discussed. Although problems still remain, the progress to date has been impressive. As a result of the initiatives and reforms discussed above, the Federal Government and the public today benefit from the steps taken both to motivate and manage the Federal work force and to eliminate excessive regulation, organizational duplication, administrative complexity, and fraud, abuse, and mismanagement. The Federal Government is today both more responsive and more accountable to the American public than it has been in the past.

The improvements made reflect the Administration's commitment to the goal of a Federal Government that imposes as little burden and cost on the public as possible while guaranteeing the responsive and efficient provision of necessary Government services.

2. CONSERVING THE NATION'S NATURAL RESOURCES AND PROTECTING THE ENVIRONMENT

The United States has an abundance of land, water, and other natural resources. Until recent years the importance of protecting and using these resources in a prudent manner has often been neglected either because of inadequate information on adverse effects of certain practices or because of lack of concern. This Administration has identified serious threats to the health and well-being of the populace and to the Nation's land, wilderness, and water resources. Since 1977, President Carter has taken over 100 actions in terms of making new policies, transmitting legislative proposals and issuing executive orders and Presidential directives. These steps were taken to insure that:

- The environment is protected consistent with economic growth and development, and
- Natural resources are developed and used in a careful and prudent manner with adequate protection to insure future availability.

Specifically, the Administration has:

- Lent strong support to the enactment of important strengthening amendments to the Clean Air and Clean Water Acts, providing stricter standards to insure that the Nation's air and water resources are cleaner and safer;
- Established a comprehensive National Water Policy based on water conservation, emphasis on Federal/State cooperation and increased attention to environmental values in planning and constructing Federal water projects;
- Begun to implement regulations protecting the public health and environment from commercial production of toxic substances;
- Increased levels of investment in the protection and management of the resources on the public lands—both to increase the productivity of energy, (food and fiber) and timber resources and to protect and preserve natural, recreational, historical, and cultural resources;
- Secured enactment of the 1977 Surface Mining Reclamation Act, amendments to the Outer Continental Shelf Lands Act, and administratively established a new coal leasing program for insuring continued development of domestic energy resources within strict standards for environmental protection;

- Proposed the Oil, Hazardous Substances and Hazardous Waste Liability and Compensation Act, to provide legal sanctions against releases of hazardous substances into the environment and to provide a strong Government response to hazardous substance releases that threaten public health;
- Helped enact the Soil and Water Conservation Act of 1977 which included provision for examining current soil and water conservation programs and practices;
- Supported enactment of the National Parks and Recreation Act of 1978 and the Redwood National Park Act that has; preserved unique wilderness areas, added 1.3 million acres to the National Park System, added 8 rivers totaling 695 miles to the National Wild and Scenic Rivers System, added 12,000 miles of trail to the National Trail System, and added 1.85 million acres to the National Wilderness Preservation System;
- Designated 17 areas in Alaska as National Monuments covering 56 million acres and administratively protected another 59 million acres of Alaskan lands, pending permanent legislation;
- Issued new regulations to improve the administration of the National Environmental Policy Act, establishing uniform procedures for all Federal agencies.

The table below shows that the 1981 total estimated Federal spending in support of a clean environment and prudent use of resources is estimated to be \$12.8 billion, an increase of 28% since 1977.

Table 2-1. Budget Outlays for Natural Resources and the Environment

(In millions of dollars)

Type of activities	1977 (actual)	1981 (estimate)
Pollution control and abatement	4,279	5,107
Water resources	3,241	4,121
Conservation and land management	1,279	2,245
Recreational resources.....	1,014	1,499
Other natural resources.....	973	1,468
Deduction for offsetting receipts.....	-786	-1,622
Total outlays.....	10,000	12,819

PROTECTING OUR ENVIRONMENT

The Administration has asserted strong leadership in developing, implementing and enforcing environmental laws and regulations. In 1981, Federal spending to implement environmental statutory responsibilities, chiefly under the amended Clean Air Act, the amended Clean Water Act, the Safe Drinking Water Act, the Toxic

Substances Control Act, and the Resource Conservation and Recovery Act, will increase 78% above the 1977 level.

ACHIEVING CLEAN AIR AND WATER

Clean air.—The Clean Air Act Amendments of 1977 marked an historic step towards achieving clean air and reducing air pollution throughout the Nation. Key provisions include:

- Enforcing penalties to eliminate noncompliance;
- Achieving strict emission limitations for automobiles consistent with fuel economy standards;
- Using “best available control” technologies in all new facilities;
- Controlling coal-burning utility plants to insure that air quality standards are met;
- Preventing the deterioration of air quality in areas having clean air;
- Protecting visibility in National Parks and Wilderness Areas;
- Continuing the “offset” program, which is designed to allow industrial growth in polluted areas if air pollution for existing sources is reduced enough to offset any pollution from new industry; and
- Implementing State inspection and maintenance programs in seriously polluted areas to insure that automobiles continue to meet emission control requirements while in use.

For clean air programs, the 1981 funding level is expected to increase 68% above the 1977 levels.

Clean water.—The Clean Water Act Amendments of 1977 included recommendations by the Administration as follows:

- Assigned highest priority to developing “best available technology” standards for controlling the discharge of toxic pollutants;
- Continued funding for construction of municipal wastewater treatment facilities, with emphasis on water conservation, on alternatives to conventional treatment plants, and on insuring proper operation of facilities once built;
- Increased attention to pollution caused by nonpoint source runoff from agriculture, mining, forestry, and city streets, including additional funding for State and local agencies to implement such programs; and
- Emphasized a strong Federal wetlands protection program.

The Federal program to achieve clean water is well underway. By the end of 1981, over 3,500 treatment related projects will have been completed since 1977. This represents a 280% increase in the number of completed projects prior to 1978. In addition, the Envi-

ronmental Protection Agency (EPA) has approved 152 projects totaling \$380 million utilizing innovative and alternative technologies since 1977. In 1981, overall funding for nonconstruction grants regulatory and research efforts have increased by 53% since 1977. Moreover, the Department of Agriculture rural clean water program, is treating the most critical nonpoint pollution sources across the Nation.

Safe Drinking Water.—EPA, working closely with the States to assure the safety of the Nation's drinking water supplies, has:

- Set maximum national limits for hazardous contaminants commonly found in drinking water;
- Proposed standards for limiting life-altering and cancer-causing toxic chemicals found in drinking water;
- Identified key groundwater supply areas and initiated programs to protect them;
- Helped 51 of the 57 States and territories assume primary responsibility for safe drinking water by the end of 1981; and
- Developed standards designed to limit organic material in drinking water.

The 1981 budget request devoted to safe drinking water is expected to increase 94% from the 1977 level.

CONTROLLING HAZARDOUS WASTE AND TOXIC SUBSTANCES

Hazardous waste.—The United States generates approximately 51 million tons of hazardous waste annually and the volume is anticipated to grow at about 3% per year. For most of this waste, perhaps as much as 90%, disposal methods are unsafe.

These toxic wastes materials can create health hazards for those living nearby and threaten groundwater resources tapped by surrounding communities. A major program to control the disposal of these substances is underway. The 1981 funding request is estimated to increase by more than 800% and personnel by over 300% since 1977. EPA has also improved its enforcement activities. In 1980 more stringent regulations designed to impose strict new standards on hazardous waste disposal will be issued.

In August 1978, the President declared Love Canal in Niagara Falls, N.Y., a national disaster area, thus authorizing the use of Federal disaster relief aid. To deal with future disasters, like the one at Love Canal, the Oil, Hazardous Substances and Hazardous Waste Response, Liability and Compensation Act was transmitted to Congress in June, 1979. This proposal would provide the first comprehensive program to address releases of oil and hazardous substances from spills and from inactive and abandoned sites into navigable waters, groundwater, land and air. The legislation will enable the Federal Government, in cooperation with State and

local governments and industry, to take steps to prevent future Love Canal like incidents. In particular, this legislation seeks to:

- Identify abandoned hazardous dumpsites across the Nation;
- Establish a uniform system of reporting spills and releases;
- Provide for vigorous investigation of releases of oil, hazardous substances or hazardous waste from spills or abandoned and inactive sites;
- Provide an emergency Government response, to contain, clean up and mitigate pollution without delay, if those responsible do not respond adequately or cannot be quickly identified;
- Provide stronger authority to compel the responsible parties to clean up dangerous sites wherever possible;
- Provide limited economic compensation for damages to property resulting from spills; and
- Provide financing for these actions through State cost-sharing and a "superfund"—a national fund consisting of Federal appropriations and a fee on the oil and chemical industries.

Radioactive wastes.—With the 1981 budget request, about \$12 million will have been added to the Environmental Protection Agency's (EPA) radiation programs since 1977, including funds for accelerating development of criteria for radioactive waste disposal, the assessment of radiation levels in the environment, and a program to prepare regulations for disposing of radioactive waste.

Oil pollution of the oceans.—Responding to the President's initiative, maritime nations of the world agreed in 1978 to tighten inspection requirements and significantly raised world standards for tanker construction and equipment. The Department of Transportation is completing new rules based on an international agreement to require improved features on both U.S. ships and foreign tankers entering our ports. In addition, for the past 2½ years, the Coast Guard has boarded and examined every foreign-flag tanker entering our ports at least once a year and has recorded any deficiencies, and required repairs as appropriate. A provision of the Outer Continental Shelf Lands Act created a fund for managing oil pollution, and will become part of the superfund.

Toxic Chemicals.—The rate of cancer incidence and mortality continues to increase even after adjusting for the age profile of the population. Recent studies concluded that exposure to certain chemicals can result in some forms of cancer. To reduce this risk the Toxic Substances Control Act of 1976 included broad new authority to gather information on chemical damage to human health and the environment and prevent toxic chemicals posing unreasonable risks from entering the marketplace.

At President Carter's direction, an interagency Toxic Substances Strategy Committee was formed to eliminate overlaps and fill gaps

in the collection of data on toxic chemicals, and to coordinate Federal research and regulatory activities. In addition, the Inter-agency Regulatory Liaison Group has been developing coordinated policies and approaches to legislation. In 1981, \$106 million is requested for EPA's toxic substances control program, compared to an approximate \$7 million budget for 1977. These additional resources have enabled the Federal Government to begin implementing and enforcing the toxic substances control program as follows:

- *Premanufacture notification.*—Since the program began on July 1, 1979, EPA has received more than 50 notices to date;
- *Risk assessment.*—Over 80 existing chemicals are in various stages of assessment, with high priority given to certain carcinogens, teratogens, and mutagens. An in-depth evaluation of asbestos is also underway;
- *Control action.*—Three toxic substances are currently being regulated to some degree—polychlorinated biphenyls (PCBs), aerosol use of chlorofluorocarbons, and asbestos contained in school buildings material; and
- *Testing standards.*—EPA has proposed the first standards on oncogenicity and other chronic effects, as well as a standard for good laboratory practices concerning health effects testing.

Occupational Health.—The Occupational Safety and Health Administration (OSHA) has reformed its regulations, focusing on serious workplace hazards. Since 1977, OSHA has: (1) completed seven environmental health standards (compared to a total of four in its first 6 years), (2) issued two emergency temporary standards, (3) proposed a generic standard to identify, classify, and regulate workplace carcinogens, (4) removed over 90% of the nonessential standards, and (5) reorganized inspections to devote 95% of resources to the most serious workplace hazards. In addition, the 1977 Federal Mine Safety and Health Act established the Mine Safety and Health Administration in the Department of Labor to promulgate and enforce health and safety standards in all mines.

CONSERVING AND MANAGING CRITICAL NATURAL RESOURCES

Conserving and protecting our natural resources is a major goal of the Administration. In 1981, total Federal outlays for these purposes will be 43% higher than the 1977 level. The additional funding enabled the National Park System, the National Trails System, the National Wilderness Preservation System, the National Wild and Scenic Rivers System, and the National Wildlife and Refuge System to expand significantly. In addition, 115 million acres of land have been protected from development in Alaska, our last remaining frontier.

Besides enlarging and improving Federal lands, programs were initiated to restore land previously damaged by underground and surface coal mining; regulations and procedures have been strengthened for the use of the Outer Continental Shelf areas and for maintaining coastal zone areas, the President announced a new comprehensive water policy, with water conservation as its cornerstone, directed agencies to assess the adequacy of farm lands and timber resources, and increased funding for enforcing the laws protecting plant and animal life.

MANAGING FEDERAL LANDS

The Federal Government manages 762 million acres of land and the U.S. Outer Continental Shelf lands. These lands are of immense economic, ecological, and aesthetic importance, containing at least:

- 80% of the Nation's known oil and gas reserves;
- 50% of the Nation's coal reserves;
- 80% of the Nation's oil shale;
- a large percentage of the Nation's non-energy mineral deposits;
- 1.25 trillion board feet of timber;
- 19 million acres of wilderness;
- grazing areas for about 4% of the Nation's beef cattle and 28% of the Nation's sheep;
- habitat for one out of every five big game animals in the U.S. and habitat for most endangered species; and
- most Federal lands are available for recreation.

This Administration has moved vigorously to improve the management and protection of public lands. Funding requested in 1981 for these activities is estimated to increase 20% over the 1977 level. This Administration has led successful efforts in protecting 115 million acres in Alaska from development, adding 42 million acres for parks, adding 12,000 miles of trails, withdrawing 4 million acres for wilderness, expanding wildlife refuges by 11.8 million acres, increasing productivity of public rangelands, and establishing a new coal leasing and development program.

Alaskan lands.—Alaska encompasses 375 million acres containing America's highest mountains and some of our largest lakes, breeding grounds for millions of waterfowl from six different continents, free roaming caribou, and grizzly bear, and the last unpolluted river basins in the United States. Enactment of strong Alaskan lands legislation protecting these natural resources remains the Administration's highest environmental priority. The Administration's goals are to: (1) protect selected areas by watershed or ecosystems; (2) provide sufficient acreage for wildlife survival

needs; (3) respect and support traditional native subsistence life styles; and (4) permit economic development wherever possible. Legislation was submitted in 1977 to protect approximately 100 million acres as National Parks and Reserves, National Wildlife Refuges, Wild and Scenic Rivers, and Wilderness areas. Under the Administration proposal:

- 95% of the area in Alaska classed as proven, favorable or high for oil and gas potential would remain open;
- 96 million acres of Alaska's 148 million acres of potential metallic mineral lands would remain open for exploration; and
- more than 90% of Alaskan lands would remain open for sport hunting.

In December 1978, because of congressional inaction, approximately 115 million acres of Alaskan lands were administratively protected from development or other adverse use. This included designation of 17 National Monuments, providing permanent protection for 56 million acres. The remaining lands were temporarily withdrawn from mineral entry and selection by the State under the authority of the Federal Land Policy and Management Act. Both of these actions were taken pending legislation to assure that the national treasures of our last frontier are preserved while economic growth in Alaska and energy development proceed in appropriate areas.

Public land management.—The public lands are being called upon today to meet our growing energy, food and fiber, timber, water, recreational and other demands. The Administration made a firm commitment to prudent and efficient management of the public lands.

Foremost, the Administration established a broad new planning process for all resources on the Bureau of Land Management lands based on four principles: (1) be a good steward of the land; (2) be a good neighbor, showing special concern for the people and institutions of the Western States; (3) make cost-effective investments in protecting and enhancing these lands; and (4) make—not avoid—tough decisions on resource allocations. This planning process stresses cooperation and consistency with State and local government plans. The Secretary of Interior also established a new process for setting long range goals for the balanced protection and use of the public lands. In addition:

- With the help of the western Governors, a new coal leasing and development program was established to provide for steady, environmentally sound, and economically profitable coal development to help meet the Nation's energy needs in the next several decades;

- Working with industry and State and local governments, Interior is streamlining procedures for reviewing and approving proposals for major new energy facility projects, and has created a new Office of Special Projects in the Bureau of Land Management to resolve some of the most difficult siting problems within existing laws and procedures;
- The Administration pushed for passage of the Public Rangelands Improvement Act to provide an unprecedented commitment to increasing the productivity of the 170 million acres of public rangelands; Moreover, the Administration has forged new ties of cooperation with the livestock industry, the States, and the other interests with a stake in better rangelands management;
- The Administration has increased funding for the management of public land resources over 20% since 1977; and
- The President issued an Executive order providing for greater control over use of off-road vehicles on the public lands to prevent damage to fragile soils, wildlife, and unique archaeological sites.

Parks and recreation.—Most of the 762 million acres of land the Federal Government manages is open for recreation purposes. The National Park System, the National Wild and Scenic Rivers System and the National Trail System are specifically oriented to accommodate recreation. The National Park System consists of 323 park areas encompassing 72 million acres and the National Trail System contains 382 trails covering over 20,000 miles. To meet the growing demand for recreation, the Federal budget proposes \$1.5 billion for recreation activities in 1981 an increase of 26% over the 1977 level. As a result 42 million acres of park lands and 12,000 miles of trails will have been added. There has been new emphasis on developing parks in or near urban areas.

The National Parks and Recreation Act of 1978 increased the size of the National Park System by adding 15 new parks totaling 1.3 million acres and by increasing existing park acreage by 59,000 acres. The act also authorized \$450 million for new land acquisition and increased by \$275 million the authorized level for developing and improving park facilities in 34 areas.

To meet a significant risk of damage to lands and trees in the Redwood National Park, legislation was enacted in 1978 which expanded the park by 48,000 acres.

The National Parks and Recreation Act of 1978 also expanded the National Trail System which is designed to provide outdoor recreation opportunities in or near urban areas, within scenic areas, and along historic routes of the Nation. The act established the Continental Divide Scenic Trail, spanning a distance of 3,100

miles along the Rocky Mountains from the Canadian to the Mexican borders (increasing the Scenic Trail System by 67%), and designated for further study the establishment of the Overmountain Victory Trail Route in Tennessee, and North and South Carolina.

The 1978 act also established National Historic Trails. These trails follow as closely as possible the original routes of travel of national historic significance. Four such trails were designated, adding 9,000 miles.

The National Trails System also includes National Recreation Trails that provide for a variety of outdoor uses in or around urban areas. At present there are 375 National Recreation Trails covering a total of nearly 4,000 miles. In January 1980, the Forest Service will establish 145 new National Recreation Trails and by December 1980, 75 more trails will be established by other Federal agencies. Since January 1977, the number of National Recreation Trails has almost quadrupled from 102 to 375.

In 1979, the Administration proposed a 5-year program of grants for urban parks and recreation that would provide \$726 million to assist municipalities in rehabilitating urban park facilities. The funding is estimated to provide 70% of the cost of preserving park facilities in urban areas. The 1981 budget allocates \$125 million for this purpose.

Strong steps have been taken to preserve our cultural resources. In 1978 the Heritage Conservation and Recreation Service in the Department of the Interior was established to: (1) expand and maintain the National Register of Historic Places, (2) set up and maintain a new National Register of Natural Areas which have important ecological and geological value, and (3) develop a standard method of classifying natural heritage resources to help States make systematic resource inventories.

National Forest System.—The Federal Government owns and manages the National Forest System encompassing 187 million acres of land which contain 1.25 trillion board feet of timber. The forests are managed to insure a perpetual supply of timber and to further such other values as wilderness, minerals, recreation and wildlife. The 1981 budget request for the National Forests is more than 30% higher than the 1977 appropriation level. The enhanced level of funding has substantially improved all aspects of forest management. Moreover, the research and cooperative forest activities budget in 1981 is estimated to be almost double the 1977 level. The Administration also conducted a comprehensive assessment of forest resources and will shortly announce multiyear program guidelines for forest management under the Forest and Rangeland Renewable Resources Planning Act.

Wilderness preservation and species protection.—The National Wilderness Preservation System was created to insure that key areas of our country remain unharmed by human activity as a legacy for future generations. Since 1977 the System has been expanded by 25% and now encompasses about 20 million acres of land from being opened to other uses and thereby losing its wilderness stature forever. Other initiatives are in process to determine whether additional lands should be protected. Besides increasing wilderness, the Administration upgraded enforcement efforts to protect certain plant and wildlife species.

Roadless area review evaluation II.—After the Department of Agriculture completed a comprehensive review of 62 million acres of national forest roadless areas, 15.4 million acres of National Forest land was recommended and approved by Congress for addition to the National Wilderness System and 10.6 million acres to be further studied for wilderness potential, while the remaining 36.0 million acres were open for multiple use management.

Bureau of Land Management review.—A similar review by BLM is being undertaken of 174 million acres it manages. After preliminary screening, 113 million acres were removed from further study and the remaining 61 million acres will be studied more intensively. Recommendations will be submitted to the President no later than 1991, though many will be forwarded before then.

Protection of wild areas.—The National Wilderness Preservation System was expanded by 1.3 million acres with the enactment of the Endangered American Wilderness Act of 1978.

Wildlife refuges.—National Wildlife Refuges support wildlife resources which are held in trust for all Americans now and in the future. The 1981 budget request for refuges is 63% higher than the 1977 budget, and refuges have been expanded by 12.7 million acres.

Protection of marine mammals.—Commercial whaling in the U.S. 200-mile fisheries zone was banned in March 1977. The amended Fishery Conservation and Management Act provided sanctions to support international efforts to protect whales. Specific efforts have been made to reduce the killing of porpoises incidental to tuna fishing.

Wildlife law enforcement program.—A concerted Federal effort has been undertaken to improve and enforce the laws governing illegal trade in wildlife and plants and reduce risks caused by introduction of exotic plants and animals. Legislation was submitted to revise and strengthen the Lacey and Black Bass Acts.

Endangered Species Act.—The Endangered Species Act was reauthorized in 1978 and 1979. The 1981 implementation resources for Interior are expected to increase 165% above the 1977 funding level.

Wild and Scenic Rivers.—Since 1977, eight rivers have been added to the National Wild and Scenic Rivers System adding 695 miles to the System and eight more rivers have been proposed for addition.

CONSERVING LAND RESOURCES

The Federal Government is taking a more active role to conserve farm land and reclaim coal mining lands. Sufficient prime farm land must be conserved to meet our future food demands. Coal land must be reclaimed to prevent acid run-off and soil erosion.

Farm lands.—The amount of land available for farming is declining, and some of the soils with the best potential for crop production are being converted to other purposes at a high rate. The Administration is conducting several major studies to determine whether lands for agricultural purposes are being converted at a rate too high to maintain an adequate food production capacity. For example, the Secretary of Agriculture and the Chairman of the Council of Environmental Quality, are co-chairing the National Agricultural Lands Study which will be presented to the President in 1981. It will study the scope, causes and effects of farmland conversion and evaluate the effectiveness, including economic, social and environmental benefits and costs of measures intended to limit farmland conversion. It will provide findings and recommendations in January 1981.

In addition, in response to the Soil and Water Resources Conservation Act (RCA) of 1977, the President will transmit in 1980 to the Congress an appraisal of the soil, water and related resources of the Nation together with a national soil and water conservation program developed by the Secretary of Agriculture with public participation. The program will provide direction for future soil and water conservation efforts of the Department of Agriculture and will be accompanied by a detailed statement of policy regarding those soil and water conservation activities. The information provided by the RCA appraisal will also be used for completing a conservation incentive study to reduce soil erosion.

Land reclamation.—Millions of acres of land have been altered by surface mining of minerals and have not been reclaimed, causing millions of dollars of damages from acid runoff, reduced natural water storage, increased soil erosion, and unattractive land scars.

The Surface Mining Control and Reclamation Act of 1977 established Federal standards for reducing the environmental degradation of land, air, water, fish, and wildlife resources resulting from the strip mining of coal. The Department of the Interior has issued regulations implementing both the statutory interim and permanent program. The Act also established an abandoned mine recla-

mation fund to reclaim previously mined land. The 1981 budget request for reclaiming abandoned mine sites is estimated to increase by \$87 million and the budget request for enforcement programs is estimated to increase by \$100 million since 1977. The 1981 budget includes a \$7.2 million increase for the Office of Surface Mining Reclamation and Enforcement, the bulk of which is earmarked for State and Federal regulatory programs.

PROTECTING COASTAL AND OCEAN RESOURCES

The Administration aims to protect our coastal zone and wetlands and develop the energy resources located on the Outer Continental Shelf in an environmentally sound manner and endorsed 1980 as the "year of the coast." The Administration will seek reauthorization through 1988 for grant assistance to assist eligible States and territories in implementing programs which promote rational use and conservation of our coastal areas. The Federal Government is moving to limit the draining or filling of wetlands which provide flood control and breeding grounds for fisheries. The Outer Continental Shelf Lands Act Amendments of 1978, the first major reforms in 25 years, enabled the development of an accelerated 5-year leasing schedule and provided stronger provisions to deal with offshore air pollution and oil spills.

Coastal zone management.—In 1980, legislation will be submitted to Congress to reauthorize Federal assistance for State coastal zone management programs under the Coastal Zone Management Act (CZMA). The legislative proposal will guarantee each eligible State and territory a total of 5 years of Federal assistance at current funding levels. After the fifth year, Federal support will gradually be phased down as States and local efforts become established. By the end of 1981, it is anticipated that 27 of the 35 eligible States and territories will have implemented their programs which will bring over 85% of the Nation's coastline under a management program.

In addition, new amendments to CZMA will be proposed to establish a national coastal protection objectives—to be achieved through the State programs—consisting of the following:

- Protection of wetlands, estuaries, beaches, dunes, barrier islands, coral reefs, fish and wildlife;
- Management of coastal development to minimize loss of life and property from floods, erosion, saltwater intrusion, and subsidence;
- Predictable siting processes for major defense, energy, recreation, and transportation facilities;
- Enhanced coordinated and simplified Government decision-making; and

- Preservation, restoration and access to historic, cultural, recreational and esthetic coastal resources.

Wetlands.—The Nation is losing wetlands at the rate of some 300,000 acres per year with adverse economic and environmental consequences extending far beyond the areas directly affected. The Administration has taken a number of actions to stem this loss.

Federal construction.—By Executive order Federal agencies are now prohibited from constructing facilities in wetlands unless a finding is made that practical alternative sites do not exist. In cases where agencies cannot find alternative sites they are required to minimize adverse impacts.

Floodplains.—The Nation suffers over \$3 billion in flood damages and the loss of human life each year. In 1978 Federal agencies were directed to avoid providing assistance for development in floodplain areas in order to limit losses from floods and to protect the natural ecosystem of floodplains.

Cross Florida Barge Canal.—In July 1978 and again in April 1979, legislation was submitted to eliminate existing authority for construction of the costly, undesirable Cross Florida Barge Canal, and to restore the Oklawaha River to a free flowing river and natural wetland environment.

Outer Continental Shelf lands (OCS).—With the strong support of the Administration, the Congress enacted the Outer Continental Shelf Lands Act Amendments in 1978. These amendments were the first significant revisions to the procedures used for leasing offshore oil and gas since the original OCS Lands Act was adopted over 25 years ago. Included in the reforms are measures to insure that leasing of offshore resources proceeds on a predetermined 5 year schedule which is paced with the development of resource and environmental information needed for safe and responsible development of the Nation's offshore resources. A number of provisions in the new procedures are noteworthy:

- Coastal States and local communities are given a role in reviewing and commenting on proposed decisions for the leasing of Federal OCS lands.
- Technical, environmental and economic information is made available to State and local governments and the public in advance of leasing and development.
- New bidding procedures provide the Secretary of the Interior with increased flexibility to obtain fair market value for leasing of resources of the OCS lands.
- Responsibilities are placed on the Secretary of the Interior to protect the fisheries, marine biota and coastal resources in a balance with the development of offshore oil and gas.

- Authority is provided to the Department of the Interior to insure that lessees comply with provisions of their leases that are designed to protect the environment and human health and safety, including provisions that permit cancellation of the lease where continued activity would probably cause serious unmitigated environmental harm.
- Liability for oilspills is established and compensation for damages is required.
- A fisherman's contingency fund is established to pay for damages to commercial fishing vessels and gear due to OCS oil and gas activities.
- Plans for exploration and development must be submitted and approved before a lessee can exercise its rights under a lease.
- An environmental studies program is aimed at developing environmental and socioeconomic information to be used for leasing and development decisions.

MANAGING WATER RESOURCES

The Federal Government has played a vital role in developing the water resources of the United States. It is essential that Federal water programs be responsive to meeting the Nation's water-related needs—food, fiber, energy production, environmental protection, and assuring adequate supplies for municipal purposes. The President established a new comprehensive water policy with conservation as the cornerstone.

Comprehensive water resources policy.—Following a year-long policy review, a comprehensive water resources policy was announced in June 1978. This policy is designed to achieve four basic objectives: (1) improved management of Federal water resources programs to insure that cost-effective, safe, and environmentally sound water projects move forward expeditiously, (2) a new national emphasis on water conservation, (3) improved Federal/State cooperation in water policy and planning, and (4) increased attention to environmental quality. These goals will be achieved without the imposition of a new Federal regulatory program for water resources management. The Water Resources Council (WRC) is updating uniform principles, standards, and procedures for Federal agencies to use in planning water projects and programs. Further, the WRC program of matching grants to States for water resources planning and water conservation has been expanded and the 1981 budget includes \$30 million for this program, an increase of \$27 million from the 1977 level.

Water resource projects.—In 1977, a review of all ongoing Federal water resource development projects was completed using economic efficiency, environmental quality, and safety as criteria for evaluation. The review resulted in deleting funds for nine objectionable

projects and several others were modified or subjected to further review. Besides reducing the number of unsound projects, formal criteria for acceptability were developed including standards for economic merit, environmental quality, degree of local support, emphasis on water conservation, use of nonstructural measures, safety, and adequacy of planning. The President recommended 42 new water project starts in 1979 and 1980 that meet his selection criteria. New starts for 1981 await congressional approval of an independent project review authority for the Water Resources Council as required by Executive order.

GLOBAL ENVIRONMENTAL ACTIONS

Environmental effects abroad.—Federal agencies have been directed to consider the environmental effects of major Federal actions abroad if they involve the global commons (oceans, Antarctica) or if they involve any of the following: (1) a facility which would be strictly regulated or prohibited in the United States because of radioactive hazards, (2) a product or facility which would be strictly regulated because of a toxic substance hazard, (3) an action which would affect an “innocent bystander” nation not directly involved in the project or (4) an action which would affect a resource of global importance.

Acid rain.—A 10-year comprehensive program has been established to assess the threats posed by acid rain precipitation and the opportunities to prevent it. An Acid Rain Coordinating Committee, comprised of representatives from nine Federal agencies, is preparing a Federal Acid Rain Assessment Plan that will coordinate the research currently underway at these agencies on this potentially serious global problem. More than \$10 million will be spent by these agencies on the acid rain research program in 1980, its first year. The Committee will report to the President on September 15 of each year, and will seek cooperative efforts with industry and with other national governments.

Other global environmental problems.—In addition to the actions already mentioned which affect the global environment, including wildlife protection and oil pollution, strong steps have been taken to recognize and address worldwide environmental concerns. These actions include: (1) establishment of a comprehensive carbon dioxide and long-term climate research program; (2) a directive to the Agency for International Development (AID) and other Federal agencies to insure full consideration of the environmental soundness of development projects supported by the United States, that has resulted in a new pesticide policy by AID, assistance to several countries for renewable resources management projects, and improved environmental assessment of U.S. programs abroad; (3) a

concerted effort by the Departments of State and Agriculture and other agencies to give priority attention to world forest issues and to support international efforts to halt global deforestation; and (4) preparation of a major study—Global 2000—by the Council on Environmental Quality and the Department of State on global environmental problems and remedial actions.

3. SOLVING OUR NATION'S ENERGY PROBLEM

As the United States built the world's most industrialized economy during its second century, our energy base shifted from abundant renewable resources to an almost total reliance on depletable fuels: oil, coal and natural gas. Since World War II, our Nation has become dependent on one depletable fuel in particular: oil. By 1968, the United States was already consuming 27% more oil than it produced, but the foreign-produced oil was so cheap at that time that we maintained tariffs and quotas to protect domestic production from being undercut by a glut of low-cost oil from abroad. The Nation was becoming addicted to *cheap* foreign oil, a habit we would later find hard to break as the oil suddenly leaped in price. Now, 12 years later:

- The United States is importing in 1980 half its oil from foreign producers and pays an estimated \$90 billion for it.
- Rising import prices have fueled domestic inflation and the consequent trade deficit has exerted downward pressure on the dollar's value. The value of the American dollar has declined by over 13% in relation to the currencies of other industrialized nations since 1973.
- The U.S. economy is increasingly vulnerable to even relatively small oil supply interruptions and associated price increases.

In January 1977, America did not have an effective, comprehensive national energy policy, and the Federal Government did not have programs sufficient to deal with the Nation's energy problem. Since that time, the United States has made substantial progress. The Administration and the Congress have put in place a comprehensive program designed to: (1) reduce projected 1990 U.S. oil imports from over 13 million barrels per day (MMB/D) to 4-5 MMB/D through conservation and increased domestic production of oil, gas, coal and synthetic fuels; (2) shift a significant part of the Nation's energy production to renewable resources as oil and natural gas production decline; and (3) protect America against the social and economic dislocation that could arise from sudden supply disruptions.

The major elements of this new energy policy include:

- The National Energy Act of 1978, that established new domestic natural gas pricing policies, new fuel use policies for utilities and larger industrial boilers, new tax incentives for conservation, solar and domestic fuels production, new public utility policies, and new conservation grant programs.

- Creation of the Department of Energy, centralizing many Federal energy programs in one place for the first time.
- The gradual phase-out of Federal price controls on domestic crude production, to encourage increased domestic production and energy conservation.
- A windfall profit tax to prevent unreasonable profits from accruing to domestic producers as a result of decontrol and rapidly increasing OPEC prices.
- A low-income energy assistance program to help offset higher energy costs for low-income families.
- An independent Energy Security Corporation, that will provide incentives to the private sector for the accelerated production of synthetic fuels.
- A Solar Energy and Energy Conservation Bank to provide additional subsidies for conservation and renewable resource use in new residential and commercial buildings.
- An Energy Mobilization Board to expedite Federal, State, and local regulatory decisions on critical energy facilities.
- Reductions in oil use by utilities.
- The development of the Alaskan gas pipeline and the importation of natural gas from Mexico.
- Increased Federal financial assistance for energy-efficient public transit and more fuel-efficient automobiles.
- An expanded strategic petroleum reserve, standby gasoline rationing and State energy conservation plans to deal with potential supply disruptions.
- The commitment of substantial Federal resources to develop new technologies to encourage conservation and to stimulate new domestic energy resources.
- International agreements with other oil consuming nations to set country-by-country ceilings on oil imports, to reduce total oil imports between now and 1985, and to cooperate in the development of alternative energy sources.
- Expanded access to federally owned energy resources through accelerated Offshore Continental Shelf leasing, resumption of coal leasing on Federal and Indian lands, and opening the National Petroleum Reserve in Alaska to private oil and gas exploration and development.

The national energy policy, through programs proposed and put in place since 1977, will result in the following reduction in 1990 oil imports from otherwise anticipated levels:

Table 3-1. Estimated Impact (million barrels per day) on 1990 Oil Imports

Estimated import savings from 1978 National Energy Act, including:	2.5
—Natural Gas Policy Act	
—Fuel Use Act	
—Energy Tax Act	
—Public Utilities Regulatory Policy Act	
—National Energy Conservation Policy Act	
Estimated import savings from phased decontrol of domestic crude oil and accelerated solar energy program	1.5
Estimated import savings from 1979 proposals, including:*	4.5
—Energy Security Corporation	
—Residential/Commercial conservation	
—Utility oil reduction	
—Transportation efficiency	
—Energy tax credits	
Total estimated savings from programs proposed since 1977	8.5

*Some portion of these projected savings in all likelihood would have occurred independent of these initiatives as a result of higher future oil prices.

In order to reduce U.S. reliance on imported oil, direct Federal spending, tax expenditures, and Federal credit programs have been substantially increased since 1977.

Table 3-2. Federal Budget—Energy Budget Authority

(In millions of dollars)

	1977 actual	1981 estimate
Energy Conservation	242	1,332
Energy Supply.....	3,603	2,519
Emergency Energy Preparedness	445	2,419
Energy Information, Policy and Regulation	711	1,211
Total	4,978	7,481

Table 3-3. Tax Expenditures—Energy Initiatives Since January 1977

(In millions of dollars)

	1980 estimate	1981 estimate
Energy Conservation	702	739
Energy Supply.....	376	619
Total	1,078	1,358

A more detailed description of the new national energy policy follows:

REPLACEMENT COST PRICING

In 1977, the price of domestic natural gas and crude oil were controlled at levels well below prevailing world oil prices. Price controls promoted consumption, discouraged the use of other fuels by artificially holding down prices for oil and gas, and held back needed technical change and exploration and development.

To remedy this situation, the Administration initiated the gradual phase-out of price controls on crude oil and newly discovered natural gas thereby establishing the conditions necessary for efficient use and production of energy.

Natural gas prices.—The Natural Gas Policy Act of 1978 provides for the gradual release of new domestic natural gas from wellhead price regulation. The statutory decontrol schedule spans the 1977–1987 decade with newly discovered gas to be deregulated on January 1, 1985. This schedule is designed to avoid economic shocks that could result from the elimination of a 23 year old price control system, while providing unambiguous planning information to natural gas consumers and producers: natural gas prices will rise to reflect replacement costs, and energy conservation and production will rise with them. Over the next 10 years, natural gas prices should slowly approach oil prices at the point of use, reflecting its replacement cost and its true value to consumers.

Crude oil prices.—Phased decontrol of domestic crude oil wellhead prices was announced on April 5, 1979, under the authority of the Energy Policy and Conservation Act of 1979. That statute provided for the termination of domestic crude oil price controls in October 1981, and gives the President discretion on price control levels from June 1979 forward.

A gradual schedule of decontrol is being implemented over a 28 month period to ease the transition from controls.

The windfall profit tax.—A windfall profit tax is the other, necessary half of decontrol. Domestic oil producers realize substantially higher prices under decontrol. Without a windfall profit tax, these prices would result in substantial unearned profit on oil, particularly “old oil” that had been discovered in previous years. The revenues from higher prices exceed the amount that the domestic oil industry requires for increasing domestic production. There are alternative energy investments, including incentives for energy conservation and the development of synthetic fuels and renewable resources, which promise greater import savings for the dollars invested.

The windfall profit tax provides an equitable way to share the revenues resulting from decontrol and OPEC price increases. The tax is a severance tax on domestic oil production. In concert with the Federal income tax, it would effectively collect more than half of the net increase in oil revenues due to decontrol and higher world oil prices for the American people. The President proposed that these revenues be used for three purposes: assistance to low income households to help offset higher energy prices; additional Federal assistance for mass transit and auto efficiency; and investments in synthetic fuels, conservation and other energy measures to reduce imports.

LOW-INCOME ENERGY ASSISTANCE

The Administration proposed two energy-related income assistance programs to help offset the impact of rising fuel costs on low-income families, beginning in 1980. The special energy allowances program provides cash assistance to recipients of social security insurance and grants to States for aid designed by the Governor to best fit each State's circumstances. In 1980, \$1.2 billion is provided, and \$2.0 billion is requested in 1981. The energy crisis assistance program provides grants to States for assistance to low-income families experiencing energy-related financial problems, such as overdue home heating bills. Funding of \$0.4 billion in 1980 has been provided, and the same amount is planned for 1981. Both these programs are financed through the windfall profit tax.

ENERGY CONSERVATION

The National Energy Plan, proposed by President Carter in April of 1977, established energy conservation as the cornerstone of the Administration's national energy policy. Previously, little emphasis had been given to conservation at the Federal level.

The Administration has established a comprehensive series of measures dealing with fuel pricing, tax incentives, information and grant programs, regulatory measures, and research and development to increase efficiency in the use of energy in all consuming sectors. The strategy is to discourage inefficient uses of scarce fuels and to encourage investments which increase energy efficiency.

Substantial progress has already been made in improving the efficiency of energy use. Over the 1963-73 decade, energy use grew slightly faster than constant dollar gross national product (4.4% compared with 4.0% annually). From 1973 to 1978 real GNP grew at an average of 2.3% annually, while the growth of energy use averaged only 0.9% annually. The Administration strategy is designed to continually reduce the amount of energy consumed in producing goods and services in the U.S. economy.

The residential/commercial sector.—In 1978, the residential/commercial sectors of the U.S. economy consumed the equivalent of 13.5 million barrels of oil per day—38% of national energy consumption. The bulk of this energy provided space heating in homes, offices and businesses.

Energy conservation in buildings is an attractive economic proposition. Energy savings of up to 50% of present use are available at costs of about \$10 per barrel.

Extensive measures to encourage conservation in buildings have been implemented since 1977. They include the residential conservation tax credit, the mandatory utility conservation service, a strengthened low income weatherization program, accelerated

Federal grants to weatherize schools and hospitals, and an accelerated program to weatherize Federal Government buildings.

Residential conservation tax credit.—The residential tax credit proposed by the Administration and enacted in November 1978, provides a credit for investments in insulation and other energy conservation in residential dwellings. In calendar year 1978, over 5.7 million taxpayers reported \$4.2 billion in conservation investments and tax reductions totaling \$555 million. The reported 1978 investment generated estimated energy savings on the order of 60,000 barrels per day of oil, and the Administration expects even greater investment response in future years.

Conservation loan subsidies.—In 1979, the Administration proposed that a portion of the proceeds of the windfall profit tax be committed to providing subsidies for energy conservation in existing residential buildings through the Solar Energy and Conservation Bank. The Bank would be authorized to provide \$5.8 billion in direct subsidies for conservation loans to the owners of residential buildings over the 1980-90 period.

The Bank accomplishes two objectives for the moderate income homeowner or tenant. The subsidy effectively reduces the cost of conservation and assures the availability of long-term loans. This feature can reduce the monthly payments on conservation loans to the point where the borrower actually saves more on energy in the first year than he spends on loan payments. Commitments under the Conservation Bank program are scheduled to begin in 1980 at \$100 million, and rise to \$700 million annually by 1983. This funding is estimated to support conservation investments yielding roughly 280,000 barrels per day of energy savings by 1990.

Low income weatherization program.—There is a significant population for which rising prices for energy and other necessities are so burdensome that they are unable to afford the initial investment in energy conservation, even though it will be repaid in the form of lower fuel bills within a few years. In recognition of this situation and of the substantial human and national energy benefits that are available from the weatherization of low income housing, the Administration increased the funding level for the Department of Energy Weatherization Assistance Program from \$27 million in 1977 to about \$200 million in 1980 and 1981.

The Department of Energy (DOE) estimates that under this program more than 800 thousand homes will have been weatherized with funding provided through 1980, at a cost of \$489 million. An additional 319 thousand homes will be weatherized with new 1981 funding. An action plan has been developed by DOE and the Department of Labor to accelerate the weatherization program under the higher funding levels. In addition to the benefits to the owners and tenants of weatherized homes, DOE estimates that the 1981

program will provide training and employment for more than 12,000 individuals.

Utility residential conservation service.—Electric and gas utilities are in a unique position to offer their customers technical and financing assistance for energy conservation. Utilities are now required under the residential conservation service program to offer “energy audits” of residential dwellings so that homeowners will know what conservation measures are available, their cost, and the estimated energy and money savings such investments can produce. Utilities are further required to offer to obtain for residential homeowners financing which will make possible installation of the recommended conservation measures. As a result, owners and renters (in buildings with up to 4 residential units) now are guaranteed access to reliable, technically competent evaluations of their energy conservation alternatives, and assistance from electric and gas utilities in acquiring financing for energy conservation investments. The Administration has proposed extension of these services to all residential dwellings.

Auditor training.—The residential conservation service program requires the utilities to create a cadre of trained auditors who can efficiently review a structure and accurately assess the energy savings potential for the owner. In order to assist utilities and the States in accomplishing this objective, the Administration proposed the provision of \$50 million over 1980–82 to support State programs of auditor training.

Sophisticated audits.—In addition to the straightforward information and analysis function, research indicates that an energy audit which includes the use of sophisticated devices to detect leaks and the installation of very low cost conservation measures can produce efficiency improvements of as much as 20% on the average, at a cost of less than \$225 per house. The Administration has proposed \$150 million over the 1980–82 period to support a demonstration program for sophisticated audits.

Conservation investments in Federal buildings.—High priority has been placed on funding cost-effective conservation investments in Federal buildings. In 1981, \$308 million will be provided for making such investments in eight departments or agencies that consume 91% of the energy used in Federal buildings. Additional conservation spending will occur in other agencies. The Postal Service, for example, may make additional investments from postal revenues. Through 1981, over \$1.25 billion will be provided toward meeting the President’s goal of a 20% reduction in energy use in existing Federal buildings.

Grants for schools and hospitals.—A new program administered by the Department of Energy provides grant assistance to public or nonprofit schools and hospitals, since these organizations do not

benefit from the conservation tax credits and they might not make energy-saving investments without assistance.

The grants provide 50% of the cost of energy audits, technical assistance, and conservation and solar retrofit projects. The first energy audit grants were made in 1979, and DOE plans to make the first technical assistance and retrofit grants in 1980. Funding will increase from \$144 million in 1980 to \$202 million in 1981.

Appliance efficiency.—In the residential/commercial sector substantial amounts of energy are used for ranges, water heaters, refrigerators, air conditioners, and other major appliances.

Since enactment of the National Energy Act in November 1978, the Department of Energy has begun development of minimum efficiency standards. Many of these minimum standards can be achieved without increased costs, while others impose modest costs which are quickly recovered in reduced electric and gas bills.

Energy Conservation in Transportation.—The transportation sector is both the largest consumer of petroleum in the economy (more than 52%) and the most promising source of savings. Gasoline consumption in the United States in 1978—largely for the private automobile—was 7.4 million barrels per day, equal to more than 90% of total petroleum imports. A significant reduction in consumption has already been achieved as a result of higher gasoline prices, more efficient automobiles, and public efforts to conserve.

Auto efficiency standards.—The major Government transportation conservation policy for autos is the mandatory auto fuel efficiency standards. Under these standards, the average mileage for new cars, on a manufacturer-specific basis, must rise from the 1980 (model year) level of 20 miles per gallon to 27.5 miles per gallon by 1985—a 38% improvement. The Department of Energy estimates that these standards will reduce gasoline consumption by 570 thousand barrels per day in 1985.

Gas guzzler tax.—The gas guzzler tax on fuel inefficient automobiles, proposed by the Administration was enacted by the Congress in the 1978 National Energy Act and takes effect with the 1980 model year. The purpose of this tax is to reduce the production and sale of highly inefficient cars. In 1980, the tax is \$200 or more on sales of new vehicles with mileage below 15 mpg. In 1985, the tax will be \$500 or more on cars below 21 mpg. The tax rises rapidly to \$1,000 on 17 mpg cars and \$2,650 on 12 mpg cars in 1985.

Mass transit and auto efficiency.—The Administration has proposed spending \$16.5 billion of the proceeds from the windfall profit tax for additional Federal assistance for public transportation improvements and auto efficiency. The combined effect of this commitment is an estimated import reduction of at least 250,000 B/D by 1990. With the implementation of this program, the United

States will have in place a comprehensive set of policies and programs to promote energy conservation by the largest single petroleum consumer in the nation—the domestic transportation system.

The largest portion of the funds, \$13 billion, is for additional investment in Mass Transit. This will raise the total Federal investment in mass transit over the period to 1985 by \$7.8 billion. Including State matching requirements, mass transit spending will triple over the decade of the eighties. Bus purchases and bus system improvements will receive substantial portions of the \$13 billion. DOT has estimated that an additional 3,000 buses per year could be purchased under this additional funding, or a total of 30,000 additional buses in the 1980-90 period. This would allow a total ridership increase of up to 13.6 million passengers daily.

Additional funding for rail modernization and extension would allow the purchase of as many as 200 new railcars annually, and support significant improvements to existing rail systems to attract increased ridership. DOT estimates that the result could be as much as 17,000 B/D oil savings by 1990. It will also accelerate the opening of rail systems that are already funded and finance transit projects substituted for withdrawn interstate segments at the fastest possible pace.

An additional \$2.5 billion over the 1980-90 period is requested for Department of Transportation auto use management programs. These programs include Federal support for the upgrading of existing vehicle inspection stations, improved enforcement of the 55 mph speed limit, and increased Federal support for ride-sharing and pedestrian and bicycle projects.

The fuel economy standards improvement program will assess the technological state of the art which currently limits improvements motor vehicle fuel economy. In the 1980's, \$200 million will be spent to obtain reliable information for making informed regulatory decisions on post-1985 fuel economy standards.

The fuel economy standards program will be complemented by a cooperative basic automotive research program designed to improve the state of the art in various areas of automotive technology. In the 1980's, the Federal Government will spend \$800 million for this purpose. The automobile industry has pledged to match Federal spending up to \$50 million annually in a cooperative program.

Federal automobile fleet efficiency.—The Federal Government is committed to phasing out its own use of gas-guzzling automobiles by requiring new automobiles to be more fuel efficient. Beginning with model year 1978, the new passenger vehicle fleet purchased or leased by Federal agencies must exceed the national average fleet fuel economy standards required by the Energy Policy and Conservation Act. For model year 1980, for example, the national average

is 20 mpg, while Federal purchases must average at least 24 mpg. Because about one-sixth of the Federal fleet is replaced each year, major progress has already been made since the fuel efficient requirements began in 1978.

Energy Conservation in the Industrial Sector.—The industrial sector of the economy has been more responsive to high energy prices than the rest of the economy, and hence requires the least Government assistance. From 1973 to 1978, industrial energy consumption actually declined by 6% while residential/commercial consumption rose 14% and transportation consumption rose 9%.

However, industrial energy consumption has increasingly shifted from coal and natural gas to oil and electricity. From 1973 to 1978 direct industrial oil consumption rose 18% to 3.8 million barrels daily. During the same period industrial coal consumption fell from 161 million tons to 130 million tons annually. The growth in industrial electricity consumption over the same period would require roughly 51 million tons of annual coal consumption by utilities if the added electricity were provided wholly by coal plants. Since electric utility plant construction lead times are in excess of 5 years, the increased industrial shift to electricity has also driven utility petroleum demand upward, at least until new coal and nuclear generators become available.

Federal policy is therefore directed primarily toward shifting industrial energy demand to domestic fuels in addition to the price-induced conservation. The programs are described below in the discussion of energy supply policies.

State and local planning and outreach.—Under the proposed Energy Management Partnership Act the Administration will consolidate Federal support for State energy conservation planning and “outreach” programs for public education. Funds will also be available for State emergency preparedness and supply planning activities. The new program will be managed by the Department of Energy in consultation with the Department of Housing and Urban Development. In 1981, \$152 million will be available for these programs, including \$50 million for local governments to support conservation activities.

DOMESTIC ENERGY SUPPLY DEVELOPMENT

Conventional fuels.—Petroleum import reductions can be achieved through the development of conventional domestic energy resources: coal, oil, gas, and nuclear power. At present, domestic production of these resources provides about 74% of domestic energy consumption—the equivalent of more than 27 million barrels of oil daily. The table below displays the breakdown of domestic energy production by fuel.

Table 3-4. Domestic Energy Production, and Consumption 1978

(Million barrels per day (Crude Oil Equivalent))

	Production	Consumption
Coal.....	7.1	6.7
Oil (incl. NGL's).....	9.8	17.9
Natural Gas.....	9.1	9.4
Nuclear Power.....	1.4	1.4
Hydro, Geothermal, Wood, Waste, etc.....	1.4	1.5
Total.....	28.8	36.9

Replacement cost pricing.—The phase-out of price controls on domestically produced oil and gas will positively influence domestic energy production. The price control systems discouraged the production of domestic resources by holding prices down. For oil and natural gas, the discouragement was direct. For renewable resources, cheap domestic oil and gas placed an indirect “cap” on the value of renewables to producers and thereby discouraged development.

The Natural Gas Policy Act of 1978 also eliminates the distortions caused by the existence of two separate markets for gas—the price controlled interstate market and the uncontrolled intrastate market. The result has been an immediate increase in gas available through the interstate system, which provided a critical part of the Nation’s response to the Iranian production shutdown of early 1979.

The Energy Security Corporation.—The Energy Security Corporation (ESC) proposed by the Administration will accelerate the process of developing a synthetic fuel industry. The Energy Security Corporation will be an independent entity chartered by Government that will share the risks of synthetic fuels development with the private sector. It is largely independent of normal Government controls and is designed to accomplish a single purpose—the acceleration of synthetic fuels commercialization, particularly coal based synthetics, oil shale, and biomass. The Corporation will use four primary instruments to share the risks of synthetic fuel development: price guarantees, purchase agreements, loan guarantees, and direct loans.

The ESC’s target is the production of 1.75 million barrels per day of synthetic fuels. Although the ESC Board of Directors will select projects, a very large portion of this capacity—probably more than 1 million barrels of daily capacity—is likely to be coal-based. This will require coal production of over 200 million tons annually. The actual costs to the Government of this program will depend on the future of oil prices.

Energy Mobilization Board.—Regulatory decisions on priority energy facilities involve the balancing of a wide array of economic,

environmental, health and safety, and social costs and benefits. These judgments are based on statutory standards and criteria.

The process can be very time consuming, particularly in the case of a first-of-a-kind facility which raises novel issues at the administrative and judicial levels. The Energy Mobilization Board (EMB) proposed by the Administration is designed to expedite permitting decisions on proposed energy facilities that have the potential for a significant reduction of oil imports. The EMB will have authority to impose deadlines for decisionmaking on Federal, State, and local agencies.

Power Plant Petroleum Conservation Act and the Power Plant and Industrial Fuel Use Act.—In order to accelerate the reduction of oil and gas usage in utility boilers the Administration proposes that a portion of the Windfall Profits Tax be made available to utilities in the form of financial assistance for investment in new generating capacity.

In addition, the Power Plant and Industrial Fuel Use Act provides DOE with the authority to effectively prohibit new oil and gas use by utilities and major industrial consumers, and to order conversion of existing facilities to coal.

The combined result of these regulatory and financial assistance programs is projected to be very substantial. Total coal use is expected to reach 1.4 billion tons in that year of which roughly 0.9 billion tons will be electric utility consumption.

Resumption of coal leasing.—In June 1979, the Secretary of Interior announced the resumption of a Federal coal leasing program after an 8-year moratorium. The 1980 and 1981 budgets provide the resources necessary to develop a new competitive leasing program and accelerate processing of existing leases in recognition of Presidential energy initiatives to increase coal use and reduce dependence on imported oil.

Domestic oil and gas production.—The prospects for substantially increased oil and gas production are limited, due to the declining domestic resource base. Given adequate incentives, current production levels can be maintained, or perhaps slightly increased, over the coming decade. Unconventional natural gas sources may hold significant potential for increasing supplies.

Phased decontrol of domestic crude oil by October 1981 will provide considerable new incentives for additional oil production. The decontrol schedule is carefully designed to place early incentives where they will do the most good—newly discovered oil, enhanced recovery projects, and heavy oil production (up to a specific gravity of 20 degrees, API). These categories all receive the world price by January 1980. Eighty percent of production from marginal properties was released from lower to upper tier on June 1, 1979. Additional oil is released to the “upper tier” price to finance en-

hanced recovery projects. Heavy oil is decontrolled and, below a specific gravity of 16 degrees API, is exempt from the windfall profit tax. The projected effect of decontrol, compared with continued controls is an increase of 0.8 to 1.2 million barrels per day in 1985 domestic crude oil production, and 1.0 to 1.8 million barrels per day in 1990.

One of the most promising areas for oil and gas exploration is the federally owned Offshore Continental Shelf (OCS). About 25% of new U.S. oil and gas production is expected to be from the OCS. The Administration, working with the Congress, secured enactment of the first major reform in 25 years of the OCS management process: the OCS Lands Act Amendments of 1978. Under the terms of the Act, the Secretary of Interior has submitted a proposed accelerated OCS leasing program to the Congress. During the 5 years covered by the program, 30 lease sales are scheduled, including frontier areas in Alaska such as the Navarin, St. Georges, and Norton Basins, the Chuckchi Sea, and the Kodiak. Sales are also included in the plan for the Atlantic Gulf of Mexico and the Pacific OCS. In 1979 the Department of the Interior revised OCS regulations to meet the environmental, economic and other requirements of the new statute and held six lease sales, resulting in total 1979 sales of about 1.6 million acres.

The President is recommending that Congress quickly enact legislation he is proposing to open the 23.7 million acre National Petroleum Reserve in Alaska (NPR-A) for oil and gas leasing by industry under provisions to ensure adequate protection of surface values. Based on current data, the Department of the Interior has made preliminary estimates that there are 7.6 billion barrels of oil and 14.5 trillion cubic feet of gas in place (average values) with a 5% chance there may be as much as 20.3 billion barrels and 31.7 trillion cubic feet respectively in this Reserve. The fastest way to determine whether there are commercial quantity oil or gas resources in the Reserve is to open it to diverse exploration strategies by several companies under leasing. Under the draft bill, the first lease sale in NPR-A would be held within 20 months after enactment.

For natural gas, the higher prices allowed under the Natural Gas Policy Act of 1978 and the integrated market which that legislation allows are the primary driving forces behind increased production. In addition, certain forms of high cost unconventional natural gas will benefit from further incentives.

Recognizing the extremely large potential gas resources in the United States that exist in unconventional formations, such as tight sands, devonian shale, geopressurized zones and coal seams, the Administration has proposed the following initiatives which

will significantly accelerate large-scale production of these reserves:

- A special incentive price comparable to the deregulated oil price for natural gas from tight sands.
- A \$0.50 per thousand cubic feet tax credit for all unconventional gas production. The tax credit will phase out when gas prices reach the equivalent of \$29.50 per barrel of oil (1979 dollars).

Production resulting from these incentives is estimated at 1 to 2 trillion cubic feet, or .5 to 1 million barrels per day of oil equivalent by 1990.

Nuclear energy.—Nuclear energy was responsible for generating 13% of the Nation's electricity in 1978 and the nuclear share of the market is expected to increase to about 20% by the end of the century. In order for this growth to occur, it is necessary that there be public confidence that nuclear reactors are safe and that the problem of waste disposal can be solved. It is also necessary to ensure to the extent possible that nuclear power does not become an avenue to the proliferation of nuclear weapons.

The question of nuclear safety has been of increasing concern since March 28, 1979, the date of the accident at Three Mile Island. In response to that accident, the President established a Commission headed by Dr. John G. Kemeny, President of Dartmouth College. The Commission studied the causes of the accident and the way in which the crisis was handled both by the Government and the utility. The Commission recommended ways in which the Government could better perform its role in nuclear regulation in order to ensure the future safety of nuclear plants and rebuild confidence in nuclear power. The President has already implemented many of the recommendations of the Kemeny Commission and other action, by the Congress, the Nuclear Regulatory Commission, and the utility industry itself will soon follow.

In the area of nuclear waste management, the Administration has substantially increased its efforts in nuclear waste research and development and in the safe management of the existing inventory of military wastes. In addition, the Administration has been significantly increasing the scope of its programs to find suitable sites for nuclear waste disposal and to insure that wastes can be safely stored at those sites.

The Administration has been concerned that the worldwide spread of sensitive nuclear technologies and facilities, such as uranium enrichment and spent nuclear fuel reprocessing plants, could make weapons-grade nuclear materials easily accessible. This could lead to the proliferation of nuclear weapons in many more countries. Also, new nuclear fuel cycles which use weapons-grade materials as fuel could lead to commerce in those materials.

In countries that do not have nuclear weapons, such commerce might seem to offer an easy route to develop a nuclear weapon. To reduce that possibility, the Administration continues to develop proliferation resistant technologies. The United States also continues to negotiate with other nations to reach a consensus on ways to reduce the risk of proliferation while making the benefits of nuclear power widely available.

Renewable resources.—The Administration has established a national goal of meeting 20% of U.S. energy consumption in the year 2000 from renewable resources. This is a substantial increase over the 1978 level of 6%, derived from hydropower and biomass. The goal of 20% will require energy production from renewable sources by the year 2000 of over 8 million barrels daily (oil equivalent).

Energy Tax Act of 1978.—The Administration proposed and the Congress enacted a tax credit of 30% of the first \$2,000 and 20% of the next \$8,000 for investments by residential users and a 10% investment tax credit for business investments in solar energy equipment to heat or cool buildings. Although the credit was available only a short time in 1978, \$33 million of tax expenditures were claimed by residential consumers on solar energy equipment in that year.

The Solar Energy and Energy Conservation Bank.—In order to provide deeper subsidies than the tax credit alone for solar investments, the Solar Energy and Energy Conservation Bank will provide interest subsidies on loans for solar energy equipment installed in residential buildings. Subsidies of up to 40%, including the effect of the tax credits, will be provided for solar investments. In total, \$1.5 billion from the proceeds of the windfall profit tax will be provided for solar assistance through the Bank, a funding level of \$35 million in 1980 and \$150 million annually thereafter.

Residential passive solar tax credit.—In addition to the active solar systems subsidized by the 1978 tax credit, buildings can be designed to take advantage of solar heat and to store solar energy without special pumps or fans to circulate the energy. This passive solar technology offers significant prospects for reducing energy consumption in buildings. The Administration has proposed a tax credit for the builders of new homes utilizing passive technologies, of up to \$2,000 per residential building and up to \$10,000 per commercial building.

Agricultural and industrial process heat.—Solar energy can also provide energy for industrial and agricultural processes, such as food drying or process steam. In order to accelerate the commercialization of these technologies, a 15% investment tax credit (over the base 10% credit in current law) would be provided for such installations.

Biomass fuels.—The Administration proposed in 1977 that gasoline containing 10% or more alcohol be exempt from the \$0.04/gallon Federal excise tax. The result is a subsidy of \$0.04 for every gallon of gasohol, or \$0.40 for every gallon of alcohol mixed with gasoline. The exemption was enacted in 1978 with eligibility extending to 1982. In April 1979, the Administration proposed that the exemption be made permanent. The Energy Security Corporation also would be authorized to assist significant alcohol fuels plant development. In addition, the Administration supports a 10-year \$3 billion credit assistance program for small to medium scale alcohol and other biomass plants.

Research, development, demonstration and commercialization.—Budget outlays for these activities have grown substantially since 1977. Total outlays in 1981 will reach \$1.1 billion—more than four times the 1977 level. This growth reflects the important role renewable resources will play in meeting the Nation's energy security goals.

Many promising forms of renewable resource utilization are not commercial at present, even with the support of the tax credits mentioned above. For example, photovoltaic cells, which produce electricity directly from sunlight, have declined in cost by more than three orders of magnitude over the past decade, due almost entirely to Government investment. They remain uncompetitive except for a few specialized applications. Government spending on photovoltaics is now focussed on reducing the costs of installed photovoltaic systems to the point of commercial viability. In total, Government spending on long term photovoltaics research will reach \$118 million in 1981.

EMERGENCY PREPAREDNESS

In addition to reducing our dependence on foreign sources of petroleum in this decade, the Nation must be prepared to deal with disruptions in supplies that could occur at any time. Twice since 1973 there have been disruptions in foreign petroleum supplies that demonstrated the threat posed by continued import dependence.

Strategic Petroleum Reserve.—As one of the first steps to protect against these disruptions the Administration in its first year raised the goal of the Strategic Petroleum Reserve from 500 million to 1 billion barrels of oil. Development of the reserve has been pursued vigorously. Despite the interruption in Iranian supplies and the tightness of the petroleum market, 92 million barrels have been stored.

A second step to strengthen our preparedness was taken in April 1979, when the President announced his commitment to develop localized storage of petroleum stocks for certain regions such as the

Northeast and Hawaii that are especially vulnerable to petroleum interruptions under certain circumstances. This storage is meant to supplement the protection provided by the centrally stored reserve.

Contingency plans.—In addition to developing strategic petroleum stocks, we must have well conceived and tested contingency plans to insure that basic human needs are met and essential economic and national defense activities are maintained during a crisis. Progress has been made in this area, especially with regard to developing plans for gasoline rationing and demand restraint measures. In February 1979, the Administration sent to the Congress a standby gasoline rationing plan and three standby measures to restrain nonessential energy use during an emergency. Only the emergency temperature restrictions plan for nonresidential buildings was approved by the Congress. Steps were taken immediately to carry out this plan and it was successfully implemented before the end of the summer cooling season.

The Emergency Energy Conservation Act enacted in October 1979, eliminated the one-House veto of standby gasoline rationing plans and provides a mechanism for the development of emergency energy conservation plans, with the States having a key role. In early December the Administration published for public comment a revised standby gasoline rationing plan which, after consideration of public comments, will be transmitted to the Congress early this year for its approval. A Federal Energy Conservation Plan that outlines measures that could be imposed during an emergency to restrain nonessential energy demand and provides guidance for the development of State conservation plans will be transmitted to the Congress in early February, as required by the new Act. In addition, the Administration proposed gasoline conservation targets for each State in December. These targets become mandatory under the Act upon declaration by the President of a severe petroleum supply disruption.

The States will require both technical and financial assistance in developing emergency contingency plans as well as other energy programs. Recognizing this need the Administration included State emergency planning as an integral part of the proposed energy management partnership grants.

Significant progress has also been made in other areas of energy emergency preparedness. For example, the Department of Energy has revised and updated its response plan for dealing with petroleum emergencies, a reporting system for tracking petroleum demand, supply and inventories on a weekly basis has been established, petroleum allocation regulations have been updated, and a new, more comprehensive distribution plan for the strategic petroleum reserve has been sent to the Congress and approved. These

and other emergency preparedness efforts will continue to receive high priority.

FEDERAL ENERGY ORGANIZATION

In January 1977, the Federal Government's organization for energy activities was fragmented across a number of agencies resulting in duplication and overlap. The Administration proposed and the Congress enacted legislation establishing a Department of Energy. Most energy programs of the Executive Branch were transferred to the Department and the Federal Energy Administration, Energy Research and Development Administration and the Federal Power Commission were abolished. The Federal Energy Regulatory Commission was established as a part of the Department, but with a degree of independence which will assure the integrity of regulatory decisions. Energy functions were placed in a single cabinet level department with a Secretary reporting to the President. The new department has made substantial progress in developing internal processes and structures to achieve the efficiencies of the reorganization.

INTERNATIONAL ENERGY ACTIVITIES

Demand Restraint and Oil Import Commitments.—The Administration has played a strong leadership role in developing cooperative approaches to short-run oil market pressures and to the long-term transition to an oil scarce world economy.

During 1979 the United States took the initiative in developing a coordinated consumer country response to the interruption of oil supplies from Iran and the subsequent turbulence in the international oil market. The key element of the U.S. approach was a coordinated effort to restrain demand for oil through agreements reached in the International Energy Agency (IEA) and at the Tokyo economic summit:

- In March 1979, the 20 member nations of the IEA agreed to reduce their collective demand for oil on world markets by 2 million barrels per day by the end of 1979, about 5% of IEA oil consumption.
- At the Tokyo summit in June 1979, the seven summit countries (France, Germany, Italy, the United Kingdom, Japan, Canada, and the United States) made a number of oil import and consumption commitments, including a commitment to restrain their oil imports to agreed levels for both 1980 and 1985.
- On December 10, the IEA nations adopted country-specific oil import ceilings for 1980 and oil import goals for 1985. They also agreed to a quarterly system for monitoring performance in meeting these ceilings, for recommending corrective action

when necessary, and for adjusting targets in light of changes in the world oil market.

U.S. leadership in pushing for tough and credible oil import commitments has been supported by the strong U.S. energy performance since 1977. From a peak of 8.5 million barrels daily in 1977 net oil imports by the United States have decreased to 8.0 million barrels daily in 1978 and to below 8 million barrels daily in 1979.

Energy technology.—The United States has been a leader in promoting increased international cooperation in the research, development, demonstration, and commercialization of new energy technologies:

- The United States is an active participant in IEA joint energy R. & D. projects;
- The United States is initiating new cooperative projects, including an arrangement under which Germany and Japan may each contribute 25% of the cost of a solvent refined coal project in the United States.
- The United States proposed and now chairs the International Energy Technology Group (IETG) that will examine the need and potential for increased international collaboration in energy technology commercialization, including financing mechanisms.

Coal.—Recognizing the important role that coal can play in easing the world's long term energy problems, the Carter Administration has taken action to promote increased international cooperation on coal:

- The United States has actively participated in negotiating in the IEA an agreement that commits nations to adopt policies to promote increased use, trade and production of coal. The IEA nations have also agreed to establish a Coal Industry Advisory Board in order to enlist industry's advice and cooperation on measures to ensure the environmentally sound expansion of coal use.
- At Tokyo the summit nations pledged that they would endeavor to substitute coal for oil in the industrial and electrical sectors.
- The United States has negotiated a technical cooperation agreement on coal with Italy. In addition, there are numerous IEA research and development projects on coal, as well as the cooperation with Japan and Germany noted under energy technology.

Relations with developing countries.—The United States has strongly supported international efforts to help developing countries make efficient use of their energy resources. The United States has promoted an increased World Bank program for the

exploration and development of hydrocarbon resources in developing countries. Secretary of State Vance has recently proposed that the Bank chair an ad hoc group of experts to examine the energy activities of developing country institutions and the need and possibility of expanding these activities.

Together with other nations, the United States is reviewing its bilateral energy activities with a view toward expanding them. Present U.S. programs include:

- AID projects on renewable energy resources;
- Comprehensive assessments of energy needs, uses and resources;
- Technical cooperation agreements with selected developing countries.

Relations with Canada and Mexico.—The United States has developed constructive energy relationships with both Canada and Mexico.

Although imports of crude oil from Canada have declined, trade in natural gas, electricity and coal are increasingly important elements in U.S. energy policy. The Administration has worked closely with the Canadians on the development of the Alaskan natural gas pipeline, and Canada has significantly increased its sales of natural gas to the United States. In March 1979, the two countries agreed to the establishment of an Energy Consultative Group to monitor the range of bilateral interest at the senior official level.

While starting from a lower base, our energy relationship with Mexico is developing rapidly. On September 20, 1979, the United States and Mexico announced that the two Governments would authorize and support commercial transactions for the export of Mexican natural gas to the United States. This arrangement resulted from seven negotiating sessions under the auspices of the Mexico-United States Consultative Mechanism, which was established by President Carter and President Lopez-Portillo. The announcement provides for an initial volume of natural gas deliveries of 300 million cubic feet per day, commencing as soon as regulatory approvals are obtained and gas is available for delivery. The contract has already been signed, and first deliveries are likely to begin in early 1980. The initial volume of 300 million cubic feet per day provides an energy supply which can be readily substituted for almost 53,000 barrels per day of imported oil. In addition, the United States is a major customer of Mexican oil. Via the Energy Working Group of the United States/Mexico Consultative Mechanism, additional energy links such as electricity exchanges are being explored.

The Alaska natural gas pipeline.—Alaskan natural gas has the capability of replacing 425,000 barrels per day of oil that the

United States would otherwise require by 1985, and larger amounts beyond that date. In August 1977, the President approved construction of a pipeline from the Alaska North Slope to the Midwest and the West with the condition that it be privately financed. In September 1977, the United States and Canada reached agreement on the project. Financial participation by the producers of that natural gas would allow early achievement of a satisfactory private financing package. The President has directed the Secretary of Energy to urge the heads of these companies to proceed with the financial commitments needed to build the pipeline.

Reorganization Plan No. 1 of 1979, consolidated enforcement functions related to the proposed Alaska Natural Gas Transportation System (ANGTS) under a single Federal Inspector. This plan creates a unique institution to manage the Federal role in a critical energy project, insuring timely completion of the natural gas pipeline at the lowest possible cost consistent with Federal regulatory policies.

4. INVESTING IN THE NATION'S SCIENTIFIC AND TECHNOLOGICAL FUTURE

When the Administration took office, Federal support for basic scientific research stood lower, in real terms, than a decade earlier.

At the same time, concern was rising in many quarters about the long-term capacity of American industry to meet the technological challenges posed by an era of heightened international competition and rapidly escalating resource prices.

In response, the Administration has adopted a policy of increasing Federal funding for basic research in real terms every year and of taking significant steps to encourage technological innovation throughout the American economy. Federal support for basic research has increased 40%—9% in real terms—since 1978. The Administration's concern for technological innovation culminated in October of 1979 in a Presidential message to the Congress announcing new measures to foster cooperation between the Government and the private sector in enhancing the competitive vigor of America's industry.

I. FEDERAL SUPPORT OF BASIC RESEARCH

The Federal Government, which now supports about 70% of all basic research in this country, has accepted the primary responsibility for funding such research across a broad range of scientific disciplines.

This is a proper and necessary Government role, for the following reasons:

- Basic research—enlarging the stock of fundamental knowledge about the character of matter, the universe, the Earth, man, and the processes of life—is critical to maintaining and expanding our ability to secure the health, well-being, and prosperity of the American people over the long term.
- The general enhancement of knowledge is by its nature a “public good.” Basic scientific discoveries are available for use by firms and individuals other than those who have produced them, so that the normal economic incentives of the marketplace cannot be relied upon to assure that adequate investments in basic research will result from the private decisions of commercial enterprises. Furthermore, private markets often shy away from an enterprise, such as basic research, whose results are highly unpredictable and whose practical applications are often uncertain as to character and timing.

- Various agencies of the Federal Government support basic research to acquire knowledge important over the long term to achieving their agency missions—without regard to specific, short-term, practical applications. This is, for instance, the reason that the Department of Defense (DOD) supports solid state physics and materials research; and the Department of Energy (DOE) supports fundamental studies of subatomic particles.

An extremely broad range of basic research activities are funded by the Federal Government. For example:

- Investigation of the properties of metals at extremely low temperatures that may prove useful in advanced energy generation and transmission systems;
- Exploration of the physical and chemical processes that take place in the cells of plants and animals that provides information vital to solving problems of disease, nutrition, and food supply;
- Investigations of the universe using Earth- and space-based telescopes and other instruments; and exploration of the solar system through planetary probes and satellites;
- Studies of movements of the Earth's crust and of changes in its magnetic, gravitational and volcanic forces that may make it possible to find ways to predict earthquakes and to locate new minerals of economic importance;
- Development of advanced techniques for modeling and analyzing economic activities that may result in improved information on which private and governmental decisions affecting national economic objectives are based;
- Discovery of fundamental particles that make up the nucleus of atoms and molecules that have led to major advances in physics and chemistry; and
- Basic medical studies of human biology that have opened paths to prevention and treatment of many diseases, including those due to environmental hazards.

Determining the appropriate level of Federal support of basic research presents difficult conceptual and practical problems. It is impossible to predict what area of basic research is most likely to contribute to future breakthroughs in fundamental knowledge. The Administration relies heavily upon the scientific community's own appraisal of the general "health" of U.S. science, and upon judgments by knowledgeable scientists and administrators about the most promising areas of research and about areas of national need most likely to benefit from an increased emphasis on basic research.

Since taking office, the Administration has promoted real growth in Federal support of basic research. This support has flowed through a wide range of agencies, as shown in the following table.

Table 4-1. CONDUCT OF BASIC RESEARCH

(Obligations in millions of dollars)

Agency	1978 actual	1979 actual	1980 estimate	1981 estimate	Percent change 1978-81
Health and Human Services	1,274	1,576	1,728	1,840	44.4
(National Institutes of Health).....	(1,181)	(1,461)	(1,604)	(1,704)	(44.3)
National Science Foundation.....	678	730	814	952	40.4
Energy.....	441	464	523	593	34.5
National Aeronautics and Space Administration	480	513	538	581	21.0
Defense.....	319	362	431	523	63.9
Agriculture.....	243	257	289	324	33.3
All Other.....	190	199	208	261	37.4
Total.....	3,625	4,101	4,531	5,074	40.0

Note.—The amounts shown in the table are for the performance or "conduct" of basic research. Federal obligations for basic research facility investments and expendable research equipment such as planetary exploration spacecraft are excluded from the table to avoid distortions that would result from the buildup and phasing down of major engineering or construction projects. Such projects are necessary to the conduct of some basic research but do not accurately reflect the level or continuity of ongoing basic research efforts.

II. BASIC RESEARCH: FUNDING PRIORITIES AND THE MISSION AGENCIES

Federal support for basic research extends over virtually every scientific discipline and is provided both by the mission agencies—Department of Defense, Department of Energy, National Institutes of Health, National Aeronautics and Space Administration (NASA), for example—and by the National Science Foundation (NSF). The Administration has aimed to strike a balance among the research disciplines and between mission agency and NSF funding mechanisms.

Attaining this balance has required a special emphasis in two directions: in terms of the balance among disciplines, a special emphasis on the physical sciences disciplines; and in terms of funding mechanisms, a special emphasis on mission agency funding. Budgetary trends up to 1977 had slighted these elements of the basic research enterprise.

Most mission agency support for basic research declined steadily in real terms over the decade beginning in 1967. By 1977, this was a cause of concern in the scientific community, because basic research is of great potential value in addressing the national goals and problems assigned to the mission agencies. Furthermore, U.S. science has always prospered best under a pluralistic (multi-agency) system of Federal research support, which encourages alternative approaches to problems and stimulates competition. A core program of long-term basic research also lends vitality and

breadth to the predominantly applied research programs of the mission agencies.

The need to emphasize the physical sciences had become clear by the late 1970's. Since the early 1960's, the largest proportion of the Federal Government's funds for basic research has been provided by the Department of Health and Human Services (HHS, formerly HEW). The basic research activities of HHS focus almost exclusively on health and life sciences: approximately 92% of its basic research obligations are accounted for by the National Institutes of Health (NIH) and nearly 6% by the Alcohol, Drug Abuse and Mental Health Administration (ADAMHA).

This growth in funding of life sciences research represents a 19% increase *in real terms* from 1967 to 1980. This growth has resulted in an explosive growth in scientific output of great potential value to human health. But such advances have also depended on developments in other sciences such as physics and chemistry. The cross-fertilization of different scientific disciplines is of great importance to the health of the entire research enterprise. For this reason the Administration has sought to achieve a better balance in the support of basic research across all fields of science.

Federal support for the physical sciences and mathematics fell by 14% and 17%, respectively, in real terms between 1967 and 1980. The President's 1981 budget makes a strong effort to reverse this disturbing trend. Most of this support is being provided through the mission agencies in the budgets of the Departments of Defense and Energy (DOD and DOE), and the National Aeronautics and Space Administration (NASA), as well as through the budget of the National Science Foundation.

In addition, an important new initiative in basic research contributing to automotive technology will also strengthen Federal support in the physical sciences. Part of this effort will be undertaken through the Department of Transportation (DOT) which until now has not supported basic research in a major way.

Between 1978 and 1981, obligations for basic research programs in DOD are estimated to increase by \$204 million, or 64%. During this Administration, DOD has been committed to real growth in its basic research programs, and an increased emphasis on university and college performers of that research. DOD's programs include research in such fields as physics, chemistry, mathematics and engineering, and those aspects of the environmental, biological, medical and social sciences that are especially relevant to DOD missions. Specific areas of emphasis include particle beam generation and propagation, analysis of the limits of semiconductor devices, and investigation of human responses under stress, and an examination of the physics and chemistry of the upper atmosphere.

Although it represents a small fraction (approximately 6%) of the agency's total work, the basic research carried out by DOE is a major enterprise. Obligations for basic research in DOE are estimated to increase by \$152 million between 1978 and 1981, or 35%. Basic energy sciences are firmly rooted in the traditional science disciplines, but are directed at research opportunities that are most significant for the country in dealing with energy problems. These programs support research primarily in the physical sciences such as physics, chemistry, and materials science. DOE's general science programs complement the main body of DOE's energy responsibilities. These programs include high energy and nuclear physics, and life sciences research and nuclear medicine applications. Begun in 1978, the construction of Isabelle—the intersecting storage accelerator at Brookhaven National Laboratory—will continue in 1981. This will be the most powerful physics research facility of its type in the world.

The National Aeronautics and Space Administration's obligations for basic research in 1981 are expected to increase by \$101 million, or 21% over 1978. The principal areas of NASA's support are the physical sciences, such as astronomy, astrophysics, cosmology, solar physics; the environmental sciences; life sciences; and engineering. Some of these areas are clearly associated with aeronautics and space; others have elements that can best be investigated using aeronautical or space systems (e.g., seismology and atmospheric and environmental monitoring satellites). NASA also supports some basic research in psychology, mathematics, computer sciences, and social sciences. Of particular note in the NASA space science program will be the initiation of development in 1981 of a gamma ray observatory that will obtain fundamental knowledge of the nature and origin of our universe.

The Administration's budgets have also increased basic agricultural research, as a sound investment in the future productivity of the Nation's most important industry. Current and projected future requirements for food, fiber and energy are placing increasing demands on American agriculture. The Department of Agriculture supports basic research in such diverse fields as the biological sciences, chemistry, physics, engineering and economics in order to meet these challenges. This research has direct benefits in the areas of improved health status (through more and better nutritious food), environmental quality, and the economy (through increased availability of food and wood products, and foreign trade). Obligations for basic research in USDA are estimated to increase by \$81 million, or 33%, between 1978 and 1981.

III. BASIC RESEARCH: THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation was established in 1950 for the primary purpose of funding basic research in all fields of science. In so doing, the Federal Government for the first time explicitly assumed responsibility for supporting basic research in the broad national interest, recognizing that the private sector does not invest adequately, and that basic research funding by the various Federal mission agencies in support of their own program objectives would not be sufficient to serve the overall national need. In addition to support of basic research, NSF also funds programs in applied and policy research and in science education.

Having brought mission agency support of basic research into an appropriate balance, the Administration proposes a sizable increase for the NSF in 1981, with particular emphasis on research in the physical sciences, mathematics, and engineering.

A table that shows the funding levels for NSF from 1978 to 1981 follows:

Table 4-2. BUDGET AUTHORITY FOR THE NATIONAL SCIENCE FOUNDATION

(In millions of dollars)

Research activities	1978 actual	1979 actual	1980 estimate	1981 estimate	Percent change 1978-81
Research by scientific discipline (e.g., biology, mathematics, chemistry, astronomy)	651	696	764	893	37.2
Science education (e.g., fellowships, new teaching materials)	73	80	78	86	17.8
Applied research (e.g., earthquake engineering)	61	54	59	74	21.3
International programs, science information, science policy analysis, special foreign currency operations	28	27	32	34	21.4
Staffing and administrative expenses	50	54	58	61	22.0
Total NSF.....	863	911	991	1,148	33.0

Note.—This table summarizes the NSF budget as presented to the Congress. The amounts shown here are not directly comparable with the NSF line in table 4-1. That table summarized basic research funding for the entire Foundation, while the categories above, which parallel the Foundation's organizational structure, include some funds for applied research and supporting activities as well as basic research.

National Science Foundation funding for scientific disciplines will increase by 37% from \$651 million in 1978 to \$893 million in 1981. This increase will be used to fund projects in all fields of science. Decisions on the level of funding for particular fields are made by NSF based on the scientific promise of proposed research and the amount of related research likely to be supported by other Federal agencies. During this Administration, special emphasis has been placed on upgrading instrumentation and equipment at colleges and universities.

Since its founding, NSF has supported programs to improve science education. The levels of funding and types of educational

activities supported have varied greatly over the years as national policies and priorities have changed. The 1981 budget of \$86 million is designed to achieve a number of objectives, including developing new materials for and methods of teaching science, attracting more women and minority students into scientific careers, providing equipment for school laboratories, and studying the ethical implications of pursuing controversial types of research (e.g., genetic engineering). These activities will complement the research and improvement activities of the Department of Education.

The Foundation supports international cooperative science activities such as an expanded program of research with the People's Republic of China. It also supports programs to improve the dissemination of scientific information; to monitor trends in science funding and manpower, and to analyze science policies and issues.

IV. RESEARCH SUPPORTING TECHNOLOGICAL INNOVATION

The Administration has placed a high priority on funding a broad range of research and development activities—applied research, development and demonstration—in areas of interest to industry. In April 1978 the President initiated a "Domestic Policy Review" of industrial innovation to develop policies for the Federal Government that would foster the Nation's competitive capability and entrepreneurial spirit for the decades ahead.

The President announced a number of policy decisions in October 1979. Many of the measures seek to enhance the base of usable scientific and technological knowledge upon which industry can build a strong, competitive position. A key goal is to promote the development and application of advanced technologies in the private sector as a means of increasing national productivity, strengthening the economic competitiveness of U.S. firms, and reducing inflationary pressures in the economy. The Administration recognizes that this goal requires a continuing commitment on the part of both industry and Government.

The 1981 budget implements the Administration's industrial innovation initiatives through the budgets of the NSF and the Department of Commerce. These initiatives include:

- the establishment of nonprofit centers—at universities or other private sector sites—that are jointly funded with the private sector, to develop and transfer "generic technologies." These are technologies common to an entire industrial sector, or several sectors, but in which individual private firms are reluctant to invest because the benefit from advances to any one firm (or even one industrial sector) may be small. Examples include advanced welding and joining techniques, automated assembly, corrosion prevention and control, nondestructive testing and performance monitoring, and tribology,

or the science of lubricants. Both Commerce and NSF will sponsor these generic technology centers.

- the expansion of NSF's program for the support of high quality research projects that are proposed jointly by industry-university research teams. This program of cooperative research improves the coupling between the two communities, and harnesses the scientific and technological strength of American universities to the needs of U.S. industries.
- the expansion of the NSF small business innovation program to encourage development of new processes and products for further venture capital investments by the private sector.
- the creation of a center within the Commerce Department's National Technical Information Service (NTIS) to improve the flow of knowledge from Federal laboratories and research and development centers to industries outside the purview of the mission agencies. This will help inform industries of technological opportunities of which they might otherwise be uninformed.

Related to the Administration's industrial innovation policy are two major new programs of Government-industry cooperation in innovative technological research. The first is a special effort to promote basic automotive research, in order to increase, in the future, the energy efficiency, environmental soundness, and safety of the Nation's major mode of transportation. This effort is designed to complement the work of private industry and is to be conducted through the programs of the Department of Transportation, the NSF and possibly other Federal agencies. Industry will provide 50% of the funds, and the Government's share will be financed through the revenues from the proposed windfall profit tax.

The second major cooperative effort among industry, universities and Government is a program of scientific research on the continental margins and in the deep oceans, known as the ocean margin drilling program. Industry and Government will equally share the costs of this 10-year, \$700 million program, which will make use of the Government-owned ship *Glomar Explorer*, converting it into the world's most advanced deep ocean drilling platform.

The sponsors expect high-quality, important scientific results from this program. The potential economic benefits are also substantial: the ocean margins are an area where large, as yet undiscovered petroleum reserves may exist. The technology required for the program will extend the state-of-the-art in deep ocean exploration and will establish U.S. leadership and underpin industrial developments in this area. Thus the program offers exciting scientific and economic opportunities as well as a testing ground for industry-university-Government cooperation.

The Administration's policy of real growth in basic research, and its policy of improving the climate for industrial innovation will, over time, play key roles in improving the vitality of American industry and the quality of life of all Americans.

5. IMPROVING THE NATION'S HEALTH

Our Nation's people have never been healthier. In this century, many life-threatening communicable and infectious diseases have virtually been eliminated, our death rate has been cut in half, infant mortality has decreased over 60%, and life expectancy has increased more than 50%. These gains reflect both high quality health care services and basic improvements in our day-to-day lives, including widespread advances in immunization, nutrition, sanitation, and housing.

However, new challenges must be met for our health improvements to continue, and to be shared by all. Financial barriers and geographic location still limit health care services available to many. The cost of health services continues to burgeon, claiming an increasing share of our Nation's resources and imposing hardships on individuals with inadequate insurance coverage. Major threats to health today have more numerous and complex causes than the infectious diseases that took a heavy toll in the past. Heart disease, cancer, accidents, diseases of early infancy, and stroke—the Nation's five leading contributors to years of life lost—clearly have multiple and diverse roots. It is increasingly evident that factors outside the traditional health care system, including our personal habits and our living, working, and recreational environments, play an important role in these and other ills.

The Administration has moved to meet these challenges through a series of initiatives shaped by three fundamental policy goals:

- *Access.*—All Americans should have access to basic health care services.
- *Prevention.*—Greater reliance should be placed on actions to prevent disease, injury, and premature death.
- *Efficiency and effectiveness.*—Health services and preventive actions should be reasonable in cost, safe and effective.

The National Health Plan (NHP) is the cornerstone of the Administration's health strategy. It will insure universal access to health insurance coverage, including preventive services for all pregnant women and infants, and provide the foundation for a more efficient and effective health care delivery system. The NHP and other initiatives which exemplify the Administration's progress in improving the health of current and future generations are described in this presentation. Like the NHP, many other initiatives address more than one policy goal; however, most initiatives are discussed only under one.

I. ACCESS TO SERVICES

Federal involvement in the financing and delivery of health services has grown rapidly since World War II, with the enactment of Medicare, Medicaid and dozens of other programs to improve access to care. The Administration's health strategy calls for continuing and improving existing programs that meet important health services objectives, and undertaking new initiatives to address both immediate and long-term critical needs.

The most important of these new initiatives is the National Health Plan (NHP), which will insure all Americans access to necessary protection against the high costs of medical care. Expanded coverage under the NHP will be implemented in 1983. In the interim, several other Administration initiatives, which are consistent with the NHP, address needed improvements in high-priority areas:

- Improving the health of infants, children and mothers.
- Increasing access to medical care for underserved and poor Americans.
- Strengthening Federal mental health, alcohol and drug abuse programs.

MATERNAL AND CHILD HEALTH INITIATIVES

For children to have a healthy start in life requires that they be wanted and that they and their mothers, when pregnant and nursing, receive adequate medical care and nutrition. An estimated one-third of the babies born each year are unplanned, with poor women and teenagers more likely than average to bear such infants. These mothers also bear a disproportionate share of low-birth-weight babies—babies most vulnerable to developmental problems and death. (Two-thirds of all infants who die have low birth weights.) The children of the poor are handicapped further by receiving fewer and less regular health services than their counterparts in wealthier families.

Insuring a healthy start in life for children is an Administration priority, reflected in continuation of the Maternal and Child Health Program and important new initiatives to improve access to health services and nutrition for women, infants and children, particularly those most at risk.

Special Supplemental Food Program for Women, Infants and Children (WIC).—Several studies indicate that the Department of Agriculture's (USDA) WIC program reduces infant mortality and the incidence of low-birth-weight babies. WIC provides low-income women and children at "nutritional risk" with prescribed food packages, nutrition counseling and referral to health services. The Administration has requested major funding increases for WIC

since 1978. Budget authority of \$946 million is requested in 1981. At this level, between 1977 and 1981 funding for the program will more than triple and average monthly participation increase from 848,000 to an estimated 2.1 million. Conservative estimates indicate that WIC will reduce Federal outlays some \$260 million in 1980 by lowering Federal contributions for Medicaid, Supplemental Security Income, and special education programs. Additional savings will accrue to State and local governments.

Medicaid improvements.—An additional 2 million low-income children under age 18 will become eligible for Medicaid and early periodic screening, diagnosis and testing services under the Administration's proposed Child Health Assurance Program (CHAP). CHAP also will improve continuity of care for the 13.6 million children now eligible for Medicaid: new State performance standards will help insure children regular services from a comprehensive care provider so that testing and treatment are effectively integrated. These standards will be reinforced by a new system of variable funding related to State performance. In addition, 100,000 low-income women will become eligible for prenatal care by requiring States to provide Medicaid coverage during pregnancy to poor women who are now eligible for Medicaid only after their child is born.

Funding of \$403 million is requested in 1981 for this proposal, which is pending in the Congress. CHAP will be augmented by a 1981 proposal to correct a technical deficiency in the Medicaid law which has resulted in some newborns not being provided needed hospital and physician services.

Family planning.—Family planning services are targeted on low-income women and adolescents at high risk for unwanted pregnancy. Since the Administration took office, a national network of clinics needed to provide information and services to prospective parents has been completed, with the number of clinics supported growing from 4,600 in 1977 to over 5,100 by 1979. Budget authority of \$177 million is requested for this program in 1981, a 55% increase over 1977 funding of \$114 million. In 1979, this program provided services to over 3.5 million people, including over 1.4 million adolescents—an increase of 500,000 over 1977. An estimated 4.1 million people will be served in 1981.

Adolescent health.—To enhance targeting of services on high-risk teenagers, the Administration in 1980 launched the Adolescent Health Services and Pregnancy Prevention Program. This program is designed to reduce the incidence of unwanted teenage pregnancies and provide comprehensive services to already pregnant teenagers. Grants support coordination, integration and linkage of community family planning, health, nutrition, education, and other services. With funding of \$17.5 million in 1980 and in 1981, the

program is expected to be particularly effective in reducing repeat pregnancies among the 44% of teenagers who become pregnant for a second time within 2 years of their first pregnancy.

Childhood immunizations.—Immunization against disease has provided Americans with one of the most dramatic means of reducing death and disability. In 1977, immunization levels for preventable childhood diseases had fallen to 70%. During 1978 and 1979 the Administration conducted a \$68 million nationwide drive to insure that the Nation's children are immunized against measles, polio, rubella, mumps, diphtheria, pertussis and tetanus. This highly successful 2-year effort resulted in the immunization of at least 90% of children under 15 and virtually all school-age children. Reported cases of measles and mumps are at their lowest levels ever. In 1981 and the future, the Administration will actively support continued monitoring of immunization rates and public awareness programs, so that the fullest protection against preventable infectious diseases can be realized.

EXPANSION OF SERVICES TO THE POOR AND UNDERSERVED

While medical care is available to most Americans, there are still people without sufficient access to primary care. Concentrated in poor urban neighborhoods and remote rural areas, these people often are forced to use hospital outpatient or emergency services, or go without ambulatory care altogether.

To improve access and continuity of care for underserved groups, the Administration has moved aggressively to reduce shortages of health care personnel and facilities in underserved areas and to change Federal reimbursement policies to facilitate access to organized systems of primary care.

National Health Service Corps (NHSC).—The principal goal of the NHSC is to encourage health professionals to establish private practices in medically underserved communities. Under the program, volunteers and persons who have received scholarships in return for service commitments are assigned to rural and urban areas where health professionals are in short supply. A sharp expansion of the NHSC underscores the Administration's commitment to improving access to care in underserved areas. In 1981, the budget request of \$134 million will support 4,528 NHSC assignees, about 4,000 more than in 1977. These assignees will provide medical services to nearly 3 million people at almost 1,500 sites located in health professions shortage areas. In addition, with the commitment of \$96 million requested for NHSC scholarships in 1981, budget authority for the scholarship program will increase \$56 million over 1977. As scholarship students complete their training and are assigned to medically underserved areas, the size of the

NHSC is expected to more than double over the next decade, eventually serving 8 million persons per year.

Community health centers (CHCs).—Direct Federal support of comprehensive primary care is provided through CHCs located in high-priority medically underserved areas. These areas, in both urban and rural locations, are characterized by high infant mortality rates, high proportions of low-income and aged people, and low physician-to-population ratios.

Between 1977 and 1981 the number of CHCs will nearly double, from 455 to 886, with new centers and major expansions in existing centers in 1981 to provide services to an additional 250,000 people. At the requested level of \$374 million, budget authority for CHCs in 1981 will increase 63% over 1977, supporting services to over 5.2 million patients a year.

In addition, under an agreement between the Department of Health and Human Services (HHS) and the USDA Farmers Home Administration, loans for construction and renovation of CHCs will be targeted to 125 medically underserved rural areas by the end of 1980. To date, 75 loans totaling \$26 million have been made.

Migrant health.—The migrant health program provides primary health care services through 112 centers to migrants and seasonal farmworkers who generally lack regular sources of care. The President's budget requests \$45 million for migrant programs in 1981, an increase of 77% over 1977. In addition, removal of the "intent to reside" criteria from Medicaid eligibility regulations will result in \$16 million additional Medicaid benefits for migrants beginning in 1980.

Indian health.—Indian Health Service (IHS) programs provide direct and contract medical services to American Indians and Alaskan Natives, and fund construction and improvements of Indian hospitals and other health-related facilities. Major expansions in IHS programs will result in a 67% funding increase between 1977 and 1981, with total IHS budget authority topping \$679 million in 1981. Indian health has improved during the life of this program, with remarkable reductions recorded in infant mortality rates and the incidence of tuberculosis.

Reimbursement improvements.—To improve the quality of care provided to the poor and underserved, the Administration strongly supported the Rural Clinics Act of 1977. This Act extended Medicare and Medicaid reimbursement to services provided by nurse practitioners and physician assistants in over 400 rural health clinics, often the only source of medical care in isolated areas.

In 1981, the Administration is proposing legislation to make coverage of clinics providing comprehensive primary care services a mandatory benefit under Medicaid. This \$52 million proposal will improve services to the poor in both urban and rural areas, in-

creasing their access to regular, organized sources of ambulatory care.

MENTAL HEALTH AND SUBSTANCE ABUSE

Mental illness and substance abuse exact a tragic toll from our people and country. Mental disorders cause substantial disability and suffering, accounting for an estimated 8% (\$20 billion) of the economic costs of ill health in 1975. Alcohol abuse in the same year is estimated to have cost the Nation \$43 billion. Both mental illness and alcohol misuse play an important role in violent deaths—accidents, homicides, suicides—which are the major killers of people aged 15 to 44 and of minorities in disproportionate numbers. The consequences of drug abuse are difficult to document but probably involve thousands of deaths and disabilities a year.

The Administration is deeply committed to reducing the human and economic costs of mental illness and substance abuse. Less than 1 month after taking office, the President established the Commission on Mental Health. In 1978 the Commission reported that many Americans do not have access to quality mental health care at reasonable cost. It recommended priority for services to people with chronic mental illness, a broader State role in coordinating mental health and related services, improved linkages between mental health and primary health care services, and greater flexibility in Federal funding of community services.

Based on the Commission's recommendations, the Mental Health Systems Act has been proposed and other important actions taken to improve the quality and availability of the Nation's mental health services. Substance abuse demonstration initiatives have been undertaken to develop more effective services for special high risk groups. A new effort is underway to meet the special mental health needs of Vietnam-era veterans, and access to alcohol and drug treatment programs is being improved for all veterans. In addition, the Administration has launched new research initiatives to improve our capacity to prevent and treat mental illness, drug abuse and alcoholism.

Community mental health services.—The Mental Health Systems Act will restructure Federal support to States and localities to encourage needed improvements in mental health services identified by the President's Commission. The act will improve services to the chronically mentally ill through performance agreements with States to develop quality community care alternatives to commitment in State mental hospitals, and to upgrade treatment services for those remaining in State institutions. It also will facilitate expansion of services to underserved communities by allowing them to develop targeted mental health services programs, rather than requiring that they initially provide more expensive, compre-

hensive services as a condition of Federal support. The Act provides grants to States and localities for innovative programs to prevent and detect mental disorders and promote sound mental health. It also provides financial support to link mental health services more closely to general health care, thereby enhancing the general health care sector's ability to identify, treat, and refer persons who suffer from mental disorders.

To support the new services initiatives in the Act, the Administration is requesting a \$50 million supplemental for 1980. The budget requests \$380 million for 1981 to continue and expand the new efforts expected to be launched in 1980 and provide support for established community mental health programs. At the request level, budget authority for State and local mental health services will increase 55% over 1977. The number of people served each year by programs which have received Federal support will grow from 2 million to an estimated 3.6 million.

Other mental health improvements.—The Administration has taken a variety of actions to improve access and quality of care for underserved groups:

- To assist the chronically mentally ill to function effectively outside of institutions, HHS and the Department of Housing and Urban Development have undertaken a \$65 million joint demonstration project which provides housing and support services for an estimated 3,500 mentally disabled persons. The program is designed to reduce institutionalization and determine the costs and benefits of services provided outside of large mental institutions.
- To increase the availability of services to the elderly and disabled, the Administration has proposed that Medicare co-payments for mental health care be the same as for other outpatient services—20% rather than the current 50%—and that the \$250 annual reimbursement limit be raised to \$750. This limit would be increased to \$1,000 under the NHP.
- To insure adequate care for poor children, the Administration has proposed that States be required to provide mental health services for Medicaid-eligible children under CHAP.
- To improve the availability of services for all underserved groups, the Administration has proposed that mental health professionals who receive Federal training assistance be required to work in underserved areas in return for support.
- To address the special readjustment needs of Vietnam-era veterans, the Administration has launched "Operation Outreach." This new Veterans Administration (VA) program offers general mental and psychological assessments and direct treatment or referral services to those who served during the Vietnam conflict and experience problems return-

ing to civilian life. The program began in 1980, and 86 outreach centers in areas with large concentrations of Vietnam-era veterans will be active by the end of the year. Budget authority of \$16.4 million is requested to support a total of 91 sites in 1981.

Alcohol and drug abuse services.—In the 1980 budget, the Administration requested funds for an HHS initiative to develop models for prevention and treatment of alcohol misuse. The 1981 budget requests a \$15 million 1980 supplemental and an additional \$15 million in 1981 budget authority to demonstrate innovative approaches to providing alcohol abuse prevention and treatment services to women, youth, minorities, employees, and other special population groups. New initiatives also include the development and evaluation of strategies to prevent alcohol abuse and the fetal alcohol syndrome, and to assist victims of alcohol-related domestic violence. In addition, a demonstration program will be supported to test the economic feasibility of broad-based health insurance coverage for alcoholism.

In 1977, an estimated 26% of inpatients in VA medical centers were either alcoholics or problem drinkers. Since the Administration took office, the VA has made a concerted effort to combat the problems of alcoholism and drug abuse among veterans. Alcohol and drug abuse services provided in VA facilities have been significantly expanded, with \$155.8 million requested to support 154 treatment centers in 1981. At this level, the number of centers will increase by 23 and outlays by 44% over 1977 levels.

In addition, under new authority proposed by the Administration, the VA is testing the efficacy and cost of innovative community-based contract care for veterans with alcohol and drug abuse problems. This pilot program funds services in halfway houses, therapeutic communities, psychiatric residential treatment centers, and other community-based alternatives to direct VA care. Outlays are estimated at \$1.7 million in 1980, and budget authority of \$6.9 million is requested for 1981, the second year of the test program.

Research initiatives.—Research funding for HHS Alcohol, Drug Abuse, and Mental Health Administration has increased substantially under this Administration, reflecting recommendations of the President's Commission. The 1981 budget request of \$238 million provides a 55% increase over 1977 funding. Priority areas for study include the neurosciences and opiate receptor sites in the brain; improvement of drugs for preventing and treating mental illness and substance abuse; mental illness in children and the elderly; substance abuse in women, youth and the elderly; and epidemiology, health services research, and assessment of the efficacy of psychosocial mental health and substance abuse treatments.

The Administration also has increased funding for VA alcoholism and mental health research. The 1981 request provides funding for a 50% increase in the number of alcoholism research projects over 1980. Expansion in this special emphasis area will result in 1981 outlays of \$7.1 million, an increase of 82% over 1977. Additional research resources in 1981 also will be devoted to the study of schizophrenia through the establishment of a biologic research center. Outlays for VA research on schizophrenia will total \$3.2 million in 1981 compared with less than \$1 million in 1977.

NATIONAL HEALTH PLAN

Over 15 million Americans have no insurance for medical costs at all, and the health insurance of tens of millions more does not provide protection against the cost of a catastrophic illness. The Administration's proposed National Health Plan is designed to meet these needs. It will provide universal access to insurance coverage for a package of benefits, including unlimited hospitalization, physician services and laboratory tests and selected skilled nursing home, home health, mental health, and other benefits. Coverage will be provided through two basic mechanisms: the Employer Guarantee and HealthCare.

Under a new Federal requirement, some 155 million full-time workers and their families will be covered by employer-provided insurance which limits their annual out-of-pocket expenditures for covered services to \$2,500 per family; covers employees and/or their dependents for 90 days after termination of employment, death of the employee, divorce or separation; and provides the right to convert employer coverage to individual policies at reasonable rates. Employers will pay at least 75% of the premium costs for mandated coverage. Federal subsidies will be provided to low-income working families to offset their share of premium costs and to employers whose payroll costs would be inordinately increased by the Guarantee.

A new Federal program, HealthCare, will provide basic benefit coverage to current Medicare and Medicaid recipients and over 15 million additional poor and near-poor persons. Under HealthCare, 24 million nonpoor aged for the first time will have public coverage for an unlimited number of hospital days and a limit on out-of-pocket expenditures for covered services of \$1,250 per year. For the poor, minimum acute care benefit and income eligibility standards will reduce the wide interstate disparities currently found under Medicaid. As a result, 10 million people with incomes below 55% of poverty will be newly eligible for free care, including many single individuals and childless couples now automatically excluded from Medicaid. Extension of "spenddown" provisions to the 21 States that do not now have them will result in subsidized care for an

additional 5 million persons whose medical expenses reduce their income below 55% of poverty.

HealthCare fees paid on behalf of the poor will be made comparable to those for the elderly, and physicians treating HealthCare patients will receive payment directly from the Federal Government. This restructuring of Medicare and Medicaid reimbursement under HealthCare is expected to result in more doctors willing to serve the poor and aged. It will also end the current provider practice of billing the elderly extra amounts for services covered by Medicare.

The unemployed who are not poor, or part-time workers not automatically covered by their employers, will be able to buy basic benefit coverage comparable to the Employer Guarantee (i.e. with a limit of \$2,500 in annual out-of-pocket expenditures for covered services) from HealthCare or other qualified insurers. Approximately 9 million people who otherwise might not be able to obtain coverage or who could only obtain it at exorbitant rates would be covered by this provision.

In addition, under NHP, *all* women will be entitled to pre- and post-natal care and *all* infants to well-baby and curative care with no cost-sharing. This provision of the health plan will insure that no child born in America is denied the best start in life that medical care can provide by the high cost of health services.

Benefit and eligibility expansions under NHP will begin in 1983. This schedule allows time for cost control and other reform initiatives, discussed below, to slow cost increases prior to expanding coverage; for employers to methodically plan and implement actions to meet the mandated coverage requirements; and for Federal administrative planning. While estimating actual first-year costs for a future program is a complex task, current estimates are that NHP will require increased Federal expenditures of about \$24.1 billion and about \$9.6 billion in increased private sector premiums in 1983.

II. PREVENTIVE ACTIONS

The Administration's health strategy places unprecedented emphasis on prevention, not just to reduce the more than \$400 billion in annual direct and indirect costs of injury, illness and premature death, but also to alleviate the inestimable costs in human suffering. As indicated in the U.S. Surgeon General's recent report, *Healthy People*, preventive actions by individuals, corporations and government at all levels represent the most likely means by which dramatic health status gains can be continued in the future.

Improving access to proven effective preventive health services is an important component of the Administration's strategy, exemplified in the maternal and child health initiatives. Reflecting mount-

ing evidence that factors in our environment and our personal behavior can have profound health impacts, the Administration's strategy also emphasizes prevention initiatives outside the health care delivery system.

Since January 1977, aggressive action has been taken to improve regulatory activities designed to protect individuals from health hazards over which they have little or no control or against which environmental modifications provide an acceptable and cost-effective means of prevention. These initiatives are complemented by activities designed to inform individuals about actions they can take to protect and enhance their own health. In both cases, Federal actions are targeted on conditions with the greatest potential payoffs in improved health status and reflect efforts to better link research and action. Regulatory initiatives, in addition, reflect the Administration's commitment to replace traditional, ad hoc responses to hazards with carefully considered, comprehensive, coordinated, and cost-effective strategies for dealing with them.

ENVIRONMENTAL HAZARDS

Reducing environmental threats to human health is an Administration priority, perhaps most dramatically reflected in the projected 78% increase in budget authority requested for Environmental Protection Agency (EPA) operating programs between 1977 and 1981.

Some 20 Federal agencies exercise responsibilities related to environmental hazards. Administration initiatives are focused on improving interagency coordination; strengthening, clarifying, and streamlining Federal actions under existing law; and filling critical gaps in environmental laws to protect human health.

Toxic substances control.—An estimated 45,000 chemicals are in commercial production in the United States today, and approximately 600 new chemical substances enter commercial production each year. Most of these substances are not harmful to humans or the environment; however, some present substantial human health hazards.

Authority to control toxic substances is set forth in 18 pieces of major regulatory legislation and shared by 6 Federal agencies. More than 30 additional agencies have research or data responsibilities which are relevant to chemical hazards. The Administration has measurably strengthened the coordination of Federal toxic substance regulatory and research activities:

- The National Toxicology Program (NTP), established in HHS with an executive committee that includes regulatory agency representatives, is developing new testing protocols appropriate for regulatory needs, and increasing the rate of priority chemical testing.

- The Interagency Regulatory Liaison Group (IRLG), formed by agreement among five major Federal regulatory agencies, has taken coordinated regulatory action, improved the sharing of technical information, and worked toward a system of field inspection referrals.
- The Regulatory Council, established by the President to streamline Federal regulatory actions, has developed a Government-wide policy for defining, testing, and regulating cancer-causing substances. This policy, announced in September 1979, will promote regulatory actions that are consistent and complementary; are predicated on the same scientific basis; are targeted on hazards which present the greatest health threats; and constitute the least disruptive, most cost-effective means of minimizing or eliminating the danger of cancer-causing substances.
- The Toxic Substances Strategy Committee (TSSC), established in response to the President's 1977 environmental message, has broadly reviewed Federal toxic substances activities and will soon make recommendations to fill gaps and eliminate overlaps in data collection and use activities (including trade-secret policy); in research to support needed regulations; and in present regulatory coverage.

In addition, several major regulatory actions on toxic substances have been taken since January 1977. Nonessential uses of chloro-fluorocarbon propellants and the pesticide DBCP have been banned through coordinated IRLG action. In April 1978, the EPA suspended most uses of pesticides contaminated with TCDD, after decade-long consideration of TCDD's toxicity.

Budget authority requested for EPA toxic substance abatement, control, enforcement, and research activities in 1981 is 12 times greater than that requested in 1977, reflecting the priority the Administration places on toxic substance control.

Hazardous waste control.—Uncontrolled release of hazardous substances and wastes is one of our most pressing problems. An estimated 30,000 to 50,000 existing disposal sites contain hazardous wastes, and 1,200 to 2,000 of these may threaten the public health.

In 1980, EPA will issue final regulations to provide comprehensive standards for the proper treatment, storage and disposal of hazardous wastes under provisions of the Resource Conservation and Recovery Act (RCRA), and will initiate research activities needed to better assess present sites. The Administration also has requested legislation to enhance EPA's ability to enforce current law and protect the public health. This legislation would clarify liability for cleaning up improperly disposed wastes; authorize executive action to protect the public health and environment when a responsible and financially able party cannot or will not act; and

establish a \$1.6 billion "superfund" to replace four special purpose funds to cover hazardous waste and oil response costs.

Dramatic resource increases are requested for the hazardous waste program in 1981, the first full year of operation under new regulations. The 1981 budget request will increase budget authority by 47% and staffing by 97% over 1980. At these levels, budget authority for the EPA hazardous waste program will rise over 800% and total workyears will rise more than 300% over 1977 request levels.

Improved air quality.—Clean air is essential to public health and welfare. Available data show that since 1973 our air quality has improved, as measured by a decline in the number of days when air quality would adversely affect human health. However, most major urban areas do not meet air quality standards for at least one of the five pollutants most critical to human health.

To strengthen the framework and incentives for attaining air quality standards, the Administration strongly supported the Clean Air Act Amendments of 1977. This legislation establishes firm but realistic timetables for specific State actions to reduce air pollution, and provides EPA with needed authority to penalize noncomplying industrial polluters and States.

At the 1981 request level of \$248 million, budget authority for EPA air quality improvement programs will increase more than 68% over 1977. A broad range of research, standard setting and enforcement activities will be funded, including those needed to implement the 1977 amendments.

To insure that federally funded transportation systems contribute to meeting air quality standards, EPA air quality planning requirements were integrated with similar planning processes of the Department of Transportation's Urban Mass Transit Administration and Federal Highway Administration in 1979.

WORKPLACE HEALTH AND SAFETY

Workplace injuries and illnesses extract an unacceptable annual toll from our working population and economy. Work-related incidents cause at least 4,500 fatalities, 5.6 million injuries, 143,000 illnesses, and 38 million lost workdays a year—with illness and fatality figures probably understated. With the transfer of Department of the Interior mine safety responsibilities in 1977, workplace safety and health regulatory programs have been consolidated in the Department of Labor (DOL). Research support for these programs is provided by the Department of Health and Human Services (HHS) National Institute for Occupational Safety and Health, whose research budget will increase from \$41 million in 1977 to a projected \$63 million in 1981.

Occupational Safety and Health Administration (OSHA).—Since the Administration took office, major changes have been made to make the OSHA program more effective.

- Ninety-five percent of all discretionary safety inspections now are targeted on larger workplaces and more hazardous industries. Comparable methods of targeting OSHA health inspections are being developed.
- The quality of OSHA workplace safety and health inspections has been substantially improved through better use of enforcement staff, 33% more training for OSHA compliance officers, and “crossover training” so that safety inspectors can recognize health hazards.
- Many OSHA workplace safety and health standards have been simplified and clarified. The General Industry Standards Revocation Project critically assessed more than 11,000 safety and health rules, and nearly 10% have been revoked as obsolete, overly detailed or irrelevant.

OSHA-assisted consultations to help businesses and other employers comply with safety and health requirements have substantially increased since 1977. At the 1981 request level, the number of onsite consultations will be more than double those of 1977. In addition, all States will have consultation programs, in contrast to 15 in 1977.

Workplace carcinogens.—By 1977, scientists had identified over 1,500 workplace chemicals as suspect carcinogens. However, after 5 years of operation, the DOL Occupational Safety and Health Administration (OSHA) had issued final standards covering only 17. When the Administration took office, OSHA determined that most work-related cancers can be prevented and acted to improve its procedure for developing standards to limit workplace exposure to carcinogens. Proposed new rules for identifying, classifying and regulating suspected carcinogens in American workplaces were issued early in 1978. They have been revised to reflect public comments and will be promulgated early in 1980.

The new rules will be consistent with the Administration’s Government-wide carcinogen policy. They will provide a comprehensive framework to improve the timeliness, consistency, and effectiveness of future OSHA carcinogen exposure standards by resolving in advance of rulemaking processes the issues of acceptable test methods and applicable decision criteria; standardizing the type of worker exposure limits required for comparable carcinogenic substances; and establishing more rigorous worker exposure limits.

Mine Safety and Health Administration.—The mining industry has the highest incidence of work-related fatalities and workdays lost due to injury and illness of any major American industry. To improve safety and health conditions in the Nation’s mines, the

Administration has vigorously implemented the Federal Mine Safety and Health Act of 1977 which transferred Department of the Interior mine safety enforcement responsibilities to DOL, creating the Mine Safety and Health Administration (MSHA). Pursuant to the Act's mandates, the number of mine inspections has increased by 50% and the number of standards violations cited by mine inspectors has more than doubled. Previous advisory safety and health standards for metal and nonmetal mines are being made mandatory, and new standards covering asbestos, radiation sampling and recordkeeping have been established.

COMMERCIAL PRODUCT SAFETY

Commercial products present substantial risks to human health. In 1978, commercial products were involved in an estimated 33 million personal injuries, indicating that the overall toll in product-related illness and injuries is enormous.

Primary Federal commercial product safety responsibilities are exercised by the Consumer Product Safety Commission (CPSC), the HHS Food and Drug Administration (FDA) and the USDA Food Safety and Quality Service (FSQS). Since January 1977, the safety of products offered in the American marketplace has demonstrably improved through a series of Administration initiatives.

Child hazards.—Children are especially vulnerable to injury because they may not recognize hazards and respond to them appropriately. As a result, accidents are the primary cause of death for children aged 1 through 14.

Under this Administration, the CPSC has made safety of products intended for use by or affecting children a priority for coordinated action. New regulations have reduced lead in household paint and painted products more than eightfold; banned hazardous pacifiers, baby rattles and refuse bins; and expanded use of child resistant packaging of hazardous products. Generic safety standards for points, edges and sizes of toys intended for young children have been established and are expected to reduce injuries by 9,000 annually. Regulations to reduce child crib injuries and poisonings prevented an estimated 68,000 injuries and 90 deaths in 1979.

Commercial product recalls.—Manufacturers, distributors and retailers are required to report suspected hazardous products to the CPSC. Products which are determined to be hazardous may be recalled voluntarily, or by Commission order.

New rules were issued in August 1978 to clarify the scope of suspected hazardous product reporting requirements. As a result, the number of hazardous products recalled between 1977 and 1979 is 125% greater than in the preceding 4-year period.

Federal drug reform.—The Administration's proposed Drug Regulation Reform Act is the first comprehensive revision of our pre-

scription drug regulation system since 1934. Much has changed in 40 years—Americans now spend \$16 billion annually on drugs, compared to \$300 million in 1938; 90% of the prescription drugs sold today were not on the market in 1938.

The proposed act will provide authority needed to get valuable and safe drugs to the market rapidly by eliminating repetitious testing of identical drugs; establish a single standard for drug regulation; permit more rapid removal of unsafe drugs from the market; provide patients more information about drugs prescribed to them; and require systematic reporting of dangerous side effects of drugs already on the market.

Medical devices.—Implementing the Medical Device Amendments of 1976, which greatly strengthened FDA regulatory authority to insure the safety and effectiveness of medical devices intended for human use, has been a major FDA priority. Regulations have been issued covering critical requirements of the amendments; more than 5,000 establishments which produce medical devices have been registered pursuant to the law; and inspections have been planned each year for at least 1,300 of the 3,000 manufacturers of medical devices for which general controls are insufficient. To carry out these new responsibilities, FDA budget authority will increase 149% between 1977 and 1981, with \$36.4 million requested for 1981.

Radiation exposure.—More than 85% of the manmade radiation Americans are exposed to occurs during medical and dental diagnosis and treatment. In 1978, the Administrator of EPA and the U.S. Surgeon General jointly issued guidelines to limit unnecessary radiation exposure and assure the use of sound X-ray techniques in Federal hospitals and clinics. The guidelines, which include standards for diagnostic use of X-rays, equipment, facilities, operator proficiency, and good practices, are a model for State regulatory activities and private practice.

To coordinate Federal efforts dealing with the effects of radiation exposure, the President established the Interagency Task Force on the Health Effects of Ionizing Radiation. The Task Force completed reports covering radiation exposure and health effects, exposure claims, personal privacy and public information, and Federal organizational effectiveness. Draft reports were subjected to wide public and professional review. Based on the Task Force's final recommendations, the President launched a series of initiatives in October 1979 to improve Federal programs which protect the American people from unnecessary radiation exposure and to enhance public understanding of radiation and radiation protection.

Food quality.—Early in the Administration, the FSQS was established to consolidate Department of Agriculture responsibilities for food safety, wholesomeness and quality. This new agency has in-

creased the Department's emphasis on prevention of food-related illnesses and consumer information.

The FSQS has taken steps to reduce drug residues in commercial meats through greatly improved analysis and detection methods used at the time of slaughter. Regulatory action to reduce nitrites in baby food and bacon also has been taken. In addition, the FSQS, in cooperation with the FDA and Federal Trade Commission, has developed a plan to streamline and modernize Federal food labeling policy.

Since 1977, funding for USDA food safety research to support FSQS and other departmental programs has increased 69%, with \$14 million requested for 1981.

TRAFFIC SAFETY

Motor vehicle accidents are the single largest cause of death for people under 44 years of age. In 1979 alone, about 50,000 persons lost their lives in motor vehicle crashes, and nearly 2 million more—1% of the country's population—suffered serious injuries.

The Administration is aggressively pursuing programs to reduce motor vehicle accidents and to mitigate the consequences of accidents that do occur.

The 55-mph national speed limit, introduced in January 1974, is one of our most effective highway safety measures. To encourage driver compliance with the limit, the Department of Transportation (DOT) has tightened State highway agency compliance standards, and established a system of bonuses and penalties for exemplary and substandard State compliance. DOT also has initiated nationwide information and education activities to increase driver awareness and acceptance of the national speed limit. These actions are expected to save over 4,500 lives each year and reduce both the number and severity of auto accidents.

In July 1977, DOT issued a safety standard which requires all cars to be equipped with passive restraints to protect front seat passengers—either air bags or safety belts that do not require passengers to "buckle up". This safety standard will apply to all large cars manufactured after September 1, 1981, to all medium sized cars starting in 1982, and to all small cars starting in 1983. When fully integrated into the fleet, these restraints are expected to save over 9,000 lives each year and reduce or eliminate 65,000 serious injuries.

Recalls of defective vehicles and equipment have become a major Administration safety program initiative. Automobile recalls each year since 1977 have increased an average of 150% over those of the preceding 4-year period. The largest recalls involved over 1.8 million vehicles whose fuel systems may rupture on impact, and 14.5 million steel-belted radial tires which were defective. As a

result of the recalls, the fuel systems were redesigned to meet safety standards, and the tires were replaced.

COMMUNITY WATER FLUORIDATION

Community water fluoridation efforts have proven to be highly cost effective. For every \$1 spent for fluoridation, an estimated \$36 is saved through prevented dental disease. However, 72 million Americans live in communities with unfluoridated public water supplies, and an additional 2.2 million children live in communities without central water systems and use unfluoridated school-based water systems.

In 1980, a \$7 million community water fluoridation grant program was launched by HHS to promote fluoridation efforts where they do not exist, provide technical assistance to interested communities, and buy equipment for communities that desire but cannot afford it. At the proposed 1981 funding level of over \$10 million, an additional 5.2 million people in smaller communities and rural schools will be reached by fluoridation efforts.

HEALTH PROMOTION

Helping individuals to protect and enhance their own health status is a critical element in the Administration's prevention strategy. In addition to education efforts which are integral to many of the services and prevention programs discussed above, the Administration has launched a series of initiatives designed to deal with individual behaviors (smoking, diet, exercise, drinking and adherence to treatment for high blood pressure) that are closely associated with the leading causes of mortality and morbidity in this country. These initiatives are guided by the U.S. Surgeon General's recommendations in *Healthy People*, and include efforts to stimulate private sector prevention programs in our Nation's work sites, schools, clinics, and homes.

Smoking and health.—Smoking remains the largest preventable cause of death in America, accounting for more than 320,000 premature deaths and an estimated \$12 to \$18 billion in costs each year. While per capita cigarette consumption is at its lowest level in 20 years, smoking recently has increased among women and young people. Increased health risks have also been documented for smokers in certain occupations, and for smoking in combination with the use of alcohol and artificial sweeteners.

In 1979, a major antismoking initiative was undertaken by the HHS. First-year funding for this initiative was \$2.5 million, and the requested program level for 1981 is \$13 million. Examples of completed and planned efforts include the following:

- Publication and dissemination of the second U.S. Surgeon General's report on smoking, *Smoking and Health*, to be followed up with statistical and educational documents.
- Initiation of \$20 million in research and demonstration projects to identify effective ways to deter smoking and alcohol abuse in children and adolescents.
- Development of a \$2 million research assessment of the health risks associated with smoking cigarettes with varying tars, nictines, and other additives.
- Establishment of a \$1 million research initiative to assess the effects of smoking by workers in selected occupations.

High blood pressure.—High blood pressure (i.e. hypertension) is the most potent risk factor associated with coronary heart disease and stroke, with elevated blood pressure nearly twice as prevalent among black as white adults. In the past 5 years measurable advances have been made in heightening public awareness of this disease, and treatment levels have substantially increased. Death rates from heart attacks associated with high blood pressure and from stroke have decreased 15 and 20%, respectively. Nevertheless, many people still do not know they have high blood pressure, and significant numbers who do know they have it, do not faithfully adhere to their necessary treatment regimen.

Federal funding for State programs to educate the public about hypertension and identify, refer for treatment and followup hypertense individuals will quadruple between 1977 and 1981. In 1981, at the \$20 million request level, health departments in 57 jurisdictions will conduct hypertension screening, referral and education programs; an estimated 7.8 million persons will be screened; and an estimated 624,000 new or inadequately treated cases will be detected, referred to treatment and followed up.

Beginning in 1980, participating States will be required to assure a more planned and coordinated approach to reducing hypertension. Key to this approach will be the establishment of specific objectives for State accomplishment.

In addition, \$11.2 million is requested in 1981 for high blood pressure education and demonstration programs administered by the HHS National Heart, Lung, and Blood Institute, an increase of 72% since 1977. These program activities have been redirected since 1977 to stress the need for long-term adherence to prescribed treatments, and to focus on the hypertension problems of elderly persons, residents of rural areas and ethnic minorities. Professional and public education initiatives for 1981 also will highlight dietary management as a method of treating hypertension.

Nutrition education.—Evidence continues to mount that certain diet patterns can greatly increase human health risks. For example, obesity is associated with certain heart and circulatory

problems, and consumption of sugar is clearly associated with tooth decay and its complications.

Federal nutrition education programs are targeted primarily on low-income families, school children and the elderly. They emphasize nutrition education in a classroom or individual setting, and are administered by HHS, USDA, and the Community Services Administration. Since 1977, funding for the five largest nutrition education programs (including WIC) has increased more than 50%; funding for USDA human nutrition research initiatives has nearly tripled and includes new initiatives targeted on nutrition problems of the young and the elderly; and organizational improvements have been made to assure better coordination of HHS and USDA nutrition activities.

Health information.—In 1979, with \$2.5 million in funding, the HHS institutionalized and funded major new health information initiatives. Initial accomplishments include:

- Creation of the Office of Disease Prevention and Health Promotion to coordinate all Public Health Service (PHS) disease and injury prevention, health information and health promotion activities, and to direct PHS physical fitness and sports medicine activities.
- Publication of the U.S. Surgeon General's report, *Healthy People*, which urges a new national commitment to preventing illness, injury and premature death; analyzes major health risks by age group; and outlines health objectives for the Nation to achieve by 1990. HHS is currently mobilizing public and private sector efforts to accomplish the national prevention and health promotion objectives by 1990.
- Establishment of the National Health Information Clearinghouse to provide the general public and health professionals with accurate and up-to-date information on good health practices.

In 1981, \$6.2 million is requested to enhance these efforts.

Also since 1977, HHS Center for Disease Control grants to States for development of community health education, demonstration, and evaluation programs have been greatly expanded. Funding for this program will quadruple between 1977 and 1981. In 1981, \$16.5 million is requested, with educational priorities to include smoking, nutrition and alcohol abuse.

III. EFFICIENCY AND EFFECTIVENESS

The Administration is committed to improving the health of the Nation's people at a cost the country can afford. Efforts to insure the efficiency and effectiveness of Federal action are reflected throughout the initiatives discussed above—in the improved coordination of Federal programs; new policies to insure public participa-

tion and consideration of social and economic costs in development of Federal regulations; and targeting of efforts on areas with the highest potential payoff in improved health for the Nation's people.

With national expenditures for health services now exceeding \$218 billion, the Administration has placed particular emphasis on reform of the Nation's health care delivery system. A wide range of initiatives have been undertaken to reduce the growth of health care costs which produce no commensurate gains in quality. The most visible of these efforts is the Administration's proposal to stem the spiraling costs of hospital care. Other important initiatives promote a more efficient supply of health resources and more effective organization and use of these resources.

Because the Federal Government is the single largest purchaser of health services in the country, improvements in the management and organization of Federal financing and grant programs are an important component of delivery system reform efforts. In addition, the Administration has strengthened the Federal Government's biomedical research program, a key to improving both health care delivery and preventive actions.

HOSPITAL COST CONTAINMENT

Hospital costs are the largest single component of the Nation's health bill, with 1979 hospital expenditures of over \$80 billion accounting for 40% of all health care costs. Between 1969 and 1978, hospital expenditures increased more than twice as much as the consumer price index (198% versus 80%), an indication of the inflationary pressure hospital services create in the health care system. Even after the introduction of the industry's voluntary effort to slow the growth of hospital spending, expenditures continue to increase more rapidly than the market basket of goods and services purchased by hospitals.

The Administration has proposed a nationwide hospital cost containment (HCC) program, not only because escalating costs add to general inflation but because they cause Federal contributions for Medicare and Medicaid to soar, diminishing the ability of the Federal Government to respond to other important health needs.

The decision to propose the HCC program is supported by evidence indicating that hospitals can achieve substantial reductions in the growth of expenditures without compromising the quality of care. In 1978, hospital expenditures in eight States with mandatory cost containment programs increased an average of 9.8% with no measured change in the quality of hospital services, compared to an increase of 14% in all other States.

The proposed HCC program sets an annual maximum rate of increase in hospital revenues, with allowances provided for actual

increases in the price of goods and services used by hospitals, changes in the population and improvements in services.

In the event that the hospital industry as a whole does not meet the national goal, hospitals in noncomplying States would be subject to controls. Limits on the increase in total inpatient revenues per admission would apply to each hospital which exceeded the expenditure goal (with exceptions for new, rural, and certain other hospitals). Hospitals in States that have assumed control of hospital costs would be exempted from the national goal, reflecting the Administration's belief that State governments are an important partner in the effort to reduce unnecessary health care cost increases.

If the HCC goal for 1981 is met by the hospital industry, Federal savings for 1981 would be \$780 million and could be as much as \$4.8 billion in the 1981-83 period. HCC would result in total savings of \$11.9 billion between 1981 and 1983, with substantial reductions in State and local health care spending, individual out-of-pocket payments for hospital services, and health insurance premiums.

REDIRECTING HEALTH CARE RESOURCES

Excess capacity in the health care system encourages overutilization of medical services and, therefore, is a major cause of unnecessarily high health care costs. The Administration has launched several initiatives to reduce the number of unneeded hospital beds in the country, and also has redirected Federal health training programs to avoid creating a surplus in the future supply of health care professionals. More appropriate use of health resources is being promoted through initiatives to apply the results of new health care technology assessments in developing Federal reimbursement policies, and to encourage expansion of more efficient forms of health care delivery.

Hospital capacity.—Many of the Nation's communities have too many hospital beds. The Administration has set a national standard of four hospital beds per 1,000 population to be used by local health planning agencies in determining whether to approve additional hospital development in their areas. To support the implementation of this standard, a national limit of \$3 billion for major increases in hospital capital stock in 1980 has been proposed. The capital expenditure limit would be allocated to States by the Secretary of HHS and would be adjusted in future years for increases in the costs of construction. To provide a further incentive to reduce the supply of excess beds, the Administration has proposed that Federal reimbursements for Medicare, Medicaid, and Maternal and Child Health Services be drastically reduced in facilities built without approval.

A new 1981 effort will provide \$10 million to test various approaches to reducing excess capacity. Financial and technical assistance will be given to hospitals wishing to eliminate excess acute care beds or convert them to nursing care beds.

Federal support for training health professionals.—Between 1960 and 1975, partly as the result of Federal support, the supply of health professionals in the United States rose by 50%. During the last 5 years alone, the ratio of physicians to population, a popular measure of the adequacy of supply, has risen 13% from 177 to 200 per 100,000. This ratio exceeds that in most other industrialized countries. If current projections hold, the number of health profession graduates will increase another 30% in the next decade.

In spite of an adequate—and perhaps excessive—aggregate future supply of health professionals, there still may be shortages of health care personnel working in primary care and in isolated or undesirable geographic locations around the country. Therefore, the Administration has redirected Federal support away from untargeted training programs to programs specifically designed to reduce specialty shortages and geographic maldistribution. As a result, total HHS Health Resources Administration support for health professions training will decrease from \$557 million in 1977 to a projected \$339 million in 1981. Funding for primary care training programs will increase from \$86 million in 1977 to an estimated \$130 million in 1981. These programs include residency programs in primary care and family practice, training for physicians assistants and nurse practitioners, and area health education centers. In addition, as noted previously, the Administration is requesting \$230 million in 1981 funding for NHSC services and scholarships. At this level, funding for the NHSC, the Federal Government's primary tool for alleviating geographic maldistribution, will increase 260% over 1977.

Technology assessment.—Assessments of the costs and benefits of medical technologies are vital to controlling the costs of health care. The recent proliferation of expensive CAT scanners, open heart surgery units, and routine laboratory tests illustrates the need for careful implementation of new technologies.

Created in November 1978, the National Center for Health Care Technology (NCHCT) is responsible for conducting and coordinating a national program of health care technology assessment. Results of assessment, including guidelines for the appropriate use of new and existing technologies, will be reflected in Medicare and Medicaid reimbursement policies. The Administration is requesting \$7.9 million for NCHCT in 1981, more than double the first full year funding of \$3.5 million.

Organization of services.—By more carefully managing the health care received by individuals, Health Maintenance Organiza-

tions (HMOs) provide comprehensive services while reducing hospitalization compared with fee-for-service care. Recent studies also suggest HMOs can be a competitive force, stimulating general reductions in hospitalization and increases in benefit coverage when concentrated in a local area. The Administration, therefore, has vigorously supported the development of HMOs.

- The HMO program supports feasibility studies, planning, initial operating costs and expansion programs of HMOs. Funding for this program will grow from \$23 million in 1977 to over \$69 million in 1981. The number of federally qualified HMOs will increase 223% during the same period, from 43 in 1977 to 139 in 1981.
- Proposed legislation would provide an incentive for Medicare beneficiaries to enroll in HMOs. The Federal contribution to HMOs for enrolling Medicare recipients would be changed to 95% of the average Medicare expenditure, in return for HMOs providing broader benefits to Medicare recipients who choose this coverage.

IMPROVING FEDERAL PROGRAMS

The Administration is committed to improving the management of Federal programs. In both the direct financing programs, Medicare and Medicaid, and the discretionary grant programs, a variety of initiatives to improve the operating effectiveness have been undertaken.

Medicare and Medicaid improvements.—Federal expenditures for Medicare and Medicaid will total \$53 billion in 1981 and now account for nearly 9% of the Federal budget. Given the size of these programs, organizational and management improvements are an important element in the Administration's goal of improving the efficiency of the Nation's health care delivery system. The Administration created the Health Care Financing Administration (HCFA) to eliminate duplication in Medicare and Medicaid operations and facilitate the development of consistent Federal policy in financing health care. This reorganization, by anticipating the consolidation of Medicare and Medicaid under the NHP, will lay the administrative groundwork for the implementation of Health-Care.

In 1979, regulations tightening reimbursement standards for routine hospital costs and malpractice insurance were promulgated, resulting in estimated 1981 Medicaid and Medicare savings of over \$600 million. Efforts to reduce fraud and abuse and other initiatives to generally refine Federal reimbursement standards are included in the 1981 budget, with estimated additional savings of \$802 million.

Another effort to improve the effectiveness of Medicare and Medicaid can be seen in Administration efforts to improve the Professional Standards Review Organization (PSRO) program. A 1979 study of PSROs operating throughout the country found wide variations in savings attributable to their review of hospital stays of Medicare beneficiaries, but suggested that substantial savings could result from broader application of the procedures of effective PSROs. The Administration has moved aggressively to strengthen ineffective PSROs, while continuing to monitor the development of the system as a whole. Improved management techniques have reduced average operating costs of PSROs from \$14 per case in 1977 to less than \$9 per case in 1981.

Planning and grant reform.—The incremental development of Federal health programs since the 1930's has resulted in a fragmented Federal involvement in health weighted down by burdensome and duplicative administrative requirements. At present, Federal grants for health services are provided through some 30 separate programs. The Federal Government requires an overall State health plan (funded through a Federal planning grant), and separate State plans for Medicaid and each of nine other State-administered health services programs. As a result, planning at the State level for related health activities is often incoherent, and coordinated delivery of services is difficult, if not impossible.

Within the provisions of existing legislation, HHS will begin to consolidate these disparate planning requirements beginning in 1980. Consolidation efforts will include institution of a single submission date for project grant applications. Voluntary agreements will be negotiated with several States to develop an integrated State health plan, allowing a single Federal review of the integrated plan.

To complement the improved planning process, a new administrative procedure will allow State and local governments to package discretionary grants in order to address areawide health delivery problems. In exchange, they would agree to set specific performance standards for improving primary care systems and overall health status. In 1980, 10 agreements with State and local governments are expected, with additional agreements planned for 1981. When fully implemented, these new procedures will provide the basic framework for integrated Federal/State/local budgeting and management of these health services grant programs.

Regulatory review and improvement.—As part of the President's overall regulatory improvement program, Federal health regulations have been targeted for careful scrutiny. The HHS is coordinating an assessment of the continued need, costs and benefits of existing Federal regulations which impose substantial burdens on institutional health care providers. Consistent with Government-

wide regulatory policy, as new Federal health regulations are developed, alternative mechanisms will be more systematically reviewed and greater public participation will be required than in the past.

FUTURE REFORM THROUGH NHP

The National Health Plan contains a number of elements that build on current initiatives designed to improve the efficiency and effectiveness of Federal programs and the health system in general. Particularly important for the future are NHP provisions designed to enhance competition in the health sector.

Provisions simplifying Federal programs for the disabled, elderly and poor will be implemented through HealthCare. For example, the responsibility for processing the claims of all public beneficiaries will be consolidated in HCFA. Claims will be processed by a single intermediary under contract to the Federal Government in each of 50 to 60 areas around the country. Not only will most of the current duplication of intermediaries in Medicare and Medicaid be eliminated, but, by applying common screens to all claims, efforts to prevent fraud and abuse will be enhanced.

The NHP provides important incentives for State governments to improve their management of health care resources. During a 2-year transition period, the Federal Government will assume all the costs of newly mandated coverage for the poor. After the transition period, the Federal share of HealthCare expenditures in each State will increase by the national average growth in per capita health spending. Therefore, States can achieve significant savings in their HealthCare costs by reducing the rate of growth in health spending below the national average. Conversely, those States with high rates of growth will be responsible for a somewhat larger proportion of HealthCare costs.

Because a large percentage of reimbursement in the health care system is made by third-parties, there are few incentives for either doctors or patients to be concerned with the costs of the services. The resulting lack of sensitivity to the price of medical services is one of the most difficult problems in restructuring the health care system. The NHP contains provisions to both immediately improve the efficiency of the reimbursement system and to increase competition in the health market over the next decade. Provisions to reform the reimbursement system include:

- Replacing current Medicaid fee schedules and the Medicare fee-for-service reimbursement system with an equitable negotiated fee schedule for physicians participating in HealthCare. This reform will eliminate inflationary usual, customary, and reasonable reimbursements in Medicare.

- Encouraging insurance companies and other private sector third-party payors to use the fee schedules, and publishing directories of doctors accepting the fee schedules for private patients. These measures should help control the rise in private sector fees through greater cost awareness.

To support basic future reforms in the health sector, the NHP encourages a more competitive health insurance market by:

- Requiring employers to offer their employees all federally qualified HMOs and independent practice associations in the area. This provision will support alternatives to traditional fee-for-service medicine that increase the range of health care options available in both the public and private sectors.
- Requiring employers to contribute an equal dollar amount for all health insurance plans they offer under the Employer Guarantee. Employees selecting a plan that is less expensive than the employer contribution will receive the difference in salary or other fringe benefits. This requirement allows workers to choose less expensive health benefits and higher income, a potentially attractive alternative for many.
- Prohibiting physician domination of the governing boards of third-party insurers, so that health professionals cannot directly control reimbursement rates for any insurer. This provision mirrors a trend in State litigation and will also increase public awareness of the costs of health care.

STRENGTHENING HEALTH RESEARCH

Health research has made countless contributions to the health of our people and remains a critical investment in the health of current and future generations. Such research has been instrumental in recent gains against high blood pressure, heart attack, stroke, specific kinds of cancer, birth defects, infant and childhood disease, mental retardation and mental illness, and such common disabling conditions as diabetes, arthritis, and neurological and digestive diseases.

In addition to research initiatives in support of Federal health-related program activities, discussed above, the Administration has placed a high priority on strengthening HHS National Institutes of Health (NIH), the largest single Federal health research effort. NIH's primary mission is basic biomedical research. This basic research provides knowledge of structure, function and disease processes that is critical to preventing and curing human disease and disability. Recent advances in basic biomedical science which are beginning to generate important clinical applications include:

- Identification of hormone and protein receptors in cells to better understand and control disease processes.

- Mapping of chemical activity in the brain to improve understanding of neurological disease and human behavior.
- Dissection of the structure and regulation of the function of genes with recombinant DNA and other new techniques which may have such practical applications as the synthetic production of insulin and interferon.
- Elucidation of mechanisms of damage by environmental agents to control human disease related to environmental factors.
- Studies of hepatitis B virus to develop vaccines against hepatitis.
- Recognition of specific and treatable causes of dementia, perhaps the most frightening problem of elderly persons.

In 1981, \$1.7 billion is requested to fund NIH basic biomedical research, an increase of nearly 65% over 1977. Funding for NIH programs during this same period will increase more than 40%, with \$3.6 billion requested in 1981.

Research project grants awarded to researchers on the basis of scientific merit are the primary method used to develop new knowledge about human health. The principal measure of NIH health research support is the number of new and competing (research grants whose term has expired, and which must "compete" with new proposals for funding) grants awarded each year. The number of new and competing awards has varied significantly in recent years. In 1981, support for 5,000 new and competing awards will be requested, an increase of 30% over 1977. To insure that the vast enterprise of high-quality biomedical researchers will be maintained in this country, the Administration is requesting that awards in future years be stabilized at the 1981 level.

IV. THE FEDERAL HEALTH INVESTMENT

The Federal investment in health will reach an estimated \$92.5 billion in 1981, an increase of 54% over 1977. This total includes \$14.5 billion for Federal programs which have not traditionally been described as health-related in Federal budget discussions. These programs primarily fund health-related services and construction, including the Special Supplemental Food Program for Women, Infants and Children, and grants to improve municipal wastewater treatment and highway safety.

The largest single Federal health investment is in health services, both federally financed and directly provided. In 1981, outlays totaling \$74.0 billion are requested for health services programs, an increase of 62% over 1977. These services include \$10.0 billion in Federal grant programs, primarily those which increase access for the poor and underserved, and fund preventive health services; \$53.2 billion in Medicare and Medicaid payments for services to the

aged, disabled, and poor; and \$10.8 billion in medical care provided through health care systems for military personnel, veterans, and Indians.

Table 5-1—THE FEDERAL INVESTMENT IN HEALTH

(In millions of dollars)

Activity	Outlays				
	1977 actual	1978 actual	1979 actual	1980 estimate	1981 estimate
Research.....	3,872	4,198	4,532	4,932	5,277
Education and training	1,926	1,842	1,712	1,892	1,933
Construction	6,324	6,209	7,175	7,021	7,931
Services.....	45,651	52,022	59,174	67,193	73,987
Regulation and enforcement	2,169	2,440	2,937	3,232	3,391
Total.....	59,942	66,711	75,530	84,270	92,519

The second largest Federal health investment is in construction of a wide range of health- and safety-related facilities. In 1981, outlays of \$7.9 billion are requested for such construction activities, an increase of 25% over 1977. Additionally, \$5.3 billion in outlays for health-related research and \$5.3 billion for regulatory and education activities are requested for 1981, reflecting increases of 36% and 30%, respectively, over 1977.

6. MAINTAINING NATIONAL SECURITY

A strong defense has been a primary objective of this Administration. Despite overall efforts to restrain Government spending, necessary increases for defense have been provided. From 1978 to 1981, the Administration has requested cumulative increases for defense programs of over \$100 billion in budget authority, with \$30 billion in real growth originally anticipated. This growth, however, has been eroded by higher than anticipated inflation and by congressional cuts. To take the necessary steps to strengthen our defense capabilities in 1981-85, cumulative increases in budget authority of over \$300 billion are being requested—with anticipated real growth of \$100 billion.

Major factors shaping the size and composition of the defense budget include:

- The Soviet threat. Rising Soviet military spending for many years has permitted steady increases in the size and capability of its forces. For much of this same period U.S. defense spending (apart from Vietnam) declined.
- The need to retain strategic equivalence. When this Administration took office, the U.S. ability to maintain the unambiguous strength of its strategic deterrence capability was being eroded by the massive Soviet ballistic missile buildup and its eventual threat to our land-based missile forces.
- The need to revitalize NATO defense efforts. While Soviet military resources and capability continued to grow, the defense spending of our NATO Allies remained stable in real terms. By the mid-1970's it became clear that NATO members needed to increase their defense efforts if they were to stem the trend toward Warsaw Pact Soviet military superiority in Europe.
- The need for increased confidence in and flexibility of U.S. conventional forces to meet unpredictable crises in other areas. Recent events have reinforced this concern.
- The need to acquire and retain military personnel of high quality. Sustaining the All Volunteer Force in the face of difficult recruiting markets presents a real challenge.
- Managerial emphasis to improve efficiency in defense. Savings from economies permit a greater level of defense capability at any given overall funding level.

THE SOVIET THREAT

Soviet defense spending is believed to be significantly greater than U.S. defense spending. The Soviet Union is estimated to be using somewhere between 11 and 14% of its gross national product for defense purposes, compared with 5% for the United States.

For some years it was thought that where strategic nuclear forces are concerned, the Soviet Union would be satisfied with a well-balanced, secure, second-strike capability—that is, the capability to launch an effective attack even after absorbing an attack from an enemy. The Soviet Union, however, has gone far beyond that capability. It was also believed that as its strategic forces increased, the Soviet Union would reduce deployment of regional nuclear forces. Instead, the Soviet Union is now modernizing both its intermediate-range missiles and battlefield tactical nuclear capabilities.

At the same time, Soviet ground and tactical air forces in Eastern Europe are too large and much too offensively oriented to serve only as a counterweight to NATO capabilities. Similarly, Soviet forces in the Far East are geographically positioned, exercised, and apparently designed for offensive operations.

While some components of the increasingly modern Soviet navy are intended for the direct defense of the U.S.S.R., others are designed for strategic antisubmarine warfare, interdiction of the major sea lanes, and long-range projection of Soviet military power. The Soviet Union has consistently sought air and naval facilities overseas, and it has expanded its capability for long-range movement of forces, especially by airlift. Soviet airlift played a major role in the recent occupation of Afghanistan.

U.S. STRATEGIC FORCES

To meet the Soviet challenge, the Administration has developed a comprehensive strategic force modernization program that will strengthen deterrence and maintain essential equivalence through the next decade and beyond. While the United States has shown its willingness to seek strategic arms limitations through negotiations with the U.S.S.R., it has also confronted the realities of increasing Soviet nuclear offensive capabilities. Programs are being implemented to: (1) significantly improve the survivability and military effectiveness of U.S. land-based and sea-based missile forces, (2) strengthen the survivability and effectiveness of U.S. airborne forces, and (3) improve the flexibility and endurance of U.S. strategic command, control and communications systems.

Land-based ballistic missiles.—To insure the future survivability of the land-based leg of U.S. strategic forces, the Administration, after intensive study, has chosen to begin full-scale development of

the MX missile system. The missile under development is significantly more effective than the current Minuteman missile. Its survivability will be insured by mobile basing.

Under the mobile basing plan, each MX missile will move on a transporter-erector-launcher among 23 hardened shelters. This type of basing should prevent the Soviet Union from determining which shelters are occupied at any given time. The MX system will achieve its initial operating capability in 1986.

Sea-based ballistic missiles.—Modernization of the operational strategic submarine force has commenced. The first Trident submarine, U.S.S. *Ohio*, was launched in 1979 and will be on patrol in 1981. The Trident has more missile tubes than a Poseidon submarine (24 versus 16), is quieter (making detection more difficult), and will be able to remain on-station longer. The Trident also allows for future force enhancement because its large missile tubes provide room for later increases in missile size.

The new Trident I ballistic missile will significantly enhance U.S. strategic force effectiveness by improving yield, accuracy, and range. The greater range of the new missile will increase the effective submarine patrol area by a factor of 10, thereby making it far more difficult for the Soviet Union to locate U.S. submarines. The Trident I missile is now being operationally deployed in Poseidon submarines. Options for a follow-on missile with even greater capabilities are being explored.

Cruise missiles.—A major initiative of this Administration has been the cruise missile program. Flight testing of competing designs for the air-launched cruise missile will soon be completed and missile production will begin this year, with an initial operating capability on B-52 bombers in 1982. Because of their small size and their low altitude capability, these missiles will be hard for Soviet radars to detect and track. A large force of strategic bombers with cruise missiles provides the flexibility to saturate defenses selectively, making the task of the Soviet air defense planner a very difficult one.

The B-52 will be a highly capable cruise missile carrier at least through this decade. Research and development programs are underway that will provide increased weapons delivery capability should that be necessary.

Command, control, and communications.—The Administration's key initiatives include acquisition of a new airborne command post; improvement of satellite and radar sensors to provide more accurate and reliable warning of attack; and development of mobile, more survivable ground stations that receive warning information from satellites.

Strategic defensive systems.—Adequate numbers of fighter and interceptor squadrons will continue to provide antibomber defense.

The Administration is also continuing antiballistic missile research and is developing an antisatellite system, while at the same time seeking arms control agreements that will limit the deployment of antisatellite systems. In addition, the nuclear-attack oriented civil defense program has been integrated with natural disaster and emergency related programs, under the newly created Federal Emergency Management Agency.

In summary, the U.S. strategic program is designed to maintain strategic forces adequate for the deterrence of conflict. As the Administration has demonstrated its determination to meet the Soviet strategic challenge, it has also demonstrated its willingness to cooperate with the U.S.S.R. to limit strategic forces. It is this combination of strength and negotiation that best assures the continued security of the United States and its Allies.

NATO DEFENSE INITIATIVES

This Administration has launched several major initiatives to strengthen NATO's deterrent and defense capabilities, which had been neglected during and after the Vietnam conflict. At the May 1977 NATO Summit in London, the United States called for a stepped-up long-term defense effort, with increased allied collaboration. At the May 1978 Summit in Washington, NATO heads of government personally endorsed a long-term defense program, backed by pledges of 3% real annual growth in defense spending. This step reflected common Allied recognition that only through greater cooperation and increased resources could NATO meet the security challenges of the 1980's.

The United States is greatly accelerating its ability to reinforce Western Europe with massive ground and air forces in a crisis. The United States is prepositioning additional equipment, but relying on our European allies to provide adequate facilities and host nation logistic support, as well as the bulk of the ground and air forces that would engage in a conflict in Europe. This "transatlantic bargain" will markedly enhance NATO's military posture—particularly its ability to respond to an attack given only short warning.

Collaborative armaments programs have received emphasis and include allied coproduction of the F-16 aircraft and U.S. purchase of the Roland low-altitude air defense system. The United States and other NATO members agreed in December 1978 on joint funding and operation of a NATO airborne early warning aircraft fleet. The Administration has also proposed an innovative concept of jointly developing "families" of new systems, with Europe taking the lead in some, the United States in others.

The Alliance has agreed to the modernization of NATO's theater nuclear forces, through a proposed force of longer range ballistic

and cruise missiles to be deployed in Europe. The Soviet Union has already undertaken a major modernization of its theater nuclear forces. In particular, it has introduced a mobile, intermediate-range ballistic missile equipped with multiple warheads, and an intermediate-range bomber.

With these new and more accurate weapons, the Soviet Union might make the mistaken judgment that it could threaten our allies without fear of retaliatory attacks on Soviet territory, especially if U.S. forces or territory were not threatened. To avoid any such error in perception, the Administration is proceeding with the development of two theater-based, longer range, mobile missiles: the Pershing II and the Ground-Launched Cruise Missile. In collaboration with our Allies, they will be deployed in Great Britain and on the European continent. By so doing, the linkage of U.S. strategic forces to the defense of Europe will be strengthened.

U.S. CONVENTIONAL FORCES

Ground forces.—The United States currently has 16 Army and 3 Marine divisions in the active forces; 8 Army and 1 Marine division in the Reserve Forces. U.S. ground forces have been augmented over the past several years. For example, since 1977 there has been a 10% increase in tank and mechanized infantry battalions. Primarily by prepositioning equipment, the capability to build up forces in Europe quickly has increased. When this program is completed, the U.S. will have the ability to more than double our ground forces and to triple our air forces in Europe within 2 weeks.

The introduction of a wide range of improved equipment—XM-1 tanks, armored personnel carriers, helicopters, and better artillery and air defense weapons—has, together with the contributions of our Allies, strengthened the U.S. ability to meet any threat.

Readiness and combat endurance have been enhanced in Reserve units. A number of Reserve units are now equipped with new equipment and selected Reserve units are structured to provide the same rapid mobilization capability as portions of our active forces.

Air forces.—The U.S. program will field an active Air Force of 26 fighter and attack wings and will modernize—and in some cases enlarge—the active and reserve components of Air Force, Navy, and Marine Corps tactical aviation. Over the next few years about 1,700 fighter, attack, electronic warfare, surveillance and support aircraft will be purchased by the Air Force. This constitutes the first full-scale modernization of U.S. tactical air forces since the 1960's.

To achieve greater overall capability, aircraft procurement programs have emphasized a mix of high and low cost aircraft—each possessing excellent mission performance characteristics. Procurement of lower cost A-10, F-16, and F/A-18 combat aircraft will

supplement purchase of the more sophisticated and costly F-15 and F-14 aircraft.

Rapid deployment forces.—The United States is systematically enhancing its ability to respond rapidly to non-NATO contingencies wherever required. These rapid deployment forces can range in size from a few ships or air squadrons to as many as 100,000 troops, including their support. Priority is given at present to the Middle East and Persian Gulf contingencies, but our forces stand ready for rapid deployment to any region where they are needed.

The Administration has already expanded the size of the U.S. naval Middle East Task Force which operates in the vicinity of the Persian Gulf, and the Navy has increased the number of ship-days it is spending in the Indian Ocean. Additional actions include the establishment of a permanent, full-time Caribbean Joint Task Force Headquarters, the expansion of military exercises in the Caribbean region, increased surveillance of Cuba, and other measures to assure that, in the President's words, "no Soviet unit in Cuba can be used as a combat force to threaten the security of the United States or any other nation in this hemisphere."

Two specific initiatives of the Administration that will facilitate the U.S. response to future crisis situations are: (1) the development and production of a new fleet of large cargo aircraft with intercontinental range; and (2) the procurement of maritime prepositioning ships that will carry heavy equipment and supplies for three Marine Corps brigades into crisis areas. These aircraft and ships will strengthen the U.S. capability to move combat forces over vast distances quickly enough to deter conflict or, failing that, to carry out assigned combat missions.

Naval forces.—The number of ships in the Navy will grow over the next few years. A force of about 550 ships is programmed for 1990. The 1981-85 plan calls for construction of 97 new ships. The emphasis on highly capable anti-air-warfare ships, along with the continuing production of frigates and nuclear submarines, will provide the Navy with the ships it needs to maintain U.S. maritime superiority.

A number of new naval force capabilities have been or are about to be introduced. The AEGIS destroyer will play a major role in protecting our ships from enemy aircraft and missile attacks. This ship is a key element in the Administration's plans to maintain U.S. naval superiority during the next decades. The first two AEGIS destroyers were included in the 1978 and 1980 budgets. An additional 16 AEGIS ships are planned in the 1981-85 program. New missile capabilities include the Harpoon cruise missile for attacking enemy surface ships and a ship-based missile for destroying enemy aircraft and missiles that threaten U.S. surface ships.

The F-18 aircraft, now undergoing testing, will be the backbone of Navy and Marine Corps tactical air forces over the next decade. These F-18 aircraft will be capable of performing a variety of attack and air defense missions.

Tactical command, control and communications.—Improvements are being made in the command and control capabilities of U.S. conventional forces. In 1978, initial deployment of the E-3A airborne warning and control system was made. Through the 1981 budget, the U.S. will have purchased 30 E-3A's. This system, which provides a major improvement in the ability to track and engage hostile aircraft, is also being purchased by our NATO Allies.

More capable and secure systems for the surveillance of hostile ground forces are being developed to allow more timely and efficient allocation of U.S. forces in battle. The capability to destroy and disrupt enemy command and control systems is also being improved.

Combat readiness.—Maintaining operational force units at a high state of combat proficiency is as important to the overall U.S. military posture as the acquisition of new equipment. Improving the readiness of U.S. combat forces has been a major defense initiative of this Administration. Within the Navy, this improved readiness is most visible in the materiel condition of our ships. The backlog of ships overdue for overhaul, which had been growing for several years, is now at a manageable level, and funding has been increased for other types of ship maintenance. Backlogs of aircraft, combat vehicles, and parts needing maintenance also are being reduced. All of the services are using new maintenance techniques which will permit them to obtain more useful service life from their systems. In addition to improved maintenance, inventories of spare parts for many weapons systems have been increased to enhance the initial combat capability and the combat sustainability of our forces. Unit training and individual proficiency have been enhanced by more intensive training including extensive use of simulation techniques. Combat exercises have been expanded with more joint service exercises to provide greater realism and to obtain a more effective military capability.

MILITARY PERSONNEL

The Administration has made significant progress in active duty and reserve military personnel programs, military pay reform, military medical programs, and equal opportunity in the armed forces.

All Volunteer Force.—A number of steps have been taken to insure the continued success of the All Volunteer Force (AVF). In the past 3 years, in spite of an increasingly difficult recruiting market, recruitment of high quality volunteers has remained high,

first-term attrition has declined, and retention rates at the first reenlistment point have increased. There is, however, concern about a downward trend in second-term career reenlistments, particularly in the Navy. As a result, increased attention and resources are being allocated to improve career retention rates and to sustain the experience and professionalism required in the Armed Forces. The strength of reserve forces has improved in 1979, reflecting the success of these initiatives.

In 1979, the services achieved a personnel level of 98.5% of authorized active duty strength. The 1979 percentage was surpassed in only one other year since the inception of the AVF in 1973. Quality, as measured by the percentage of enlistees with high school diplomas, remained high (73%).

Sustaining the AVF also depends on our ability to retain high quality soldiers, sailors, airmen and marines. Reenlistments must occur at levels which provide a force of experienced career military personnel—the people who are critical to the operation and maintenance of an increasingly complex military force. Service members who joined the AVF in the early years are remaining beyond their initial obligation at a satisfactory rate. First-term reenlistment rates have increased substantially from 24% in 1973 to 37% in 1979. An even greater increase in first-term retention—particularly in critical skill areas—is the keystone of our strategy to reduce the need for new recruits.

The Administration has developed and supported several other initiatives which will enhance the ability of the services to maintain the AVF at desired strength. The 1981 budget includes an increase of over \$450 million for increased enlistment and reenlistment bonuses, expanded bonus authority, improvements in pay and benefits and increased travel allowances.

Military retirement reform.—The Administration has submitted to the Congress legislation to reform the military retirement system by correcting inefficiencies and inequities that were highlighted in the April 1978 Report of the President's Commission on Military Compensation.

The key feature of the proposed retirement reform, drawn from the Commission's plan, would provide new career incentives by giving active-duty personnel special cash payments after 10 years of service. These payments would be charged against their future pension rights. Members completing 20 years of service would still be entitled to immediate pensions, although benefits would be reduced from current levels until age 60. Personnel leaving active duty after 10 to 20 years of service would be entitled to deferred pensions beginning at age 60. Annuities would be calculated on "high-2-years" average basic pay, rather than final basic pay, and

would be offset by benefits available under the social security system.

These proposals will result in substantial cost reductions after an extended transition period that would protect the interests of members of the current active-duty force. At the same time, they would provide major improvements over the current system in achieving greater fairness, cost effectiveness, and management flexibility.

Reserve forces.—Guard and Reserve forces provide trained units and individuals that can augment the active forces rapidly. Many of these units can be deployed to a theater of operations within days or weeks of mobilization. Individual reservists will be used as replacements during the initial combat phase, until a wartime draft can provide newly trained personnel.

Reserve paid-drill strength increased by over 19,000 during 1979. This is the first year since 1974 that total Selected Reserve strength experienced a net gain. None of the Reserve components declined in strength. Most of the overall strength increase was due to improved retention; however, the Naval Reserve and the Army Guard and Reserve experienced significant increases in the number of new recruits. The utilization of full-time professional recruiters assisted in this achievement, particularly for the Army Reserve, whose recruiters are now managed by the active Army recruiting command. These and other actions taken to improve both recruiting and retention are expected to produce an increase in Army Reserve strength in 1980 and 1981.

Continued increases in Guard and Reserve unit strengths are projected for 1981 and beyond. More modern equipment is being acquired for the Reserves, including new A-10 attack aircraft and a proposed new antisubmarine warfare frigate. Added emphasis is being placed on better utilization of trained personnel. More intensive and effective unit training programs are proposed to permit increased participation in major training exercises and tactical deployments to locations overseas.

The Individual Ready Reserve strength of the Army also increased by 16% in 1979. Further increases in the size of this important group are anticipated.

Military medical programs.—A major review of wartime medical requirements has recently been completed. Some of the study recommendations are reflected in the 1981 budget, while others are undergoing further review. One program included for 1981 establishes a civilian-military contingency hospital system to facilitate greater reliance on civilian hospital facilities in caring for the casualties of a major war. This program increases the ability to provide essential medical care without additional construction of peacetime medical facilities or use of nonmedical facilities.

In addition, the 1981 budget includes funds to upgrade combat medical support in Europe. The proposed improvements are the first increment of a multiyear program to expand wartime medical capability significantly.

Major changes are also scheduled for the Veterinary Services. Beginning in 1981, the Air Force Veterinary Corps and the Army Veterinary Corps will be consolidated; the Army will act as executive agent for all Department of Defense veterinary functions. The consolidation will be phased in over the next few years in order to minimize personnel turbulence and provide for a smooth transition of responsibilities. In addition, there will be a phased reduction of the force. These changes will provide more efficient use of the remaining veterinary personnel, at significantly reduced cost.

Finally, the Administration has developed a legislative proposal to revise military physician pay. This legislation will provide sufficient volunteers to help alleviate the current shortage. It also provides for review of physician bonuses in 1983 when the shortage is expected to be over.

Equal Opportunity.—The number of minority enlisted personnel in the Armed Forces has increased by over 70,000 personnel since 1926. This increase is a product of both the increasing accession rates and the higher-than-average reenlistment rates among minorities. Minorities in the officer ranks increased by 25% since 1976. They now constitute 7% of the active duty officer force.

Equally significant are minority gains in the Reserve Forces. For example, the proportion of blacks in Reserve paid-drill positions grew from 10.5% in 1976 to 16.1% in 1979. Beyond the increase in numbers, the Department has increased its efforts to assure that training, assignment, and promotion opportunities are provided equally to minorities.

Women in the Military.—At the end of 1979, nearly 150,000 women were members of the active force, an increase of over 36,500 from the end of 1976. The current program projects continued growth toward the 1985 objective of 254,000 women on active duty.

The Department has made major personnel policy changes to expand the role of military women. Currently, about half the female enlisted military personnel are serving in occupations which were not historically held by women—such as law enforcement, aviation mechanics, and carpentry. In addition, promotion statistics show that females are experiencing promotion rates comparable to males.

MANAGEMENT IMPROVEMENTS

A number of significant steps have been taken to improve managerial effectiveness in defense, including:

- Elimination, since January 1977, of approximately 31,000 civilian positions, including 5 Assistant Secretaries, a 20% reduction in the size of Departmental headquarters staffs, and closings or substantial reductions at a number of military installations.
- Strengthened policy and planning functions to insure that individual, detailed decisions on force structure and weapons will support our overall national security objectives.

Other actions include increasing emphasis on competition in the acquisition of a wide variety of goods and services. This will improve the efficiency of the procurement process because competitive purchases are less costly than noncompetitive purchases. All purchases are required to be made on a competitive basis to the maximum practicable extent. Proposed purchases are widely publicized, and sealed bids are used wherever feasible to select winning contractors. For items not suitable for price competition because of the limited number of qualified contractors, a substantial number of subsystems and spare parts are purchased competitively.

To encourage contractors to invest in cost-reducing assets, profit policy has been revised to allow increased profit levels in capital intensive contracts. Also, the Department of Defense has initiated revisions to personnel performance evaluation procedures to include an assessment of an individual's effectiveness in obtaining increased competition.

Several programs have been initiated to improve the efficiency of providing supply support to the forces. Stocks of materials are being changed to satisfy critical wartime needs and to eliminate excessive inventories. A review of the policies on excess material and inventory requirements is scheduled for completion by August 1980. These actions are expected to lead to revised policies and improvements in the effectiveness of funds invested in supply support. In the area of foreign military sales, procedures are being revised to insure recovery of full costs.

Weapons acquisition management.—Under new procedures, logistic and manpower planning requirements are being considered when performance objectives are established. As a result, some high-rate production decisions have been deferred until support questions have been resolved—resulting in substantial cost savings. This increased attention to support problems *before* a system is fully operational is helping avoid readiness and manning problems like those experienced during the 1960's.

In related actions, to assure the highest return for each dollar spent, special emphasis is given to wage board pay reform, improved depot-level maintenance efficiency, and increased procurement of commercial products (where these are less expensive than, and as suitable as, those built to military specifications).

Claims settlement.—This Administration has placed a high priority on improving the management of Naval shipbuilding programs. These efforts have been quite successful. Shipbuilder claims of almost \$3 billion dating back to the 1960's have been resolved. Shipbuilding plans now reflect better cost estimates and production schedules and will hopefully result in fewer future claims. For example, more extensive design work for new ships is being completed prior to the award of large production contracts.

Energy conservation.—The Administration has aggressively pursued energy conservation throughout the Defense establishment through a restructured energy management program. Since 1975, total energy use has been reduced almost 7%. To maintain combat readiness, we are making greater use of simulators and increasing the fuel efficiency of our weapons systems. In addition, new procedures have been established to assure an uninterrupted supply of fuel to our forces during any energy supply disruptions.

PLANNING FOR THE FUTURE

It is clear that this will be a watershed year for U.S. national security programs. Stimulated by events abroad, Americans are recognizing that our military capabilities must be strengthened if the United States is to play a more constructive and stabilizing role in the international arena. The 1981-85 5-year program has been carefully developed to strengthen U.S. defenses. Generally, the program has been designed to assure that:

- U.S. strategic nuclear forces will be essentially equivalent to those of the Soviet Union.
- The military balance between NATO and the Warsaw Pact will continue to deter the outbreak of war—conventional or nuclear—in Europe.
- Our ability to come quickly to the aid of friends and allies around the globe will be maintained.
- Our Navy will continue to be the most powerful on the seas.

Since taking office, this Administration has deliberately and steadily achieved increases in defense resources. But 3 years is not sufficient time to arrest and reverse the cumulative result of many years of intense Soviet investment in military capability. The 1981 budget and 5-year defense program will provide a real and substantial growth in defense capabilities over a sustained period. This program is necessary to maintain a strong defense for the United States—an objective the Nation cannot afford to defer.