

FIVE-YEAR BUDGET
PROJECTIONS:
FISCAL YEARS 1978-1982
Technical Background

Staff Working Paper

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**The Congress of the United States
Congressional Budget Office**

NOTES

Unless otherwise indicated, all years referred to are fiscal years. For 1976 and before, fiscal years ran from July 1 through June 30 and were referred to by the years in which they ended. The Congressional Budget Act of 1974 changed the fiscal year to begin on October 1 and end on September 30. The interim between the old and new fiscal years, July 1, through September 30, 1976, is called the transition quarter; fiscal year 1977 began on October 1, 1976.

Details in the text, tables, and charts of this report may not add to totals because of rounding.

Total outlays for the natural resources, environment and energy function (number 300) and the general revenue sharing function (number 850) differ slightly from those published in "Five-Year Budget Projections: Fiscal Years 1978-1982" due to correction of minor tabulating discrepancies.

PREFACE

This staff working paper provides technical background on the methodologies used for making the projections published in the "Five-Year Budget Projections: Fiscal Years 1978-1982." The paper was written under the direction of the Projections Unit of the Budget Analysis Division. Major contributors were the Natural Resources, Human Resources, and National Security cost units of the Budget Analysis Division, the Tax Analysis Division, and the Fiscal Analysis Division. The Budget Data Systems Unit of the Budget Analysis Division provided computer support. The Human Resources, Natural Resources, National Security, and Management Programs Divisions also assisted in preparation of estimates. Special acknowledgement is due to Paula Spitzig, Deborah Vogt, and Kathleen Weiss for typing this paper.

The point of contact for questions concerning the "Five-Year Budget Projections: Fiscal Years 1978-1982" and this background paper is James Capra of the Projections Unit (202-225-5373).

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This technical background paper provides additional detail on the budget projections in CBO's "Five-Year Budget Projections: Fiscal Years 1978-1982," issued December 1, 1976. It shows methodologies employed for deriving key economic assumptions and for making projections of budget authority, outlays, and receipts. The CBO five-year projections report presented major economic assumptions and budget projections in summary form. This paper presents the details of the economic assumptions and shows the major program components of the budget projections.

The paper contains four chapters. This first chapter introduces and discusses general projections concepts such as the meaning of a current policy projection, the treatment of inflation, and the projections base. The second chapter discusses the methodology for deriving economic assumptions. The methodologies and major program components implicit in the projections of budget authority and outlays are contained in the third chapter. The final chapter discusses projections of receipts.

THE PURPOSE OF THE PROJECTIONS

The Congressional Budget Act of 1974 states in Section 308(c):

"As soon as practicable after the beginning of each fiscal year the Congressional Budget Office shall issue a report projecting for the period of 5 fiscal years beginning with such fiscal year —

- (1) total new budget authority and total outlays for each fiscal year in such period;
- (2) revenues to be received and the major sources thereof, and the surplus or deficit, if any, for each fiscal year in such period; and
- (3) tax expenditures for each fiscal year in such period."

The act itself gives no guidance concerning the basic philosophy or purpose of the projections. Given the uses of the projections for fiscal years 1977

through 1981 (issued January 26, 1976), it would appear that the major purposes of the projections can be characterized as the following:

- (a) Baseline — to provide a baseline against which to measure budget options, including the President's budget.
- (b) Controllability — to provide the Congress an estimate of the expenditures to which they have committed themselves and an estimate of their flexibility when considering future budget options.
- (c) Relative shares — to approximate the change in priorities or relative shares of the budget (given no new legislation) due primarily to growth in entitlement programs.

CURRENT POLICY PROJECTIONS

Given the purposes of the projections it was decided that the conceptual basis for the projections should be current policy. For receipts, the concept of current policy is simple: present tax laws are assumed to continue. In particular, the provisions of the Tax Reform Act of 1976 are assumed to remain in effect through fiscal year 1982. This assumes that the tax cuts originally provided for in the Tax Reduction Act of 1975 and extended for varying lengths of time under the Tax Reform Act will be at least extended through September 30, 1982. The definition of current policy for spending is somewhat more complicated. For entitlement programs that provide benefits to individuals and for programs like General Purpose Revenue Sharing where the budget authority for future years has already been set, current policy means the maintenance of current laws. For discretionary programs like defense procurement that are subject to annual appropriations, current policy in general means maintenance of the current level of inputs or resources to meet continuing needs. The major exceptions to this interpretation are one-time programs, like temporary study commissions, and programs which are designed to meet temporary needs. These latter programs are assumed to be phased out as the need for them disappears. For example, the temporary employment assistance program, which provides for public service jobs at state and local government levels, is designed to meet the current unemployment situation. It is assumed to phase out as the unemployment rate falls.

It should be noted that for those areas (like national security, energy research, and law enforcement) where current policy means maintenance of a constant level of resources, the projections are essentially devoid of program detail, and as such do not contain funding for specific needs, such

as the B-1 bomber or the Trident submarine. Rather, they hold constant the resources devoted to general needs such as national security. What output can be bought with the inputs that are projected is a separate question and is not addressed in CBO's five-year projections report or in this technical background paper.

THE TREATMENT OF INFLATION IN PROJECTIONS OF SPENDING

Under existing law, all federal programs do not respond automatically to inflation. For the projections, federal spending was broken into four categories: benefit programs which are indexed for inflation, either directly or indirectly; programs for which the concept of inflation is either not important or only indirectly related to spending; nondiscretionary programs or accounts which respond to inflation but over which the Congress does not exercise control on a year-to-year basis; and programs whose funding level is discretionary.

Existing laws establish various automatic cost-of-living adjustments for virtually all entitlement programs providing direct benefit payments to individuals. (Veterans' benefits are a notable exception.) Since current policy for these programs means the maintenance of current laws, the projections contain estimated cost-of-living adjustments. Certain other federal programs, like medicare and medicaid, are indirectly indexed for inflation since the federal government pays a fraction of the costs. Again, under the assumption that current policy for these programs means the maintenance of current laws, projected benefit levels are increased as the cost of medical care increases. Finally, benefit levels for some programs, like public assistance and unemployment insurance, are set by state and local governments under federal guidelines. It is assumed for projections purposes that benefits under these programs will keep pace with inflation.

For certain parts of the budget, the rate of inflation is either not important or is only indirectly related to budget levels. For example, some programs, like Title XX social services grants, have statutory ceilings which have been fixed for some time and are not assumed to change. For other programs, like the General Revenue Sharing program, the level is fixed by law through all or part of the projections period. Finally, many budget accounts are for loan guarantees and only outlay upon default of the loans. Inflation is not important for such accounts, except insofar as it may contribute in some indirect way to defaults.

The category of accounts which respond to inflation but over which the Congress does not exercise discretionary control on a year-to-year basis includes most proprietary receipts from sales to the public and certain

accounts with permanent authority which automatically return a fraction of these receipts to the states. (For example, part of the receipts from timber sales and mineral leases are returned to the states.) For the projections, accounts in this category are assumed to respond automatically to inflation.

Finally, for a certain part of the budget, the Congress exercises discretionary control over whether to grant inflation adjustments. In many cases, like veterans' benefits, inflation adjustments are generally approved, although there is no statutory requirement that such adjustments be granted. In other cases, programs are held at the previous year's level in order to provide room for new initiatives or to hold down the level of federal spending. Given the purposes of the projections (the primary one being to provide a neutral baseline against which to evaluate various budget options), it appeared useful to show the cost of discretionary inflation adjustments. Thus, for programs in which the funding level is discretionary, two projections of spending were made. The first, which shows spending under current law commitments, holds the level of these programs constant in current dollar terms. The second projection includes the further adjustments to the federal budget for inflation in these discretionary programs. 1/

THE PROJECTIONS BASE

The base for the projections was the Second Concurrent Resolution on the Budget for Fiscal Year 1977 (S. Con. Res. 139). Thus, all tables reflect assumptions concerning the second concurrent resolution in columns labelled "1977 Estimate." By using the second concurrent resolution as a projections base, the projections not only include programs on which the Congress has already completed action, but also some programs on which future action is anticipated. The second concurrent resolution levels of budget authority and

1/ There exists some question concerning federal payraises. They fall somewhere between the categories of discretionary and nondiscretionary inflation adjustments. Wage board (blue collar) payraises are for all practical purposes nondiscretionary. Unless Congress changes the law these raises go into effect at the level estimated by wage board surveys. For general schedule and military raises, the situation is somewhat different. The President can recommend a number different from the result of the survey of professional, administrative, technical, and clerical personnel. Also, either house of Congress can disagree with the President's number if it differs from the survey recommendation. However, since it takes positive action on the part of the President or the Congress to limit or increase the payraise, payraises were treated as non-discretionary.

outlays for fiscal year 1977 are \$451.55 billion and \$413.1 billion, respectively. The parliamentarian's status report for October 1, 1976, listed the levels of budget authority and outlays for fiscal year 1977 as \$438.15 billion and \$410.7 billion. 1/ Thus, the projections base includes \$13.5 billion in budget authority and \$2.4 billion in outlays which were not in the parliamentarian's status report as of October 1, 1976.

The second concurrent resolution was chosen as the base for the projections since it represents the most recent statement by the full Congress on desired revenue and spending levels. However, it should be noted that neither the resolution nor the projections take into account the potential effects in fiscal years 1978 through 1982 of the shortfall in federal outlays in fiscal year 1976 and the transition quarter, or the effects of the recent slowdown in the economy.

1/ Congressional Budget Office, "1977 Congressional Budget Scorekeeping Report," Report No. 3.

AGGREGATE ASSUMPTIONS

The aggregate economic assumptions used in the Five-Year Projections Report were generated in a two-step process with the use of two quarterly models of the U.S. economy.

The first step in this procedure was the preparation of a short-run forecast. Exogenous assumptions made by the CBO regarding food and fuel prices, exports, and monetary policy, as well as the federal budget specified by the second concurrent resolution were used in producing the forecast, which extended through the end of calendar year 1977. ^{1/} The assumptions used in preparing this forecast were based on predictions made by a variety of other forecasters, including commercial econometric model forecasts, as well as on analyses done by CBO staff members.

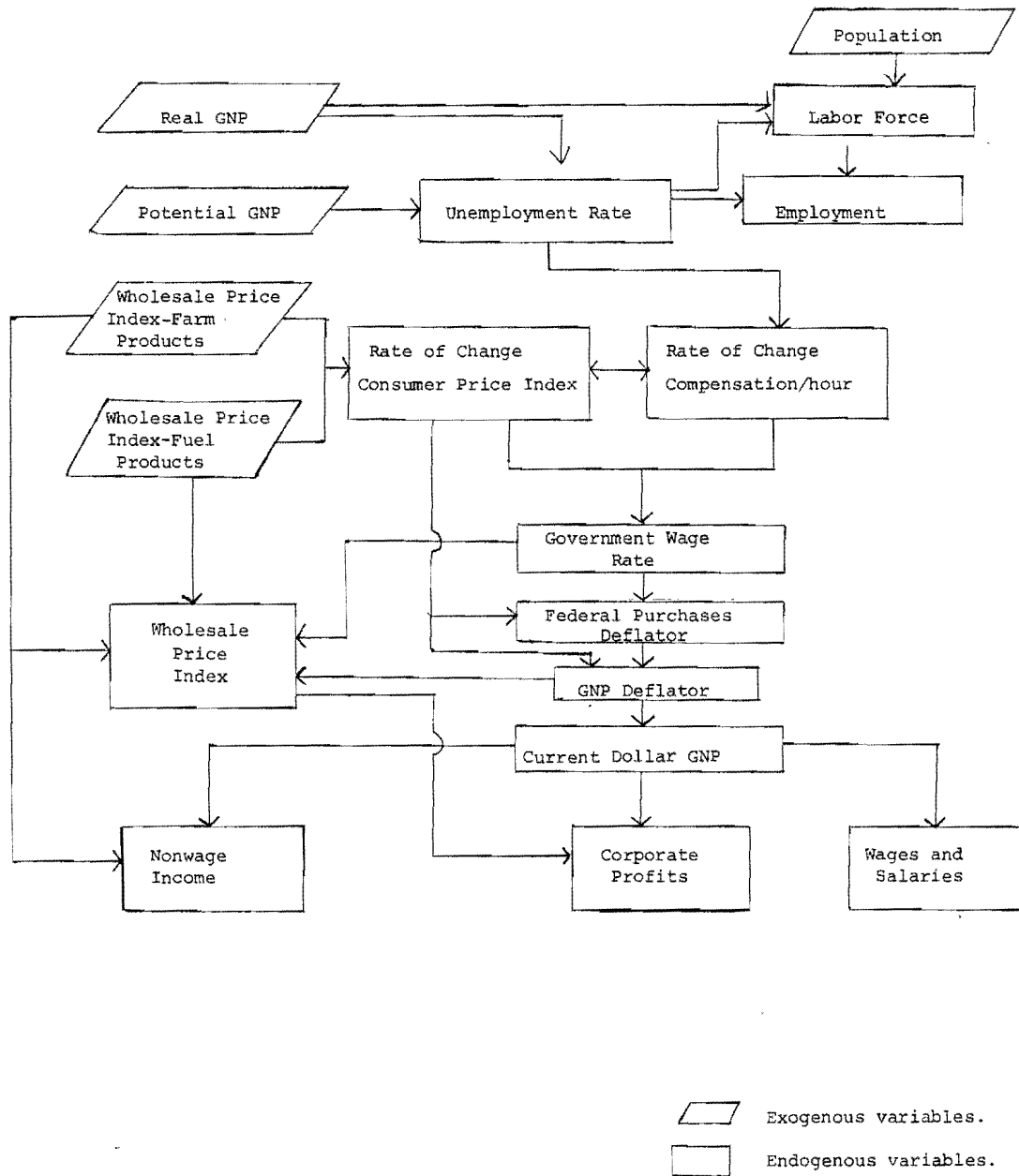
Given the difficulty and uncertainty in forecasting economic events very far into the future, the CBO did not attempt to extend the forecast beyond the end of calendar year 1977. Beginning in 1978, a set of three projections were prepared, each based on an alternative assumption about future rates of growth in real GNP. Given the assumption about real GNP (and four additional exogenous assumptions), a quarterly model estimated by the CBO was used to generate a consistent and complete set of economic projections.

The model used by the CBO to produce the long-range economic projections is relatively small and requires only five exogenous assumptions. These exogenous variables are real GNP, potential GNP, total population, and the wholesale price indices for farm products (WPI01) and for fuel and related products and power (WPI05). Given these assumptions, the model then can be used to produce all remaining variables endogenously.

A flow chart showing the model linkages is shown in Figure 1. Once potential and real GNP are known, the unemployment rate is projected with Okun's Law, an estimated equation which relates the unemployment rate to the gap between potential and actual GNP. The civilian labor force is determined with an equation which relates the labor force participation rate

^{1/} Trend growth in federal spending was used in the fourth quarter of calendar year 1977, which extends beyond fiscal year 1977 and, thus, beyond the 1977 budget resolution.

Figure 1. Long-Range Economic Assumptions Model



to the unemployment rate and real GNP. Given the unemployment rate and the labor force, total employment can then be determined with an identity. The unemployment rate and the two exogenous wholesale price indexes are then used in a simultaneous wage-price model to determine the rates of change in compensation per hour and in the consumer price index. The variables are in turn used in estimated equations to project the rates of change in government wage rates, the federal purchases deflator, and the GNP deflator. Current dollar GNP can then be calculated by an identity, since real GNP and the deflator are known. Once current dollar GNP is determined, three income components — wages and salaries, corporate profits, and adjusted personal income (the sum of wages and salaries and nonwage income ^{1/}) — are generated with three distributed lag income share equations. Long- and short-term interest rates are projected judgmentally through calendar year 1982 based on the short-run forecast pattern and on the long-run growth rate. A list of the variables projected follows:

- Consumer price index
- Corporate profits before tax, excluding inventory valuation adjustment
- Total employment
- Federal government purchases deflator
- Gross national product, constant 1972 dollars
- Gross national product, current dollars
- Implicit price deflator, gross national product
- Index of compensation per manhour, private domestic economy
- Civilian labor force
- Nonwage income
- Unemployment rate, civilian workers
- Wage and salary disbursements
- Total population
- Potential gross national product
- Wholesale price index
- Wholesale price index, farm products
- Wholesale price index, fuels and related products and power

The three projection paths generated by the economic models are shown in Table 1. The baseline path is consistent with the economic assumptions made by both budget committees in preparing the Second Concurrent Resolution for Fiscal Year 1977. The less vigorous growth path reflects the thinking of various commercial forecasters. The more rapid growth path incorporates the assumptions of the Joint Economic Committee. The three paths all contain the CBO forecast for 1977; in the projection

^{1/} Nonwage income is defined as the sum of personal rental income, dividends, personal interest income and proprietors' income.

years, they diverge. The baseline path assumes that real GNP grows by 5.6 percent in calendar year 1978 tapering to 4.5 percent in calendar year 1982 as the economy moves closer to full employment. The more rapid growth path shows faster growth than the baseline for calendar years 1978 and 1979 and then a more rapid decline in growth as full employment is approached. The less vigorous path moves from a 5.1 percent growth rate in calendar year 1978 to a steady 4 percent rate in the later years. With this slower growth rate, the economic models indicate higher rates of unemployment than under the alternative paths, but lower inflation. The more rapid growth assumed for the high path reduces unemployment more quickly than the baseline path, but with higher inflation rates. These two paths, the baseline and more rapid growth, nearly converge by calendar year 1982; they employ different means to attain a similar end.

Table 1. Economic Assumptions, 1976-1982, by Calendar Years

Selected Economic Variables	1976	1977	1978	1979	1980	1981	1982
Baseline Assumptions							
Gross National Product (GNP)							
Current dollar GNP (in billions)	1,697.7	1,884.5	2,085.2	2,304.4	2,547.0	2,808.7	3,102.6
Real GNP (in billions of 1972 dollars)	1,267.7	1,336.5	1,410.9	1,488.5	1,567.4	1,641.3	1,714.6
Growth rate of real GNP	6.4	5.4	5.6	5.5	5.3	4.7	4.5
Unemployment rate (percent)	7.6	6.8	5.9	5.3	4.8	4.4	4.1
Consumer price index (percent change)	5.7	5.0	4.8	4.8	5.0	5.3	5.8
Less Vigorous Economic Expansion							
Gross National Product (GNP)							
Current dollar GNP (in billions)	1,697.7	1,884.5	2,074.8	2,258.7	2,457.1	2,672.9	2,909.2
Real GNP (in billions of 1972 dollars)	1,267.7	1,336.5	1,404.1	1,460.9	1,519.3	1,580.1	1,643.3
Growth rate of real GNP	6.4	5.4	5.1	4.0	4.0	4.0	4.0
Unemployment rate (percent)	7.6	6.8	6.1	5.9	5.8	5.6	5.5
Consumer price index (percent change)	5.7	5.0	4.7	4.6	4.6	4.6	4.6
More Rapid Economic Expansion							
Gross National Product (GNP)							
Current dollar GNP (in billions)	1,697.7	1,884.5	2,103.3	2,335.1	2,585.8	2,855.0	3,147.6
Real GNP (in billions of 1972 dollars)	1,267.7	1,336.5	1,422.7	1,505.8	1,584.8	1,656.7	1,721.9
Growth rate of real GNP	6.4	5.4	6.4	5.8	5.2	4.5	3.9
Unemployment rate (percent)	7.6	6.8	5.7	5.0	4.5	4.2	4.0
Consumer price index (percent change)	5.7	5.0	4.8	4.9	5.3	5.7	6.1

PROJECTION OF SPECIALIZED PRICE INDEXES

The aggregate measures of economic activity produced by the economic models provide only a general indication of activity or price movements in a particular market. For example, some specialized price indexes, like the medical consumer price index, tend to increase at a faster rate than the aggregate price indexes. Whether aggregate indexes or specialized indexes are used for projections probably has little effect on the budget totals since accounts that increase at rates faster than the CPI are balanced by accounts that increase at slower rates. However, the use of a specialized index instead of an aggregate one is important for projection of

individual accounts and functions. Since the purpose of the projections is not restricted to producing aggregate totals but includes projection of the details which comprise the totals, it becomes necessary to obtain a clearer picture of specific price changes than is provided by the CPI, the WPI, or the GNP implicit price deflator.

Statistical analysis of the historical relationship between specialized price indexes and the macroeconomic measures of which they are a part makes it possible to use aggregate economic assumptions to generate a consistent set of forecasts for prices in specific markets. Such a procedure is just the reverse of index construction in which prices of particular commodities or services are appropriately weighted to obtain some aggregate measure, such as the CPI. The explanatory variables used in this analysis are restricted to those aggregate measures projected by the economic models. In this movement from macro to micro, we attempt to assess which factors will most influence particular price movements. However, our models are in no sense causal but build on the correlation between various economic measures.

The specialized price indexes 1/ projected are:

Federal and other government purchases

Implicit price deflators:

Federal purchases of buildings

Federal purchases of services

Federal purchases of nondurables less transactions of the
Commodity Credit Corporation (CCC)

Federal purchases of aircraft

Federal purchases of ships

Federal purchases of NASA equipment

Federal purchases of durables

Total federal purchases less compensation of employees and
transactions of the CCC

State and local government purchases

General public buildings

1/ A price index measures the average price change of a market basket of goods in which the quantity and quality of each item are fixed. A cost index measures the average change in total expenditure required to purchase a fixed bundle of performance or utility levels. For an implicit price deflator, quantities are not fixed but are determined by the mix of purchases in the relevant period. For example, the GNP implicit price deflator is determined by weighting price indexes for each major spending category by the dollars spent in that category.

- Elementary and secondary education
- Higher education
- Highways and streets
- Sewers and sewage treatment facilities
- Army procurement cost indexes:
 - Aircraft
 - Missiles
 - Weapons and tracked combat vehicles
 - Ammunition
 - Other procurement
 - Research, development, testing, and evaluation
- Consumer goods
 - Consumer price index:
 - Food
 - Food away from home
 - Food at home
 - Nondurable commodities less food and apparel
 - Services
 - Rental services
 - Medical services
 - Implicit price deflators:
 - Personal consumption expenditures on intercity railroad transportation
 - Residential structures
- Other private investment
 - Implicit price deflator:
 - Private nonresidential structures
- Producers' durable equipment
 - Implicit price deflators:
 - Communications equipment
 - Trucks
 - Aircraft
 - Railroad equipment
 - Scientific and engineering instruments

Estimation Procedures

The independent variables employed in this analysis are series included in the aggregate economic assumptions. They include the wholesale prices of food and fuel, which are assumed exogenously, and the consumer price index, the wholesale price index, the GNP implicit price deflator, unit

labor cost ^{1/}, the index of compensation per man-hour in the domestic economy, and per capita personal income, which are endogenously generated by the two quarterly economic models.

A problem involved in the analysis is that all these variables are highly correlated. The multicollinearity problem is most serious, however, when causal relationships are sought; much less so when prediction is the goal.

Two other econometric problems encountered were serial correlation and heteroskedasticity. The first of these was solved by recasting the equation in terms of either simple first differences or a generalized first difference model estimated by the Cochrane-Orcutt iterative procedure. Heteroskedasticity was, in some sense, omnipresent since disruption of oil markets, the removal of price controls, and generally higher levels of inflation produced larger error terms in the period from calendar year 1973 through the present. When sequential plots of errors clearly reflected heteroskedasticity over the entire estimation interval, the problem was corrected by dividing the equation through by the variable time.

All equations were estimated using quarterly data over intervals generally covering calendar year 1959 to the second quarter of 1976. In general, quite good fits were obtained, largely because of the nature of time series analysis and high correlations among the variables. Decisions among alternative models for a specialized indexes were based on hypotheses concerning which variables would affect prices, t-statistics, the Durbin-Watson statistic, quality of fit in recent years, and the standard error of the regression.

The simplest model used for projection of the specialized deflators was of the form:

$$(1) \quad p_t = a + bp_{t-1} + CX_t, \quad |b| < 1$$

where p_t is the price index estimated, X_t is a matrix of explanatory variables, and a , b , and C are coefficients. The lagged dependent variable appearing on the right hand side imposes a geometrically decaying lag structure on the other independent variables. That is, all lagged values of the explanatory variables in X enter each period but with successively

^{1/} Unit labor cost equals compensation of employees divided by real GNP.

smaller weights as the lag increases. This structure is consistent with partial adjustment or adaptive expectations models in which current prices depend on previous prices. ^{1/}

An alternative to (1) is the generalized first difference model:

$$(2) \quad (p_t - rp_{t-1}) = a(1 - r) + b(p_{t-1} - rp_{t-2}) + C(X_t - rX_{t-1}), \quad |r| < 1$$

where r is the coefficient of autocorrelation, and other variables are as defined above. Interpretation of this form is similar to that of the simple linear model except that (2) involves changes rather than the levels of the specialized price deflators. As explained above, the differences model is used in the presence of serial correlation.

An Example

The equation estimated for projecting the higher education price index is presented as an example:

$$(3) \quad \text{HEPIQ} = .026 + .709 \text{ HEPIQ}_{-1} + .195 \text{ JDRWSSP}$$

(11.9) (5.4)

$$\bar{R}^2 = .997 \quad \text{Estimation interval 59:2 to 75:4}$$

$$\text{DW} = 2.2 \quad \text{Standard error of the regression} = .003$$

where HEPIQ is the quarterly higher education price index, JDRWSSP is the index of compensation per man-hour in the private domestic economy, and t -statistics are shown in parentheses. That is, the current value of the price index is hypothesized to be a function of its value in the previous period and an index of labor compensation. Table 2 shows the projected values of JDRWSSP from the economic models and projected values of HEPIQ derived from Equation (3). The projected value for 1976:3 was within .002 of the actual value 1.336.

^{1/} See J. Johnston, Econometric Methods, 2nd edition (New York: McGraw-Hill Book Company, 1972).

Table 2. Projected Values of the Higher Education Price Index

Quarter	HEPIQ Projected Value <u>a/</u>	JDRWSSP Projected Value <u>b/</u>
76:4	1.362	1.99
77:1	1.387	2.03
77:2	1.411	2.06
77:3	1.434	2.09
81:4	1.904	2.83
82:1	1.941	2.89
82:2	1.978	2.95
83:3	2.017	3.02

a/ Projected by a specialized price index model.

b/ Projected by the economic models.

Army Procurement Cost Indexes

The CBO estimating equations for Army procurement cost indexes use a simplification of a methodology developed by Data Resources, Inc. (DRI). ^{1/} From a priori information, the index for a procurement item was decomposed into a weighted combination of component price indexes. Where DRI examined many such components, CBO focuses only on labor and materials because of the limited number of price indexes projected by our economic models. A missiles cost index C_m , for example, would be constructed:

$$(4) \quad C_m = w_l p_l + w_m p_m, \quad w_l + w_m = 1.0$$

where p_l and p_m are price indexes for labor and materials, respectively, and the w 's are the appropriate weights. Knowledge of the w 's permits

^{1/} "Investment Appropriation Categories Cost Escalation Indexes: Technical Report," prepared for the Comptroller, Department of the Army, by Data Resources, Inc., August 1976.

estimation of separate equations for labor and materials:

$$p_l = a_1 + a_2 \text{ULC}, \quad \text{and}$$

$$p_m = b_1 + b_2 \text{WPIND},$$

where ULC is unit labor cost, WPIND is the wholesale price index for industrial commodities, and the a's and b's are regression coefficients. The p_l and p_m are then substituted in Equation (4) to obtain the missiles cost index. This two-step procedure circumvents the problems of multicollinearity encountered in estimating projection equations for other specialized price indexes.

Equations estimated for missile procurement are shown below:

$$p_l - .839 p_{l-1} = .055 (1 - .839) + 1.958 (\text{ULC} - .839 \text{ULC}_{-1})$$

$$p_m - .526 p_{m-1} = .519 (1 - .526) + .509 (\text{WPIND}_{-1} - .526 \text{WPIND}_{-2}).$$

Then, from the weights in the DRI report:

$$C_m = .496 p_l + .504 p_m.$$

The broad outline of the meaning of current policy for spending was given in Chapter I. Current policy projections assume that all current programs will continue except for those that are clearly temporary; that open-ended claims on the federal Treasury, such as social security payments, will respond to assumed economic changes in essentially the same way they have responded in the past; and that for federal programs in which funding levels appear to be discretionary, funding is held constant first in current dollar terms (the projection under existing law commitments) and then in real terms (the projection with further adjustments for inflation).

The purpose of this chapter is to provide details on the major components of spending projections and on the methodologies used to make the projections. The chapter begins with an overview of general projections methodologies and then proceeds to a discussion of specific projections and methodologies for each of the seventeen budget functions used in the preparation of annual budget resolutions.

OVERVIEW OF PROJECTIONS METHODOLOGIES

The budget can be partitioned into five pieces, each of which are characterized by a somewhat different projection methodology: accounts projected using the simple inflation method, supply-oriented revolving funds, loan and loan guarantee accounts, accounts for programs which are designed to meet one-time or temporary needs, and accounts projected using special methodologies. Table 3 shows what types of accounts are found in each of the seventeen budget functions.

Accounts Projected Using the Simple Inflation Method

Most accounts were projected using the simple inflation method. This method basically involves inflating fiscal year 1977 budget authority to arrive at budget authority for fiscal years 1978 through 1982. Under existing law commitments the fraction of each account which is for federal pay was inflated using federal payraise assumptions while the fraction of each account that is for purchases was held constant at fiscal year 1977 levels. For the projection with further adjustments for inflation, budget authority for each account was increased using weighted deflators for pay

Table 3. Types of Accounts in Each Budget Function

Function	Simple Inflation	Revolving Fund	Loan	Temporary	Special
National Defense (050)	*	*			*
International De- fense (150)	*	*	*		
General Science, Space and Technology (250)	*	*			
Natural Resources, Environment, and Energy (300)	*	*		*	
Agriculture (350)	*	*			*
Commerce and Transpor- tation (400)	*		*	*	
Community and Regional Development (450)	*	*	*	*	
Education, Training, Employment, and Social Services (500)	*		*	*	*
Health (550)	*	*	*		*
Income Security (600)	*				*
Veterans' Benefits and Services (700)	*	*	*		*
Law Enforcement and Justice (750)	*				
General Government (800)	*	*	*		
Revenue Sharing and General Purpose Fiscal Assistance (850)	*				
Interest (900)					*
Allowances					*
Undistributed Offsetting Receipts (950)					*

and purchases. Outlays from budget authority projected for fiscal years 1978 through 1982 were estimated using agency developed spendout or outlay rates. ^{1/} The major problem encountered when using this method was the estimation of outlays in fiscal years 1978 through 1982 from budget authority approved in fiscal year 1977 and prior years. For the national defense and international affairs functions, the agencies provided estimates of the five year spendout of these unexpended balances. For many of the other functions, most of the budget authority spends out in one or two years so that it was safe to assume that any unexpended balances at the end of fiscal year 1977 would spend out in 1978. However, for the following functions it was necessary to use special methodologies to approximate the spendout of prior year balances:

- General science, space and technology (250)
- Natural resources, environment, and energy (300)
- Agriculture (350)
- Commerce and transportation (400)
- Community and regional development (450)
- Education, training, employment, and social services (500)
- Health (550)

The methodology used to estimate the spendout of prior year balances for the health function is discussed in detail later in this chapter. For the remaining functions a common methodology, to be discussed below, was used.

One way to estimate outlays in fiscal years 1978 through 1982 from budget authority for 1977 and prior years is to apply currently known agency outlay rates to the budget authority figures. This can be expressed with the following formula:

^{1/} For some accounts, budget authority is only granted on an irregular basis and in large amounts as the level of unobligated balances decreases. For these accounts the simple inflation method was applied to obligations. Outlays were projected by applying outlay rates to obligation levels and budget authority was estimated to be the amount necessary to maintain the projected levels of obligations. This approach was used for some of the projections in natural resources, environment, and energy (function 300), commerce and transportation (function 400), and community and regional development (function 450).

$$\text{OUEB}(1977 + i) = \left(\sum_{k=0}^{m-2} \text{BA}(1977 - k) \times R(k + i + 1) \right) +$$

$$\text{BA}(\text{TQ}) \times \text{RTQ}(i + 1), \quad i = 1, \dots, 5$$

- where
- OUEB represents outlays in fiscal year X from unexpended balances at the end of fiscal year 1977
 - BA(X) represents budget authority for fiscal period X
 - $R(X) \frac{1}{/}$ is the outlay rate in fiscal year X, with R(1) being the outlay rate for the year in which the budget authority was approved
 - RTQ(X) is the outlay rate from transition quarter budget authority

$$\text{— } m \text{ has a value such that } \sum_{k=1}^m R(k) = 1.0$$

The values for BA are a matter of public record. R and RTQ were based on outlay rates currently being used by the agencies. Using the above estimates for OUEB, it is possible to compute an estimate of the level of unexpended balances at the end of fiscal year 1977:

$$\text{UEB}(1977) = \sum_{i=1}^{m-1} \text{OUEB}(1977 + i)$$

where UEB(1977) represents estimated unexpended balances at the end of fiscal year 1977. Unfortunately, the above equations for OUEB and UEB have some potential problems, since the outlay rates, R, used in the equation for OUEB are rates currently being used for fiscal year 1977 budget authority and may not apply to budget authority for fiscal years 1974, 1973, and so forth.

It is possible to obtain a more precise estimate of unexpended balances at the end of fiscal year 1977 using the following equation:

$$\text{UEB}'(1977) = \text{UEB}(\text{TQ}) - \text{OP}(1977) + \text{BA}(1977) - \text{OC}(1977)$$

1/ For estimation purposes, R(X) must be adjusted to take into account the transition quarter.

- where
- UEB'(1977) represents unexpended balances at the end of 1977
 - UEB(TQ) represents unexpended balances at the end of the transition quarter (obtained from agency estimates)
 - OP(1977) represents outlays in fiscal year 1977 from budget authority approved in prior years
 - OC(1977) represents outlays in fiscal year 1977 from budget authority for fiscal year 1977

The values for BA(1977), OC(1977), and OP(1977) are based on assumptions about the composition of the second concurrent resolution.

To obtain a new estimate, OUEB' from UEB', the assumption was made that the relationship between OUEB and UEB was maintained:

$$\text{OUEB}'(1977 + i) = \frac{\text{UEB}'(1977)}{\text{UEB}(1977)} \times \text{OUEB}(1977 + i)$$

The adjusted estimates, OEUB', were those used for projections purposes.

Revolving Funds

The budget contains approximately two hundred accounts which are revolving funds. These funds are for business-type enterprises operated by the federal government. Revolving funds generally serve one of two functions. Either they are loan or insurance funds which make loans and receive payments, like the Special Assistance Functions Fund of the Government National Mortgage Association, or they supply goods and services, like the Naval Industrial Fund or the Navy Stock Fund.

Supply-oriented revolving funds

For supply-oriented revolving funds, budget authority was projected to be zero. Outlays were also projected at zero unless the account showed unexpended balances at the end of fiscal year 1977, in which case these balances were spent out in fiscal years 1978 through 1982. These funds are projected at zero, since in most cases they are designed to make zero profit, with receipts matching expenditures. Generally, budget authority and outlays for these accounts would become positive in two situations. A revolving fund would seek budget authority if it were dramatically increasing the scope of its activities, or if it were increasing its shelf stock of goods in response to longer production lead times (the time between the placing of an order with a commercial manufacturer and the receipt of the good from the manufacturer). Neither of these two situations, an increase in the scope of activity or increases in production lead times, were assumed in the current policy projections.

Loan and loan guarantee accounts

The projections for these accounts are based on the Congress' explicit method of control. In general, Congress controls loan accounts by one of two methods. Either it sets a ceiling on the amount of new loans for accounts that have permanent indefinite borrowing authority or it provides funds for new loans through direct appropriation. For accounts with permanent indefinite borrowing authority, Congress sets a ceiling on the amount of new loans or the total loan balance. If the ceiling is set annually or is subject to annual review, the projection which includes discretionary inflation was based on a ceiling which increases with inflation. If the ceiling is not set or reviewed annually, but is set on a multiyear basis, the projection with discretionary inflation was based on a ceiling which was held constant until the next scheduled review, when the ceiling was projected to increase based on inflation. For many of the loan accounts of this type, budget authority (BA) is derived using the following formula:

$$BA = \text{new loan commitments} - \text{net income}$$

where net income represents the sum of loan repayments and interest receipts less the sum of interest payments and administrative expenses. (Implicit in the equation is the assumption that net income is used for new loan commitments.) Outlays are based on disbursements of new loan commitments, loan repayments, and net income. Disbursements, in turn, are the sum of disbursements of BA and disbursements of net income:

$$\text{Outlays} = \text{Disbursements from BA} + \text{Disbursements from Net Income} - \text{Net Income}$$

In the absence of better information, it was assumed that disbursements from net income equal net income since commitments from net income probably have been planned well in advance and consequently should disburse quickly.

For other accounts, budget authority is based on outlays incurred in previous years. For these accounts,

$$\text{Outlays} = (\text{Assets Purchased} - \text{Asset Sales} - \text{Loan Repayments}) + \text{Net Income}$$

It was generally assumed that assets purchased equal the sum of asset sales and loan repayments, thus removing asset management as a factor in the projections.

Some loan accounts are controlled by the Congress by means of direct appropriations. The projection methodology for these accounts was to inflate

the fiscal year 1977 BA for the projection with discretionary inflation and to hold it constant for the projection under existing law commitments. It was assumed that net income is used for new loan commitments. In the absence of better information, it was also assumed that disbursements from net income equal net income, which means that outlays were computed by applying disbursement rates to current and prior year budget authority.

Loan guarantee accounts represent the government's guarantees against loans made by private lending institutions or the Federal Financing Bank. For example, for a Veterans' Administration mortgage loan, a private lender makes the loan but the VA guarantees the loan against default. The meaning of budget authority for these accounts varies. In some cases it is the full amount of the loan guarantee or some part of the guarantee which is a reserve against default; in other cases it is net losses (default payments less recoveries). In general, the fiscal year 1977 budget authority was inflated for the projection with discretionary inflation and held constant for the projection under existing law commitments. Outlays for loan guarantee accounts occur when there are defaults on the loans. Loan defaults are obviously difficult to predict. If they were judged to be an unusual occurrence, they were projected at zero. If defaults were not judged to be an unusual occurrence, explanatory models were used where possible. For example, Federal Housing Administration home loan defaults were projected by means of a model which relates defaults to the cost of home ownership and per capita income.

Accounts for Programs to Meet Temporary Needs

Certain federal programs are designed to meet temporary needs. Some programs, like Temporary Employment Assistance (under Title VI of the Comprehensive Employment and Training Act) and Countercyclical Revenue Sharing, are tied to the current employment situation and are assumed to be phased out over the five-year period as the unemployment rate decreases. Other programs, like the Northeast Corridor Improvement Program and the program for strategic petroleum reserves, represent one-time projects, the funding for which is assumed to disappear as they are completed.

Accounts Projected Using Special Methodologies

A number of accounts were projected using special methodologies not yet discussed. Most of these accounts are for entitlement programs which provide benefits for individuals. Most of the benefit payment accounts fall

in the health, income security, and veterans functions.^{1/} A common approach to projecting outlays for benefits is to project the number of beneficiaries and average benefit payment levels. (Outlays are then simply the product of beneficiaries and average benefit payments.) Projections of beneficiaries and average benefit payments for some accounts are based on explanatory models which explicitly take into account economic and demographic factors. The most notable example is the social security payments model. For other accounts, projections are based on time trend models. For most benefit payments accounts budget authority and outlays are assumed to be equal. Notable exceptions are social security, medicare, and civil service retirement, where budget authority is defined in terms of receipts from social insurance taxes.

Special methodologies were also used for projecting price supports (function 350), interest on the public debt (function 900), interest received by trust funds and offshore oil receipts (function 950), and allowances for payraises.

SPENDING BY FUNCTION

National Defense (Function 050)

The national defense function includes the military functions of the Department of Defense, the military assistance program, defense-related programs of the Energy Research and Development Administration (ERDA), and other defense-related activities.

Overview of projections methodology

The accounts in function 050 fall in three categories with respect to the projection of budget authority: accounts projected using the simple inflation model, accounts projected at zero, and special cases each requiring a special method. The accounts projected by the simple inflation model total \$100.5 billion in budget authority in fiscal year 1977 or 90 percent of function 050. Under existing law commitments, purchases were held constant at their fiscal year 1977 levels and pay was increased in accordance with projected payraises. Payraises affect the individual accounts in the year following the one in which they take effect. (Funds to pay for raises in the year in which they take effect are included in allowances and are displayed separately.) For the projection which includes further adjustments

^{1/} Military retired pay, in the national defense function, is an account which provides benefits payments and is projected using a special methodology.

for inflation, appropriate specialized deflators for purchases were used to calculate inflation adjustments necessary to keep real purchasing power constant.

The accounts projected at zero include expiring accounts, revolving and management funds, and one-time expenditures. Expiring accounts include those where the program has been terminated, such as the Defense Manpower Commission, and those where the program has been transferred to other accounts, such as Procurement of Aircraft and Missiles, Navy. The revolving and management funds provide centralized services and are reimbursed by other accounts. In general, they are planned to net to zero, although in any one year they may miss slightly. Budget authority in these accounts is used to increase stocks or working capital and occurs irregularly. Thus, the \$220 million in fiscal year 1977 budget authority in the stock funds for increasing the stored war reserves was not projected. One-time expenditures not projected include fiscal year 1977's offsetting receipts for proposed stockpile sales and disposal authority. The net amount of fiscal year 1977 budget authority that was not projected into fiscal years 1978 through 1982 is -\$330 million.

Special projections methodologies are described in the detailed discussion that follows. Accounts in this category have a net fiscal year 1977 budget authority of \$12.0 billion, including \$7.0 billion in offsetting receipts.

Projections base

The overall base for the projections was the Second Concurrent Resolution on the Budget for Fiscal Year 1977. The amounts allocated to specific accounts were generally derived from the final appropriation bills. After identifying the amounts appropriated for various accounts and for allowances for payraises and other legislation, additional amounts of \$624 million in budget authority and \$100 million in outlays are necessary to match the second concurrent resolution totals. These amounts are carried in a miscellaneous programs account under DoD-Military and are projected using the simple inflation method.

Since different inflation factors were used for pay and purchases, and since only pay is increased under existing law commitments, it was necessary to estimate the proportion of each account that is used for pay. The proportion of the dollars in each account for fiscal year 1977 that is attributed to pay was derived from the object class data in the President's budget, as adjusted by Congressional action. Military pay and allowances for fiscal year 1977 total \$21,941 million in 1976 dollars (not including the October 1976 payraise). All of this cost in the national defense function is funded through the military personnel accounts except for \$19 million paid

for by the military assistance program. Civilian pay was subdivided into general schedule and wage board pay. Total pay for general schedule employees in fiscal year 1977 is \$9,720 million in 1976 dollars; total pay for wage board (blue collar) employees (including foreign nationals) is \$7,005 million in 1976 dollars. Civilian pay is primarily funded through the operation and maintenance accounts and comprises 86 percent of the total general schedule payroll and 97 percent of the wage board total.

Projections

Tables 4 and 5 detail the projections for the national defense function. Budget authority increases from \$112.1 billion for fiscal year 1977 to \$153.2 billion for 1982 under the projection which includes inflation adjustments for both pay and purchases, an increase of 37 percent. The associated outlays increase from \$100.65 billion to \$147.4 billion, an increase of 46 percent.

The major components of national defense are compensation for military and civilian personnel, benefits to retired military personnel, and purchases of goods and services from the private sector. Retired pay is discussed in detail below. The projection for pay (not including retired pay) and purchases for DoD-Military and for the national defense function as a whole is shown in Table 6.

Table 6. Pay and Purchases, by Fiscal Years , in Millions of Dollars

			1977	Projections <u>a/</u>				
			Estimate	1978	1979	1980	1981	1982
Department of Defense-Military								
Pay (not including retired pay)	BA		41,202	43,669	45,840	48,186	50,787	53,740
	Outlays		40,715	43,653	45,794	48,136	50,732	53,677
Purchases	BA		60,366	64,398	68,714	73,200	77,822	82,716
	Outlays		49,945	58,111	62,398	67,820	73,068	77,982
Total National Defense								
Pay (not including retired pay)	BA		41,327	43,800	45,978	48,332	50,940	53,902
	Outlays		40,859	43,764	45,932	48,281	50,885	53,839
Purchases	BA		62,391	67,137	70,952	76,117	81,383	87,153
	Outlays		51,517	60,817	65,184	72,084	77,036	81,535

a/ Includes further adjustments for inflation.

Table 4. National Defense a/, Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

		1976	1977	Projections				
		Actual	Estimate	1978	1979	1980	1981	1982
Department of Defense -- Military								
Military personnel	BA	25,430	25,418	26,559	27,734	28,923	30,201	31,630
	Outlays	25,064	25,198	26,342	27,558	28,735	30,013	31,441
Retired pay	BA	7,326	8,382	9,075	9,764	10,490	11,283	12,133
	Outlays	7,286	8,274	9,034	9,677	10,395	11,181	12,024
Operation and maintenance	BA	28,848	31,436	32,436	33,292	34,164	35,108	36,163
	Outlays	27,902	30,296	32,097	32,965	33,765	34,707	35,757
Procurement	BA	21,041	28,418	28,434	28,452	28,472	28,494	28,519
	Outlays	15,964	19,933	25,057	26,072	27,518	28,475	28,834
Research and development	BA	9,451	10,434	10,513	10,593	10,675	10,763	10,862
	Outlays	8,923	10,471	10,732	10,805	10,899	10,978	11,074
Military construction	BA	2,360	2,147	2,154	2,162	2,170	2,179	2,189
	Outlays	2,019	1,757	1,957	1,918	2,073	2,104	2,102
Family housing	BA	1,229	1,192	1,196	1,200	1,205	1,209	1,216
	Outlays	1,192	1,425	1,307	1,252	1,220	1,218	1,220
Stock funds/DCPA/other	BA	232	321	102	103	104	105	106
	Outlays	-173	-49	209	188	123	102	104
Allowances								
Civilian and military pay raises	BA	--	1,593	1,936	1,966	2,136	2,389	2,715
	Outlays	--	1,546	1,946	1,965	2,132	2,384	2,709
Other	BA	--	774	624	624	624	624	624
	Outlays	--	247	477	599	624	624	624
Deductions for offsetting receipts	BA	-155	-182	-171	-179	-188	-197	-207
	Outlays	-155	-162	-171	-179	-188	-197	-207
Subtotal, DoD -- Military	BA	95,761	109,950	112,859	115,712	118,774	122,158	125,951
	Outlays	88,036	98,934	108,988	112,822	117,297	121,588	125,681
Military Assistance								
Foreign military sales trust fund	BA	5,427	116	-381	-1,502	-1,325	-1,006	-399
	Outlays	-600	-200	182	183	1,476	1,001	401
Foreign military credit sales	BA	1,065	740	740	740	740	740	740
	Outlays	280	610	610	604	601	609	598
Other	BA	248	272	274	276	278	280	283
	Outlays	1,039	408	324	304	309	293	290
Deductions for offsetting receipts	BA	-219	-317	-331	-346	-360	-374	-389
	Outlays	-219	-317	-331	-346	-360	-374	-389
Subtotal, Military Assistance	BA	6,521	811	302	-832	-666	-360	234
	Outlays	501	501	785	745	2,026	1,528	899
Defense-related ERDA programs	BA	1,639	1,958	1,962	1,966	1,969	1,974	1,978
	Outlays	1,566	1,833	1,994	1,964	1,970	1,973	1,978
Other Defense-related Programs								
Federal preparedness agency	BA	16	16	17	18	19	19	20
	Outlays	15	16	16	18	19	19	20
Payment to CIA retirement fund	BA	--	28	63	73	84	88	92
	Outlays	--	28	63	73	84	88	92
Renegotiation board	BA	6	6	6	6	7	7	7
	Outlays	6	6	6	6	7	7	7
Selective service	BA	38	7	7	7	8	8	8
	Outlays	37	8	7	7	8	8	8
Other	BA	1	--	--	--	--	--	--
	Outlays	2	-1	--	--	--	--	--
Reductions for offsetting receipts	BA	-162	-674	-130	-137	-143	-150	-158
	Outlays	-162	-674	-130	-137	-143	-150	-158
Subtotal, Other Defense-related Programs	BA	-101	-617	-38	-33	-27	-28	-30
	Outlays	-101	-617	-39	-33	-27	-28	-30
Deductions for offsetting receipts b/	BA	-3	-3	-3	-3	-3	-3	-3
	Outlays	-3	-3	-3	-3	-3	-3	-3
Total, National Defense	BA	103,818	112,100	115,082	116,810	120,048	123,740	128,131
	Outlays	89,998	100,650	111,725	115,495	121,264	125,059	128,525

a/ Function 050.b/ Excludes offsetting receipts which have been distributed by subfunction above.

Table 5. National Defense g/, With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Department of Defense -- Military								
Military personnel	BA	25,430	25,418	26,753	28,130	29,536	31,028	32,677
	Outlays	25,064	25,198	26,483	27,877	29,252	30,728	32,360
Retired pay	BA	7,326	8,382	9,075	9,764	10,490	11,283	12,133
	Outlays	7,206	8,274	9,034	9,677	10,395	11,181	12,024
Operation and maintenance	BA	28,848	31,436	33,642	35,789	38,033	40,369	42,882
	Outlays	27,902	30,296	33,023	35,091	37,215	39,510	41,971
Procurement	BA	21,041	28,416	30,389	32,264	34,174	36,206	38,373
	Outlays	15,984	19,933	25,310	27,344	30,312	33,049	35,348
Research and development	BA	9,451	10,434	11,173	11,946	12,751	13,563	14,433
	Outlays	8,923	10,471	11,168	11,910	12,727	13,545	14,413
Military construction	BA	2,360	2,147	2,300	2,457	2,618	2,783	2,961
	Outlays	2,019	1,757	1,954	1,982	2,247	2,408	2,548
Family housing	BA	1,229	1,102	1,270	1,350	1,436	1,522	1,615
	Outlays	1,192	1,425	1,354	1,366	1,413	1,491	1,577
Stock funds/DCPA/other	BA	232	321	107	115	122	130	138
	Outlays	-173	-49	212	196	137	122	130
Allowances								
Civilian military pay raises	BA	--	1,593	1,936	1,966	2,136	2,389	2,715
	Outlays	--	1,546	1,946	1,965	2,132	2,384	2,709
Other	BA	--	774	668	716	766	816	869
	Outlays	--	247	484	640	710	760	811
Deductions of offsetting receipts	BA	-155	-162	-171	-179	-188	-197	-207
	Outlays	-155	-162	-171	-179	-188	-197	-207
Subtotal, DoD -- Military		BA	95,761	109,950	117,142	124,318	131,875	139,892
	Outlays	88,036	98,934	110,798	117,868	126,351	134,981	143,683
Military Assistance								
Foreign military sales trust fund	BA	5,427	116	62	-649	-193	239	891
	Outlays	-600	-200	171	157	1,432	945	342
Foreign military credit sales	BA	1,065	740	792	849	909	968	1,031
	Outlays	280	610	648	685	729	784	823
Other	BA	248	272	291	311	332	354	376
	Outlays	1,039	408	331	325	347	351	367
Deductions for offsetting receipts	BA	-219	-317	-332	-348	-364	-382	-401
	Outlays	-219	-317	-332	-348	-364	-382	-401
Subtotal, Military Assistance		BA	6,521	811	813	163	685	1,179
	Outlays	501	501	818	818	2,144	1,698	1,897
Defense-related ERDA Programs		BA	1,639	1,958	2,097	2,248	2,407	2,565
	Outlays	1,566	1,833	2,040	2,141	2,294	2,452	2,615
Other Defense-related Programs								
Federal preparedness agency	BA	16	16	17	18	19	20	22
	Outlays	15	16	16	18	19	20	21
Payment to CIA retirement fund	BA	--	28	63	73	84	88	92
	Outlays	--	28	63	73	84	88	92
Renegotiation board	BA	6	6	6	6	7	7	7
	Outlays	6	6	6	6	7	7	7
Selective service	BA	38	7	7	8	8	8	9
	Outlays	37	8	7	8	8	8	9
Other	BA	1	--	--	--	--	--	--
	Outlays	2	-1	--	--	--	--	--
Deductions for offsetting receipts	BA	-162	-674	-130	-137	-143	-150	-158
	Outlays	-162	-674	-130	-137	-143	-150	-158
Subtotal, Other Defense-related Programs		BA	-101	-617	-37	-32	-26	-26
	Outlays	-101	-617	-39	-32	-26	-26	-28
Deductions for offsetting receipts b/		BA	-3	-3	-3	-3	-3	-3
	Outlays	-3	-3	-3	-3	-3	-3	-3
Total, National Defense		BA	103,818	112,100	120,012	126,695	134,938	143,607
	Outlays	89,998	100,650	113,615	120,792	130,761	139,102	147,398

a/ Function 050.

b/ Excludes offsetting receipts which have been distributed by subfunction above.

Budget authority for pay in the national defense function increases 30 percent from fiscal year 1977 to fiscal year 1982, while budget authority for purchases increases 40 percent. Thus, the percentage of the total going to purchases increases slightly from 55.7 to 56.9 percent. This results from the higher assumed rates of inflation for purchases than for pay.

DoD-Military. The military functions of the Department of Defense are the primary component of the national defense function: \$110 billion out of the total \$112.1 billion in budget authority in the second concurrent resolution. DoD-Military can be further divided into major categories: military personnel, retired pay, operation and maintenance, research and development, military construction, family housing, other, allowances, and deductions for offsetting receipts. The relative share of DoD-Military budget authority going to each category remains relatively stable in the projections including inflation adjustments. The largest change is a decrease for the military personnel category from 23.1 percent in fiscal year 1977 to 22.0 percent in fiscal year 1982. The next largest change is an increase from 7.6 to 8.2 percent for retired military pay. All other shifts are by less than half a percentage point. The details of the methodology and the distinctive aspects of each category are described below.

Military personnel includes the military personnel accounts for the Army, Navy, Marine Corps, and Air Force; the accounts for reserve personnel for each of the services; and the Army and Air National Guard accounts. These accounts fund such things as pay, housing, and subsistence for military personnel. About 90 percent of the funds in this category are classified as pay.

Under laws in effect since 1974, military payraises were spread evenly among the three largest types of military pay: basic pay, allowance for quarters, and allowance for food. This year Congress granted the President discretionary authority to reallocate up to 25 percent of the basic payraise into quarters or food allowances. DoD allocated 25 percent of the October 1, 1976, increase in basic pay into the allowance for quarters (in effect, raising rents for those in government quarters) and gave rebates to bachelors in government quarters (the effective rent for barracks was not increased). Available information indicates that this action will probably be taken in future years as well; therefore, the projections assume reallocations into the quarters allowance every year and cumulative rebates to bachelors.

The basic payraise is linked by law to general schedule payraises; however, estimating the cost of the raises to the Department of Defense requires some special adjustments. First, certain special pays, such as hazardous duty pay and flight pay, amounting to 5 percent of total pay are not adjusted along with basic pay. Since these special pays are only adjusted

irregularly, they were held constant over the projection period. Second, since those in government quarters forfeit their quarters allowance, the reallocation described above reduces DoD's cost. Finally, the taxable maximum for FICA increases much more rapidly than pay under the CBO economic assumptions during the projection period — an average of 8.6 percent a year from fiscal year 1977 to 1982 as opposed to 5.6 percent a year for general schedule pay. Thus, the government's FICA contribution increases more rapidly than other pay costs.

Retired pay contains funds for retired pay for military personnel. Retired pay for civilians is, in general, funded through civil service retirement and will be included in the discussion of the income security function. The estimate for retired pay increases 45 percent from 1977 to 1982 versus 37 percent for the national defense function as a whole. This result occurs because three factors drive the retired pay projection while inflation is the only adjustment assumed for the remainder of the national defense function. First, retired personnel receive periodic pay increases based on increases in the cost of living. Second, new retirees will be joining the retirement system at a rate faster than that projected for departures. Finally, the new retirees will have a higher wage history than individuals who have already retired. In general, higher wage histories mean greater retirement benefits. Table 7 apportions the projected budget authority according to the factors described above.

Table 7. Components of Projections for Retired Pay, by Fiscal Years, in Millions of Dollars

	1978	1979	1980	1981	1982
Budget Authority for Retired Pay in 1976 Dollars					
Pre-September 30, 1976 retirees	7,710	7,550	7,390	7,230	7,050
Retirees after September 30, 1976	604	996	1,383	1,758	2,122
Adjustments for:					
Wage increases after September 30, 1976	30	70	127	201	296
Cost-of-living increases after September 30, 1976	731	1,148	1,590	2,094	2,665
Total	9,075	9,764	10,490	11,283	12,133

Operations and maintenance (O&M) includes the operations and maintenance accounts for each of the services, the reserves, and the national guard. These accounts pay for fuel, consumable parts needed for aircraft and ship operations, routine maintenance, depot overhauls, and some equipment modifications and alterations. This category also includes accounts for contingencies, claims, and the Court of Military Appeals. Approximately 46 percent of the funds in the operations and maintenance category is for civilian pay. The Claims, Defense account has been categorized as an entitlement in the spending committee allocations of the budget resolution. Since the account pays for miscellaneous claims which can be expected to rise with the general price level, we have projected this account at a constant level in real terms for both projections under existing law commitments and with further inflation adjustments.

Procurement accounts fund the construction, procurement, production, and modification of aircraft missiles, tracked combat vehicles, ordnance, ships, and communications and electronic equipment. Procurement accounts are forward-priced; that is, the budget authority in fiscal year 1977 includes funds for anticipated inflation over the period during which the procurement will take place. To project these accounts under existing law commitments, the purchase dollars were held constant at fiscal year 1977 levels. Under further adjustments for inflation, purchase dollars were held constant in real terms. To estimate the real value of the 1977 budget authority in 1977 dollars, outlays from 1977 budget authority must first be estimated since the amount of inflation included depends on the outlay pattern. A DoD outlay deflator for procurement was the best estimator available for the inflation assumed in the 1977 budget authority. Therefore, constant dollar outlays were computed as follows (assuming a typical 6-year spendout period):

$$c_i = \frac{(B \times r_i)}{s_i}, \text{ and}$$

$$TC = \sum_{i=1}^6 c_i$$

where c_i = constant dollar outlays in fiscal years 1977, 1978,...,1982 from budget authority for 1977

B = fiscal year 1977 budget authority

r_i = outlay rate for i th year

s_i = DoD outlay deflator (s_1 = fiscal year 1977 deflator = 1.0,
 s_2 = fiscal year 1978 deflator, and so forth)

The total of the constant dollar outlays (TC) stemming from fiscal year 1977 budget authority is assumed to be the same for each projection year. To calculate current dollar budget authority for a given projection year, the constant dollar outlays are converted to current dollar outlays and the results are summed. The formulas are as follows:

$$BA_j = c_1 \times f_j + c_2 \times f_{j+1} + \dots + c_6 \times f_{j+5}, \quad j = 1978, \dots, 1982$$

where BA_j = budget authority in year j

f_j = CBO deflator in year j ($f_{1977} = 1.0$)

CBO deflators are projected beyond fiscal year 1982 by assuming a constant rate of change equal to the rate in fiscal year 1982.

Under existing law commitments, budget authority for procurement is almost constant. The increase from fiscal year 1977 to fiscal year 1982 is solely due to increases for the pay funded through procurement accounts. Outlays, however, increase from \$19.9 billion in fiscal year 1977 to \$28.8 billion in fiscal year 1982. The largest year-to-year increase is \$5.1 billion from fiscal year 1977 to fiscal year 1978. The increase in outlays is due to the increases in budget authority in fiscal years 1976 and 1977 and the slow spendout for procurement accounts. The budget authority for procurement in fiscal year 1975 was \$16.7 billion increasing to \$21.0 billion in fiscal year 1976 and \$28.4 billion in fiscal year 1977.

The slow spendout of procurement accounts means that in any one year most outlays are the result of prior year authority. For example, for the fiscal year 1978 projection including further inflation adjustments, only about \$4.5 billion of the \$25.3 billion in procurement outlays reflect outlays from fiscal year 1978 budget authority. The other \$20.8 billion represent outlays from programs authorized in fiscal year 1977 and prior years. Table 8 separates outlays that result from budget authority in fiscal year 1978 and beyond from those that result from budget authority approved prior to fiscal year 1978. The latter category of outlays is relatively uncontrollable since it is the result of decisions already made by Congress.

Research and development programs provide for basic and applied research, and the development, test, and evaluation of new and improved weapons systems. About 13 percent of the 1977 budget authority is for civilian employee compensation. The development, test, and evaluation of major weapon systems is forward-priced as discussed previously for procurement. Approximately 53 percent of research and development funding has been forward-priced.

Table 8. Outlays According to the Period in which Authority was
Granted, by Fiscal Years, in Billions of Dollars a/

	1978	1979	1980	1981	1982
Outlays from Budget Authority in 1978 and Beyond	4.5	17.2	25.9	30.7	34.2
Outlays from Budget Authority in Years Prior to 1978	20.8	10.2	4.4	2.3	1.2

a/ Includes further adjustments for inflation.

Military construction includes accounts for military construction for each of the services, the reserves, and the national guard. The construction accounts fund the acquisition, construction, installation, and equipment of temporary or permanent public works and military facilities. As in research and development, only part of the construction category, approximately 62 percent, has been forward-priced.

Family housing includes the Family Housing, Defense account and the Homeowners' Assistance Fund, Defense. The family housing account finances the military family housing program, including construction of new housing, operation and maintenance of existing family housing, and payments required on the indebtedness assumed to acquire Capehart and Wherry housing. For projections, this account was divided into three pieces which for fiscal year 1977 are estimated to include \$81 million for construction, \$1,065 million for operations and maintenance, and \$46 million for debt repayments. The construction and O&M portions were projected independently by the simple inflation method. About 78 percent of the construction portion is forward-priced as discussed above under procurement. The debt repayment portion is projected to decline over the five year period as the total indebtedness declines.

Stock funds, DCPA, and other accounts include revolving and management funds and miscellaneous accounts such as the Defense Civil Preparedness Agency, Intelligence Oversight, and trust funds. The fiscal 1977 estimate includes \$220 million for purchase of war reserve items by the stock funds. These funds were interpreted as one-time increases in stocks and were not included in the projections of budget authority for fiscal year

1978 and subsequent years. Some outlays are included in fiscal years 1978 through 1981 as a result of the budget authority approved in fiscal year 1977.

Allowances include funds for payraises and allowances for other items. The allowance for civilian and military payraises includes funds to pay for raises in the year in which they take effect. In subsequent years, the increased pay becomes part of other categories such as military personnel or operations and maintenance.

The allowance for payraises does not include funds for raises for the 4 percent of civilian pay funded by the procurement, military construction, and family housing accounts through purchases of services from the industrial funds. Those funds are carried in the individual account as part of the forward-pricing allowance.

Payraises for military personnel are effective on October 1. Payraises for general schedule employees are effective the first day of the two-week pay period beginning after October 1. Thus, the cost in the year in which the increase takes effect varies between 97 and 100 percent of the full-year cost. Payraises for wage board employees occur at various times; the cost of raises in the year they take effect has averaged about 60 percent of the full-year cost. Table 9 distributes the budget authority for allowances for payraises between military and civilian pay.

Table 9. Projections of Payraise Costs, by Fiscal Years, in Millions of Dollars

	1978	1979	1980	1981	1982
Civilian Pay	761	778	858	959	1,095
Military Pay	1,175	1,188	1,278	1,429	1,620

In fiscal year 1978, \$1,175 million is allowed for military payraises; in fiscal year 1979 the amount will be distributed among the military personnel accounts. The \$761 million allowed for civilian payraises is 81 percent of the \$940 million full-year cost. In fiscal year 1979, the \$940 million is distributed among the operations and maintenance, research and development, and other accounts.

In addition to allowances for payraises, the allowance category contains \$150 million in fiscal year 1977 for items assumed to be included in the second budget resolution, including an increase in military per diem and other military personnel items. For fiscal year 1978 and subsequent years, these funds were allocated among the individual accounts. The final item in the allowance category is miscellaneous programs. In fiscal year 1977, this account contains the \$624 million in budget authority and \$100 million in outlays necessary to match second concurrent resolution totals for national defense. In subsequent years the budget authority for miscellaneous programs was inflated using the federal purchases deflator. Outlays were calculated assuming an outlay pattern of 16, 60, 20, and 4 percent in the first through fourth years. (The 16 percent matches the fiscal year 1977 spendout rate.)

Offsetting receipts include miscellaneous offsetting receipts for DoD-Military which have not otherwise been identified. The projections in fiscal year 1978 through 1982 were obtained by inflating the fiscal 1977 estimate by the projected GNP implicit price deflator for both the projections under existing law commitments and the projections with further adjustments for inflation.

Military assistance

This component of the national defense function is estimated to have small budget impact relative to other parts of the national defense function — \$0.8 billion in fiscal year 1977 budget authority increasing to \$1.9 billion in fiscal year 1982 under the projection with further adjustments for inflation. Military assistance is, however, subject to wide swings, largely due to a factor which is outside the normal appropriation process — transactions of the foreign military sales trust fund. A 1 percent increase in new sales through the trust fund and a 1 percent decrease in payments to the trust fund would increase the 1977 budget authority for military assistance by 17 percent. In addition to the trust fund, military assistance includes funds for foreign military training, foreign military credit sales, and grant military assistance. The methodology used for the trust fund and for credit sales is described below. The remaining items are projected by the simple inflation method.

Foreign military sales trust fund — cash sales to foreign governments are channeled through the foreign military sales (FMS) trust fund. In general, foreign governments place orders with the trust fund. The trust fund passes the orders to the military procurement accounts which actually buy goods from contractors. Frequently foreign orders are grouped with U.S. orders, resulting in lower per-item costs. On delivery, the foreign governments pay the trust fund which in turn pays the procurement accounts, which in turn actually pay the contractors. Certain contracts

involve progress payments to the contractor at intervals. Foreign governments are billed 90 days in advance for progress payments. Total new sales in a year represent gross budget authority. Payments to procurement accounts from the trust fund are gross outlays. Payments to the trust fund by foreign governments are receipts which offset both gross budget authority and gross outlays. The amounts shown in Tables 4 and 5 are net budget authority, which equals gross budget authority less receipts, and net outlays, which are gross outlays less receipts. The derivation of net budget authority and outlays is shown in Table 10.

Table 10. Five-Year Projections of the Foreign Military Sales Trust Fund, by Fiscal Years, in Millions of Dollars a/

	1977	1978	1979	1980	1981	1982
Advances, Foreign Military Sales Budget Authority (gross)	6,916	7,400	7,932	8,492	9,046	9,634
Outlays	6,600	7,509	8,738	10,117	9,752	9,085
From TQ & prior programs (gross)	6,200	6,000	5,000	4,000	2,000	800
From 1977 & beyond programs	400	1,509	3,738	6,117	7,752	8,285
Receipts	-6,800	-7,338	-8,581	-8,685	-8,807	-8,743
From TQ & prior programs	-6,400	-5,600	-4,600	-2,400	-1,000	-400
From 1977 & beyond programs	-400	-1,738	-3,981	-6,285	-7,807	-8,343
Net Budget Authority	116	62	-649	-193	239	891
Net Outlays	-200	171	156	1,432	945	342

a/ Includes further adjustment for inflation.

Under existing law commitments, gross budget authority is held constant at the 1977 level. For the projection which includes further adjustments for inflation, gross budget authority is computed by inflating the fiscal 1977 estimate. (In actuality, Congress does not authorize the gross level of sales and, under current law, only has the opportunity to veto specific sales.) Gross outlays from new sales were computed using disbursement rates developed in a CBO working paper, "The Effect of Foreign Military Sales on the U.S. Economy," July 23, 1976, prepared for the House Armed Services Committee. Gross receipts for sales in fiscal year

1977 and beyond were assumed to equal outlays, except that receipts for progress payment contracts (41 percent of the total) were assumed to arrive 90 days in advance of the associated outlays. Gross outlays peak in 1980 and then decline. This peak results from very large sales recorded in fiscal year 1975 and 1976 of \$8.7 billion and \$12.7 billion combined with the long lead times for delivery of most military equipment. Receipts from foreign governments for prior programs are lower than outlays because of current procedures which bill foreign governments in advance of trust fund outlays. From fiscal year 1973 through 1976, receipts exceeded outlays by \$2.3 billion.

The credit sales program finances sales to foreign countries. Two types of financing are used: direct U.S. government loans, and commercial or Federal Financing Bank loans guaranteed by the U.S. government. Funding required for guaranteed loans is 10 percent of the amount of the loans. For fiscal year 1977, Congress approved \$740 million in budget authority and a program level of \$2,022.1 million. Authority was granted to forgive up to \$500 million in loans to Israel. For projections, this account was divided into three pieces: \$500 million in direct loans to Israel that are not repaid, \$98 million in other direct loans that will be repaid, and \$142 million to guarantee \$1,420 million in indirect loans. It is assumed that no outlays result from the guarantees since none have in the past.

Principal repayment for direct loans comprise 74 percent of the offsetting receipts for military assistance shown in Tables 4 and 5. The repayments are projected based on an average term of 10 years for new loans to be repaid in equal installments. (The average maturity of loans made in 1975 was 10 years.) Projected receipts from loans made prior to fiscal year 1977 were not available. Accordingly, repayments from prior loans were projected to remain constant in current dollars over the projection period.

Defense-related ERDA programs. This component of the national defense function includes funds for the defense-related programs of the Energy Research and Development Administration (ERDA). These programs include weapon development and fabrication and naval reactor development. They were projected using the simple inflation methodology.

Other defense-related programs. This component includes funds for the Selective Service, the Renegotiation Board, the Federal Preparedness Agency, and payments to the CIA retirement fund. Also included are offsetting receipts from strategic stockpile sales. A proposed sale of \$550 million from the strategic stockpile was assumed to be included in the Second Concurrent Resolution for Fiscal Year 1977, but was not projected for subsequent years since disposal authority is generally granted irregularly.

The increases in the contribution to the CIA retirement fund result partly from projected increases in civilian pay, but are primarily due to legislation mandating increases by 10 percent a year until full estimated cost is reached in fiscal year 1980.

International Affairs (Function 150)

The International Affairs function includes foreign economic and financial assistance, activities associated with the conduct of foreign affairs, foreign information and exchange activities, and international financial programs. Current policy projections of budget authority and outlays for each budget account within the function are based on the ceiling contained in the Second Concurrent Resolution on the Budget for Fiscal Year 1977. The budget authority base of \$8.9 billion includes enacted amounts for those accounts appropriated annually; current CBO estimates for those accounts with permanent appropriations, trust funds and receipts; and residual, as yet unappropriated for miscellaneous programs. The outlay base includes current CBO estimates of outlays for accounts annually or permanently appropriated, trust funds and receipts; and a residual, corresponding to the budget authority residual, required to balance the estimates of current outlays to the second concurrent resolution ceiling.

Most of the accounts in the function are projected using the simple inflation methodology. Projections under existing law commitments rely upon object classification data from the President's original budget for fiscal year 1977 to determine the incidence of pay subject to federal payraises within individual accounts. The projections with discretionary adjustments for inflation, in addition to allowing for nondiscretionary pay increases, use specialized deflators, generally the GNP deflator, to adjust nominal levels of budget authority. Outlays flow from prior and new budget authority and are estimated by applying agency spendout rates to estimates of unexpended balances and new budget authority.

Four accounts, totalling \$4.9 billion in budget authority and \$3.0 billion in outlays, rely on special projection methodologies. Descriptions of the methodologies are included in the following sections which discuss projections by subfunction.

The projections are presented in Tables 11 and 12. Under existing law commitments, total budget authority decreases from \$8.9 billion in fiscal year 1977 to \$8.5 billion in fiscal year 1982. Nondiscretionary increases in levels of budget authority are more than offset by the growth of receipts during the projection period. (The peak in budget authority in fiscal year 1979 reflects the projections of P.L. 480 and the Export-Import Bank, both

Table 11. International Affairs, a/ Under Existing Law Commitments, by Fiscal Years, in Billions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Foreign Economic & Financial Assistance								
Security Supporting Assistance	SA	1,690	1,735	1,735	1,735	1,735	1,735	1,735
	Outlays	585	1,580	1,703	1,725	1,732	1,734	1,734
Multilateral Development Assistance								
	BA	1,097	958	908	898	898	898	898
	Outlays	1,046	1,082	1,012	926	1,103	820	726
Bilateral Development Assistance								
	BA	999	1,113	1,121	1,129	1,137	1,145	1,155
	Outlays	976	1,101	1,105	1,085	1,070	1,085	1,099
PL-480 (Food for Peace)								
	BA	1,090	1,169	773	963	929	898	873
	Outlays	691	1,005	996	963	929	898	873
Action (Peace Corps)								
	BA	81	80	81	82	82	83	84
	Outlays	69	76	83	82	82	83	84
Other								
	BA	153	440	377	377	378	378	378
	Outlays	212	193	221	223	252	292	319
Offsetting Receipts								
	BA	-12	-35	-35	-35	-35	-35	-35
	Outlays	-12	-35	-35	-35	-35	-35	-35
Subtotal								
	BA	5,097	5,460	4,960	5,149	5,124	5,102	5,088
	Outlays	3,567	5,002	5,084	4,969	5,133	4,877	4,801
Conduct of Foreign Affairs								
Administration of Foreign Affairs	BA	522	665	691	714	738	764	794
	Outlays	450	643	704	714	738	763	792
International Organizations & Conferences								
	BA	272	337	338	339	339	340	341
	Outlays	291	322	337	339	339	340	340
Other								
	BA	42	46	47	48	49	50	51
	Outlays	41	45	47	48	49	50	51
Offsetting Receipts								
	BA	-55	-65	-65	-65	-65	-65	-65
	Outlays	-55	-65	-65	-65	-65	-65	-65
Subtotal								
	BA	781	984	1,011	1,036	1,062	1,089	1,120
	Outlays	726	945	1,024	1,035	1,061	1,088	1,119
Foreign Information and Exchange								
Educational Exchange	BA	68	69	70	70	70	71	71
	Outlays	65	61	70	70	70	71	71
USIA								
	BA	273	264	274	282	291	301	312
	Outlays	257	275	281	286	293	302	311
Other								
	BA	83	53	53	53	53	53	53
	Outlays	59	55	55	55	55	55	55
Offsetting Receipts								
	BA	--b/	--b/	--b/	--b/	--b/	--b/	--b/
	Outlays	--b/	--b/	--b/	--b/	--b/	--b/	--b/
Subtotal								
	BA	423	386	396	406	415	425	437
	Outlays	382	391	405	411	418	427	438
International Financial Programs								
Export-Import Bank	BA	(1,100)	2,647	3,015	3,003	2,738	2,659	2,495
	Outlays	(846)	1,139	1,582	1,628	1,591	1,780	1,537
Offsetting Receipts								
	BA	-20	-50	-50	-50	-50	-50	-50
	Outlays	-20	-50	-50	-50	-50	-50	-50
Subtotal								
	BA	-20	2,597	2,965	2,953	2,688	2,609	2,445
	Outlays	-20	1,089	1,532	1,578	1,541	1,730	1,487
Undistributed Offsetting Receipts								
	BA	-531	-526	-537	-563	-570	-592	-608
	Outlays	-531	-526	-537	-563	-570	-592	-608
Total								
	BA	5,751	8,900	8,795	8,980	8,717	8,633	8,481
	Outlays	4,143	6,900	7,507	7,429	7,581	7,530	7,237

a/ Function 150

b/ Less than .5

Table 12. International Affairs, a/ With Further Adjustments for Inflation, by Fiscal Years, in Billions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Foreign Economic & Financial Assistance	BA	1,690	1,735	1,825	1,915	2,005	2,104	2,213
Security Supporting Assistance	Outlays	585	1,580	1,738	1,834	1,926	2,020	2,121
Multilateral Development Assistance	BA	1,097	958	935	936	1,120	1,148	1,161
	Outlays	1,046	1,082	1,021	949	1,234	969	890
Bilateral Development Assistance	BA	999	1,113	1,173	1,234	1,294	1,360	1,433
	Outlays	976	1,101	1,117	1,126	1,148	1,207	1,271
PL-480 (Food for Peace)	BA	1,090	1,169	840	1,098	1,130	1,170	1,222
	Outlays	691	1,005	1,063	1,098	1,130	1,170	1,222
Action (Peace Corps)	BA	81	80	85	91	98	104	110
	Outlays	69	76	86	90	96	102	109
Other	BA	153	440	389	398	443	453	466
	Outlays	212	193	225	234	275	328	370
Offsetting Receipts	BA	-12	-35	-37	-39	-42	-44	-47
	Outlays	-12	-35	-37	-39	-42	-44	-47
Subtotal	BA	5,097	5,460	5,211	5,632	6,048	6,294	6,559
	Outlays	3,567	5,002	5,213	5,291	5,767	5,751	5,936
Conduct of Foreign Affairs	BA	522	665	706	745	786	829	876
Administration of Foreign Affairs	Outlays	450	643	714	739	779	822	869
International Organizations & Conferences	BA	272	337	356	373	391	410	431
	Outlays	291	322	352	370	388	407	428
Other	BA	42	46	48	49	51	52	54
	Outlays	41	45	48	49	51	52	54
Offsetting Receipts	BA	-55	-65	-65	-65	-65	-65	-65
	Outlays	-55	-65	-65	-65	-65	-65	-65
Subtotal	BA	781	984	1,043	1,102	1,163	1,226	1,297
	Outlays	726	945	1,049	1,093	1,153	1,216	1,286
Foreign Information and Exchange	BA	68	69	74	78	84	89	94
Educational Exchange	Outlays	65	61	71	76	81	86	92
USIA	BA	273	264	281	299	317	335	356
	Outlays	257	275	287	300	316	333	353
Other	BA	83	53	56	59	62	65	68
	Outlays	59	55	58	60	63	66	70
Offsetting Receipts	BA	--b/	--b/	--b/	--b/	--b/	--b/	--b/
	Outlays	--b/	--b/	--b/	--b/	--b/	--b/	--b/
Subtotal	BA	423	386	411	436	462	488	517
	Outlays	382	391	416	437	460	486	514
International Financial Programs	BA	(1,100)	2,647	3,139	3,366	3,338	3,505	3,611
Export-Import Bank	Outlays	(846)	1,139	1,612	1,748	1,840	2,188	2,141
Offsetting Receipts	BA	-20	-50	-50	-50	-50	-50	-50
	Outlays	-20	-50	-50	-50	-50	-50	-50
Subtotal	BA	-20	2,597	3,089	3,316	3,288	3,455	3,561
	Outlays	-20	1,089	1,562	1,698	1,790	2,138	2,091
Undistributed Offsetting Receipts	BA	-531	-526	-537	-563	-570	-592	-608
	Outlays	-531	-526	-537	-563	-570	-592	-608
Total	BA	5,751	8,900	9,217	9,923	10,390	10,871	11,326
	Outlays	4,143	6,900	7,703	7,955	8,599	8,999	9,218

a/ Function 150

b/ Less than .5

of which will be discussed in further detail below.) Total outlays, however, increase from \$6.9 billion in fiscal year 1977 to \$7.2 billion in fiscal year 1982. This increase reflects the lagged adjustment of outlays for programs, such as Security Supporting Assistance and the Export-Import Bank, which have lengthy disbursement periods and which experienced significant increases in program activity in fiscal year 1976 and/or fiscal year 1977, and nondiscretionary increases in levels of budget authority for programs such as the salaries and expenses of the State Department and USIA. These increases are only partially offset by declines in disbursements associated with contributions to international financial institutions and growth in receipts during the projection period.

Including discretionary adjustments for inflation, total budget authority increases from \$8.9 billion in fiscal year 1977 to \$11.3 billion in fiscal year 1982. Increases in funding due to adjustments for inflation exceed the growth in receipts during the projection period. Outlays grow from \$6.9 billion in fiscal year 1977 to \$9.2 billion in fiscal year 1982.

Foreign economic and financial assistance

Activities in this budget subfunction address U.S. security objectives, facilitate the growth of developing nations, and respond to the needs of the poorest people of the world. These activities include Security Supporting Assistance, Multilateral Development Assistance, Bilateral Development Assistance, P.L. 480 food aid, the Peace Corps, and other smaller programs. With the exception of a part of multilateral development assistance and P.L. 480, the projections for this subfunction use the simple inflation method.

The budget authority residual of \$316 million remaining between amounts currently appropriated and estimated for fiscal year 1977 and the second concurrent resolution ceiling is assumed a part of this subfunction. Much of the residual, \$253 million, remains for identifiable programs which may yet receive appropriations; the remainder of the residual, \$63 million, results from uncertainties encountered in the determination of the ceiling, due to the relatively late passage of the fiscal year 1977 Foreign Assistance Appropriations Bill. Current policy projections carry forward into fiscal year 1978 and later years the budget authority for identified programs only.

Multilateral development assistance -- contributions to international financial institutions. U.S. capital contributions to international financial institutions, such as the International Development Association (IDA), the Inter-American Development Bank (IDB) and the associated Fund for Special Operations, the Asian Development Bank and Asian Development Fund, and the African Development Fund are included within the category of multilateral development assistance. U.S. subscriptions to capital replenishments of the banks (and U.S. contributions to the funds) generally involve equal

contributions over a number of years. For example, the U.S. subscription to the fourth capital replenishment of the IDA (IDA IV), for which \$375 million has been appropriated for fiscal year 1977, is anticipated to require additional contributions of \$375 million in fiscal year 1978 and fiscal year 1979.

Both projections continue fiscal year 1977 levels of contributions to the different institutions over the expected lives of currently authorized subscriptions. Subscriptions anticipated to be completed during the projection period, for which there is a regular history of U.S. participation in replenishments for the institution, are assumed to be renewed. Under existing law commitments, the succeeding subscriptions are assumed to equal expiring subscriptions in current dollars. For the projection with further adjustments for inflation, the succeeding subscriptions are increased in accordance with increases in the GNP deflator. Projected contributions (budget authority amounts) in any year from these assumed subscriptions maintain the same relationship to the assumed subscriptions as fiscal year 1977 appropriations bear to currently authorized subscriptions.

Because actual contributions may take the form of letters of credit drawn upon as needed by the institutions, outlays from these contributions occur over a number of years. Total outlays, therefore, are estimated by summing agency estimates of disbursements from contributions appropriated prior to fiscal year 1977 and estimates of disbursements from contributions made during the projection period. These latter estimates are calculated by applying agency spendout rates against contributions projected for fiscal year 1977 through fiscal year 1982.

Under both projection paths, the cycles in outlays for Multilateral Development Assistance reflect U.S. contributions to IDA IV and IDA V, the fourth and fifth capital replenishments of IDA. These contributions will lag behind those of other donors. As a consequence, the early contributions associated with IDA IV and IDA V will disperse more rapidly than later contributions. Outlays, therefore, fall from fiscal year 1977 (when the second of four contributions associated with IDA IV will be made) through fiscal year 1979, rise in fiscal year 1980 (when the first contribution of IDA V is made), and decline again thereafter. Outlays, even under current law commitments never rise to the level of budget authority because a large portion of the capital contributions to international financial institutions takes the form of callable capital. This capital, a guarantee of the institutions' borrowing in private markets, has never been drawn and as such, it is markets, has never been drawn and as such, it is estimated never to outlay.

P.L. 480. P.L. 480 authorizes the use of Commodity Credit Corporation (CCC) funds to facilitate U.S. exports of agricultural commodi-

ties and CCC funds and stocks to alleviate the food needs of developing countries. Title I of the act authorizes the extension of credit, on a concessional basis, to foreign importers of U.S. agricultural commodities; Title II authorizes donations of commodities to meet critical foreign needs.

Outlays for P.L. 480 measure net program costs: the amount of CCC funds actually required to finance the program. These net costs equal the total cost of commodities shipped abroad (including relevant shipping costs) less receipts (credit repayments in dollars and proceeds from the sale of foreign currency credit repayments).

$$O_i = C_i - R_i$$

where:

O_i = actual outlays in period i

C_i = total program costs (commodities plus shipping) in period i

R_i = receipts in period i

Budget authority, on the other hand, is the amount actually appropriated to reimburse the CCC for costs incurred in the operation of the program; the budget authority for any year equals the estimate of net program costs for that year plus/less the amount by which actual net program costs in previous years exceeded/fell short of amounts appropriated.

$$BA_i^! = O_i^! + \sum_{j=1}^m (O_{i-j} - BA_{i-j}^!)$$

where:

$BA_i^!$ = budget authority requested for period i

$O_i^!$ = original budget estimate of outlays in period i

BA_i = budget authority appropriated in period i

m = number of prior years for which net program costs exceeded/fell short of amounts appropriated

Whereas budget authority drives the projection of outlays for most accounts in function 150, outlays drive the projections for P.L. 480. The current policy projections maintain estimated fiscal year 1977 levels of total program costs and net estimated receipts to obtain estimates of outlays. The projections with discretionary adjustments for inflation use the GNP deflator to adjust the fiscal year 1977 level of total program costs so as to

maintain a constant real level of total costs. Receipts in any year are estimated as a function of the magnitudes and terms of outstanding credits.

In both projections, budget authority in fiscal year 1978 is less than outlays in that year by the amount by which budget authority in prior years exceeded actual outlays — past reimbursements (appropriations) to the CCC have actually exceeded the magnitude of program costs. In fiscal year 1979 and each year thereafter, budget authority is assumed to equal outlays.

Under existing law commitments, P.L. 480 outlays decline over the projection period. The decline reflects the fact that constant current dollar total program costs are offset by increases in receipts, deriving from the growth of the stock of outstanding credits throughout the period. The projections with adjustments for inflation show outlays gradually increasing over the projection period. The gradual increase reflects the growth in total program costs due to adjustments for inflation which are not entirely offset by the growth in receipts.

The conduct of foreign affairs

This category finances diplomatic activities administered by the Department of State, expenses associated with U.S. membership in various international organizations and conferences, and other miscellaneous activities.

The projections for all accounts in this subfunction, except the U.S. payment to Panama, rely on the simple inflation methodology. Annual payments to the Republic of Panama, called for by the Treaty of Mutual Understanding and Cooperation of 1955, are assumed to be fixed under current law and continue unchanged in magnitude throughout the projection period.

Foreign information and exchange activities

This subfunction contains programs designed to facilitate the conduct of U.S. foreign policy by strengthening informal communication and understanding between foreign countries and the United States. Such programs include educational and cultural exchange activities administered by the Department of State, the activities of the United States Information Agency, the Board for International Broadcasting and a number of other small programs.

All accounts in this subfunction are projected using the simple inflation methodology. For the projection with further adjustments for inflation, purchases were increased using the GNP deflator.

International financial programs

This subfunction consists entirely of the activities of the Export-Import Bank. The Export-Import Bank promotes U.S. exports by financing foreign purchases of U.S. goods, and by guaranteeing and insuring privately financed exports.

Export-Import Bank participation in an export transaction may involve the direct financing of a sale and/or the provision of credit guarantees or credit insurance to either the institutions financing the sale or the exporter of the goods. In the case of direct credits, the bank pays the U.S. exporter directly and the payments are timed to delivery. Because deliveries associated with a given export agreement will occur over a number of years, a direct credit authorized in a given year will disburse over a number of years. Actual disbursements of direct credits in excess of credit repayments and bank net income are financed by bank borrowings from the Treasury and the Federal Financing Bank. Outlays are a measure of bank net borrowing.

$$O_i = NB_i = D_i - R_i - Y_i$$

where:

$$\begin{aligned} O_i &= \text{outlays in period } i \\ NB_i &= \text{net borrowing in period } i \\ D_i &= \text{disbursements in period } i \\ R_i &= \text{credit repayments in period } i \\ Y_i &= \text{net income in period } i \end{aligned}$$

Budget authority measures potential borrowing requirements deriving from bank activity during a given year. By definition, it equals the value of signed direct credit agreements, plus twenty-five percent of net guarantee and insurance authorizations, less direct credit repayments, direct credit cancellations and bank net income. Signed direct credit agreements are estimated as a function of direct credit authorizations in the current and prior year.

$$BA_i = S_i + .250 I_i - C_i - R_i - Y_i$$

$$S_i = a_1 A_i + a_2 A_{i-1}$$

where:

$$\begin{aligned} BA_i &= \text{budget authority in period } i \\ S_i &= \text{signed credit agreements in period } i \end{aligned}$$

- A_i = credit authorizations in period i
- I_i = guarantee and insurance authorizations in period i
- C_i = credit cancellations in period i
- R_i = credit repayments in period i
- Y_i = net income in period i
- a_1 = percentage of credit authorizations signed in the current year (based on agency estimates)
- a_2 = percentage of last year's credit authorizations signed in the current year (based on agency estimates)

The projection under existing law commitments maintain estimated fiscal year 1977 levels of direct credit (A), and net guarantee and insurance authorizations (I) through the projection period. For the projection which includes further adjustments for inflation, A and I are increased in accordance with projected increases in the GNP deflator. The application of historical spendout rates to the levels of direct credit authorizations yields estimates of credit disbursements (D). Outlays are then estimated by netting estimates of credit repayments (R) and bank net income (Y) from the estimate of disbursements. Budget authority is estimated by summing estimates of signed direct credit agreements (S) with twenty-five percent of net guarantee and insurance authorizations (I), and netting credit cancellations (C), credit repayments (R), and bank net income (Y).

Under existing law commitments, budget authority increases in fiscal years 1977 and 1978 and then declines throughout the remainder of the projection period. Budget authority increases initially because direct credit authorizations during fiscal year 1977 are estimated to greatly exceed those for fiscal year 1976. The growth in credit repayments over the period, however, due to the lagged effect of rising credit disbursements in the years preceding the projection period, overtakes the increase in signed credit agreements by fiscal year 1979. As a consequence, budget authority declines thereafter.

Projected outlays under existing law commitments rise sharply in fiscal year 1978, reflecting the increase in direct credit authorizations from fiscal year 1976 to fiscal year 1977, and continue to rise slowly thereafter. Receipts also rise during the projection period, except for fiscal year 1981 when the impact of the low level of direct credit authorizations in fiscal year 1976 is felt on credit repayments. As a consequence of these disbursement and receipts trends, outlays rise rapidly from fiscal year 1977 to fiscal year 1978, level off in fiscal years 1978 through 1980, rise again in fiscal year 1981, and decline thereafter.

Projections which include adjustments for inflation show budget authority increasing over the entire projection period as increases in nominal levels of insurance, guarantee, and direct credit authorizations exceed the growth of credit repayments. Outlays increase sharply from fiscal year 1977 to fiscal year 1978, reflecting the impact of the great rise in direct credit authorizations from fiscal years 1976 and 1977. They peak in fiscal year 1981, reflecting the dampening effect of the fiscal year 1976 slowdown in direct credit authorizations upon receipts in fiscal year 1981.

Undistributed offsetting receipts

These receipts cannot be assigned as offsets to any of the categories discussed above. This category includes dollar principal repayments of Agency for International Development (AID) loans, dollar conversions of foreign currency loan repayments, recoveries under the lend-lease program, repayments of loans to the United Kingdom, and other miscellaneous receipts. The projections of these receipts are the same under both sets of projections: they grow from \$0.5 billion in fiscal year 1977 to \$0.6 billion in fiscal year 1982.

AID loans are offered on concessional terms with an initial grace period of up to ten years. Loan repayments during the projection period, therefore, are a function of loan activity in years prior to the projection period. These receipts are estimated to grow from \$0.3 billion in fiscal year 1977 to \$0.4 billion in fiscal year 1982.

Dollar conversions of foreign currency loan repayments, recoveries under the lend lease program, repayments of loans to the United Kingdom and other receipts are assumed constant in current dollar terms over the projection period. The levels of other miscellaneous receipts (amounting to \$19 million in fiscal year 1977) are adjusted through the projection period for estimated changes in the GNP deflator.

General Science, Space, and Technology (Function 250)

The General Science, Space, and Technology function includes four major areas of activity: general science and basic research; manned space flight; space science, applications, and technology; and supporting space activities. The major programs of general science and basic research are within the National Science Foundation and the Energy Research and Development Administration. The activity in the latter three categories is entirely within the National Aeronautics and Space Administration.

The budget authority projections were developed by inflating the base period figures (fiscal year 1977) using deflators which represent the mix of

Table 13. General Science, Space, and Technology, a/ Under Existing Law Commitments, by Fiscal Year, in Billions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
National Science Foundation	BA	717	777	779	781	784	786	789
	Outlays	733	724	784	780	779	787	786
Other General Science and Basic Research	BA	317	500	501	502	503	505	506
	Outlays	296	447	505	502	503	504	506
Manned Space Flight	BA	1,957	1,888	1,901	1,915	1,930	1,946	1,963
	Outlays	2,003	1,865	1,848	1,901	1,929	1,945	1,962
Space Science, Applications and Technology	BA	994	1,085	1,096	1,107	1,119	1,132	1,146
	Outlays	978	1,124	1,079	1,102	1,118	1,131	1,145
Supporting Space Activities	BA	327	347	348	350	352	354	356
	Outlays	359	348	342	348	351	353	356
Offsetting Receipts and Other	BA	-4	3	-2	-3	-3	-3	-3
	Outlays	-4	-8	-2	-3	-3	-3	-3
Total	BA	4,258	4,600	4,623	4,654	4,685	4,719	4,758
	Outlays	4,365	4,500	4,556	4,620	4,678	4,717	4,752

a/ Function 250Table 14. General Science, Space, and Technology, a/ With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
National Science Foundation	BA	717	777	813	850	888	930	978
	Outlays	733	724	796	819	851	895	935
Other General Science and Basic Research	BA	317	500	527	555	584	613	647
	Outlays	296	447	521	544	571	600	632
Manned Space Flight	BA	1,957	1,888	2,014	2,154	2,300	2,446	2,602
	Outlays	2,003	1,865	1,928	2,097	2,253	2,399	2,552
Space Science, Applications and Technology	BA	944	1,085	1,142	1,200	1,258	1,322	1,392
	Outlays	978	1,124	1,105	1,172	1,234	1,296	1,364
Supporting Space Activities	BA	327	347	365	384	404	425	447
	Outlays	359	348	351	373	393	413	435
Offsetting Receipts and Other	BA	-4	3	-2	-3	-3	-3	-3
	Outlays	-4	-8	-2	-3	-3	-3	-3
Total	BA	4,258	4,600	4,859	5,140	5,431	5,733	6,063
	Outlays	4,365	4,500	4,698	5,002	5,300	5,601	5,916

a/ Function 250

purchases on the subaccount level. Outlays were derived through the use of spendout rates which reflect the historical relationship between budget authority and outlays. Under existing law commitments, increases in budget authority are due primarily to federal pay adjustments. For the projection with further adjustments for inflation, all fiscal year 1977 funding is increased by weighted deflators based on projected increases in federal pay, the CPI, and the implicit GNP deflator.

Natural Resources, Environment and Energy (Function 300)

The major programs in this function involve the management and maintenance of the nation's natural resources, with primary concern for the conservation and promotion of energy resources and the protection of the environment.

The first eleven categories shown in Tables 15 and 16 compose the water resources and power, conservation and land management, and recreational resources subfunctions. With the exception of the Tennessee Valley Authority (TVA) Fund, the Land and Water Conservation Fund, and several permanent appropriations, all the estimates were derived using the simple inflation method. The deflators most commonly used were those for federal pay, federal purchases of buildings, federal purchases of services, and government purchases of streets and highways.

The projection of budget authority for the Tennessee Valley Authority Fund includes two components: borrowing authority and direct appropriation. The agency provided a forecast of its current plans for borrowing authority for the 1978-1982 period, while the direct appropriation component was projected using the simple inflation method.

The Land and Water Conservation Fund of the Bureau of Outdoor Recreation is funded through a direct appropriation and contract authority. The direct appropriation for fiscal year 1977 is inflated by a weighted price deflator for federal purchases of buildings and federal pay. The portion of budget authority which is contract authority is the same fixed amount annually and has resulted in no outlays over the last several years. Outlays from the direct appropriation are estimated from spendout rates provided by the Bureau of Outdoor Recreation.

Those accounts for which budget authority is a permanent appropriation resulting from receipts are projected using a deflator applicable to the source of the receipts.

Table 15. Natural Resources, Environment, and Energy, a/ Under Existing Law Commitments, by Fiscal Year, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Water Resources and Power								
Corps of Engineers	BA	2,176	2,494	2,523	2,564	2,605	2,649	2,699
	Outlays	2,110	2,487	2,449	2,556	2,596	2,640	2,688
Bureau of Reclamation	BA	647	920	951	962	974	987	1,000
	Outlays	572	1,014	949	960	972	984	998
Soil Conservation Services	BA	238	173	177	181	185	189	194
	Outlays	185	201	258	189	183	188	192
Tennessee Valley Authority	BA	10,100	126	126	126	126	126	126
	Outlays	980	1,053	1,426	1,326	1,126	1,126	1,026
Other Water Resources and Power	BA	-193	-249	-267	-292	-318	-346	-376
	Outlays	-247	-262	-267	-292	-318	-346	-376
Conservation and Land Management								
Forest Services	BA	735	821	1,101	1,137	1,175	1,215	1,260
	Outlays	853	892	1,082	1,134	1,167	1,207	1,251
Soil Conservation Service	BA	259	266	276	287	299	311	325
	Outlays	253	252	282	287	297	309	322
Agricultural Stabilization & Conservation Program	BA	190	190	190	190	190	190	190
	Outlays	168	192	232	195	192	192	191
Other Conservation and Land Management Programs	BA	18	-145	-147	-172	-199	-228	-258
	Outlays	-28	-141	-165	-184	-207	-235	-266
Recreational Resources								
Bureau of Outdoor Recreation	BA	347	397	398	399	400	402	403
	Outlays	276	369	390	389	405	401	406
Other Recreational Resources Programs	BA	527	537	699	721	743	768	795
	Outlays	619	658	683	686	705	727	753
Pollution Control and Abatement								
EPA Construction Grants	BA	0	5,700	4,300	4,300	4,300	4,300	4,300
	Outlays	2,429	4,130	3,768	4,021	4,241	4,202	4,238
Other Pollution Control and Abatement	BA	684	683	745	759	773	789	805
	Outlays	638	669	761	755	768	781	797
Energy								
Petroleum Reserves	BA	338	448	904	1,361	1,476	1,740	1,197
	Outlays	0	662	1,021	1,361	1,476	1,740	1,197
ERDA	BA	2,561	4,390	3,894	3,903	3,910	3,918	3,928
	Outlays	1,899	3,192	3,829	3,906	3,895	3,902	3,913
Nuclear Regulatory Commission	BA	217	244	248	252	257	261	267
	Outlays	180	233	247	251	255	260	265
Naval Petroleum Reserves (Sales)	BA	-1	-456	-1,300	-1,404	-1,512	-1,360	-1,323
	Outlays	-1	-450	-1,300	-1,404	-1,512	-1,360	-1,323
Other Energy Programs	BA	373	775	565	470	444	452	467
	Outlays	310	664	589	483	434	446	462
Other Natural Resources								
NOAA	BA	505	572	587	604	621	639	659
	Outlays	496	531	526	597	613	631	650
Other Natural Resources Programs	BA	416	491	506	522	539	557	578
	Outlays	399	442	462	475	489	507	527
Other Nat. Res., Environment, & Energy Programs	BA	0	627	627	627	627	627	627
	Outlays	0	222	627	627	627	627	627
Offsetting Receipts	BA	-807	-811	-856	-912	-968	-1,030	-1,097
	Outlays	-807	-811	-856	-912	-968	-1,030	-1,097
Total	BA	19,328	18,200	16,247	16,585	16,647	17,157	16,765

a/ Function 300

Table 16. Natural Resources, Environment, and Energy, a/ With Further Adjustments for Inflation, by Fiscal Year, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Water Resources and Power	BA	2,176	2,494	2,644	2,819	2,999	3,177	3,371
	Outlays	2,110	2,487	2,534	2,773	2,950	3,128	3,319
Bureau of Reclamation	BA	647	920	1,004	1,075	1,148	1,218	1,295
	Outlays	572	1,014	989	1,058	1,131	1,202	1,277
Soil Conservation Services	BA	238	173	183	193	203	214	226
	Outlays	185	201	262	198	200	210	222
Tennessee Valley Authority	BA	10,100	126	135	145	155	165	175
	Outlays	980	1,053	1,433	1,343	1,154	1,163	1,074
Other Water Resources and Power	BA	-193	-249	-264	-286	-308	-333	-360
	Outlays	-247	-262	-265	-287	-310	-335	-362
Conservation and Land Management	BA	735	821	1,129	1,202	1,281	1,361	1,447
	Outlays	853	892	1,103	1,185	1,255	1,335	1,419
Soil Conservation Service	BA	259	266	282	298	316	334	354
	Outlays	253	252	286	297	312	330	349
Agricultural Stabilization & Conservation Program	BA	190	190	204	219	236	252	268
	Outlays	168	192	234	210	222	236	251
Other Conservation and Land Management Programs	BA	18	-145	-135	-148	-161	-176	-193
	Outlays	-28	-141	-156	-164	-174	-189	-206
Recreational Resources	BA	347	397	421	445	470	496	525
	Outlays	276	369	400	418	455	476	511
Other Recreational Resources Programs	BA	527	537	716	757	800	844	892
	Outlays	619	658	695	716	754	796	843
Pollution Control and Abatement	BA	0	5,700	5,800	5,800	5,800	5,800	5,800
	Outlays	2,429	4,130	3,788	4,188	4,769	5,166	5,681
Other Pollution Control and Abatement	BA	684	683	780	831	884	939	997
	Outlays	638	669	782	806	856	907	967
Energy	BA	388	448	904	1,361	1,476	1,740	1,197
	Outlays	0	662	1,021	1,361	1,476	1,740	1,197
ERDA	BA	2,561	4,390	4,155	4,453	4,762	5,065	5,390
	Outlays	1,899	3,192	3,924	4,250	4,527	4,832	5,146
Nuclear Regulatory Commission	BA	217	244	257	270	283	297	313
	Outlays	180	233	253	265	279	293	308
Naval Petroleum Reserves (Sales)	BA	-1	-450	-1,300	-1,404	-1,512	-1,360	-1,323
	Outlays	-1	-450	-1,300	-1,404	-1,512	-1,360	-1,323
Other Energy Programs	BA	373	775	581	502	494	520	553
	Outlays	310	664	598	506	474	503	537
Other Natural Resources	BA	505	572	604	638	674	711	752
	Outlays	496	531	538	624	658	695	734
Other Natural Resources Programs	BA	416	491	518	547	577	608	642
	Outlays	399	442	473	496	523	554	588
Other Nat. Res., Environment, & Energy Programs	BA	0	627	659	692	725	760	800
	Outlays	0	222	635	671	703	737	774
Offsetting Receipts	BA	-807	-811	-856	-912	-968	-1,030	-1,097
	Outlays	-807	-811	-856	-912	-968	-1,030	-1,097
Total	BA	19,328	18,200	18,420	19,497	20,331	21,601	22,024
	Outlays	11,284	16,200	17,372	18,599	19,734	21,389	22,209

a/ Function 300

EPA construction grants

The Environmental Protection Agency construction program supplies funds to state and local governments on a cost-sharing basis for the construction of various types of state and local wastewater treatment projects. The program is divided into two parts: reimbursable programs, which are to pay for construction already completed, and grant programs for new projects. The projections assume that the funds of reimbursable programs would be exhausted by fiscal year 1979. The grant program was projected as follows. First, future obligations were estimated by applying a construction price deflator to the base period 1977 obligation total. Outlays were then derived through the use of historical spendout rates relating outlays to obligations. Finally, budget authority was estimated by assuming that total budget authority for the fiscal year 1978-1982 period would equal total obligations during that period. Total budget authority was then distributed evenly over the five-year period.

Petroleum reserves

The activities included in this program area are the implementation of the strategic petroleum reserve and the development and productive operation of the naval petroleum reserves. Both of these programs are assumed to be one-time responses to the problems with domestic fuel prices, and they are projected on the basis of the best available indications of current policy. For the strategic petroleum reserve, the current policy is to allow the Federal Energy Administration the discretion to establish a program and consequently a funding schedule. Since this program was not available when the projections were developed, the current policy projection is based on the deadlines of the Energy Policy and Conservation Act and the per unit costs assumed in the latest appropriations action. Similarly, the Naval Petroleum Reserve activity is based on the current schedule and estimates of the Office of Naval Petroleum Reserves. For these programs, current policy is defined in terms of specific activities rather than funding levels; therefore, the paths with and without discretionary inflation are the same.

ERDA

This program area includes all of the Energy Research and Development Administration's activity in the energy subfunction. The major share of the funding projections is estimated by the simple inflation method, primarily using indexes for federal pay; scientific and engineering instruments; and the four deflators for federal purchases of structures, durables, nondurables, and services.

Nuclear Regulatory Commission and other energy programs

These two program areas are projected by the simple inflation method. The other energy programs category includes activity of the

Departments of Agriculture (rural electrification), Commerce (Office of Energy Programs), the Environmental Protection Agency (energy R&D), and the Federal Power Commission.

Agriculture (Function 350)

The Agriculture function is divided into a farm income stabilization component consisting of programs designed to reduce the volatility of prices within agricultural markets, and a research and services subfunction composed of programs which are designed to develop economic and scientific information and regulate the marketing of commodities.

Farm income stabilization

The major program within this stabilization component is the price support effort of the Commodity Credit Corporation (CCC). The CCC stabilizes farm prices and income through the use of commodity loans and payments, purchases of surplus products, and compensatory payments for disaster-related losses.

The outlays for the CCC were projected by analyzing various supply, utilization and price forecasts for each of the major commodity programs. These forecasts were provided by the Department of Agriculture and several private groups. Authorizing legislation and support rates in effect for October 1976 were assumed to represent current policy. Because the law requires the support rates to reflect changes in prices, the projections under existing law commitments and with further adjustments for inflation are identical. In addition, the outlay projections reflect the following assumptions: (1) commodity loans, loan repayments, and disaster payments will increase according to historical trends; (2) short-term export credits will be maintained at the 1970-1976 average of \$453 million; (3) deficiency payments will be provided for wheat beginning in fiscal year 1979 and for rice throughout the projection period; and (4) the weather will be normal. The budget authority projections for the CCC are based on recent experience, which reflects a two-year lag between outlays and the budget authority necessary for liquidation.

Another major account which required a unique projection methodology is the Agricultural Credit Insurance Fund (ACIF) of the Farmers Home Administration. This fund provides loans to individuals and organizations for the acquisition and improvement of farms. Net outlays for the ACIF were assumed to be administrative costs and the interest expense on new borrowing and existing commitments less the sum of interest income on new loans and the existing portfolio. For the projections including full inflation adjustments, loan disbursements were projected by applying assumed

Table 17. Agriculture, a/ Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Farm Income Stabilization Price Support Programs (CCC)	BA	2,750	682	631	1,252	1,167	1,143	1,451
	Outlays	1,014	1,262	1,059	1,243	1,396	1,394	1,425
Agricultural Stabilization and Conservation Service	BA	158	161	165	172	180	189	199
	Outlays	152	158	165	172	180	188	198
Agricultural Credit Insurance Fund	BA	169	141	91	98	187	222	254
	Outlays	296	-344	187	222	254	289	329
Other Farm Income Stabilization	BA	81	54	25	20	17	16	16
	Outlays	112	50	24	23	22	23	24
Agricultural Research and Services Animal and Plant Health Inspection Service	BA	150	172	176	182	187	193	199
	Outlays	148	167	176	181	186	192	198
Cooperative State Research Service	BA	114	127	127	127	127	127	127
	Outlays	105	127	128	128	128	127	127
Agricultural Research Service	BA	290	303	314	326	338	351	366
	Outlays	247	320	313	326	310	350	364
Extension Service	BA	229	240	250	261	272	285	298
	Outlays	218	240	249	260	271	283	297
Other Agricultural Research and Services	BA	208	222	230	239	248	258	270
	Outlays	194	222	226	237	247	257	267
Offsetting Receipts	BA	7	-2	-2	-2	-2	-2	-2
	Outlays	7	-2	-2	-2	-2	-2	-2
Total	BA	4,157	2,100	2,006	2,674	2,722	2,782	3,177
	Outlays	2,492	2,200	2,523	2,790	2,992	3,102	3,228

a/ Function 350Table 18. Agriculture, a/ With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Farm Income Stabilization Price Support Programs (CCC)	BA	2,750	682	631	1,252	1,167	1,143	1,451
	Outlays	1,014	1,262	1,059	1,243	1,396	1,394	1,425
Agricultural Stabilization and Conservation Service	BA	158	161	166	176	185	196	207
	Outlays	152	158	166	175	184	195	206
Agricultural Credit Insurance Fund	BA	169	141	91	98	188	229	269
	Outlays	296	-344	188	229	269	320	374
Other Farm Income Stabilization	BA	81	54	25	20	17	17	17
	Outlays	112	50	24	24	24	25	27
Agricultural Research and Services Animal and Plant Health Inspection	BA	150	172	182	194	206	219	232
	Outlays	148	167	181	192	204	217	230
Cooperative State Research Service	BA	114	127	136	146	157	167	178
	Outlays	105	127	136	145	155	165	176
Agricultural Research Service	BA	290	303	321	341	361	382	405
	Outlays	247	320	319	340	359	379	402
Extension Service	BA	229	240	254	269	284	300	318
	Outlays	218	240	252	267	282	298	316
Other Agricultural Research and Services	BA	208	222	234	249	264	280	296
	Outlays	194	222	230	246	261	277	293
Offsetting Receipts and Other	BA	7	-2	-2	-2	-2	-2	-2
	Outlays	7	-2	-2	-2	-2	-2	-2
Total	BA	4,157	2,100	2,039	2,741	2,828	2,931	3,372
	Outlays	2,492	2,200	2,554	2,859	3,134	3,268	3,447

a/ Function 350

changes in the GNP deflator and the value of farm real estate to the loan levels specified in the 1977 appropriations bill. The 1977 levels were held constant for the path assuming no inflation. Interest income on new loans was calculated by applying an interest rate of 5.3 percent to the projected disbursements. Income from the existing portfolio was assumed to be 5.1 percent of the current level of outstanding loans. The interest expense of new loans was derived by applying the projected Treasury borrowing rate to the projected loan levels. The interest cost on the currently outstanding debt was assumed to remain at about the level now estimated for fiscal year 1977. These interest costs were adjusted to reflect the impact of rolling over the debt in existence prior to 1977. Administrative expenses were projected by applying the assumed rates of increase in federal pay to the 1977 base. Budget authority for the ACIF in any year reflects losses realized two years earlier.

Outlays and budget authority for the Agricultural Stabilization and Conservation Service, the agency that administers the price supports, were projected by applying the estimated changes in the index of federal purchases and in federal pay to the 1977 base.

Agricultural research and services

This subfunction includes the programs administered by the Agricultural Research Service, Cooperative State Research Service, Animal and Plant Health Inspection Service and the Extension Service. Projections were done by the simple inflation method, using the deflator for federal pay and, for projections with inflation adjustments, the deflator for federal purchases.

Commerce and Transportation (Function 400)

For Commerce and Transportation, projections under existing law commitments are shown in Table 19, and projections with further adjustments for inflation in Table 20.

Mortgage credit and thrift insurance

Rural Housing Insurance Fund. This fund is the major rural housing program. It combines mortgage purchase activities similar to those of GNMA and mortgage insurance activities similar to the FHA. The fund, after projected heavy asset sales during fiscal year 1977, is expected to witness rapid growth in outlays from \$388 million in fiscal year 1978 to \$879 million in fiscal year 1982 with an inflation adjustment and from \$384 million in fiscal year 1978 to \$780 million in fiscal year 1982 without an inflation adjustment. One of the basic assumptions for the treatment of a revolving fund of this type is that all loans made during a year are offset by

Table 19. Commerce and Transportation, a/ Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Mortgage Credit and Thrift Insurance								
Rural Housing	BA	139	193	243	326	402	502	597
	Outlays	7	-440	403	503	597	695	798
Federal Housing Administration Fund	BA	1,231	1,000	740	676	677	692	718
	Outlays	1,191	855	566	608	609	623	646
Government National Mortgage Association	BA	4,757	2,008	8	8	8	8	8
	Outlays	508	151	551	243	238	74	51
Thrift Insurance	BA	37	5	5	5	5	5	5
	Outlays	-577	-1,312	-1,277	-1,385	-1,485	-1,629	-1,795
Postal Service								
Payment to Postal Service	BA	1,720	2,266	1,697	1,591	1,435	1,329	1,290
	Outlays	1,720	2,266	1,697	1,591	1,435	1,329	1,290
Other Advancement and Regulation of Commerce								
Small Business Admin.—Bus. Invstmt. & Loan Fund	BA	279	602	602	602	602	602	602
	Outlays	253	360	602	602	602	602	602
Other Advancement and Regulation of Commerce	BA	595	689	686	713	733	759	790
	Outlays	614	664	684	708	733	759	788
Ground Transportation								
Federal-Aid Highways	BA	4,978	3,538	6,763	6,763	7,138	7,138	7,138
	Outlays	6,377	6,100	6,172	6,521	6,934	7,386	7,847
Other Highway Programs	BA	171	200	368	364	365	368	370
	Outlays	246	410	593	478	411	398	385
Northeast Corridor Improvement Program	BA	25	150	450	600	500	0	0
	Outlays	0	91	164	335	475	375	210
Grants to National Railroad Passenger Corporation	BA	471	576	576	576	576	576	576
	Outlays	354	550	665	620	576	576	576
U.S. Railway Association	BA	522	12	437	149	13	14	14
	Outlays	329	607	492	313	355	14	14
Other Rail Transportation	BA	501	238	239	240	241	243	244
	Outlays	448	205	213	229	241	242	243
Interstate Substitution Grants	BA	0	400	400	400	400	400	400
	Outlays	0	29	93	198	264	346	400
Urban Mass Transportation Fund	BA	947	55	30	30	30	1,269	2,303
	Outlays	1,322	1,830	1,960	2,155	2,252	2,403	2,437
Other Ground Transportation	BA	283	599	523	507	509	512	515
	Outlays	228	334	386	473	412	437	457
Air Transportation								
FAA Operations (Trust Fund)	BA	0	250	275	300	325	339	355
	Outlays	1	231	273	298	323	338	354
Grants-in-Aid for Airports (Trust Fund)	BA	0	510	540	575	610	610	610
	Outlays	269	385	542	550	577	606	603
Other Airport and Airway Trust Fund	BA	313	274	284	299	304	309	315
	Outlays	278	298	371	326	304	299	307
NASA Research and Development	BA	325	372	378	384	390	397	405
	Outlays	333	342	323	368	387	397	404
Other Aviation Operations and Regulation	BA	1,693	1,559	1,604	1,656	1,711	1,782	1,862
	Outlays	1,676	1,552	1,599	1,652	1,706	1,776	1,855
Water Transportation								
MARAD-Ship Construction	BA	195	0	247	247	247	247	247
	Outlays	203	258	205	230	246	247	247
MARAD-Operating-differential Subsidies	BA	278	321	335	349	364	380	398
	Outlays	301	388	383	408	427	448	505
Coast Guard	BA	1,093	1,277	1,313	1,353	1,395	1,441	1,492
	Outlays	1,006	1,171	1,315	1,349	1,395	1,439	1,488
Other Water Transportation	BA	66	75	77	79	81	83	86
	Outlays	47	52	51	55	56	58	59
Other Transportation	BA	74	79	81	83	85	87	90
	Outlays	65	71	79	83	85	87	90
Offsetting Receipts	BA	-50	-47	-49	-52	-54	-57	-60
	Outlays	-50	-47	-49	-52	-54	-57	-60
Total	BA	20,641	17,290	18,859	18,821	19,091	20,032	21,368
	Outlays	17,248	17,490	19,154	19,460	20,099	20,265	20,890

a/ Function 400

Table 26. Commerce and Transportation, a/ With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Mortgage Credit and Thrift Insurance								
Rural Housing	BA	139	193	244	328	409	513	636
	Outlays	7	-440	406	509	630	758	901
Federal Housing Administration Fund	BA	1,231	1,000	740	676	677	692	718
	Outlays	1,191	855	666	608	609	623	646
Government National Mortgage Association	BA	4,757	2,008	8	8	8	8	8
	Outlays	608	151	551	243	238	74	51
Thrift Insurance	BA	37	5	5	6	8	7	7
	Outlays	-577	-1,312	-1,276	-1,383	-1,482	-1,625	-1,790
Postal Service								
Payment to Postal Service	BA	1,729	2,266	1,697	1,591	1,435	1,329	1,290
	Outlays	1,720	2,266	1,697	1,591	1,435	1,329	1,290
Other Advancement and Regulation of Commerce								
Small Business Admin.—Bus. Investmt. & Loan Fund	BA	279	602	633	664	695	730	768
	Outlays	253	360	620	651	682	715	752
Other Advancement and Regulation of Commerce	BA	595	689	703	747	785	829	880
	Outlays	614	664	703	737	780	825	873
Ground Transportation								
Federal-Aid Highways	BA	4,078	3,538	6,757	6,375	7,624	7,876	8,147
	Outlays	6,377	6,100	6,178	6,530	6,948	7,405	7,871
Other Highway Programs	BA	171	200	387	405	433	461	494
	Outlays	246	410	598	501	457	469	483
Northeast Corridor Improvement Program	BA	25	150	450	600	500	0	0
	Outlays	0	91	164	335	475	375	210
Grants to National Railroad Passenger Corporation	BA	471	576	605	637	673	710	750
	Outlays	354	550	689	677	667	704	744
U.S. Railway Association	BA	522	12	438	149	14	15	15
	Outlays	329	607	493	313	356	15	15
Other Rail Transportation	BA	501	238	251	268	288	308	329
	Outlays	448	205	219	247	275	295	319
Interstate Substitution Grants	BA	0	400	428	460	492	523	556
	Outlays	0	29	95	206	288	390	471
Urban Mass Transportation Fund	BA	947	55	30	32	33	2,410	3,019
	Outlays	1,322	1,830	1,964	2,178	2,314	2,565	2,736
Other Ground Transportation	BA	283	599	539	551	587	621	657
	Outlays	228	334	389	486	440	497	534
Air Transportation								
FAA Operations (Trust Fund)	BA	0	250	275	300	325	342	361
	Outlays	1	231	273	298	323	341	360
Grants-in-Aid for Airports (Trust Fund)	BA	0	510	540	575	610	649	694
	Outlays	269	385	542	550	577	614	638
Other Airport and Airway Trust Fund	BA	313	274	304	321	340	358	378
	Outlays	278	298	375	336	323	330	352
NASA Research and Development	BA	325	372	396	422	450	477	507
	Outlays	333	342	331	391	429	459	488
Other Aviation Operations and Regulations	BA	1,693	1,559	1,625	1,699	1,777	1,870	1,975
	Outlays	1,676	1,552	1,618	1,693	1,770	1,861	1,965
Water Transportation								
MARAD-Ship Construction	BA	195	0	263	281	299	316	334
	Outlays	203	258	206	235	262	279	297
MARAD-Operating-differential Subsidies	BA	278	321	335	349	364	380	398
	Outlays	301	388	383	408	427	448	505
Coast Guard	BA	1,093	1,277	1,342	1,415	1,492	1,573	1,665
	Outlays	1,006	1,171	1,334	1,396	1,474	1,553	1,641
Other Water Transportation	BA	66	75	79	83	87	91	96
	Outlays	47	52	52	58	61	65	68
Other Transportation	BA	74	79	83	87	91	96	101
	Outlays	65	71	80	86	90	95	100
Offsetting Receipts	BA	-50	-47	-49	-52	-54	-57	-60
	Outlays	-50	-47	-49	-52	-54	-57	-60
Total	BA	20,641	17,200	19,107	19,578	20,438	21,126	21,725
	Outlays	17,248	17,400	19,301	19,830	20,793	21,400	22,459

a/ Function 400

an equal amount of loan sales. By removing asset management as a factor, outlays are solely the net operating costs of the fund.

Operating costs primarily represent the difference between interest income, derived from outstanding loans, and interest expense, which is payable to holders of certificates of beneficial ownership (CBO's). Over time, as new loans are made under annual limitation, both interest income and interest expense grow. Under the discretionary inflation path, the annual addition to the stock of outstanding loans is projected to increase at the same rate as the residential construction index, while for the projection under existing law commitments, the annual addition to the stock of loans is held constant. Since many of the loans made through the fund have below market interest rates, income consistently lags behind expense. This differential increases further as a result of a relatively high proportion of loans which are in a nonpaying condition. For the purposes of this estimate, interest rates on new loans were held constant at the agency projection for fiscal year 1977, while interest rates on new CBO's grew with the interest rates for intermediate term Treasury securities. It was also assumed that the same percentage of outstanding loans would be in a nonpaying condition throughout the projection period. The other smaller portions of operating cost were held constant.

Federal Housing Administration Fund. The FHA Fund is comprised of all of HUD's mortgage insurance programs. The fund, over the past few years, has experienced a significant growth in outlays as defaults of insured mortgages have increased. The higher default levels were the result of both economic conditions and the significant growth in the higher-risk subsidized programs. With the projected improvement in the economy and the lag in the growth of the higher risk programs which occurred between 1972 and 1975, it is expected that default levels will fall through most of the projection period. However, because of assumed growth in multifamily mortgage insurance associated with the Section 8 subsidy program, defaults, and thus outlays, start to rise slowly through the last two years of the projection period.

The actual estimation of outlays for the fund was accomplished in two parts. The first part, administrative costs, was estimated by applying the simple inflation method to the fiscal year 1977 administrative cost limitation. A reliable forecast of outlays for the remaining components of the fund was difficult to derive. However, the following regression equation had surprisingly good statistical properties explaining at least 90 percent of the year-to-year variance:

$$FHANO = -508,182 + .1679 \text{ TIF} - 1.528 \text{ NEW} + 4.509 \text{ DEF}$$

where:

FHANO = FHA fund outlays less administrative costs
TIF = Total insurance in force (in units)
NEW = New insurance written (in units)
DEF = Claims — acquisitions plus assignments (in units)

The next step in the estimation process was to establish the future values of the three independent variables used in this equation (TIF, NEW, DEF). The insurance in force and new insurance written variables were based on historical trends and projected growth in corollary programs such as the Section 8 and revised Section 235 subsidy programs. The most difficult factor to estimate was claims levels (acquisitions plus assignments) which were estimated through four separate regression equations.

The equations for the multifamily sections and the single family sections other than Sections 203 and 235 have basically the same form. Both relate claims levels to units for which new insurance was written that year and one, two, and three years before; the total number of units with insurance in force; and the CPI. Each of those equations had very good statistical properties, with the multifamily equation explaining at least 88 percent of the variance and the single family equation explaining 95 percent of the variance.

The Section 235 claims were estimated in a somewhat similar fashion. However, rather than being based on several separate variables of insurance written, the regression equation used a single variable which was the sum of the previous three years of new insurance. Because the equation was based on quarterly data, a seasonal factor was included as a variable. It was also necessary to include a dummy variable (which takes the value of one for the period between the second quarter of 1972 and the first quarter of 1974 and zero for all other periods) to account for pronounced effects of administrative fraud during this period. The resulting equation, which also included the CPI as a variable, had reasonably good statistical properties with its best results in the last few periods ($\bar{R}^2 = .80$).

The Section 203 claims were estimated by applying a claims rate to assumed levels of insured units. Because of the relative stability of the number of units which are under insurance, the rate of claims could be more specifically related to economic variables. The claims rate was estimated through a regression equation which related per capita personal income, the CPI for homeownership, and a one-year lag in the claims rate. That equation explains over 90 percent of the variance with very good statistical properties.

Government National Mortgage Association (GNMA). GNMA has several programs which comprise its outlays. The program which accounts for all but a small portion of the outlays is the Special Assistance Functions Fund (SAF). SAF outlays decline throughout the period as the volume of mortgage purchases is assumed to fall.

The SAF purchases mortgages at below market rates and then normally resells them at market rates, thereby sustaining a loss. Outlays represent that loss, the net addition to or sale of assets from GNMA's portfolio, net interest on borrowing, and administrative and servicing costs. A basic assumption for the projection of outlays for a revolving fund of this type is that portfolio transactions always net to zero; i.e., all purchases of mortgages are exactly offset by their sale or repayment. The outlays in the projection therefore represent an estimate of the underlying operating loss of the fund.

The major portion of SAF outlays is the loss on asset purchases and sales. These purchases and sales levels, from which the calculation of the loss are derived, are based on agency estimates of loan deliveries for pre-fiscal year 1977 commitments and CBO estimates of deliveries under projected commitments in fiscal year 1977. After fiscal year 1977, during which it was assumed that \$2 billion of new authority for loan commitments would be released, no additional authority was assumed to become available. The extent of the annual loss was in turn calculated by taking the difference between the cost of the delivered mortgages which bear a below market interest rate of 7.5 percent and the price at which they would have to be sold to yield a rate comparable to the CBO projection of the AAA bond rate. In this calculation, the average term was assumed to be twelve years for single family mortgages and thirty years for multifamily mortgages.

Net interest cost, the difference between interest on Treasury borrowing and income from the mortgage portfolio, was assumed to increase annually as losses from asset transactions accumulate. Administrative and servicing costs were assumed to increase roughly in proportion to the outstanding stock of mortgages.

Thrift insurance. This category, which includes the FDIC, FSLIC, NCUA, and the FHLBB, has consistently returned significant sums to the Treasury. With the projected improvement in the economy, these accounts are expected to provide negative outlays which are projected to increase from \$1,276 million in fiscal year 1978 to \$1,790 million in fiscal year 1982.

The FHLBB revolving fund, which makes advances to the regional Home Loan Banks during periods of tight credit, is anticipated to have these advances continue to be repaid through the entire projection period. The net

repayments, which were based on agency estimates, remain steady from fiscal year 1978 through fiscal year 1980 before starting to decline. The FHLBB administrative costs were estimated to increase from their fiscal year 1977 level by the simple inflation method. Purchases were inflated using the index of federal purchases of services.

The three deposit insurance agencies, FSLIC, FDIC and NCUA, account for the significant growth in negative outlays in the category. Negative outlays for each of these agencies are primarily driven by increases in their levels of insured deposits. The current projection of the money supply was therefore the primary factor in estimating each of the accounts. The estimation of the FSLIC entailed adjusting the agency assumptions on savings growth and other economic variables to coincide with the CBO economic assumptions. For the NCUA, net receipts were increased in direct proportion to the growth in gross domestic savings.

Negative outlays for the FDIC were estimated in four parts: premium income, interest income, net claims disbursements, and operating expenses. Premium income was estimated via a regression equation, a function of gross domestic savings (the difference between M_1 and M_2), operating expenses, and net changes in loss reserves. The resulting regression equation had extremely good statistical properties ($\bar{R}^2 = .9986$, DW 1.83). Interest income, which accounts for the largest single factor affecting net receipts, was generated by compound interest on the accumulated net between premium income and net claims disbursements. Interest on the accumulated surplus was calculated through a simple compound interest equation utilizing CBO estimates of 3-5 year Treasury note rates. Net claims disbursements are the net between claims disbursements and the proceeds and repayments on acquired assets. Though lately the amount of net claims disbursements has been quite high, it was assumed that it would return to its historical low levels. Operating costs were increased by a weighted average of inflation factors for federal pay and federal purchases of services from its fiscal year 1977 level.

Payment to the Postal Service

Current law provides for payments to the Postal Service for public service costs, revenue foregone on free and reduced-rate mail, and previous unfunded liabilities of the Post Office Department. The first is specified by law at \$920 million a year. The second was projected based on assumed volumes of mail and postage rates. The third was estimated at \$65 million per year, based on Postal Service figures. For the purposes of this projection, it was assumed that the additional annual subsidy of \$500 million, authorized by P.L. 94-421 for fiscal years 1976 and 1977, would not be continued thereafter. The projected budget authority and outlays decrease over the five-year period because the reimbursement for both public service

costs and revenue foregone on free and reduced-rate mail is to be gradually reduced.

Advancement and regulation of commerce

The largest account in this subfunction is the Business Loan and Investment Fund of the Small Business Administration. It was projected by the simple inflation method using the implicit GNP deflator.

This subfunction also includes numerous other accounts of the Department of Commerce and other agencies, including the Securities and Exchange Commission, the Federal Communications Commission, and the Federal Trade Commission. With the exception of a number of small accounts with unique characteristics or permanent authority, these were projected using the simple inflation method.

Federal-Aid Highways

The vast majority of highway spending falls under the Federal-Aid Highways program, which funds construction of the interstate system and other non-interstate programs. It was assumed for this projection that this program will continue in its present form at least through fiscal year 1982. The Federal-Aid Highway Act of 1976 (P.L. 94-280) established budget authority through 1990 for the interstate system and through 1978 for non-interstate programs. For the latter, budget authority under current law commitments was projected to remain constant at the 1978 level through the remainder of the projections period. When adjusted for inflation, the non-interstate budget authority was increased from the 1978 level using the implicit deflator for highways and streets. In addition, there is a partial offset of interstate substitution grants against the budget authority for the Federal-Aid Highways program. Thus, budget authority in each year was reduced by 20 percent of the amount of the budget authority projected for interstate substitution grants.

Obligation levels, except for administration, were assumed to be constant in real terms throughout the projections period. The obligation level was based on the annual obligation rate for the fiscal years 1972 to 1976, expressed in fiscal year 1977 dollars, and projected forward using the deflator for highways and streets. Administrative obligations were projected as a normal salaries and expenses account using the simple inflation method. Outlays were determined for each year by applying separate spendout rates to the interstate, non-interstate, and administrative obligation levels.

Other highway programs

Budget authority for other highway programs was projected based on fiscal year 1977 levels, except in cases where fiscal year 1977 budget

authority is zero. A number of such accounts represent programs which have been fully funded and are being phased out. In these cases, budget authority was projected at zero, and estimates were made of expected outlay flows. (This accounts for the gradually declining outlay levels during the projections period.) Budget authority for other accounts in fiscal year 1977 is either zero or artificially small because of the availability of unobligated balances or because of advance apportionments in the transition quarter. In such cases (e.g., Trust Fund Share of Highway Safety Programs), the fiscal year 1977 program or obligation level was used as a basis for the projections of budget authority and outlays for fiscal year 1978 and beyond.

Rail transportation

The major components of this subfunction are the Northeast Corridor Improvement Program, grants to the National Railroad Passenger Corporation (AMTRAK), the U.S. Railway Association (USRA), and other rail programs of the Federal Railroad Administration.

Budget authority and outlays for the Northeast Corridor program were projected based on the funding schedule Congress has used in planning the improvement program. Similarly, payments for the purchase of Consolidated Rail Corporation securities (which comprise the bulk of USRA funds) were projected using the budget authority levels already approved by Congress through fiscal year 1979. The remainder of the USRA budget authority is for administrative expenses. These administrative expenses and budget authority and outlays for all other rail programs, including grants to AMTRAK, were projected by the simple inflation method.

Urban Mass Transportation Fund

For these projections, it was assumed that the programs of the Urban Mass Transportation Administration (UMTA) will be continued in their present form through fiscal year 1982. Since UMTA has advance budget authority for most of its programs, future year obligation levels were projected using the obligation levels approved for fiscal year 1977 in the appropriations act (P.L. 74-387). These were projected on a program-by-program basis as follows:

- o Obligation levels for formula grants are set in law through fiscal year 1980. They were assumed to remain constant thereafter (at \$900 million a year) under current law commitments and were increased thereafter when adjusted for inflation.
- o Rail service operating payments are limited by law to \$30 million for fiscal year 1978, and obligations were projected from that level through fiscal year 1982.

- o Obligations for interstate substitution grants out of prior budget authority were projected at \$175 million per year.
- o Obligations for all other UMTA programs were projected from fiscal year 1977 levels by the simple inflation method.

It was assumed that Congress would continue to appropriate annually the funds required for rail service operating payments, and that all other obligations would be derived from existing contract authority. New budget authority was assumed to be added when available balances would be exhausted. Outlays were derived by applying spendout rates to the projected obligation levels for each UMTA program.

Interstate substitution grants

Budget authority and outlays for this program were projected from the fiscal year 1977 base by the simple inflation method. The offset against Federal-Aid Highways budget authority was included in the projections for that program at an estimated 20 percent of the budget authority for the interstate substitution grants.

Other ground transportation

This grouping includes the National Transportation Policy Study Commission, the Interstate Commerce Commission, the federal contribution to the Washington Metropolitan Area Transit Authority (WMATA), and a surface transportation account for new legislation specified in the second concurrent resolution. Except for WMATA, for which fiscal year 1978 budget authority is already established, projections were done by the simple inflation method. WMATA funding after fiscal year 1978 was assumed to include only the interest subsidy authorized by P.L. 92-349. The National Transportation Policy Study Commission was assumed to terminate at the end of June 1979.

Air transportation

The major components of this subfunction include grants-in-aid for airports, Federal Aviation Administration (FAA) operations (trust fund), other trust fund programs, other FAA and Civil Aeronautics Board (CAB) activities, and NASA research and development. Budget authority for the first two accounts is specified by law through fiscal year 1980. They were assumed to remain constant thereafter under current law commitments, and were increased thereafter when adjusted for inflation. Projections for other programs were done using the simple inflation method.

Water transportation

This subfunction encompasses activities of the Coast Guard, the Maritime Administration (MARAD), the Federal Maritime Commission, the

St. Lawrence Seaway Development Corporation, and the Panama Canal Company Fund. In general, budget authorities were projected from the fiscal year 1977 level. However, since MARAD's ship construction program is relying on existing unobligated balances for its fiscal year 1977 activities, the projections of future year budget authority are based on the estimated fiscal year 1977 obligation level for that program. For operating-differential subsidies, an estimate of future year obligation levels was derived by inflating fiscal year 1977 budget authority (except for that portion related to the Russian wheat deal, which was held constant). Outlays were projected by applying a two-year spendout rate and by adding an estimate for annual retroactive adjustments to the subsidy payments.

Community and Regional Development (Function 450)

This function includes community and regional development programs which are designed to redevelop urban areas and stimulate the economic growth of underdeveloped regions. Also included are anti-recessionary measures and disaster relief funds.

Community Development Block Grants

The budget authority for the program was projected using the simple inflation method. For the projection with further adjustments for inflation, the deflator for purchases by state and local governments was used. Outlays were calculated based on a weighted spendout rate. To establish the spending rate, fiscal year 1975 actual data on grant approvals were disaggregated into four categories of grant recipients. The grant funds for each category of recipient were then further disaggregated into sixteen uses of funds, as reported in the grant applications. Individual spending rates for these uses were derived from historical experience in programs in which funds were used for similar purposes. These individual spending rates were then weighted by their respective shares of the fund allocations within recipient category. Category-based spending patterns were subsequently calculated using these weighted spending rates. These spending rates were further adjusted to reflect the timing of their grant approvals so that fiscal year spending rates were produced. The aggregated spending rate was then derived by weighting the four recipient category rates by their respective allocations of grant funds. The allocation of grant funds is assumed to change somewhat over the next few years as a result of the phase-out of "hold harmless" grants. With the assumed transfer of those funds to the various discretionary balances, aggregate spending is projected to slow slightly over time.

Expired HUD programs

These programs are composed of Urban Renewal, Model Cities and most of the older HUD categorical grant programs now undergoing

liquidation. It also includes several loan and advance accounts which are being closed out. Outlays from the grant programs, which were estimated based on agency-supplied spending data, are expected to decline rapidly through the projection period. The estimates of the loan and advance accounts, which were also based on agency data, show a substantial increase in repayments over the same period. The combination of decreasing grant outlays and increasing loan and advance receipts is projected to result in negative outlays after fiscal year 1979.

Countercyclical Revenue Sharing

This program was recently authorized through fiscal year 1977. Since funding is triggered at 6 percent unemployment, the program is assumed to continue as long as that jobless rate is exceeded. Funding is calculated at the beginning of each quarter, with \$125 million authorized at 6 percent unemployment and \$62.5 million added for every one percentage point over that mark. The unemployment rate used for this formula is the last quarter for which an actual jobless rate is available (generally two quarters earlier). Current CBO projections indicate that unemployment will not drop below 6 percent until the third quarter of 1978. Thus, the projections assume program funding through the first quarter of fiscal year 1979.

Appalachian regional development

The activities of the Appalachian Regional Commission (ARC) are contained in this category, with virtually all the funds in the program account. Budget authority was projected by the simple inflation method using the deflator for purchases of highways and streets for the road construction program, and the nonresidential construction price index for other development efforts. The historical spending rates for the ARC are the basis for the outlay projections.

Rural development

The salaries and expenses of the Farmers Home Administration (FmHA) account for approximately half of the rural development funds. Budget authority and outlays for this account were projected from fiscal year 1977 levels using the simple inflation method.

The one other large account is the FmHA's Rural Development Insurance Fund. Outlays for this fund were derived in the following manner:

$$\text{Outlays} = (\text{AN} - \text{R} - \text{LO}) + \text{IE} - \text{IX} + \text{D}$$

where:

AN = Annual loan obligation level

IE = Interest expense on loans outstanding

Table 21. Community and Regional Development, a/ Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Community Development								
Community Development Block Grants	BA	1,838	3,248	3,248	3,248	3,248	3,248	3,248
	Outlays	983	2,447	2,938	3,065	3,016	3,054	3,142
Expired HUD Programs	BA	602	18	16	18	18	18	18
	Outlays	1,314	1,218	521	256	-105	-105	-105
Rural Water and Waste Disposal Grants	BA	250	230	200	200	200	200	200
	Outlays	75	131	140	197	227	231	226
Counter-Cyclical Revenue Sharing Program	BA	0	938	625	125	0	0	0
	Outlays	0	1,250	625	125	0	0	0
Community Services Administration	BA	520	511	512	514	515	517	519
	Outlays	462	555	518	514	515	517	519
Other Community Development	BA	537	544	501	501	520	571	529
	Outlays	690	632	609	606	627	585	537
Area and Regional Development								
Appalachian Regional Development	BA	311	306	305	305	305	305	305
	Outlays	320	330	325	318	307	310	305
Rural Development	BA	318	369	389	410	500	546	590
	Outlays	238	234	325	360	390	426	468
Indian Affairs	BA	342	607	636	675	692	709	729
	Outlays	350	551	575	738	732	714	722
Local Public Works Program	BA	0	2,000	0	0	0	0	0
	Outlays	0	600	920	460	20	0	0
Other Area and Regional Development	BA	596	338	359	322	315	309	301
	Outlays	371	225	382	343	315	293	276
Disaster Relief and Insurance	BA	336	383	513	702	773	835	905
	Outlays	522	662	675	708	747	804	870
Miscellaneous Programs and Offsetting Receipts	BA	-15	88	84	81	79	77	75
	Outlays	-15	175	84	81	79	77	75
Total	BA	5,635	9,550	7,839	7,985	8,510	9,061	9,684
	Outlays	5,310	9,050	8,636	7,771	6,870	6,908	7,036

a/ Function 450

Table 22. Community and Regional Development, a/ With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Community Development								
Community Development Block Grants	BA	1,838	3,248	3,453	3,677	3,927	4,209	4,534
	Outlays	983	2,447	2,963	3,210	3,321	3,505	3,814
Expired HUD Programs	BA	602	18	18	18	18	18	18
	Outlays	1,314	1,218	521	256	-105	-105	-105
Rural Water and Waste Disposal Grants	BA	250	260	225	250	274	298	321
	Outlays	75	131	142	206	253	280	299
Counter-Cyclical Revenue Sharing Program	BA	0	938	625	125	0	0	0
	Outlays	0	1,250	625	125	0	0	0
Community Services Administration	BA	520	511	538	565	593	622	655
	Outlays	462	595	541	563	590	619	652
Other Community Development	BA	537	544	620	629	679	652	633
	Outlays	690	632	617	632	674	654	628
Area and Regional Development								
Appalachian Regional Development	BA	311	305	319	341	367	390	415
	Outlays	320	330	325	327	332	355	374
Rural Development	BA	318	369	393	418	511	561	610
	Outlays	238	234	328	366	400	440	486
Indian Affairs	BA	342	607	658	723	767	812	860
	Outlays	350	551	593	789	800	808	844
Local Public Works Program	BA	0	2,000	0	0	0	0	0
	Outlays	0	600	920	460	20	0	0
Other Area and Regional Development	BA	596	338	360	388	417	444	474
	Outlays	371	225	387	368	364	375	392
Disaster Relief and Insurance	BA	336	383	540	758	858	952	1,056
	Outlays	522	662	686	743	808	896	994
Miscellaneous Programs and Offsetting Receipts	BA	-15	88	90	93	97	102	108
	Outlays	-15	175	90	93	97	102	108
Total	BA	5,635	9,550	7,839	7,985	8,510	9,061	9,684
	Outlays	5,310	9,050	8,737	8,126	7,555	7,991	8,585

a/ Function 450

IX	= Interest income on loans outstanding
R	= Dollar value of loan repayments
LO	= Loans sold to the Federal Financing Bank
D	= Dollar value of defaults

This calculation is based on the simplifying assumption that new loans made by FmHA equal the sum of loan sales and loan repayments. Thus, outlays consist of the difference between interest expense and interest revenue, plus any defaults. However, defaults in this fund have been virtually nonexistent and were projected at zero.

Indian affairs

The economic development activities of the Bureau of Indian Affairs (BIA) compose this budget group. The largest account in this category is for the operation of Indian programs, for which over \$300 million is projected to be spent for the salaries and expenses of BIA's economic development personnel.

Net outlays for BIA activities are reduced by substantial offsetting receipts, totalling over \$276 million in fiscal year 1978. About 45 percent of the receipts come from revenues generated by business activities on Indian reservations. The remainder is the estimated value of awards granted by the Indian Claims Commission. These awards are projected to decline from \$152 million in fiscal year 1978 to \$8 million in fiscal year 1979 because the Commission's authorization ends after fiscal year 1978, and all Indian claims will be transferred to the Federal Court of Claims. A significantly slower settlement rate is assumed beyond that point.

The offsetting receipts are the source of a considerable amount of the budget authority for the BIA's miscellaneous trust funds. This budget authority is projected to decline by \$136 million between fiscal year 1978 and fiscal year 1979 because of lower Indian claims awards. However, the outlays from this account decline more gradually since outlays from claims are distributed over many years.

Local Public Works

This \$2 billion special jobs program started in fiscal year 1977. One hallmark of the program is a series of special requirements to accelerate the obligation and expenditure of funds. These features were designed to prevent any spending lag and minimize the possibility of any inflationary impact. In light of this concern, no additional budget authority is assumed after fiscal year 1977. The outlay rate is based upon the experience with accelerated public works during the early 1970's.

Other area and regional development

The Economic Development Administration (EDA) and the Regional Action Planning Commission are the major activities in this category. The economic development assistance programs of EDA comprise by far the largest account with budget authority of \$360 million in fiscal year 1977. To adjust these programs for inflation, the account was divided into three parts, and the indexes used were nonresidential construction, the CPI, and federal purchases of services. While the spendout rate in the EDA programs is slow, outlays in recent years have occurred at an even slower pace than expected. The impact of this spending lag is expected to be felt in fiscal year 1978 leading to high outlays from pre-1978 budget authority.

Disaster relief and insurance

The three main programs in this subfunction are the disaster relief fund of the Federal Disaster Assistance Administration, the Small Business Administration's disaster loan fund, and the flood insurance program of the Federal Insurance Administration.

Since there is no reliable way to predict the incidence of disasters, historical experience was used to project future obligation rates. The average obligation level for fiscal years 1970 through 1976 — \$324 million — is the base for the budget authority projections of the disaster relief fund. The historical experience of the agency is the basis for outlay estimates, and the adjustment for inflation was made using the CPI.

The disaster loan fund of the Small Business Administration is treated as a standard revolving fund. A two-year spendout rate of 76 and 24 percent is assumed. The CPI was used for the discretionary inflation projection.

There are two types of budget authority in the flood insurance program — a current appropriation for studies and surveys, and borrowing authority to cover the federal share of losses. Funds for studies and surveys, \$75 million in fiscal year 1977, were projected by the simple inflation method using the deflator for federal purchases of services. There will be a multi-year spendout of these funds because of the complexity of flood plain studies. The federal share of losses has been calculated assuming a constant growth in policies, average historical experience with incidence and magnitude of losses, and inflation adjustments to the average loss statistic and the premium rate. Borrowing authority is recognized as budget authority when it is used to cover losses. Outlays from annual losses are projected at 50 percent in each of the first two years.

Education, Training, Employment, and Social Services (Function 500)

This function includes a wide range of education, manpower, and social service programs. The projection of this function with adjustments for inflation shows budget authority increasing from \$24.0 billion in fiscal year 1977 to \$25.3 billion in fiscal year 1982, and outlays increasing from \$22.0 billion to \$24.2 billion over the same period. In contrast to those estimates, the projection without inflation shows budget authority and outlays to be declining to \$19.6 billion and \$19.1 billion respectively by fiscal year 1982. The projections for this function are primarily determined by the economic assumptions for the unemployment rate and the rate of inflation. The projected decline in budget authority and outlays under existing law commitments is primarily due to the fact that the unemployment rate under the baseline economic assumptions causes spending for Temporary Employment Assistance to decrease sharply since spending for the program is assumed to be related to the unemployment rate.

Occupational, vocational, and adult education

Under the projection with adjustments for inflation, this account was projected using estimated changes in the specialized deflator for elementary and secondary education. Special attention was paid to the changes in the funding mechanism of this account. In fiscal year 1977, all programs within the Occupational, Vocational, and Adult Education account except for the Adult Education Program will shift from current funding to forward funding. Due to the procedures involved in recording budget authority, fiscal year 1977 budget authority will appear exceptionally high as it includes the programs twice — once for the currently funded programs, again for those programs as they shift to forward funding. This change will occur only once and outyear budget authority will resume its normal pattern for this account.

Other elementary and secondary education

The accounts in this grouping include Elementary and Secondary Education, School Assistance in Federally Affected Areas, Education for the Handicapped, and Indian Education, as well as a number of smaller education accounts. For the projection which includes adjustments for inflation, budget authority and outlays were projected using assumed changes in the specialized deflator for elementary and secondary education.

Higher education

The Higher Education accounts include student assistance programs such as Basic Opportunity Grants, Guaranteed Student Loans, work study, and direct loans. A higher education deflator was used for the projection which includes adjustments for inflation. The outlays for fiscal year 1977 appear high relative to future years since the outlays assumed for the second concurrent resolution include most of the unexpended balances from

Table 23. Education, Training, Employment, and Social Services, a/ Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Occupational, Vocational, and Adult Education	BA	673	1,242	663	663	663	663	663
	Outlays	748	700	625	705	668	650	650
Other Elementary, Secondary, & Vocational Education	BA	4,612	5,018	5,019	5,021	5,022	5,024	5,025
	Outlays	3,923	4,371	4,521	5,085	5,190	5,094	5,013
Higher Education	BA	3,354	3,301	3,301	3,301	3,301	3,301	3,301
	Outlays	2,455	3,033	2,355	3,098	3,270	3,277	3,301
Other Higher Education	BA	327	159	339	339	339	339	339
	Outlays	208	315	289	302	299	299	299
Research and General Education	BA	763	1,003	1,013	1,023	1,034	1,045	1,058
	Outlays	774	934	933	1,062	1,057	1,040	1,053
Temporary Employment Assistance	BA	2,825	3,826	2,644	1,895	1,185	652	207
	Outlays	1,887	3,485	3,845	1,895	1,185	652	207
Other Employment Programs	BA	4,439	4,902	4,478	4,478	4,478	4,478	4,478
	Outlays	4,400	4,715	4,703	4,478	4,478	4,478	4,478
Other Manpower Services	BA	329	366	379	393	408	424	441
	Outlays	301	361	378	392	406	422	440
Grants for Social Services	BA	2,833	2,734	2,615	2,615	2,615	2,615	2,615
	Outlays	2,258	2,757	2,615	2,615	2,615	2,615	2,615
Other Social Services	BA	1,262	1,488	1,491	1,494	1,498	1,501	1,505
	Outlays	1,198	1,566	1,368	1,452	1,481	1,499	1,504
Offsetting Receipts and Other	BA	-5	-38	-40	-42	-44	-44	-49
	Outlays	-5	-38	-40	-42	-44	-44	-49
Total	BA	21,412	24,000	21,901	21,180	20,498	19,997	19,584
	Outlays	18,148	22,200	21,591	21,042	20,606	19,983	19,511

a/ Function 500

Table 24. Education, Training, Employment, and Social Services, a/ With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Occupational, Vocational, and Adult Education	BA	673	1,242	703	745	792	843	902
	Outlays	748	700	627	726	725	750	798
Other Elementary, Secondary, & Vocational Education	BA	4,612	5,018	5,367	5,725	6,109	6,533	7,008
	Outlays	3,923	4,371	4,616	5,458	5,912	6,199	6,543
Higher Education	BA	3,354	3,301	3,538	3,769	4,017	4,294	4,611
	Outlays	2,455	3,033	2,394	3,306	3,698	3,951	4,247
Other Higher Education	BA	327	159	348	357	367	378	391
	Outlays	208	315	304	334	349	369	391
Research and General Education	BA	763	1,003	1,063	1,125	1,188	1,255	1,327
	Outlays	774	934	961	1,135	1,182	1,219	1,288
Temporary Employment Assistance	BA	2,825	3,826	2,644	1,895	1,185	652	207
	Outlays	1,887	3,485	3,845	1,895	1,185	652	207
Other Employment Programs	BA	4,439	4,902	4,710	4,943	5,176	5,431	5,713
	Outlays	4,400	4,715	4,875	4,882	5,115	5,364	5,639
Other Manpower Services	BA	329	366	387	411	435	461	488
	Outlays	301	361	386	408	433	458	486
Grants for Social Services	BA	2,833	2,734	2,621	2,627	2,633	2,639	2,647
	Outlays	2,258	2,757	2,621	2,627	2,633	2,639	2,647
Other Social Services	BA	1,262	1,488	1,598	1,713	1,836	1,958	2,083
	Outlays	1,198	1,566	1,451	1,637	1,781	1,916	2,042
Offsetting Receipts and Other	BA	-5	-38	-40	-42	-44	-44	-49
	Outlays	-5	-38	-40	-42	-44	-44	-49
Total	BA	21,412	24,000	22,940	23,269	23,695	24,401	25,329
	Outlays	18,148	22,200	22,039	22,366	22,969	23,474	24,239

a/ Function 500

authority granted prior to fiscal year 1977, leaving little to be spent in fiscal year 1978 and beyond.

Other higher education

The student loan insurance fund and the higher education facilities loan fund compose the major portion of other higher education programs. Fiscal year 1977 budget authority appears to be the only anomaly in this account and is directly attributable to the student loan insurance fund. Since an excessive amount of budget authority accumulated in this program, an additional appropriation was not necessary to meet the expected outlays for fiscal year 1977. However, the projections assume that once this accumulation is spent out, new budget authority will be allocated in the outyears.

Research and general education aids

The programs in this area include the National Institute of Education, Educational Activities Overseas, and a wide range of small accounts. For the projection which includes inflation adjustments, these accounts were projected using assumed changes in the GNP deflator.

Temporary Employment Assistance (TEA)

Temporary Employment Assistance (Title VI of the Comprehensive Employment and Training Act) was established in December 1974 in response to high unemployment rates throughout the country. TEA enables states and localities to create temporary jobs for unemployed workers. For the projections, TEA budget authority and outlays are assumed to be related to the unemployment rate. Under the baseline economic assumptions, a one percentage point decrease in the unemployment rate is assumed to lead to approximately a \$1,300 million decrease in spending. Using this assumption, by fiscal year 1982 with a declining unemployment rate, outlays are estimated to be approximately \$200 million. In contrast, under less vigorous economic expansion, outlays are estimated to be \$1,900 million in fiscal year 1982.

Other employment programs

The major account in this grouping of manpower programs comes under the Comprehensive Employment and Training Act (except for Title VI). For the projection which includes inflation adjustments, budget authority and outlays were projected by the simple inflation method using assumed changes in the GNP deflator.

Other manpower services

Other manpower services includes such accounts as the Bureau of Labor Statistics, the Employment Standards Administration, as well as a number of independent agencies like the National Labor Relations Board. Inflation adjustments were based on assumed changes in the GNP deflator.

Grants for social services

Grants for social services consist of the matching Federal-State Grant Program (Title XX), as well as some smaller programs such as Child Welfare and State and Local Training. While these smaller programs were projected using the GNP deflator for the projection with discretionary inflation, Title XX was held to its statutory spending limit. In fiscal year 1973, a \$2,500 million ceiling was placed on this program. However, in fiscal year 1977, Congress appropriated an additional \$200 million for day care services raising the cap for one year to \$2,700 million. This increase was interpreted as a one-time change, and the \$2,500 million statutory ceiling is assumed to remain in effect for the projection period.

Other social services

Other social services includes a wide range of rehabilitation, aging and child development programs. Inflation adjustments were based on assumed changes in the GNP deflator.

Health (Function 550)

The health function includes two major entitlements (medicare and medicaid) and a variety of health research, services, training, and regulation programs. The projections for this function, similar to those for the income security function, increase not only due to projected increases in the cost of living, but also due to increases in the number of participants in the entitlement programs.

Medicare budget authority

Hospital Insurance Trust Fund (HI). The total budget authority for the HI trust fund is calculated as the sum of payroll tax receipts, intragovernmental transfers (reimbursement for uninsured persons and military wage credits), transfers from the railroad retirement account, premiums from voluntary enrollees, and interest on investments. Table 25 reflects the projected levels for each of the components for the period 1978-1982.

Receipts are based upon CBO projections for the HI share of total tax receipts for the OASDHI program. Railroad retirement transfers are calculated using CBO projections for the beneficiary population times the insurance value for medicare Part A recipients for the years 1978-1982. Other transfers and premiums are based upon Social Security Administration (SSA) projections. The yearly surplus was calculated from HI budget authority and outlay projections for year $t-1$, and the average historical (1974 and 1975) yield on investments was applied to the cumulative surplus to determine the interest for the year t .

Table 25. Components of Projected HI Budget Authority, by Fiscal Years, in Billions of Dollars

	Receipts	Railroad Retirement	Total Transfers	Premiums	Interest	Total BA
1978	18.00	.21	.82	.01	.79	19.83
1979	21.00	.24	.85	.01	.91	23.01
1980	23.20	.26	.88	.01	1.06	25.41
1981	29.80	.29	.92	.02	1.14	32.17
1982	34.60	.32	1.24	.02	1.41	37.32

Supplementary Medical Insurance (SMI). The level of budget authority for the SMI trust fund is the sum of premium receipts, a government contribution to the trust fund, and interest. In order for the fund to be actuarially sound, it is assumed that there be sufficient funds to meet all incurred liabilities within a given fiscal year. According to SSA, incurred costs historically have exceeded actual outlays by about 4 to 5 percent. For the purposes of estimating the necessary budget authority, projected outlays for each fiscal year were increased by a factor of 5 percent. From the annual budget authority levels, the necessary appropriated government contribution (offsetting receipts to the fund) can be projected by subtracting from this budget authority figure the projections for premium receipts and interest income.

Medicare outlays

Three models were employed to project outlays for the medicare program: one model was developed for the HI component and two separate models were used to project expenditures for the SMI aged program and for benefits for the disabled and chronic renal disease (CRD) beneficiary populations.

Hospital Insurance. The following equation was used as the basis for projecting HI benefits:

$$\text{Outlays} = \text{Outlays}_{t-1} (1 + (.5453 L_t + .4547 NP_t)) (1 + U_t)$$

where:

L_t = Percent change in labor inputs over year t-1 defined by the equation:

$$L_t = (1 + CPMH_t + WD_t)(1 + LI_t) - 1$$

where:

$CPMH_t$ = percent change in yearly compensation per manhour index.

WD_t = percent increment above $CPMH_t$ to account for the wage differential for hospital workers

LI_t = percent increase in the labor intensity factor for hospitals over year t-1

NP_t = percent increase in non-payroll related inputs over the year t-1 and defined by the equation:

$$NP_t = (1 + CPI_t + .01)(1 + NL_t) - 1$$

where:

$CPI_t + .01$ = percent change in the CPI over year t-1 plus an added 1 percent adjustment for the higher cost of hospital equipment and supplies

NL_t = percent change in non-labor intensity factors over the year t-1

U_t = percent change in utilization of services over year t-1

.5453 = weighting factor for labor inputs

.4547 = weighting factor for non-labor inputs

In order to project overall benefits, values were determined for each of the variables over the period of 1977 through 1982. Table 26 contains those values expressed in percentage increases over the previous year.

Values for the CPI and compensation per manhour are based upon CBO economic assumptions, although the CPI was raised by one percentage point each year to account for the average differential between the overall CPI and its component for medical equipment and supplies. To determine the wage differential for hospital employees above the overall compensation rate, historical series were compared. The average differential (excluding the period of the Economic Stabilization Program, ESP) was approximately 1.5 percent, and this figure was applied as the projected value for fiscal years 1979 through 1982. A higher figure was used for both fiscal years 1977 and 1978 to account for the "catch-up" effects of the post-ESP period. The

Table 26. Values of Variables Used for HI Projections, by Fiscal Year

	1978	1979	1980	1981	1982
$CPMH_t$	6.86	6.88	7.30	8.00	8.15
WD_t	1.80	1.50	1.50	1.50	1.50
LI_t	2.00	2.00	2.00	2.00	2.00
CPI_t	4.84	4.72	4.92	5.24	5.67
NL_t	9.00	8.00	8.00	8.00	8.00
U_t	3.00	3.00	3.00	3.00	3.00

values used for these years are based upon a review of projections made by both the Social Security Administration and the Office of Planning and Evaluation at HEW.

The labor intensity factor (i.e., increases in staff/patient ratios) is also projected on the basis of a review of historical trends (pre- and post-ESP). The fiscal year 1977 value is higher than the values for fiscal years 1978 through 1982 because of the same residual effects of the post-ESP "catch-up." A similar approach was used for projecting percent increases in non-labor intensity factors (e.g., increased tests, expanded technology). Also, in determining these values, comparisons were made with the Office of the Social Security Administration and the Assistant Secretary for Planning and Evaluation's projections.

Lastly, utilization projections were made on the basis of recent trends in the size of the beneficiary population and in both the numbers of admissions and lengths of stay per beneficiary. Based upon these trends which indicate slight increases in both beneficiaries and admissions and a small downward movement in lengths of stay, a 3 percent per year increase is projected for this period.

Projections for administrative costs are based upon those developed by the Social Security Administration actuaries.

SMI outlays. Projections for SMI expenditures are broken down by benefits for the aged and for the disabled and CRD populations. The following equations are used for the two components of the program:

For SMI benefits for the aged:

$$\text{Outlays}_t = \text{Outlays}_{t-1} (1 + \text{MCPI}_t) (1 + U_t) (1 + P_t)$$

where:

Outlays_t = aggregate benefits paid to aged SMI beneficiaries in year t

MCPI_t = yearly percent change in medical CPI lagged 18 months

U_t = overall percent change in utilization, including increased physician visits per patient, greater use of specialists, more utilization of technology, and so forth

P_t = percent change in the number of eligible beneficiaries actually using services in year t

For SMI benefits for the disabled and CRD populations:

$$\text{Outlays}_{t,i} = \frac{\text{Outlays}_{(t-1),i}}{B_{(t-1),i}} (1 + \text{MCPI}_t) (1 + U_{t,i}) (B_{t,i})$$

where:

$\text{Outlays}_{t,i}$ = aggregate benefits paid in year t

$B_{t,i}$ = number of eligible beneficiaries in year t

$U_{t,i}$ = percent change in level of utilization per eligible beneficiary in year t

and i refers to either the disabled (d) or CRD (c) beneficiaries

The values determined for the above variables are given in Table 27. All numbers are expressed in percentage point increases over the previous year with the exception of beneficiary levels ($B_{t,c}$ and $B_{t,d}$) which represent the actual number of beneficiaries (in millions) in year t.

Projections for the MCPI are based upon a CBO model relating the medical care component of the CPI to the overall CPI. Although recognized physicians' fees under SMI are adjusted by both a fee screen and an economic

Table 27. Data Used for SMI Projections, by Fiscal Year

	1978	1979	1980	1981	1982
SMI (aged)					
MCPI _t a/	7.1	6.9	6.5	6.5	6.6
U _t	3.2	3.2	3.2	3.2	3.2
P _t	3.3	3.0	2.8	2.7	2.7
SMI (disabled)					
MCPI _t a/	7.1	7.1	6.5	6.5	6.6
U _{td}	7.1	7.1	5.0	4.0	3.2
B _{td} b/	2.370	2.580	2.796	3.034	3.293
SMI (CRD)					
MCPI _t a/	7.1	6.9	6.5	6.5	6.6
U _{tc}	1.5	1.5	1.5	1.5	1.5
B _{tc} b/	20.0	22.0	24.0	26.0	27.0

a/ MCPI values are lagged eighteen months.

b/ In millions

index, examination of the historical impact of these two restraints on actual physicians' charges brings the percent increase to approximately the same level as that of the MCPI. Thus, the MCPI is used as a proxy for allowable increases in physicians' fees.

Estimated increases in the level of participation among the aged eligible population were determined through application of a time series equation based on data from fiscal years 1967-1976. Participation increases reflect the relative percentages from year to year of participants who actually filed claims that exceeded the deductible. Beneficiary levels for the disabled and CRD populations are based upon SSA projections.

For the aged population, inflation and increases in the participation rate were factored out of the overall percent increase in benefit payments, and the residual historical increases were defined as a utilization factor. Based upon an average annual utilization increase for fiscal years 1969 through 1973 (fiscal year 1968, the ESP period, and the post-ESP period were omitted because of the newness of the program or the atypical problems of utilization), a projected value was determined for fiscal years 1977 through 1982. Because of the limited experience with the SMI disabled program, a similar approach was not possible for determining a utilization factor. In this case, SSA projections were adopted for fiscal years 1977 through 1979

and, for fiscal years 1980 through 1982, an assumption was made that utilization increases would start to level and approach those applied to the aged. This supposition is based upon the fact that as the program continues and both the number of new beneficiaries starts to stabilize and their familiarity with the program increases, utilization will become more similar to that of the aged group.

For the CRD beneficiaries, it is assumed that increases in the level of utilization per beneficiary will be comparatively small. Again, employing the limited historical experience and factoring out the effects of inflation, a 1.5 percent annual increase was observed. This rate of increase was used to derive the projected value for fiscal years 1977 through 1982.

Lastly, based upon historical experience, administrative costs were calculated as 9.5 percent of overall benefit levels in a given year.

Medicaid

Projections for medicaid assume that the product of the percent changes in the medical CPI, the number of beneficiaries, and utilization per beneficiary will account for the overall rate of increase in outlays. The $MCPI_t$ is projected from a regression model developed by CBO relating this deflator to the overall CPI. The number of beneficiaries, which is defined as the average number of beneficiaries in a given fiscal year who have received services through medicaid, is assumed to rise at an average annual rate of 1.85 percent. This rate is based upon analysis of trends in the program as well as recent information supplied by the Social and Rehabilitation Service (SRS). After factoring out the past growth in the program that cannot be explained through price increases or beneficiary levels, the residual growth rate was defined as utilization/beneficiary. Adjustments were made to this variable to account for a slowdown in growth in the outyears. Thus, the equation used in this model can be written as:

$$\text{Outlays}_t = (1 + MCPI_t) (1 + BEN_t) (1 + U_t) \text{Outlays}_{t-1}$$

$MCPI_t$, BEN_t , and U_t represent percentage changes in the medical CPI, the number of beneficiaries, and utilization per beneficiary, respectively. The values calculated for each of these variables are shown in Table 28.

For medicaid, budget authority in any given fiscal year is projected to equal outlays.

Other health programs

The remaining accounts in the health function were projected using the simple inflation method. Under existing law commitments (Table 29), budget authority for the fraction of each account which is for compensation

Table 28. Data Values for Medicaid Projections, by Fiscal Years

	1978	1979	1980	1981	1982
MCPI _t	6.50	6.00	6.00	6.10	6.30
BEN _t	1.85	1.85	1.85	1.85	1.85
U _t	7.00	6.00	5.00	5.00	4.00

of federal employees was increased in accordance with projected federal pay increases. The budget authority for purchases was held constant at fiscal year 1977 levels. For the projection which includes further adjustments for inflation (Table 30), purchases were increased in accordance with projected increases in the GNP deflator except in cases involving grants to states. In these cases, the specialized price index for state and local government purchases was used. Outlays from new budget authority were estimated on the basis of outlay rates supplied by the agencies. Outlays in fiscal years 1978 through 1982 from pre-fiscal year 1978 budget authority were more difficult to estimate. The methodology employed involves estimating the average age of unexpended balances at the start of fiscal year 1978 and then applying agency outlay rates for the remaining years of the spendout.

For example,

$$P_i^* = \frac{P_{A+i}}{\sum_{j=A+1}^m P_j}, i = 1, 2, \dots, 5$$

where:

A = average age of unexpended balances at the start of fiscal year 1978

P_j = outlay rate (supplied by the agency) in year j from new budget authority

P_i^{*} = estimated outlay rate in fiscal year 1977+i from unexpended balances at start of fiscal year 1978

and m is such that $\sum_{j=A+1}^m P_j = 1.0$

Table 29. Health Services, a/ Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Medicare/Hospital Insurance	BA	13,544	15,748	19,830	23,010	25,410	32,170	37,320
	Outlays	12,579	15,390	18,120	20,973	24,335	28,370	33,093
Medicare/Supplementary Medical Insurance	BA	4,980	7,352	7,882	9,090	10,418	11,885	13,507
	Outlays	5,200	6,420	7,506	8,651	9,886	11,276	12,837
Medicaid	BA	8,510	10,101	11,953	13,684	15,508	17,591	19,807
	Outlays	8,568	10,100	11,953	13,684	15,508	17,591	19,807
Other Health Services	BA	2,186	2,505	2,626	2,757	2,905	3,070	3,257
	Outlays	2,308	2,155	2,739	2,695	2,830	2,986	3,163
National Institutes of Health	BA	2,223	2,441	2,485	2,532	2,581	2,633	2,692
	Outlays	2,300	2,196	2,283	2,490	2,543	2,593	2,648
Other Health Research and Education	BA	733	775	785	809	823	837	854
	Outlays	745	969	1,100	811	814	828	844
Prevention and Control of Health Problems	BA	1,082	1,014	1,048	1,086	1,126	1,168	1,215
	Outlays	974	1,066	1,064	1,082	1,117	1,158	1,205
Health Planning and Construction	BA	401	401	345	354	356	364	364
	Outlays	792	577	464	398	392	369	362
Offsetting Receipts and Other	BA	-8	-41	-44	-46	-48	-50	-53
	Outlays	-8	-41	-44	-46	-48	-50	-53
Total	BA	33,651	40,500	46,910	53,278	59,079	69,668	78,963
	Outlays	33,457	38,900	45,185	50,739	57,378	65,122	73,905

a/ Function 550Table 30. Health Services, a/ With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Medicare/Hospital Insurance	BA	13,544	15,748	19,830	23,010	25,410	32,170	37,320
	Outlays	12,579	15,390	18,120	20,973	24,335	28,371	33,093
Medicare/Supplementary Medical Insurance	BA	4,980	7,352	7,882	9,090	10,418	11,885	13,507
	Outlays	5,200	6,420	7,506	8,651	9,886	11,276	12,837
Medicaid	BA	8,510	10,101	11,953	13,684	15,508	17,591	19,807
	Outlays	8,568	10,100	11,953	13,684	15,508	17,591	19,807
Other Health Services	BA	2,186	2,505	2,694	2,900	3,120	3,364	3,636
	Outlays	2,308	2,155	2,764	2,785	2,991	3,222	3,479
National Institutes of Health	BA	2,223	2,441	2,571	2,704	2,840	2,987	3,150
	Outlays	2,300	2,196	2,316	2,596	2,736	2,875	3,027
Other Health Research and Education	BA	733	775	814	867	909	955	1,006
	Outlays	745	969	1,112	848	880	924	972
Prevention and Control of Health Problems	BA	1,082	1,014	1,070	1,130	1,192	1,259	1,333
	Outlays	974	1,066	1,080	1,119	1,176	1,242	1,315
Health Planning and Construction	BA	401	401	359	382	399	421	437
	Outlays	792	577	468	412	419	410	418
Offsetting Receipts and Other	BA	-8	-41	-44	-46	-48	-50	-53
	Outlays	-8	-41	-44	-46	-48	-50	-53
Total	BA	33,651	40,500	47,129	53,721	59,749	70,581	80,143
	Outlays	33,457	38,900	45,275	51,022	57,884	65,861	74,895

a/ Function 550

The estimation of the average age of unexpended balances was made under the assumption of relatively constant budget authority over the past several years. Under this assumption,

$$A = \frac{\sum_{k=1}^{m-1} (1 - \sum_{l=1}^k P_l)k}{(m-1) - \sum_{n=1}^m (m-n)P_n}$$

where k indexes the age in years of the unexpended balances.

Income Security (Function 600)

Income security programs account for approximately one-third of total budget outlays and represent the largest single budget function. The projections for programs in the income security function differ from those for programs in other functions in two ways. First, a major factor driving the income security outlay projections are projections of the number of benefit recipients. ^{1/} Most of these programs are designed in such a way that benefits are automatically provided to eligible people who apply. A second characteristic of income security programs is that most are automatically indexed for inflation. As a result, the projections under existing law and with further adjustments for inflation are almost identical (see Tables 31 and 32).

The income security function includes four different categories of programs: general retirement and disability, federal employee retirement and disability, unemployment insurance, and income supplements (including housing assistance).

General retirement and disability

Social Security (OASDI). The major part of general retirement and disability is social security payments. Combined benefit payments from the Old Age and Survivors Insurance Trust Fund (OASI) and the Disability Insurance Trust Fund (DI) are projected to rise from the fiscal year 1976 level of \$72.3 billion to \$127.4 billion in fiscal year 1982 under baseline economic assumptions. Recipient levels are projected to rise from fiscal year 1976 levels of 27.7 million per month in OASI and 4.3 million per month in DI to 30.8 million and 5.7 million, respectively, by fiscal year 1982.

^{1/} This characteristic also applies to medicare and medicaid programs and to certain veterans programs.

Table 31. Income Security, a/ Under Existing Law Commitments, by Fiscal Year, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
General Retirement and Disability Insurance								
Old Age and Survivors Insurance	BA	62,327	72,534	80,158	88,124	97,299	106,039	116,629
	Outlays	64,296	73,388	79,756	86,350	93,864	102,100	111,357
Disability Insurance	BA	8,355	9,590	10,,922	12,034	13,113	15,047	16,870
	Outlays	9,606	11,259	12,364	13,902	15,655	17,671	20,015
Special Benefits to Coal Miners	BA	1,000	914	943	971	993	1,011	1,029
	Outlays	998	914	943	971	993	1,011	1,029
Railroad Retirement	BA	3,209	3,434	3,738	3,579	3,800	4,028	4,270
	Outlays	3,475	3,684	3,869	4,025	4,156	4,258	4,386
Other General Retirement and Disability	BA	-1,214	-1,256	-1,606	-1,321	-1,373	-1,436	-1,403
	Outlays	-1,204	-1,257	-1,606	-1,322	-1,374	-1,436	-1,403
Federal Employee Retirement and Disability								
Civil Service Retirement	BA	13,099	16,603	17,090	19,097	21,130	22,992	24,859
	Outlays	8,284	9,857	10,727	11,942	13,270	14,872	16,460
Other Federal Employee Retirement	BA	371	411	-83	-65	-125	-253	-324
	Outlays	-110	-38	-117	-101	-163	-266	-353
Unemployment Insurance								
Federal Unemployment Benefits & Allowances	BA	410	1,060	867	638	613	603	583
	Outlays	1,892	1,060	867	638	613	603	583
Unemployment Trust Fund	BA	15,702	14,899	12,758	14,856	15,773	15,969	16,049
	Outlays	17,555	13,973	11,689	10,860	10,254	9,967	9,735
Other Unemployment Programs	BA	-2,878	739	0	0	0	0	0
	Outlays	5	190	0	0	0	0	0
Public Assistance and Other Income Supplements								
Food Stamp Program	BA	5,196	5,542	4,991	4,915	4,945	5,057	5,202
	Outlays	5,775	5,509	4,991	4,915	4,945	5,057	5,202
Child Nutrition and Related Programs	BA	2,290	3,365	3,437	3,613	3,810	3,927	4,134
	Outlays	2,184	3,240	3,410	3,598	3,793	3,918	4,117
Public Assistance	BA	5,898	6,340	6,327	6,611	6,929	7,294	7,710
	Outlays	5,849	6,291	6,327	6,611	6,929	7,294	7,710
Supplemental Security Income	BA	5,519	5,972	6,072	6,511	6,950	7,421	7,922
	Outlays	5,058	5,795	6,072	6,511	6,950	7,421	7,922
Annual Contribution for Assisted Housing	BA	18,034	14,876	14,876	14,876	14,876	14,876	14,876
	Outlays	0	0	0	0	0	0	0
Housing Payments	BA	0	0	0	0	0	0	0
	Outlays	2,282	2,490	3,369	4,089	4,739	5,281	5,829
Payments for Operations of Low Income Housing	BA	535	576	576	576	576	576	576
	Outlays	178	499	576	576	576	576	576
Other Housing Programs	BA	41	51	53	55	58	60	63
	Outlays	29	56	53	55	58	60	63
Other Income Supplements and Administration	BA	1,818	282	234	227	211	214	218
	Outlays	1,257	330	245	227	210	214	218
Offsetting Receipts	BA	-1	-31	-33	-35	-36	-38	-40
	Outlays	-1	-31	-33	-35	-36	-38	-40
Total	BA	139,711	155,900	161,319	175,261	189,539	203,386	219,217
	Outlays	127,409	137,200	143,501	153,812	165,430	178,341	193,385

a/ Function 600

Table 32. Income Security, a/ With Further Adjustments for Inflation, by Fiscal Year, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
General Retirement and Disability Insurance								
Old Age and Survivors Insurance	BA	62,327	72,534	80,158	88,124	97,299	106,039	116,629
	Outlays	64,296	73,388	79,756	86,350	93,864	102,100	111,357
Disability Insurance	BA	8,355	9,590	10,922	12,034	13,113	15,047	16,870
	Outlays	9,606	11,259	12,384	13,902	15,655	17,671	20,015
Special Benefits to Coal Miners	BA	1,000	914	943	971	993	1,011	1,029
	Outlays	998	914	943	971	993	1,011	1,029
Railroad Retirement	BA	3,209	3,434	3,738	3,579	3,800	4,028	4,270
	Outlays	3,475	3,684	3,869	4,025	4,156	4,258	4,366
Other General Retirement and Disability	BA	-1,214	-1,256	-1,606	-1,321	-1,373	-1,436	-1,403
	Outlays	-1,204	-1,257	-1,606	-1,322	-1,374	-1,436	-1,403
Federal Employee Retirement and Disability								
Civil Service Retirement	BA	13,099	16,603	17,090	19,097	21,130	22,992	24,854
	Outlays	8,284	9,857	10,727	11,942	13,270	14,672	16,460
Other Federal Employee Retirement	BA	371	411	-83	-65	-125	-253	-324
	Outlays	-110	-38	-117	-101	-163	-286	-353
Unemployment Insurance								
Federal Unemployment Benefits and Allowances	BA	410	1,060	867	638	613	603	583
	Outlays	1,892	1,060	867	638	613	603	583
Unemployment Trust Fund	BA	15,702	14,899	12,758	14,856	15,773	15,969	16,049
	Outlays	17,555	13,973	11,689	10,860	10,254	9,967	9,735
Other Unemployment Programs	BA	-2,878	739	0	0	0	0	0
	Outlays	5	190	0	0	0	0	0
Public Assistance and Income Supplements								
Food Stamp Program	BA	5,196	5,542	4,991	4,915	4,945	5,057	5,202
	Outlays	5,775	5,509	4,991	4,915	4,945	5,057	5,202
Child Nutrition and Related Programs	BA	2,290	3,365	3,437	3,613	3,810	3,927	4,134
	Outlays	2,184	3,240	3,410	3,598	3,793	3,918	4,117
Public Assistance	BA	5,898	6,340	6,327	6,611	6,929	7,294	7,710
	Outlays	5,849	6,291	6,327	6,611	6,929	7,294	7,710
Supplemental Security Income	BA	5,519	5,972	6,072	6,511	6,950	7,421	7,922
	Outlays	5,058	5,795	6,072	6,511	6,950	7,421	7,922
Annual Contribution for Assisted Housing	BA	18,034	14,876	15,716	16,640	17,777	18,938	20,171
	Outlays	0	0	0	0	0	0	0
Housing Payments	BA	0	0	0	0	0	0	0
	Outlays	2,282	2,490	3,394	4,146	4,839	5,442	6,079
Payments for Operations of Low-Income Housing	BA	535	576	610	645	682	720	758
	Outlays	178	499	587	621	657	694	732
Other Housing Programs	BA	41	51	54	57	60	64	67
	Outlays	29	46	54	57	60	63	67
Other Income Supplements and Administration	BA	1,818	282	237	232	218	224	231
	Outlays	1,257	330	247	231	217	223	229
Offsetting Receipts								
	BA	-1	-31	-33	-35	-36	-38	-40
	Outlays	-1	-31	-33	-35	-36	-38	-40
Total								
	BA	139,711	155,900	162,196	177,101	192,556	207,605	224,712
	Outlays	127,409	137,200	143,539	153,920	165,620	178,633	193,807

a/ Function 600

The automatic cost-of-living adjustments continue to be the major factor driving OASI and DI costs upward during the projection period. These adjustments, based on changes in the level of the consumer price index, account for approximately 50 percent of the total cost increase between fiscal year 1976 and fiscal year 1982. The remaining 50 percent of the increase is due primarily to rising recipient levels and the increasing wage bases of new retirees.

Budget authority, or gross trust fund income, for the two funds is also projected to increase over the projection period, rising from \$70.7 billion in fiscal year 1976 to \$133.5 billion in fiscal year 1982. The principal components of budget authority are social insurance tax receipts and interest on the trust fund reserves which are invested in United States government securities. These two sources account for more than 98 percent of budget authority.

Tax receipts between fiscal year 1976 and fiscal year 1982 increase largely because of three factors: a rise in the number of workers paying social security taxes, the automatic adjustment of the maximum taxable wage which is triggered by changes in the consumer price index, and previously legislated increases in the tax rate which are effective at various points in the projection period. Interest income is a function of the actual trust fund balances and the interest rate paid on government securities.

The five-year projections for outlays and budget authority were generated by two separate processes and represent considerable advances over the methodology previously employed. Income and cost estimates have been produced separately for each of the two trust funds. 1/

The cost or outlay model projects recipient levels for twenty-six categories of OASDI beneficiaries: retired workers disaggregated by age and sex, various categories of dependents and survivors of retired workers, and disabled workers and various categories of their dependents. Each equation estimates the effect on recipient levels of demographic trends and changes in unemployment rates and wage levels. Average benefit payments are generated for twelve categories of beneficiaries which have been collapsed from the original twenty-six categories. The average benefit equations allow for the effect of increases in the consumer price index as

1/ Lawrence H. Thompson and Paul N. Van de Water, "The Short-Run Behavior of the Social Security Trust Funds," Technical Analysis Paper No. 8, Office of Income Security Policy, Office of the Assistant Secretary for Planning and Evaluation, Department of Health, Education, and Welfare, July 1976.

reflected in the automatic cost-of-living adjustment and rising wage bases, and for projected growth of real wages over the projection period.

The outlay model also projects retroactive and lump sum death benefit payments over the projection period. Estimates of administrative costs and of the amount of the transfer to the Railroad Retirement Trust Fund are made for both OASI and DI.

The tax receipts for the OASI and DI trust funds are generated as part of a larger effort to project social insurance tax revenues. The model employed for these two trust funds shows the effects of changes in the labor force, the level of covered wages, the unemployment rate, price changes as they impact on the maximum taxable wage, and scheduled tax changes.

Table 33 gives projections of recipient levels for OASI and DI for the baseline economic path. Additionally, it lists the cost-of-living adjustments and changes in the taxable maximum wage which are projected to take effect during the period from fiscal year 1977 to fiscal year 1982.

Table 33. Baseline Path Values for the OASI and DI Funds, by Fiscal Years

Fiscal Period	Average Monthly Recipients (in millions)		July Cost-of-Living Adjustment (percent)	Taxable Maximum Wage (in dollars)
	OASI	DI		
1977	28.5	4.6	5.0	16,500
1978	29.0	4.8	4.8	17,700
1979	29.5	5.0	4.7	19,200
1980	30.0	5.2	4.9	20,700
1981	30.4	5.5	5.2	22,200
1982	30.8	4.7	5.6	24,000

It should be noted that historically, the OASI and DI Trust Funds have been sensitive to economic changes. Thus, under the economic path having slower economic growth, recipient levels are projected to reach 31.1 million in fiscal year 1982 for OASI and 5.9 million for DI as opposed to 30.8 million and 5.7 million under the baseline path. These differences are due almost entirely to the higher unemployment rates projected by the alternative path.

Over the course of the projection period, however, total combined expenditures will be slightly lower for the alternative path than for the baseline path. By fiscal year 1982 under the alternative path, OASDI outlays are \$130.8 billion as opposed to \$131.3 billion under the baseline path. The result occurs because the cost mitigating effect of the lower unemployment rates assumed in the baseline path is more than offset by the impact of the higher inflation rates on the automatic cost-of-living adjustments.

Railroad Retirement and Special Benefits for Disabled Coal Miners (Black Lung). Black lung benefits for disabled coal miners are provided under two separate programs in the Departments of Health, Education, and Welfare and Labor. The number of beneficiaries for these programs is expected to decline over the fiscal year 1977-1982 period. Benefits, however, increase at the same rates as pay scales for federal employees (general schedule), more than offsetting the decline in number of beneficiaries. Estimates for railroad retirement are based on agency estimates which show the recipient population remaining relatively stable over the next five years. The increases in outlays are due almost entirely to cost-of-living increases.

Federal employee retirement and disability

Projections for the Civil Service Retirement and Disability Trust Fund outlays and budget authority were estimated by two computer models, one for outlays and the other for budget authority. Inputs to the models include the current base data provided by the Civil Service Commission (CSC) and rates of change derived from CSC historical data. Outlays are projected nearly to double between fiscal years 1977 and 1982. Three major factors contribute to this increase: expected growth in the number of beneficiaries, larger than average benefits for new retirees due to their higher earnings histories, and automatic cost-of-living adjustments.

The outlay model projects beneficiaries, average benefit payments, and cost-of-living increases on a monthly basis from July 1976. Total monthly outlays are calculated from these three components. Annual outlays are simply the sum of monthly outlays.

The outlays for any given month i are given by the following equation:

$$O_i = COLA_i (P_A (A) + P_S (S) + \sum_{k=1}^i (P_{AG,k} (AG_k) - P_{AD,k} (AD_k) + P_{SG,k} (SG_k)))$$

where:

A = number of annuitants at the start of the year

S = number of survivors at the start of the year

AG_k = new annuitants in month k

AD_k = the loss of annuitants in month k

SG_k = new survivors (net) in month k

P_x = average monthly benefit payment for beneficiary category x

$COLA_i$ = cost-of-living adjustments that have occurred up to month i

The Civil Service Commission has provided annuitant base and survivor base figures as of July 1976. These numbers are updated by the model at the start of each year in deriving A and S .

The monthly annuitant loss (AD) and survivor net growth (SG) are estimated on the basis of rates provided by the Civil Service Commission. These rates are .39 percent annuitant loss per month and .26 percent survivor net growth. The assumed average monthly payment for annuitants leaving the rolls (P_{AD}) and for new survivors (P_{SG}) are \$435 and \$379, respectively. These payments vary slightly over the projection period due to the changing mix (i.e., wage history) of annuitants and survivors, and are updated at the end of each fiscal year to reflect cost-of-living adjustments that have occurred.

An estimate of the average benefit payment for new annuitants as of July 1976 was provided by CSC. This level (\$631) is adjusted in accordance with October pay comparability adjustments to arrive at $P_{AG,k}$. This adjustment is required because average benefit payments for new annuitants are influenced solely by federal pay levels, which in turn are affected by the October pay comparability adjustments.

The number of new annuitants in a given month (AG_k) is made up of two parts. The first is a normal monthly influx of annuitants. On the basis of figures obtained from CSC, the number of annuitants is estimated to increase at a rate of .63 percent per month. In addition to this normal monthly growth, a surge of new annuitants is projected in two months of each year.

Over the past several years, there has been a significant increase in the number of retirements in the month before a cost-of-living increase becomes effective for beneficiaries. The apparent reason for this surge lies in the difference between the calculation of initial retirement benefits and later increases in those benefits. Initial benefits are based on the average of the three highest annual salaries received by the employee (assumed to be the last three years), and future benefits are increased from the initial level with the current policy formula for providing cost-of-living adjustments. The potential retiree must weigh the advantages of receiving his or her salary against receiving the cost-of-living increase on top of the initial benefit determination. If the employee opts for the latter, it is optimal for him or her to retire the month before the effective date of a cost-of-living adjustment to maximize present payroll receipts and retirement benefits. Current policy formulation for the cost-of-living adjustment is the Chile's plan. Under this plan, December and June are base CPI months for two yearly cost-of-living increases that occur in April and October. In the model, the number of annuitants are increased every March and September to account for the surge in new retirees. It was assumed that the increase in retirees would be 10,000 during each surge. Table 34 summarizes the data used in the computation of monthly outlays.

Table 34. Data Used to Compute Outlays
Beneficiary Base Figures, as of July 1976

	Number of Beneficiaries	Average Monthly Benefit Payments (in dollars)
Annuitants	1,044,460	593
Survivors	409,100	237
Beneficiary Change Data		
	Monthly Growth (Loss) Rates	Average Monthly Benefit Payments (in dollars)
Annuitant Increases <u>b/</u>	.0063	631
Annuitant Losses	.0039	435
Survivor Increases	.0026	379

a/ As of July 1976.

b/ Does not include March and September surges of 10,000.

The budget authority model projects the following nine elements to derive budget authority:

- Employee Contributions
- Agency Contributions
- Postal Service Contributions
- Postal Service Amortization Payments
- Federal Contributions
 - Amortization Payments
 - Interest on Unfunded Liability
 - Payment for Military Service Credit
- Interest on Fund Balances
- Other

Employee, agency, and postal service contributions are calculated by taking 7 percent of the covered payroll base for general schedule, wage board, and postal employees. The payroll bases (as of July 1976) and the factors used to derive the covered payroll are shown in Table 35. Payroll bases are updated each year to include the appropriate pay increases.

Table 35. 1976 Payroll Bases and Covered Payroll Factors

	Payroll Base (in millions of \$)	Covered Payroll Factors
General Schedule	26,340	.914
Wage Board	7,310	.914
Postal Service	10,097	.834

Federal amortization payments are calculated by multiplying the year's pay increase by a factor reflecting projected liabilities amortized over thirty years and adding the result to the amortization payment of the previous year. The Postal amortization payments were taken from Postal service projections. Interest on the unfunded liability is calculated by taking a percentage of the interest on the sum of the previous year's unfunded liability and cost-of-living adjustment additions to the unfunded liability. 1/

1/ Under current law, 70 percent of the interest on the unfunded liability for fiscal year 1977 is required to be paid. In fiscal year 1978, the percent increases to 80 percent. All of the interest for fiscal year 1980 must be paid.

Special issues rates were used in the calculation of fund interest. The military service credit is increased by a factor obtained from CSC for each year after the base year (fiscal year 1976). 1/ "Other" is a payment to the fund which remains constant at \$91 million. Table 36 summarizes data provided by the Civil Service Commission and used in the model.

Table 36. Data Used in the Model of Civil Service Retirement Budget Authority a/

Federal Amortization Base	1,516
Unfunded Liability Base	107,008
Military Service Credit Base	526
Military Service Credit Growth Factor	1,029
Fund Interest Base	2,464
Fund Balance Base	43,063
Average Earnings Rate on Existing Portfolio	.0667

a/ Base figures as of July 1976

Unemployment insurance

To forecast unemployment insurance outlays, a statistical analysis has been developed of the basic underlying relationships within the unemployment insurance system. This statistical analysis forms the basis of the projection model used by CBO. The CBO model estimates quarterly outlays for all of the major unemployment programs through a series of multiple regression equations. These equations rely on key macroeconomic variables such as the unemployment rate, real gross national product, and the consumer price index to estimate the major parameters in the unemployment insurance system including the insured unemployment rate, the covered wage force, and average weekly benefits. 2/

1/ The military service credit is subject to the same percentage payment requirements as interest on the unfunded liability, as described in the previous footnote.

2/ For more detail on the estimation of unemployment outlays, see Robert Black and Cyrus Karr, "Estimating Outlays for Unemployment Compensation Programs," Technical Analysis Paper No. 1, Congressional Budget Office, October 1976.

Under the baseline economic assumptions, Unemployment Trust Fund and Federal Unemployment Benefit Allowance Account (FUBA) outlays are estimated to decline throughout the projection period. Unemployment Trust Fund outlays are estimated to decrease from \$13.97 billion in fiscal year 1977 to \$9.74 billion in fiscal year 1982. FUBA outlays are projected to decline from \$1.06 billion in fiscal year 1977 to \$583 million in fiscal year 1982.

The reduction in unemployment insurance outlays is primarily due to two factors. First, two emergency unemployment programs are due to expire. The Special Unemployment Assistance program in the FUBA account will expire in March of 1978, and the Federal Supplemental Benefits program, which is part of the Unemployment Trust Fund, will expire in March of 1977. Second, over the five-year projection period, the unemployment rate is projected to decline. This decline in the unemployment rate affects the number of individuals receiving benefits in the regular twenty-six week unemployment program as well as the number of states triggering into the Extended Benefit program. For example, the average annual number of weekly beneficiaries estimated to receive unemployment benefits in the regular twenty-six week unemployment program is projected to decline from approximately 3.5 million in fiscal year 1977 to 2.1 million in fiscal year 1982.

Offsetting this decline in outlays, to some extent, is the growth in the average weekly benefit from an estimated \$79 a week in fiscal year 1977 to \$103 in fiscal year 1982, as well as the costs of new coverage provided for in the Unemployment Compensation Amendments of 1976 enacted in the last session of the 94th Congress. Finally, because of the increased revenue generated by these amendments and the improved economic conditions assumed for the end of the projection period, the Unemployment Trust Fund is estimated to be operating at a surplus by the end of fiscal year 1981.

Under the less vigorous economic expansion path, outlays for both the Unemployment Trust Fund and FUBA decline slightly from a total of \$15.2 billion in fiscal year 1977 to \$14.7 billion in fiscal year 1982. Though during this period the unemployment rate declines from 7.6 percent to 5.5 percent, the growth in the covered labor force, the projected increase in average weekly benefits due to inflation, and the costs of the Unemployment Compensation Amendments of 1976 all offset this decline in the unemployment rate so that outlays decrease only slightly over the projection period.

Income supplements and housing assistance

Among the programs included in this category of income supplements are Food Stamps, Child Nutrition and other miscellaneous nutrition programs, Aid to Families with Dependent Children (AFDC), Supplemental Security Income (SSI), and housing assistance.

Food Stamps (FSP). Total federal benefits paid to Food Stamp Program recipients are projected to decrease from fiscal year 1976 levels of \$5.3 billion to \$4.8 billion by fiscal year 1982. The FSP has been highly sensitive to changes in economic conditions. The baseline economic path projects a significant improvement in the general economy with lower unemployment rates, relatively stable food prices, and increasing wage growth. Thus, projected FSP outlays decline slightly.

The model used to generate the FSP projections separately estimates beneficiaries and average payment levels for both public assistance (PA) and non-public assistance recipients. Public assistance recipients are almost exclusively comprised of individuals who receive benefits in the Aid to Families with Dependent Children Program (AFDC). ^{1/} Public assistance recipients are projected using estimates of AFDC recipient levels over the projection period and taking into account definitional changes which occurred in 1974. Because AFDC recipients are automatically entitled to food stamp benefits, changes in AFDC program levels dominate changes in PA recipients in the FSP.

Non-public assistance (NPA) recipients must qualify for FSP benefits on the basis of a means or income test. These recipient levels are projected as a function of the unemployment rate, per capita income, and FSP eligibility standards. (Because of the effect of unemployment on expected income, recipient levels respond to changes in unemployment.)

Average subsidy values (called bonus values) are projected as a function of estimated FSP allotment levels. Estimates for these allotment levels are based on estimated changes in the consumer price index for food at home.

The FSP model shows that the decrease in outlays over the projection period is due exclusively to a projected decline in recipient levels from 18.5 million in fiscal year 1976 to 13.7 million in fiscal year 1982. PA recipients are projected to remain relatively stable over the period while improving economic conditions cause a projected decline of 4.8 million NPA recipients from 10 million in fiscal year 1976 to 5.2 million in fiscal year 1982. Also, average monthly bonus values are projected to increase from \$23.91 in fiscal year 1976 to \$29.06 in fiscal year 1982. Table 37 shows baseline path projections for average monthly recipient levels and average monthly bonus values.

^{1/} Recent legislation makes supplemental security income recipients in New York and Nevada eligible for food stamps, also.

Under the assumption of less vigorous economic expansion, FSP recipient levels are projected to decrease only to 14.1 million by fiscal year 1982 rather than the 13.7 million projected under the baseline path. Average monthly bonus values rise to \$28.75 in fiscal year 1982 under the alternative path, not significantly different from the \$29.06 projected under the baseline path.

Table 37. Baseline Path Recipient and Payment Levels for the Food Stamp Program, by Fiscal Year

Fiscal Period	Average Monthly Recipients			Average Monthly Bonus
	PA	NPA (in millions)	Totals	
1977	8.7	8.8	17.5	\$24.14
1978	8.5	7.2	15.7	24.42
1979	8.5	6.6	15.1	25.08
1980	8.5	6.0	14.5	26.19
1981	8.5	5.6	14.1	27.59
1982	8.5	5.2	13.7	29.06

Child Nutrition and related programs. Total costs for the Child Nutrition and related programs are projected to grow from an annual level of \$3.4 billion in fiscal year 1978 to \$4.1 billion by fiscal year 1982. This increase in costs is largely the result of inflation since increases in the federal subsidy (the reimbursement rates) are automatically tied to increases in the food-away-from-home component of the consumer price index (CPI). These automatic increases were sufficiently large over the period to offset the estimated decline in the number of program recipients that is expected to occur as the number of children in the eligible age groups declines.

Currently, the school lunch program represents close to two-thirds of all funds for the Child Nutrition and related programs category. Table 38 shows that total costs for the lunch program are projected to be \$2.2 billion in fiscal year 1978, increasing marginally to \$2.3 billion by fiscal year 1982. Thus, the lunch program will decline as a percentage of the total over the period. Underlying the seeming stability of total expenditures on school lunches are three factors operating with offsetting effects:

- o Enrollments in kindergarten through grade twelve are projected to decline from 48.1 million in fiscal year 1978 to 44.9 million in fiscal year 1982 as shown in Table 38. Since the model estimates total lunches as a function of school enrollments, lunches are projected to decline.

Table 38. Components of School Lunch Program Projections, by Fiscal Year

Fiscal Period	Enrollments Grades K-12 (in millions)	Total Lunches Served (in billions)	Total Expenditures (in billions of \$)
1978	48.1	4.2	2.2
1979	47.2	4.2	2.2
1980	46.2	4.1	2.3
1981	45.5	3.8	2.3
1982	44.9	3.6	2.3

- o The federal payment for the three categories of school lunches will rise because of the automatic adjustment tied to changes in the CPI food-away-from-home component. It is estimated that the weighted average subsidy per lunch will increase by 8.1 cents over the five-year period. (The three categories of lunches are the paid lunch, which received a subsidy of 12.4 cents per meal in 1976, the reduced price lunch which received a subsidy of 58.2 cents, and the free lunch which received a subsidy of 68.2 cents.)
- o Recent legislation is predicted to change the mix of types of lunches served. P.L. 94-105 has raised the level of family income required for eligibility for the reduced price lunch and has made it mandatory for all schools to offer the reduced price lunch. These changes are expected to result in a decline in the proportion of students purchasing the basic subsidized lunch as an increasing proportion take the more highly subsidized reduced price lunch. Since the federal subsidy for reduced price lunches is more than three times the basic subsidy, total costs per meal will rise as a result of changes in the mix of lunches served.

Thus, over the five-year period, the downward pull on costs resulting from the projected decline in the total number of meals served is offset by the upward push on costs resulting from the automatic adjustment for inflation and from the increasing proportion of meals served in the more heavily subsidized categories.

The other nutrition programs are smaller but are growing both in the number of institutions involved and in people participating. This group includes the school breakfast program, the daycare meals program, the summer feeding program, the elderly feeding program, and other programs. Because these programs are relatively new, they are still in the stage where participation rates among eligible institutions and children are increasing as information about the programs spreads. Added to the program growth are increases in federal costs tied to higher food costs. As a result, this group of programs accounts for almost all of the cost increase in total outlays in the category Child Nutrition and related programs over the five-year projection period.

Aid to Families with Dependent Children (AFDC). The federal share of benefit payments in the AFDC program is estimated to increase from fiscal year 1976 levels of about \$5.3 billion to \$6.8 billion by fiscal year 1982 under the baseline economic path. Recipient levels are projected to decline between fiscal year 1976 and fiscal year 1978 from 11.4 million to 10.9 million and then remain relatively constant over the rest of the projection period. Average federal, state, and local monthly payments are projected to rise from \$70.39 in fiscal year 1976 to \$94.67 by fiscal year 1982.

Recipient levels and total payments were projected using a time series model which accounts for the complex trends of the AFDC program. Recipient levels are projected to return to the pre-recession levels of 1973 and 1974. This appears to be largely the result of the declining unemployment rate which impacts primarily on the unemployed fathers segments of the AFDC program (AFDC-UF) and of apparently decreasing participation rates among non-UF eligibles (essentially members of female headed households). Average payment levels are projected to rise with the consumer price index since states are anticipated to maintain the real level of AFDC benefits over the projections period.

The assumptions of slower economic growth under the alternative path have no significant effect on projections of recipient levels, which are only slightly higher than estimates under the baseline path over the projection period. This result is due primarily to the historical pattern of low responsiveness of the AFDC recipient population to changes in the unemployment rate. Average monthly recipient levels under the baseline path, for example, are projected to be 10.89 million by fiscal year 1982 as

opposed to 10.90 million under the alternative path. The lower inflation rate assumptions of the lower growth path act to keep average monthly benefits below baseline projections. Average monthly benefits (federal, state, and local) are \$94.67 by fiscal year 1982 under the baseline path and \$92.82 under the alternative path. Baseline path recipient and average payment levels for AFDC are shown in Table 39.

Table 39. Baseline Path Recipient and Payment Levels for Aid to Families with Dependent Children, by Fiscal Year

Fiscal Period	Average Monthly Recipients (in millions)	Average Monthly Payments (Federal, State, and Local) (in dollars)
1977	11.30	76.31
1978	10.91	17.50
1979	10.89	81.17
1980	10.88	85.17
1981	10.90	89.58
1982	10.89	94.67

Supplemental Security Income (SSI). Projected recipient and benefit levels for the SSI program are shown in Table 40. The federal portion of benefit payments in the Supplemental Security Income program is projected to rise from \$4.5 billion in fiscal year 1976 to \$7.1 billion in fiscal year 1982. Recipient levels are projected to increase from 4.3 million average monthly recipients in fiscal year 1976 to 5.0 million in fiscal year 1982. Average monthly benefits (federal portion) are estimated to reach \$118.58 by fiscal year 1982. The projections methodology for this program was similar to that used for AFDC.

The SSI program is projected to continue the moderate recipient growth it has experienced in the past two years which appears to have been largely due to increased information about its availability, particularly among the disabled population. Benefit levels increase automatically with changes in the consumer price index in the same percentage amount as benefits for Old Age, Survivors, and Disability Insurance recipients.

Table 40. Baseline Path Recipient and Payment Levels for the Supplemental Security Income Program, by Fiscal Year

Fiscal Period	Average Monthly Recipients (in millions)	Average Monthly Payments (Federal Portion) (in dollars)
1977	4.5	93.43
1978	4.6	97.75
1979	4.7	102.42
1980	4.8	107.25
1981	4.9	112.67
1982	5.0	118.58

The brief history of the SSI program indicates that it responds quickly to changes in the unemployment rate. This response may be part of more general indications that the disabled population is significantly affected by high unemployment rates. (About 50 percent of all SSI recipients qualify under the disability provisions.) It also may be that the correlation between increases in unemployment rates and increases in the SSI recipient level is spurious since unemployment has been rising during the program's initial growth.

Nevertheless, recipient projections under the alternative economic path are significantly higher than those for the baseline path, rising to an average monthly level of 5.6 million by fiscal year 1982 as opposed to 5.0 million for the baseline path. This increase is somewhat offset by the lower average monthly payment projections under the alternative path which reach \$117.33 by fiscal year 1982 rather than the \$118.58 projected under the baseline path.

Annual contributions for assisted housing. The annual contributions account incorporates the budget authority for most of HUD's subsidized housing programs. Outlays from this authority occur in the Housing Payments Account. Budget authority in the account is quite large compared to outlays. This relationship occurs as a result of the limitation imposed upon outlays by an underlying allocation of annual contract authority. Annual contract authority acts as a limit on the amount of authority which can be obligated for use in any one year, while budget authority acts as a limit on the sum of annual contract authority in all years. The calculation of budget authority is therefore the result of two steps. First, allocations of

annual contract authority are made by program, and then those allocations are multiplied by the maximum term that an obligation can be entered into for that particular program. For this estimate the allocations by programs were assumed to be the same as implicitly provided in the fiscal year 1977 appropriation. Under the discretionary inflation assumptions, the allocation for public housing (both conventional and modernization) and the Section 8 newly constructed housing programs were assumed to increase at the same rate as the CBO estimate of the residential construction index. The allocation for the Section 8 existing housing program was assumed to increase with the CBO estimate of the CPI component for rent.

Housing payments. This account contains the outlays from budget authority provided through the annual contributions account. There are eight distinct programs included in the account, all of which act to lower the cost of standard housing to low and moderate income families. Though the programs have substantial differences, they generally lower costs in one of two ways. Most of the older programs subsidize a property owner's debt service (mortgage amortization and interest) which in turn gets passed on to tenants in the form of lower rents. The newer programs, on the other hand, provide their subsidies directly to a tenant by raising the amount of their income available for housing. Outlays are estimated to increase rapidly through the entire projection period as the effects of annual increases in funding for the Public Housing and Section 8 programs are felt.

Five of the programs, low rent Public Housing, Section 235 (both the old and revised programs), Section 236, and college housing grants, though aimed at different groups and in some instances created for different purposes, operate in quite similar fashion in a budget sense. Each of these programs provides a property owner with a debt service subsidy. In college housing and low rent public housing, that subsidy amounts to the entire amortization and interest costs. For the other programs, the subsidy generally is for a portion of the interest on the mortgage. By subsidizing debt service, the base from which rents are set is lowered, and thus rents themselves are lowered. Debt service subsidies essentially remain fixed through the mortgage term; therefore, for those units currently under payment, costs were held constant throughout the estimate period. In several of the programs, new units are anticipated to come under subsidy for the first time during the five-year estimate period, either from outstanding commitments or from newly provided authority. In these cases, a schedule was created, based on historical experience, of when the new units would be added. The cost of the units in the case of the revised Section 235 program was based on the maximum average payment, assuming that the FHA interest ceiling would not change. In the other programs (most particularly, conventional low rent public housing), the subsidy was found by indexing the fiscal year 1977 appropriation allocation by the CBO estimate of the

residential construction index. Once a unit was estimated to come under payment, its cost was assumed to remain constant throughout the remaining estimate period. For the original Section 235 program, however, because of assumptions of foreclosure, units and thus outlays decline throughout the period.

The rent supplement program provides subsidies to tenants in an amount equal to the difference between their contract rent and approximately 20 percent of their adjusted gross income. Outlays per unit are therefore based on assumptions of tenant income and contract rent levels. Income levels were projected by applying an estimated annual rate of increase to the actual incomes of rent supplement tenants as reported in the 1975 certification survey. The rate of growth in income was derived from a regression equation which related the rate of growth in income for the lowest quintile of family income to the GNP. Rents were assumed to increase from the levels reported in the 1975 certification survey at the same rate as the CBO estimate of the CPI component for rent. As a consequence of the economic assumptions, outlays per unit fall slowly as the incomes of the subsidized tenants rise at a rate greater than contract rents. Outlays in the aggregate, however, are estimated to increase somewhat since additional units are projected to come under payment through most of the forecast period.

Outlays of the Section 8 program account for a major portion of the growth in housing payments. The Section 8 program is really two distinct programs, one which subsidizes tenants in existing housing and another which subsidizes tenants in newly constructed or substantially rehabilitated housing. Both operate in a way which is quite similar to the rent supplement program. Each provides a subsidy for that portion of rent which exceeds a proportion of tenant income — assumed in this estimate to be 20 percent.

Since Section 8 is such a new program little is known about the income levels of potential tenants. Therefore, income levels of tenants in programs where participants were thought to be roughly comparable were used as the base for calculation. In the Section 8 existing housing program, the income level was assumed to be approximately the same as non-elderly families participating in the public housing program (\$4,200/year). The income of tenants in the Section 8 newly constructed housing programs was assumed to be roughly the same as that of Section 236 tenants (\$5,600/year). These income levels were increased by the same rate as estimated for the lowest quintile of family income.

Rent levels were derived slightly differently for each Section 8 program. In the newly constructed housing program, rent levels for the first year of occupancy were calculated by increasing HUD's estimate of average

reservation amounts by the residential construction index. In subsequent years rents were increased by first holding that portion of rent attributable to debt service constant and then increasing the balance by the CBO estimate of the CPI. In the existing housing program, the base for average rent was calculated by a weighted average of the published fair market rent levels for fiscal year 1977. This base was then increased at the same rate as the CBO estimate of the CPI for rent.

Outlays, of course, do not occur in either program until a tenant is in occupancy. Thus, for the calculation of outlays, the timing between appropriation and occupancy is crucial. The assumptions of timing were primarily based on the experience of the Section 236 program for the newly constructed housing program and the Section 23 program for the existing housing program.

Veterans' Benefits and Services (Function 700)

Veterans' benefits and services consist of those federal programs specifically designed for veterans, their dependents, and survivors. Three accounts — pensions and compensation, readjustment benefits, and medical care — account for approximately 95 percent of the outlays assumed for the second concurrent resolution. Veterans' benefits and services represent one of the only categories of programs which provides benefits to individuals that is not directly indexed for inflation under current law. As a result, the projection under existing law commitments does not include cost-of-living adjustments for benefit payments.

Veterans' pensions

The estimated number of pension beneficiaries was derived by models relating veteran pension recipients to total veterans in civilian life, and pension widows to the total number of females in the population. Under existing law commitments, average dollar benefits were projected using a trend model. For the projection which includes further adjustments for inflation, these benefit levels were adjusted by assumed changes in the consumer price index. Adjusted average benefit amounts were applied to beneficiary forecasts to produce outlay estimates through fiscal year 1982.

Although the bulk of the increase in pension outlays is the result of adjustments for assumed inflation, the rate of increase in pension beneficiaries rises steadily through the five-year period due to the influx of World War II veterans and widows of veterans of World War I. The veterans caseload is projected to increase from 1,035,000 in fiscal year 1978 to 1,111,000 in fiscal year 1982, while the level of survivor cases rises from 1,308,000 to 1,359,000 during the same period.

Veterans' compensation

Expenditures for the veterans' and survivors' compensation program were derived from agency supplied beneficiary estimates. These estimates show a slight drop in veteran and survivor caseloads (from a total of 2,576,000 in fiscal year 1978 to 2,514,000 in fiscal year 1982). Under existing law commitments, average benefit levels were held at the estimated fiscal year 1977 level throughout the projection period. For the projection which includes further adjustments for inflation, benefit levels were increased on the basis of assumed increases in the consumer price index. Projected outlays were estimated by multiplying beneficiary levels times average benefit levels.

Veterans' education, training and rehabilitation

This category is almost entirely comprised of veterans' readjustment benefits (the G.I. Bill). Under current law, readjustment benefit payments are projected to fall from the fiscal year 1976 level of \$5.5 billion annually to \$2.9 billion by fiscal year 1982. When benefit payments are adjusted to reflect inflation, total payments still decline, but only to \$3.7 billion in fiscal year 1982. The decline in outlays is mainly the result of a decrease in the number of veterans in training. However, expected receipts from G.I.'s who participate in the new contributory plan also result in a small reduction in outlays. The contributory plan was introduced for those new entrants into the armed services whose regular benefits will be terminated.

Total benefit payments in this category were estimated in four steps. First, the number of veterans in training was estimated using a statistical model to project participation rates (the proportion of eligible veterans participating) as a function of time elapsed since discharge and the year of discharge. The results of the model indicate that the more recent the veteran's year of separation, the higher the propensity to train. However, the trend towards increasing participation rates is more than offset by a decrease in the number of eligible veterans. This decrease in eligible veterans is due to the termination of the G.I. Bill for all new entrants into the armed services as of January 1, 1977 and to a projected decrease in the level of discharges. The total number of trainees is projected to decline from 2.3 million in fiscal year 1977 to 1.3 million in fiscal year 1982. The decline in trainees is therefore due entirely to the declining base of eligible veterans.

The next step in estimating total payments is the projection of the benefit level per trainee. The average benefit is based on the number of dependents per trainee, the type of training, and full- or part-time status. An analysis of historical evidence indicates that these factors have remained relatively constant over time. Under existing law commitments, the average benefit level was held constant at estimated fiscal year 1977 levels.

Table 41. Veterans' Benefits and Services, a/ Under Existing Law Commitment, by Fiscal Year, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Income Security for Veterans								
Veterans' Pensions	BA	8,249	3,204	3,202	3,160	3,111	3,105	3,083
	Outlays	8,178	3,223	3,202	3,160	3,111	3,105	3,083
Veterans' Compensation	BA	0	5,587	5,570	5,564	5,509	5,469	5,432
	Outlays	0	5,587	5,570	5,564	5,509	5,469	5,432
Other Income Security for Veterans	BA	436	651	668	681	701	719	742
	Outlays	172	319	357	383	390	399	422
Veterans' Education, Training, and Rehabilitation	BA	6,015	5,307	4,506	4,251	3,797	3,288	2,822
	Outlays	5,531	5,279	4,506	4,153	3,833	3,385	2,940
Hospital and Medical Care for Veterans								
Construction	BA	414	508	508	508	508	508	508
	Outlays	191	324	462	593	576	532	517
Medical Care, Administration, and Research	BA	3,990	4,446	4,624	4,819	5,021	5,236	5,479
	Outlays	3,824	4,431	4,637	4,801	5,002	5,216	5,457
Other Medical Expenses	BA	32	37	40	42	45	48	51
	Outlays	30	24	53	45	43	46	49
Veterans' Housing	BA	0	0	0	0	0	0	0
	Outlays	-72	-255	55	55	54	54	54
Other Veterans' Benefits and Services	BA	544	540	563	587	613	640	671
	Outlays	579	547	559	583	609	636	666
Offsetting Receipts and Other	BA	-2	21	-2	-2	-2	-2	-2
	Outlays	-2	23	-2	-2	-2	-2	-2
Total	BA	19,678	20,300	19,677	19,611	19,302	19,011	18,785
	Outlays	18,432	19,500	19,398	19,336	19,125	18,841	18,617

a/ Function 700Table 42. Veterans' Benefits and Services, a/ With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Income Security for Veterans								
Veterans' Pensions	BA	8,249	3,204	3,360	3,476	3,602	3,754	3,925
	Outlays	8,178	3,223	3,360	3,476	3,602	3,754	3,925
Veterans' Compensation	BA	0	5,587	5,849	6,121	6,347	6,612	6,911
	Outlays	0	5,587	5,849	6,121	6,347	6,612	6,911
Other Income Security for Veterans	BA	436	651	677	700	728	757	792
	Outlays	172	319	366	402	418	438	472
Veterans' Education, Training, and Rehabilitation	BA	6,015	5,307	4,730	4,668	4,373	3,970	3,574
	Outlays	5,531	5,279	4,670	4,379	4,360	4,066	3,693
Hospital and Medical Care for Veterans								
Construction	BA	414	508	550	593	636	679	723
	Outlays	191	324	469	625	647	645	673
Medical Care, Administration, and Research	BA	3,990	4,446	4,702	4,978	5,267	5,569	5,900
	Outlays	3,824	4,431	4,708	4,953	5,241	5,541	5,870
Other Medical Expenses	BA	32	37	39	41	43	45	48
	Outlays	30	24	53	44	42	44	46
Veterans' Housing	BA	0	0	0	0	0	0	0
	Outlays	-72	-255	55	55	54	54	54
Other Veterans' Benefits and Services	BA	544	540	571	604	639	675	715
	Outlays	579	577	567	599	634	670	709
Offsetting Receipts and Other	BA	-2	21	-2	-2	-2	-3	-3
	Outlays	-2	23	-2	-2	-2	-3	-3
Total	BA	19,678	20,300	20,476	21,178	21,632	22,059	22,584
	Outlays	18,432	19,500	20,093	20,851	21,340	21,821	22,349

a/ Function 700

Average benefits were inflated using the consumer price index for the projection which includes further adjustments for inflation. Finally, outlays for benefit payments for trainees are obtained by multiplying the number of trainees times average benefit levels. 1/

Hospital and medical care for veterans

The major account in the category is veterans' medical care. The simple inflation method was used for the projection. It was assumed that 77 percent of the outlays in this account are for the pay of federal employees. Under existing law commitments the remaining 23 percent, which is for purchases, was held at fiscal year 1977 levels. For the projection which includes further adjustments for inflation, purchases were increased using the deflator for federal purchases of services.

Law Enforcement and Justice (Function 750)

The largest expenditures within this function are for law enforcement and prosecution activities and grants to state and local governments. The function also includes correctional, rehabilitative and judicial activities.

Law enforcement and prosecution

This category includes most of the federal enforcement agencies such as the Federal Bureau of Investigation, the Immigration and Naturalization Service, the Customs Service, and the Secret Service. It also includes the Legal Services Corporation, which provides legal representation in non-criminal cases.

In general these agencies have a single salary and expense account which was projected by the simple inflation method. The major deflators used were those for federal pay and federal purchases of services.

Other justice activities

All remaining accounts were projected using the simple inflation method. The Law Enforcement Assistance Administration (LEAA) account was inflated using the consumer price index, and a weighted deflator for federal pay and federal purchases of goods and services was applied to most of the other accounts.

1/ Total outlays for readjustment benefits also include an estimate for additional payments stemming from S. 969.

Table 43. Law Enforcement and Justice, a/ Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Federal Law Enforcement and Prosecution								
FBI-Salaries and Expenses	BA	486	494	515	539	563	589	618
	Outlays	469	487	513	538	563	586	615
Immigration & Naturalization Service, S&E	BA	215	234	243	253	264	275	288
	Outlays	201	234	242	252	263	274	286
Drug Enforcement Administration, S&E	BA	155	161	166	172	178	184	191
	Outlays	146	161	163	171	177	183	190
Customs Service-Salaries and Expenses	BA	329	340	357	375	394	414	437
	Outlays	334	340	353	373	392	412	435
Payment to the Legal Services Corporation	BA	92	125	125	125	125	125	125
	Outlays	85	115	124	125	125	125	125
Other Federal Law Enforcement & Prosecution	BA	645	674	698	724	752	781	814
	Outlays	618	682	703	720	748	778	810
Federal Judicial Activities	BA	331	364	376	392	405	419	435
	Outlays	313	366	379	391	405	419	434
Federal Correctional & Rehabilitation Activities	BA	240	297	305	314	323	333	344
	Outlays	238	278	287	312	322	332	343
Law Enforcement Assistance	BA	810	758	759	761	762	763	765
	Outlays	921	865	798	805	762	762	763
Other Law Enforcement and Justice	BA	0	60	60	60	60	60	60
	Outlays	0	79	54	60	60	60	60
Offsetting Receipts and Other	BA	-4	-7	-8	-8	-9	-9	-9
	Outlays	-4	-7	-8	-8	-9	-9	-9
Total	BA	3,298	3,500	3,597	3,707	3,817	3,935	4,067
	Outlays	3,320	3,600	3,609	3,740	3,810	3,922	4,053

a/ Function 750Table 44. Law Enforcement and Justice, a/ With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Federal Law Enforcement and Prosecution								
FBI-Salaries and Expenses	BA	486	494	521	551	582	615	651
	Outlays	469	487	519	550	582	612	648
Immigration & Naturalization Service, S&E	BA	215	234	248	262	277	293	311
	Outlays	201	234	246	261	276	292	309
Drug Enforcement Administration, S&E	BA	155	161	171	182	193	204	216
	Outlays	146	161	166	179	190	202	214
Customs Service-Salaries and Expenses	BA	329	340	358	378	399	420	445
	Outlays	334	340	354	376	397	419	443
Payment to the Legal Services Corporation	BA	92	125	130	138	144	152	160
	Outlays	85	115	129	136	142	150	157
Other Federal Law Enforcement & Prosecution	BA	645	674	720	753	797	841	890
	Outlays	618	682	715	747	791	835	885
Federal Judicial Activities	BA	331	364	385	410	433	457	483
	Outlays	313	366	387	408	431	455	482
Federal Correctional & Rehabilitation Activities	BA	240	297	315	334	353	374	396
	Outlays	238	278	293	327	347	367	389
Law Enforcement Assistance	BA	810	758	797	837	878	922	971
	Outlays	921	865	806	839	834	874	919
Other Law Enforcement and Justice	BA	0	60	62	65	67	69	72
	Outlays	0	79	56	64	67	69	72
Offsetting Receipts and Other	BA	-4	-7	-8	-8	-9	-9	-9
	Outlays	-4	-7	-8	-8	-9	-9	-9
Total	BA	3,298	3,500	3,699	3,900	4,114	4,339	4,587
	Outlays	3,320	3,600	3,664	3,880	4,050	4,267	4,508

a/ Function 750

General Government (Function 800)

This function includes the general overhead costs of the federal government including legislative and executive activities; provision of central fiscal, personnel, and property activities; and the provision of services that cannot reasonably be classified in any other major function.

Legislative functions

This subfunction includes activities of the House and Senate, as well as joint items. Since there were no accounts in this group which required a unique methodology, projections were done by the simple inflation method using primarily the consumer price index and the deflators for federal pay and for federal purchases of services.

Central fiscal operations

This subfunction includes the Internal Revenue Service and other central fiscal management operations primarily in the Treasury Department. Projections for most accounts were done using the simple inflation method. Revolving fund accounts were generally projected at zero.

Executive office and all other general government activities

These subfunctions include executive direction and management and other general government activities. As with the other components of the general government function, most individual accounts were projected by the simple inflation method. The primary deflators used were those for federal pay, for federal purchases of services, and the CPI. The independent commissions in this subfunction were examined individually and projected to continue until their likely expiration dates; new temporary commissions were not assumed to take the place of old temporary commissions. Within the other general government category, a reduction is shown for fiscal years 1980 through 1982. This decrease is due to the termination of the Indian Claims Commission (ICC) in fiscal year 1978; Indian claims were previously administered through the ICC, but will be channeled through the Federal Court of Claims beginning in 1979. A large decrease in claims settled is assumed at that time.

Revenue Sharing and General Purpose Fiscal Assistance (Function 850)

The payments in this function are directed toward state and local governments and U.S. territories. The function consists of the general revenue sharing program (subfunction 851) and general purpose fiscal assistance programs (subfunction 852). General purpose fiscal assistance includes payments in lieu of taxes, broad-purpose shared revenues, and the federal payment to the District of Columbia. Seventeen expenditure and

Table 45. General Government, a/ Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Legislative Functions	BA	773	861	786	810	835	861	891
	Outlays	673	895	832	848	864	876	890
Executive Direction and Management	BA	70	77	76	79	82	88	88
	Outlays	68	77	77	79	82	87	88
Central Fiscal Operations	BA	1,794	1,861	1,931	2,009	2,089	2,175	2,272
	Outlays	1,805	1,852	1,883	1,982	2,080	2,165	2,260
General Property and Records Management	BA	352	314	324	336	348	361	375
	Outlays	95	292	319	335	347	359	374
Central Personnel Management	BA	99	101	109	115	120	127	134
	Outlays	107	101	109	114	120	126	133
Other General Government	BA	537	545	555	419	437	447	459
	Outlays	461	519	520	383	401	486	424
Offsetting Receipts and Other	BA	-272	-159	-213	-224	-234	-246	-259
	Outlays	-272	-237	-213	-224	-234	-246	-259
Total	BA	3,353	3,600	3,569	3,544	3,676	3,813	3,960
	Outlays	2,937	3,500	3,528	3,518	3,659	3,855	3,910

a/ Function 800Table 46. General Government, a/ With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Legislative Functions	BA	773	861	809	856	906	959	1,017
	Outlays	673	895	854	894	935	973	1,014
Executive Direction and Management	BA	70	77	79	83	88	97	99
	Outlays	68	77	79	83	88	96	99
Central Fiscal Operations	BA	1,794	1,861	1,969	2,086	2,209	2,336	2,476
	Outlays	1,805	1,852	1,919	2,055	2,194	2,321	2,459
General Property and Records Management	BA	352	314	333	353	374	396	420
	Outlays	95	292	327	351	372	394	418
Central Personnel Management	BA	99	101	110	116	122	129	136
	Outlays	107	101	109	115	122	128	136
Other General Government	BA	537	545	569	447	480	407	534
	Outlays	461	519	532	409	442	442	496
Offsetting Receipts and Other	BA	-272	-159	-213	-224	-234	-246	-259
	Outlays	-272	-237	-213	-224	-234	-246	-259
Total	BA	3,353	3,600	3,634	3,718	3,946	4,078	4,425
	Outlays	2,937	3,500	3,606	3,683	3,919	4,109	4,362

a/ Function 800

two offsetting receipt accounts are included in the function, all of which were individually projected. Tables 47 and 48 show the projections for this function with and without discretionary inflation.

Table 47. Revenue Sharing and General Purpose Fiscal Assistance a/, Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

		1976	1977	Projections				
		Actual	Estimate	1978	1979	1980	1981	1982
General Revenue Sharing	BA	6,350	6,654	6,855	6,855	6,855	6,855	6,855
	Outlays	6,238	6,697	6,805	6,855	6,855	6,855	6,855
Office of Revenue Sharing	BA	3	5	4	4	4	4	5
	Outlays	2	5	4	4	4	4	5
Federal Payment to the District of Columbia	BA	232	283	283	283	283	283	283
	Outlays	232	283	283	283	283	283	283
Other General Purpose Fiscal Assistance	BA	2,930	658	828	881	919	960	1,004
	Outlays	643	715	827	881	918	960	1,004
Total	BA	9,514	7,600	7,969	8,023	8,060	8,102	8,147
	Outlays	7,116	7,700	7,919	8,023	8,060	8,102	8,146

a/ Function 850.

Table 48. Revenue Sharing and General Purpose Fiscal Assistance a/, With Discretionary Inflation, by Fiscal Years, in Millions of Dollars

		1976	1977	Projections				
		Actual	Estimate	1978	1979	1980	1981	1982
General Revenue Sharing	BA	6,350	6,654	6,855	6,855	6,855	7,349	7,914
	Outlays	6,238	6,697	6,805	6,855	6,855	7,225	7,772
Office of Revenue Sharing	BA	3	5	4	4	5	5	5
	Outlays	2	5	4	4	5	5	5
Federal Payment to the District of Columbia	BA	232	283	303	303	303	304	304
	Outlays	232	283	303	303	303	304	304
Other General Purpose Fiscal Assistance	BA	2,930	658	828	881	919	960	1,004
	Outlays	643	715	828	881	918	960	1,004
Total	BA	9,514	7,600	7,990	8,044	8,081	8,617	9,227
	Outlays	7,116	7,700	7,939	8,043	8,081	8,493	9,085

a/ Function 850.

The general revenue sharing program was renewed in September, 1976, for fiscal years 1978-1980 at \$6.855 billion. It was assumed that the program would again be renewed after expiration in fiscal year 1980. The renewal projection under existing law commitments was assumed to be at a level of \$6.855 billion. The projection under the assumption of adjustment for inflation was done using the state and local government deflator (fiscal years 1981 and 1982).

The federal payment to the District of Columbia is the largest account in subfunction 852. The majority of the difference between the projections with discretionary inflation and without discretionary inflation (until fiscal year 1980 when revenue sharing is inflated and overshadows other accounts) occurs in the federal payment to the District of Columbia. Three funds are contained in the account: a general fund and two funds for the payment of water and sewage. The general fund has a \$300 million ceiling. Under the projection with discretionary inflation, the ceiling is reached in fiscal year 1978; the other two funds were inflated for each of the five years. The projections under existing law commitments were held constant.

Other general purpose fiscal assistance projections are approximately the same for projections with and without inflation because almost all of the accounts have permanent authority. Some of these accounts involve the return to the states or localities of certain receipts from collection of rents, royalties and other fees for private use of public land for activities such as mining, grazing, and timber cutting. Other accounts return to Puerto Rico and the Virgin Islands customs duties and excise taxes that are collected there by the federal government.

Interest (Function 900)

The interest function is the sum of two main components, interest on the public debt and other interest.

The interest on the public debt is calculated as the product of the total value of outstanding debt securities and an appropriate interest rate. The total debt is projected as growing each year by the sum of the unified and off-budget deficits and the combined trust fund surplus. This debt is broken down into several categories of securities, with different effective interest rates applied to each. The interest rates are estimated on the basis of regression analysis as functions of the short- and long-term rates included

in the projections economic assumptions. ^{1/} Estimating interest presents a circular problem in that projections of interest and of unified budget deficits influence each other. This problem is handled through iterative solution of the CBO interest estimating model in all projected years.

Table 49. Interest ^{a/}, Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Interest on the Public Debt	BA	37,063	43,300	50,900	55,200	57,800	60,200	62,800
	Outlays	37,063	43,300	50,900	55,200	57,800	60,200	62,800
Other Interest	BA	-2,387	-3,700	-4,663	-5,663	-6,616	-7,460	-8,350
	Outlays	-2,388	-3,700	-4,663	-5,663	-6,616	-7,460	-8,350
Total	BA	34,676	39,600	46,237	49,537	51,184	52,740	54,450
	Outlays	34,675	39,600	46,237	49,537	51,184	52,740	54,450

^{a/} Function 900.

Table 50. Interest ^{a/}, With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Interest on the Public Debt	BA	37,063	43,300	51,000	56,000	59,000	61,400	64,000
	Outlays	37,063	43,300	51,000	56,000	59,000	61,400	64,000
Other Interest	BA	-2,387	-3,700	-4,663	-5,663	-6,616	-7,460	-8,350
	Outlays	-2,388	-3,700	-4,663	-5,663	-6,616	-7,460	-8,350
Total	BA	34,676	39,600	46,337	50,337	52,384	53,940	55,650
	Outlays	34,675	39,600	46,337	50,337	52,384	53,940	55,650

^{a/} Function 900.

Other interest is primarily composed of IRS refunds and miscellaneous offsetting receipts. These are all projected to grow at essentially the same rate as national income, except for receipts from off-budget agencies, which are computed as a function of Federal Financing Bank borrowing and relevant interest rates.

^{1/} For more detail on the estimating technique used here, see the forthcoming CBO technical analysis paper.

Estimates of interest on the public debt are very sensitive to changes in assumptions of deficits and interest rates. A \$5 billion higher deficit in fiscal year 1978, for example, would increase the interest estimate in that year by approximately \$350 million. A reduction in the average interest rate on all debt securities in that year by one half of one percentage point would decrease interest in that year by approximately \$3.9 billion, with a corresponding reduction in the unified budget deficit.

Because of certain financial transactions in the budget, the interest function total presents an unrealistically high picture of the total budget impact of federal borrowing. Much of the interest on the public debt is paid to trust funds on their investments, and is deducted from total outlays as an intragovernmental offsetting receipt in function 950. In addition, earnings of the Federal Reserve on certain debt securities are returned to the treasury as miscellaneous receipts. The net budget impact of interest is shown in Table 51.

Table 51. Net Interest Impact a/, by Fiscal Years, in Billions of Dollars

	1977	1978	1979	1980	1981	1982
Interest on the Public Debt	43.3	51.0	56.0	59.0	61.4	64.0
Other Interest	-3.7	-4.7	-5.7	-6.6	-7.5	-8.4
Interest Function	39.6	46.3	50.3	52.4	53.9	55.6
Interest Received by Trust Funds	-9.1	-10.5	-11.7	-12.9	-14.4	-16.2
Deposit of Earnings Federal Reserve	-6.2	-6.8	-7.5	-8.2	-9.0	-9.9
Net Interest Impact	24.3	29.0	31.1	31.3	30.5	29.5

a/ Outlays with further adjustments for inflation.

Undistributed Offsetting Receipts (Function 950)

This function is composed of intragovernmental and proprietary receipts which cannot reasonably be assigned to any other single function. Intragovernmental receipts are payments from one part of the government to another; proprietary receipts come from the public.

Employer share of employee retirement is the government contribution to federal employee retirement plans. It is composed of contributions from all agencies to civil service retirement, social security, and other related programs. Because current policy projections assume a constant number of federal employees, these estimates grow each year due to the effect of federal payraises on the total federal payroll.

Outlays for interest paid to trust funds is a part of the interest on the public debt (in function 900), and is made up of the interest paid these funds on their investments in debt securities. The intragovernmental receipt for interest received by trust funds is in function 950 and, as discussed earlier, is subtracted from the interest function total in computing net interest. The total trust fund investments grow each year by the amount of the combined trust fund surpluses, and the interest received is estimated by applying an appropriate interest rate to the value of outstanding securities.

OCS receipts stem from the sale of leases of outer continental shelf lands and the royalties from mineral production on the OCS. These estimates are highly speculative due to uncertainty surrounding the timing and value of the lease auctions. Because of this, the projections are based on two possible schedules of sales and three possible values from each sale. All of the resultant figures are compared to arrive at a final range of estimates, as shown in Table 52. ^{1/}

Allowances

Allowances can include any item that it is not practical to classify under another existing budget function. Though the President's budget generally includes an allowance for contingencies, no such allowance is included in the CBO projections. The only allowances included here are for

^{1/} For more detail on the derivation of these projections estimates, see the internal CBO Working Paper: "Revenues from the Outer Continental Shelf, Five Year Projections," by Lawrence Oppenheimer, October 28, 1976.

Table 52. Range of OCS Receipts Projections, by Fiscal Years, in Billions of Dollars

1978	1979	1980	1981	1982
2.1-2.8	2.1-2.5	1.9-1.9	1.9-2.6	2.1-2.7

Table 53. Undistributed Offsetting Receipts a/, Under Existing Law Commitments, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Employer Share of Employee Retirement	BA	-4,242	-4,450	-4,640	-4,918	-5,219	-5,546	-5,904
	Outlays	-4,242	-4,450	-4,640	-4,918	-5,219	-5,546	-5,904
Interest Received by Trust Funds	BA	-7,800	-9,150	-10,500	-11,700	-12,900	-14,400	-16,200
	Outlays	-7,800	-9,150	-10,500	-11,700	-12,900	-14,400	-16,200
OCS Receipts	BA	-2,662	-3,200	-2,200	-2,100	-1,900	-2,300	-2,400
	Outlays	-2,662	-3,200	-2,200	-2,100	-1,900	-2,300	-2,400
Total	BA	-14,704	-16,800	-17,340	-18,718	-20,019	-22,246	-24,504
	Outlays	-14,704	-16,800	-17,340	-18,718	-20,019	-22,246	-24,504

a/ Function 950.

Table 54. Undistributed Offsetting Receipts a/, With Further Adjustments for Inflation, by Fiscal Years, in Millions of Dollars

Major Programs		1976 Actual	1977 Estimate	Projections				
				1978	1979	1980	1981	1982
Employer Share of Employee Retirement	BA	-4,242	-4,450	-4,640	-4,918	-5,219	-5,546	-5,904
	Outlays	-4,242	-4,450	-4,640	-4,918	-5,219	-5,546	-5,904
Interest Received by Trust Funds	BA	-7,800	-9,150	-10,500	-11,700	-12,900	-14,400	-16,200
	Outlays	-7,800	-9,150	-10,500	-11,700	-12,900	-14,400	-16,200
OCS Receipts	BA	-2,662	-3,200	-2,200	-2,100	-1,900	-2,300	-2,400
	Outlays	-2,662	-3,200	-2,200	-2,100	-1,900	-2,300	-2,400
Total	BA	-14,704	-16,800	-17,340	-18,718	-20,019	-22,246	-24,504
	Outlays	-14,704	-16,800	-17,340	-18,718	-20,019	-22,246	-24,504

a/ Function 950.

federal civilian pay increases. The allowance for Defense Department payraises is carried within the national defense function; therefore, only civilian agency pay increases are shown as undistributed allowances. The projections include only the value of the pay increase for the relevant fiscal year as previous years' pay increases are distributed by function into the appropriate salary accounts.

Pay increase projections involve two steps. First, the rates of pay increase for the five year span are projected. The second step is determination of each year's annualized payroll base for the government civilian sector net of civilians working for the Department of Defense.

The Federal Pay Comparability Act of 1970 (P.L. 91-656) provides for an annual adjustment of general schedule federal pay on the basis of comparability with the private sector. The Bureau of Labor Statistics has designed a survey specifically for determining federal-private sector pay comparability: the National Survey of Professional, Administrative, Technical, and Clerical Pay (PATC Survey). ^{1/}

To project federal payraises, the real percent increase in the PATC survey was regressed on the real percent increase in the index of compensation per manhour for the period 1961 to 1976. The following equation resulted:

$$\% \Delta \text{PATC}_{\text{real}} = -.92 + .773 \% \Delta \text{COMP/MH}_{\text{real}}$$

The CBO economic projections include an index of compensation per manhour and the consumer price index. From these two series the percent increase in the index of compensation per manhour in real terms was calculated and used with the preceding equation to determine the real percent increase in the PATC index. The nominal percent change in the PATC is the product of the CPI level and the real percent increase. The nominal percent increases in the PATC are the projected federal payraises, as shown in Table 55.

Wage board (blue collar) payraises are determined on a regional basis by surveys conducted throughout the year in various wage board districts. The projection methodology used here did not attempt to estimate regional payraises. Rather, it was assumed that the percent increases for wage board employees would be the same as that for general schedule employees.

^{1/} For a more detailed discussion of federal pay, see the forthcoming CBO Background Paper, "The Federal Government Pay Systems."

Table 55. Projected Federal Payraises

Fiscal Year	October 1 Payraise (%)
1978	5.48
1979	5.27
1980	5.42
1981	5.77
1982	6.22

The fiscal year 1976 annualized payroll bases for federal civilian employees of \$28.37 billion (general schedule) and \$7.87 billion (wage board) were taken from OMB figures. ^{1/} These bases include basic and premium pay plus benefits. They also include civilians in the Department of Defense, which must be removed since, as stated above, their pay is included in the national defense projections. CBO has estimated the compensation for civilians in the Department of Defense in fiscal year 1976 as \$8,643,900 thousand (general schedule) and \$5,387,224 thousand (wage board). Subtracting estimates for defense general schedule and wage board pay from annualized payroll bases for all government civilians and multiplying the results by the fiscal year 1977 pay increases (1.0517 for general schedule and 1.088 for wage board) gives the fiscal year 1977 payroll bases for the general schedule and wage board. Payroll bases for each succeeding year are calculated by multiplying the fiscal year 1977 payroll base by (1 + pay increase) of each intervening year. That is,

$$PB_t = PB_{1977} \prod_{i=1}^t (1 + PI_i)$$

where PB_t is the payroll base for year 1977 + t, and PI_i is the pay increase percentage for year 1977 + i. The payroll base for year t is used to calculate the pay increase for year t + 1.

^{1/} Fiscal year 1976 OMB A-93 Report.

Except for minor adjustments, outlays for a given year are generated by multiplying the previous year's payroll base for general schedule and wage board employees by the pay increase in that year:

$$O_{t+1} = PB_t \times PI_{t+1} \times A_{t+1}$$

where O_{t+1} is outlays in year 1977 + (t + 1), and A_{t+1} is the adjustment factor for year 1977 + (t + 1). The adjustment factors reflect the percentage of the fiscal year that the payraise is in effect.

For the general schedule, a payraise does not generally occur on the first day of the fiscal year (October 1) but rather on the first day of the first pay period after October 1. Since the payraise is not in effect 100 percent of the year, the payraises for each year are multiplied by adjustment factors to indicate the percentage of the year for which the payraise applies. For the wage board employees, increases occur throughout the year and are thus not in effect 100 percent of the year. The wage board adjustment factor for the phased-in increases is 0.6; the allowances outlays for wage board employees are 60 percent of the annualized cost of the payraise.

In fiscal year 1977, the federal payraise was varied by grade, reflecting a new use of the PATC survey results. The projections methodology did not attempt to show payraises by grade but rather represents a projection of the average cost of the raises across all grades.

Budget authority for allowances is projected at 5.8 percent less than outlays in each year. This reflects the fact that budget authority for the social security trust funds is based on trust fund receipts. The figure 5.8 percent is the fraction of federal pay increases which is for social security administrative expenses.

CHAPTER IV

PROJECTION OF RECEIPTS

Under CBO baseline economic assumptions, if current tax law is not changed, total federal tax revenue is estimated to increase from \$362.5 billion in fiscal year 1977 to \$668 billion in fiscal year 1982. Table 56 displays estimated federal receipts by source in absolute dollar amounts and as percentages of total budget receipts.

In this chapter, there are given detailed descriptions of how the various estimates were prepared. The individual income tax is discussed first since this is the largest source of total federal receipts. Next are the social insurance taxes and contributions. These include separate discussions of the methods used for estimating revenue from the social security, unemployment insurance, supplementary medical insurance, and civil service and railroad retirement programs. As can be seen in Table 56 these social insurance taxes and contributions plus the individual income tax comprise about three-fourths of total receipts. The chapter concludes with a discussion of estimating procedures used for the corporate income tax and the miscellaneous category of all other taxes and receipts.

Table 56. Projections of Federal Budget Receipts by Source

A. Fiscal Year Receipts in Billions of Dollars

Source	1976 Actual	1977 Estimate	Projections				
			1978	1979	1980	1981	1982
Individual Income Taxes	130.8	161.7	188	219	255	295	341
Corporation Income Taxes	41.4	58.5	58	67	77	85	92
Social Insurance Taxes and Contributions	92.7	107.1	124	139	152	170	188
Excise Taxes	17.0	17.8	18	19	19	20	20
Estate and Gift Taxes	5.2	6.0	6	6	7	7	8
Customs Duties	4.1	4.4	5	5	6	6	7
Miscellaneous Receipts	8.0	7.0	8	9	9	10	11
Total	299.2	362.5	407	464	526	594	668

B. As a Percentage of Total Federal Receipts

Individual Income Taxes	43.7	44.6	46.2	47.2	48.5	49.7	51.0
Corporation Income Taxes	13.8	16.1	14.2	14.4	14.6	14.3	13.8
Social Insurance Taxes and Contributions	31.0	29.5	30.5	30.0	28.9	28.6	28.1
Excise Taxes	5.7	4.9	4.4	4.1	3.6	3.4	3.0
Estate and Gift Taxes	1.7	1.7	1.5	1.3	1.3	1.2	1.2
Customs Duties	1.4	1.2	1.2	1.1	1.1	1.0	1.0
Miscellaneous Receipts	2.7	1.9	2.0	1.9	1.7	1.7	1.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

INDIVIDUAL INCOME TAX

Individual income tax receipts are estimated to be \$161.7 billion in fiscal year 1977, or about 45 percent of total federal tax revenue. They are projected to more than double and amount to 51 percent by fiscal year 1982.

The government collects taxes on individual income in three ways:

- o withholding of tax at the source;
- o declaratory tax payments (from self-employed individuals and those who receive income from sources not subject to withholding); and
- o final tax payments.

All wage and salary income is subject to withholding by employers. These amounts are determined by referring to tables prepared by the Internal Revenue Service, and the amount withheld is based on income level and family size. These amounts are remitted periodically to the U.S. Treasury.

Declarations are payments on estimated tax liability remitted on a quarterly basis to the Treasury. Individuals who receive pensions, annuities, interest, dividends, rent, capital gains, or other income from which federal income tax is not withheld must make these payments. Quarterly payments for the calendar year are usually a fixed percentage of an individual's estimated final tax liability.

Final tax payments for the preceding calendar year are filed with the Treasury on or before April 15 of each year. This entails computing one's final tax liability and reconciling it with the amounts withheld or paid as declarations to determine whether there is any under- or overpayment of taxes. Some taxpayers need additional time to prepare their returns, so a very small proportion of these final payments are actually received after April 15 each year.

There are two steps to estimating individual income tax receipts: first, individual income tax liabilities (usually on a calendar year basis) are determined; then, tax receipts (collections) are estimated from the liabilities.

The CBO uses a model built by the U.S. Treasury Department based on two equations that relate tax liability to taxable personal income (TPI). TPI is equal to personal income minus the sum of transfer payments and

other nontaxable wage supplements plus personal contributions for social insurance. This income concept is close to the statutory income definition upon which tax is computed.

Total individual income tax liability for any calendar year is equal to the sum of tax on realized capital gains plus the tax on "ordinary income." In order to estimate these two components, the following input parameters are needed: taxable personal income; estimated tax elasticities on TPI; wages and salaries; "realized" capital gains; a base year figure for individual income tax on a Statistics of Income (SOI) basis; and an estimated tax rate on realized capital gains. The model generates projected liabilities on a "change" basis; that is, it calculates the increase in tax liability on TPI from year to year and sums these with the capital gain tax increases to arrive at a total tax figure. Then, the model determines the withholding, declaratory tax payments, and final tax payments components of the estimated total tax liability figures.

Gross withholding is generated from the wages and salaries series. This amount is reduced by about 25 percent to reflect over withholding. The net withheld taxes are deducted from the total tax liability figure (tax on "realized" capital gain that is collected through declaratory and final tax payments) to determine the portion going to declaratory and final tax payments. Historical patterns indicate that 55 percent of this amount is allocated to declarations and 45 percent to final tax payments.

After calendar year liability is estimated, the second step converts this into "collections," the concept used in the unified budget. This requires "spreading" the tax liability components onto a quarterly basis so appropriate fiscal year collections can be estimated. Required input parameters for this section of the model consist of the weighting factors that reflect seasonal trends of economic (and hence revenue collecting) activity. There is a lag between incurred liabilities and tax collections, but this only affects the assignment of collections on liabilities incurred in the third quarter of each calendar year. Tax liabilities incurred in quarters I, II, and IV, are assigned to those quarters. The lag between liability and receipts requires that monies for discharging withholding liabilities incurred in the third quarter of each calendar year be divided 80 percent to collections in the current fiscal year and 20 percent to the next fiscal year. (Different allocation percentages apply to declaration liabilities and final liabilities.) This allocation rule applies to all components of individual income tax revenue.

The sum of the collections in any fiscal year is the estimated amount of receipts from current individual income tax liability plus collections on back year tax payments and reaudits. (Historically, such additional payments have amounted to about 2.5 percent of collections.)

SOCIAL INSURANCE TAXES AND CONTRIBUTIONS

Social insurance taxes and contributions are estimated to be \$107.1 billion in fiscal year 1977, or almost 30 percent of total tax revenue. Its share of total receipts is projected to decrease slightly to about 28 percent in fiscal year 1982.

Old Age, Survivors', Disability, and Health Insurance (OASDHI) revenues comprise about 86 percent of all social insurance taxes and contributions, and are estimated within a single model. The other items in this receipts category are unemployment insurance, civil service retirement contributions, supplementary medical insurance premiums, and railroad retirement contributions.

Social Security

Social security taxes consist of employer and employee taxes on wages and salaries under the Federal Insurance Contributions Act (FICA) and contributions by the self-employed under the Self-Employed Contributions Act (SECA). In calendar year 1976, FICA taxes amount to 11.7 percent of wages and salaries below the taxable earnings maximum (\$15,300) earned in employment covered by the social security program; SECA taxes amount to 7.9 percent of covered proprietors' income below the same taxable maximum. Both FICA and SECA tax receipts are deposited according to a formula into three separate trust funds — one each for Old Age and Survivors' Insurance (OASI), Disability Insurance (DI), and Health Insurance (HI).

The CBO social security estimates are generated through a model built by the Social Security Administration (SSA). It is basically the same model that is used for Administration estimates.

Estimates of OASDHI revenues are based on the following economic assumptions: wages and salaries (broken down by private, military, and government civilian), proprietors' income, the unemployment rates, the Consumer Price Index (CPI), the gross national product (GNP), and the labor force. In addition, there are demographic assumptions built into the estimating procedure.

The model involves two steps. In part one, taxable covered wages and salaries and proprietors' income are determined. In the second step, appropriate FICA and SECA tax rates are applied to the amounts determined in the first part.

- o The taxable wage bases are then estimated by measuring the percentage of covered wages that are taxed. This percentage is a function of the total amounts of covered wages and salaries and proprietors' income and the taxable earnings maximum. The key to measuring these taxable wage bases is the relationship of the size and distribution of covered wages and covered proprietors' income and the taxable earnings ceiling. The method of determining the taxable wage bases is the same for wages and for self-employed income.

To determine total OASDHI tax revenues, payroll tax rates for FICA and SECA are then applied to the amounts of taxable covered wages and salaries and proprietors' income. For this calculation, tax rates for wages and salaries and proprietors' income are broken down by OASI, DI, and HI. Under current law, the total effective tax rate for OASDHI will increase from 11.7 percent to 12.1 percent in calendar year 1978 and to 12.6 percent in 1981. These changes are incorporated into the estimates in the five-year projection report.

Unemployment Insurance

Unemployment insurance (UI) revenues are estimated to be \$8.9 billion in fiscal year 1977 and would increase to \$16 billion in fiscal year 1982 under the baseline economic growth assumptions. The basic unemployment compensation system is financed by two payroll taxes collected only from employers. Both the federal and state governments levy a tax on each employer's taxable payroll. The taxable payroll is defined as total wages up to \$4,200 paid to each employee per year (this is scheduled to increase to \$6,000 on January 1, 1978, under the Unemployment Compensation Amendments of 1976).

1/ Footnote continued from previous page:

(2) if $\frac{CPI_{1977}}{CPI_{1976}} \geq 1.03$, then

$$(a) TM_{1978} = TM_{1977} \frac{ATW_{1976}}{ATW_{1975}} \text{ if } \frac{ATW_{1976}}{ATW_{1975}} > 0, \text{ or}$$

$$(b) TM_{1978} = TM_{1977} \text{ if } \frac{ATW_{1976}}{ATW_{1975}} \leq 0$$

The taxable wage bases for FICA and SECA are both determined as follows:

- o The percentages of total wages and salaries and proprietors' income that are covered by the social security system are measured separately. Workers are usually covered by industry, and a fairly constant 90 percent of wages and salaries is now covered. About 75 percent of proprietors' income is covered by social security although this figure varies somewhat and is difficult to estimate because of cyclical fluctuations.
- o The percentage change in the average taxable wage is measured between the first quarter of one year and the first quarter of the next. The average taxable wage is nearly the same as the average covered wage in the first quarter of any calendar year since the wages in all covered employment are taxable except the very small amount for those individuals with annual incomes more than four times greater than the taxable maximum. (In calendar year 1977, four times the taxable maximum — \$16,500 — will be \$66,000.)
- o The level of maximum earnings subject to social security tax ("the maximum taxable") is then determined. This level is a function of the CPI and the percentage change in the average taxable wage. If there is a 3 percent or more increase in the CPI between the first quarters of year t-2 and year t-1, (e.g., the change between the first quarters of 1975 and 1976 applies to 1977 revenue estimates) the taxable income maximum increases by (approximately) the same percentage as the change in the average covered wage from the first quarter of year t-3 to the first quarter of year t-2 (using the same example, between the first quarters of 1974 and 1975). The maximum taxable is always rounded to the nearest \$300. There is no change in the taxable earnings maximum if the change in the average covered wage is zero or negative.^{1/}

^{1/} For example, the taxable maximum (TM) in 1978 will be determined as follows (assume all averages are measured from the first quarter of one year to the first quarter of the next, and that average taxable wage is ATW):

$$(1) \text{ if } \frac{CPI_{1977}}{CPI_{1976}} < 1.03, \text{ then } TM_{1978} = TM_{1977}$$

(continued on following page)

The federal tax rate under the Federal Unemployment Tax Act (FUTA) is 0.5 percent of taxable payroll (effective January 1, 1977, the rate is scheduled to rise to 0.7 percent) and is a small portion of total unemployment insurance revenues. Most of the receipts are derived from state taxes that have varying tax rates. All state programs (except Puerto Rico) use an experience rating system under which an employer's tax rate varies on the basis of his employment (unemployment) experience. This system penalizes employers whose employees experience high levels of unemployment by imposing higher tax rates on them.

Each state sets a minimum tax rate — which may be as small as zero — and a maximum tax rate of no more than 2.7 percent.

To estimate unemployment revenues, state and federal UI tax rates are applied to total taxable wages. Total taxable wages are computed as follows. First, covered employment — that is, the number of workers in firms covered by the program — is estimated as a function of GNP and the unemployment rate (plus seasonal variables to reflect the cyclical characteristics of employment and a variable to reflect a 1972 expansion in unemployment insurance). Currently, about 85 percent of all wage earners work in covered firms.

Second, average wages of covered workers are estimated as a function of the average wage of all employment, the Consumer Price Index (CPI) and seasonal variables (these are included since the average wage and CPI in the model are not seasonally adjusted).

Third, total quarterly taxable wages are estimated. These are based on estimates of the ratio of taxable wages to covered wages. This ratio is estimated as a function of the ratio of the federal taxable wage base (divided by four) to the average covered wage for each of the four quarters of the year, plus a quarterly time trend variable.

Finally, estimated effective tax rates are applied to the total taxable wage base. Federal tax revenue is equal to .005 (.007 for calendar year 1976 liability) times total taxable wages. The average state tax rate is determined endogenously as a function of UI outlays by states and their

year-to-year UI trust fund balances. These average rates are then applied to total wages and added to federal UI tax revenues to get total UI revenues. 1/

Supplementary Medical Insurance

Supplementary Medical Insurance (SMI) provides medical insurance — designated as Part B of medicare — for participating individuals. The SMI program is operated out of a separate trust fund. SMI trust fund receipts include monthly premium payments by participants, which are estimated to be \$2.3 billion in fiscal year 1977. These, plus general revenue appropriations -- which are estimated to be about \$4 billion in fiscal year 1977 (these appropriations are intragovernmental transfers and excluded from the unified budget) -- finance the SMI program.

SMI participation is voluntary, but is available to all individuals age 65 or older who are eligible for OASI benefits, plus individuals under age 65

1/ The results of the key equations for estimating UI revenues:

$$(1) \log (\text{covered employment}) = 8.07 + .419 \log (\text{GNP}) - .068 \log (\text{unemployment rate}) + .089 \text{ coverage dummy} + .025 \text{ Season 2} + .035 \text{ Season 3} + .028 \text{ Season 4}$$

$$(2) \log (\text{average covered wage}) = 6.46 + .510 \log (\text{average wage}) + .446 \log \text{CPI} + .009 \text{ Season 2} + .019 \text{ Season 3} + .052 \text{ Season 4}$$

where CPI = Seasonally unadjusted Consumer Price Index
Average wage = Seasonally unadjusted average wage per number of civilian labor force

$$(3) \frac{\text{Total taxable wages}}{\text{Total covered wages}} = 3.43 \times 1 - 3.13(X1)^2 + 1.54 \times 2 - .62(X2)^2 + .95 \times 3 - .42(X3)^2 + .94 \times 4 - .82(X4)^2 - .002T$$

where X = One quarter of the Federal taxable wage base divided by the average covered wage in first, second third, and fourth quarters, respectively

T = Quarterly time trend, set equal to 1 in 1965:3

who have received disability or railroad retirement benefits for at least 24 months or are receiving treatment for chronic renal disease. Monthly premium rates are now \$7.20 and are paid by all participants. (This is applicable for the period July 1, 1976, to June 30, 1977.) The premium will increase in future years by the same percentage as social security benefits rise. Since the annual premium rate is determined for a July-June basis, a weighted premium rate is applied to the number of participants to estimate receipts for any given fiscal year.

Civil Service and Railroad Retirement Contributions

The Civil Service Retirement System covers federal civil servants for health, retirement, and disability. The civil service retirement system is operated out of a separate trust fund. Total contributions from employees are estimated to be \$2.7 billion in fiscal year 1977. Trust fund income equals 7 percent of employees' payrolls, plus a matching 7 percent of those payrolls by employing agencies. Agency contributions, however, are intra-governmental transfers so they are not counted as income in the unified budget; unified budget receipts therefore are simply equal to 7 percent of payroll covered by the civil service retirement system. It is assumed that 92 percent of nonpostal employee payrolls are covered and about 83 percent of postal employee payrolls are covered. The estimates of civil service retirement contributions assume that there is no change in the size of the nonpostal civilian work force, but they do incorporate projected scheduled federal pay increases.

The Railroad Retirement Act provides retirement benefits to railroad employees who have worked at least ten years, plus insurance for survivors and disabled workers. Contributions for the railroad retirement trust fund amount to 21.2 percent of covered wages, split evenly (10.6 percent each) between employees and employers. These contributions are estimated to be \$1.6 billion in fiscal year 1977 and they are estimated as a constant percentage of GNP.

CORPORATION INCOME TAX

Federal corporation tax receipts are estimated to be \$58.5 billion in fiscal year 1977, or 16 percent of total federal tax receipts. Under baseline economic assumptions, this percentage is estimated to decrease to about 14 percent by fiscal year 1982.

Corporation income tax receipts are estimated on a National Income Accounts (NIA) basis using a simple quarterly econometric model. Results are then translated into a unified budget basis.

The first step in the estimation process is the calculation of the appropriate tax base; that is, corporate profits minus other items that should be excluded or that require separate attention elsewhere. Items subtracted from corporate profits are state and local corporate tax receipts (which are at least partially deductible for federal tax purposes), profits of Federal Reserve Banks (which enter both profits and receipts in the NIA), and corporate profits from sources outside of the United States (which, for a variety of reasons, are taxed at a lower effective rate). This "modified tax base" is then multiplied by the statutory federal tax rate to determine the amount of corporate profits tax before credits.

The second step involves measuring the effect of the investment tax credit (ITC) on corporate tax receipts. An estimate of the value of the ITC for a given period is simply obtained as the product of the statutory credit rate and current-dollar investment in producers' durable equipment, which is used as a proxy for the applicable tax credit base.

In the third step, estimates of net corporate taxes, which are total corporate profits minus the corporate profits of Federal Reserve Banks, are generated. These net taxes are a function of the base rate, the ITC, plus two additional independent variables (these variables reflect special tax provisions affecting taxes on Domestic International Sales Corporations and corporate profits originating in the rest-of-the-world sector).

Corporation income tax liability on an NIA basis is equal to the sum of net corporate taxes and corporate profits of Federal Reserve Banks. Federal reserve profits enter into both profits and receipts in the National Income Accounts, and thus are effectively subject to a 100 percent tax rate. The Federal Reserve Board earnings are estimated as a function of GNP and the Treasury bill rate.

The final step in estimating total corporation income tax receipts is to convert the NIA fiscal year amount to a unified budget total. The difference between these two concepts is basically one of timing: the NIA number measures tax liabilities on an accrual basis while the unified budget number measures collections. The corporate timing adjustment is based on historical relationships between NIA liabilities and unified budget receipts. This relationship is determined in part by the growth pattern of corporate profits. ^{1/}

^{1/} The results of the four key equations used to estimate corporate income tax revenues are:

$$(1) \text{ BASERATE} = (P - \text{SLTAX} - \text{PFRB} - \text{PROW}) * R$$

(continued on following page)

OTHER TAXES AND RECEIPTS

There are five major components of "other taxes and receipts" —excise taxes, customs duties, Federal Reserve Board earnings, estate and gift taxes, and all other miscellaneous receipts. In fiscal year 1977, total revenue from all five of these sources is estimated to be \$35.2 billion, or less than 10 percent of total federal receipts. This percentage is estimated to decrease to 7 percent in 1982.

Excise taxes are estimated to be \$17.8 billion in fiscal year 1977, or more than half the revenue in this category. They are expected to grow at less than 3 percent per year throughout the projection period. About 42 percent of excise taxes are accounted for by revenues earmarked for the highway trust fund (about 37 percent of all excise taxes) and the airport and airway trust fund. The remaining 58 percent of excise taxes include excises on alcohol (32 percent of total excise taxes), tobacco, and manufacturing.

Customs duties are estimated to be \$4.4 billion in fiscal year 1977 and are projected as a constant percentage of GNP. Finally, Federal Reserve Board earnings (also estimated as a constant percentage of GNP) are expected to be \$6.2 billion in fiscal year 1977. Estate and gift taxes are estimated to be \$6.0 billion in fiscal year 1977. These taxes are projected to grow at 5 percent per year. All other miscellaneous receipts are also estimated as a percentage of GNP and are projected to amount to less than \$1 billion in fiscal year 1977.

1/ Footnote continued from previous page:

$$(2) \text{ ITC} = (\text{RITC} * \text{IPDE})/100$$

$$(3) \text{ NETTAX} = -.834 + .853 * \text{BASERATE} - .233 * \text{ITC} - \\ -1.15 * \text{DUMDISC} + .073 * \text{PROW}$$

$$(4) \text{ CORPTAX} = \text{NETTAX} + \text{PFRB}$$

P = corporate profits before tax
SLTAX = state and local government corporate tax receipts
PFRB = corporate profits of federal reserve banks
PROW = corporate profits, rest of world
R = statutory federal corporate profits tax rate
RITC = statutory investment tax credit rate
IPDE = investment in producer's durable equipment
DUMDISC = dummy variable, DISC tax provisions

APPENDIX A

TABLES OF AGGREGATE ECONOMIC ASSUMPTIONS

Table A-1 contains detailed economic assumptions by fiscal and calendar year for the baseline growth path. The values for 1978 reflect CBO's short-term forecast of the economy's activity. Beyond 1978, the figures are largely driven by the assumed rates of change in real GNP (see Chapter II). These growth rates are those assumed by the budget committees and can be seen to decline from 5.5 percent to 4.5 percent as the economy reaches full employment. Table A-1 also clearly shows the exogenous assumptions made for rates of change in wholesale farm and fuel prices and for interest rates.

Table A-1. Economic Assumptions by Fiscal and Calendar Year

	Fiscal Year 1977	Calendar Year 1977	Fiscal Year 1978	Calendar Year 1978	Fiscal Year 1979	Calendar Year 1979	Fiscal Year 1980	Calendar Year 1980	Fiscal Year 1981	Calendar Year 1981	Fiscal Year 1982	Calendar Year 1982
Real GNP (billions of 1972 dollars)	1318.4	1336.5	1392.2	1410.9	1468.8	1488.5	1548.2	1567.4	1622.9	1641.3	1696.5	1714.6
% Change	5.5	5.4	5.6	5.6	5.5	5.5	5.4	5.3	4.8	4.7	4.5	4.5
Nominal GNP (billions)	1835.6	1884.5	2034.2	2085.2	2247.2	2304.4	2484.8	2547.0	2740.5	2808.7	3026.0	3102.6
% Change	11.0	11.0	10.8	10.7	10.5	10.5	10.6	10.5	10.3	10.3	10.4	10.5
GNP Deflator (1972 = 1.0)	1.39	1.41	1.46	1.48	1.53	1.55	1.60	1.62	1.69	1.71	1.78	1.81
% Change	5.22	5.29	4.95	4.82	4.71	4.75	4.90	4.97	5.21	5.31	5.63	5.74
Unemployment Rate	7.0	6.8	6.1	5.9	5.5	5.3	4.9	4.8	4.5	4.4	4.2	4.1
Civilian Labor Force (thousands)	96848	97431	98887	99327	100628	101052	102295	102699	103870	104240	105277	105606
Employment (thousands)	90081	90903	92899	93435	95104	95654	97250	97755	99189	99638	100895	101285
Consumer Price Index	1.77	1.79	1.85	1.87	1.94	1.96	2.04	2.06	2.14	2.17	2.26	2.30
% Change	4.96	4.99	4.84	4.76	4.72	4.76	4.92	4.99	5.24	5.34	5.67	5.79
Wholesale Price Index	1.89	1.91	1.99	2.01	2.08	2.11	2.19	2.22	2.30	2.34	2.43	2.47
% Change	4.47	4.94	5.11	5.02	4.88	4.91	5.04	5.09	5.29	5.36	5.62	5.71
Wholesale Price Index -- Farm	1.94	1.95	2.00	2.02	2.08	2.10	2.16	2.18	2.25	2.27	2.34	2.36
% Change	.57	1.80	2.94	3.37	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Wholesale Price Index -- Fuel	2.75	2.81	2.98	3.04	3.22	3.28	3.47	3.54	3.75	3.82	4.05	4.13
% Change	6.19	7.74	8.32	8.20	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Wages and Salaries (billions)	975.7	1006.1	1091.9	1118.5	1205.5	1236.1	1333.0	1366.6	1471.1	1507.7	1624.1	1665.2
Share of GNP	53.2	53.4	53.7	53.6	53.6	53.6	53.7	53.7	53.7	53.7	53.7	53.7
Corporate Profits (billions)	162.4	167.6	184.1	190.4	211.4	219.3	243.5	251.0	269.1	274.6	292.8	299.1
Share of GNP	8.8	8.9	9.0	9.1	9.4	9.5	9.8	9.8	9.8	9.8	9.7	9.6
Non-Wage Income (billions)	300.5	306.1	332.8	345.2	378.5	387.9	417.7	428.1	460.5	471.9	507.9	520.5
Share of GNP	16.4	16.3	16.4	16.6	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8
Sum of Shares	78.2	78.3	79.0	79.3	79.9	80.0	80.3	80.3	80.3	80.3	80.1	80.1
Treasury Bill Rate	5.9	6.2	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7
Moody's Rate	8.5	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6

The quarterly assumptions for the rate of change in the CPI and the unemployment rate are shown in Table A-2. These quarterly values are important as they are major influences on the outlays of entitlement programs.

Table A-2. Quarterly Economic Assumptions for the CPI and the Unemployment Rate

Quarter	CPI (% increase from previous quarter)	Unemployment Rate
77:1	5.03	7.20
77:2	4.99	6.90
77:3	4.96	6.60
77:4	5.06	6.30
78:1	4.42	6.15
78:2	4.73	6.01
78:3	4.72	5.86
78:4	4.75	5.71
79:1	4.69	5.56
79:2	4.75	5.42
79:3	4.83	5.27
79:4	4.99	5.12
80:1	4.95	4.99
80:2	5.05	4.87
80:3	5.15	4.75
80:4	5.23	4.65
81:1	5.33	4.55
81:2	5.44	4.46
81:3	5.55	4.37
81:4	5.66	4.28
82:1	5.78	4.20
82:2	5.90	4.12
82:3	6.03	4.05
82:4	6.15	4.00

Table B-1 contains CBO's projections of specialized price indexes for the five-year projection period, fiscal years 1978-1982. As explained in Chapter 2, the first five indexes are derived either by assumption or by CBO's economic models, and the remaining measures are estimated by individual regression equations.

The consumer price indexes for food, food at home, and food away from home are exceptions. Until recently, the levels of the CPI and the CPI for food have maintained a stable relationship. This relationship is assumed to resume by the first quarter of calendar year 1979. Until then, the CPI for food is assumed to grow at a constant rate. The CPIs for food at home and away from home are assumed to grow at the same rate as the CPI for food.

The abbreviations for the specialized price indexes listed in Table B-1 are defined below:

PGNP	GNP implicit price deflator
CPI	Consumer price index
WPI	Wholesale price index
WPI — Farm	WPI for farm products
WPI — Fuel	WPI for fuels and related products and power
CPIFOODNS	Non-seasonally adjusted CPI for food
CPIFOODAWAYNS	Non-seasonally adjusted CPI for food away from home
CPIFOODHOMENS	Non-seasonally adjusted CPI for food at home
CPINEF&APLNS	Non-seasonally adjusted CPI for nondurable commodities less food and apparel (proxy for office supplies)
CPISNS	Non-seasonally adjusted CPI for services
CPISRNSQ	Non-seasonally adjusted CPI for rental services
CPIMEDNS	Non-seasonally adjusted CPI for medical services
PICR	Seasonally adjusted implicit deflator for residential structures
PGOVB	Seasonally adjusted implicit deflator for "other government buildings" (i.e., non-military, non-residential)
PHWY&ST	Seasonally adjusted implicit deflator for highways and streets
PCOMEQ	Seasonally adjusted price index for communication equipment

PTRUCKS	Seasonally adjusted implicit deflator for trucks
PAIRCRAFT	Seasonally adjusted implicit deflator for aircraft
RREQDEF	Non-seasonally adjusted WPI for railroad equipment
PINSTS&E	Seasonally adjusted implicit deflator for scientific and engineering instruments
PEL&SECED	Seasonally adjusted implicit deflator for elementary and secondary education
PSEW	Seasonally adjusted implicit deflator for sewers
FPBLDGS	Seasonally adjusted implicit deflator for federal purchases of structures
FPSV	Seasonally adjusted implicit deflator for federal purchases of services
FPNDLC	Seasonally adjusted implicit deflator for federal purchases of nondurables less transactions of the Commodity Credit Corporation
FPAIRCRAFT	Seasonally adjusted implicit deflator for federal purchases of aircraft
FPSHIPS	Seasonally adjusted implicit deflator for federal purchases of ships
FPNASAEQ	Seasonally adjusted implicit deflator for federal purchases of NASA equipment
FPDUR	Seasonally adjusted implicit deflator for federal purchases of durables
FPFPEC&T	Seasonally adjusted implicit deflator for federal purchases less compensation and transactions of the Commodity Credit Corporation
PICNR	Seasonally adjusted implicit deflator for non-residential structures
HEPIQ	Seasonally adjusted implicit deflator for higher education
PDIRR	Implicit deflator for personal consumption expenditures on intercity railroad transportation, excluding commutation
PGSL	Implicit deflator for purchases of goods and services by state and local governments

Table B-1. Projections of Specialized Price Indexes, by Fiscal Years
(FY 1977 = 1.000)

Deflator Title	1978	1979	1980	1981	1982
PGNP	1.052	1.104	1.156	1.213	1.276
CPI	1.050	1.100	1.152	1.209	1.272
WPI	1.045	1.098	1.152	1.210	1.274
WPI -- Farm	1.006	1.035	1.077	1.120	1.164
WPI -- Fuel	1.062	1.150	1.242	1.342	1.449
CPIFOODNS	1.017	1.042	1.091	1.147	1.208
CPIFOODAWAYNS	1.017	1.042	1.091	1.147	1.208
CPIFOODHOMENS	1.017	1.042	1.091	1.147	1.208
CPINEF&APLNS	1.046	1.093	1.142	1.196	1.257
CPISNS	1.067	1.143	1.227	1.305	1.387
CPISRNSQ	1.059	1.120	1.184	1.250	1.317
CPIMEDNS	1.066	1.133	1.201	1.273	1.351
PICR	1.069	1.155	1.247	1.346	1.453
PGOV	1.084	1.168	1.252	1.338	1.424
PHWY&ST	1.026	1.090	1.170	1.244	1.323
PCOMEQ	1.058	1.126	1.201	1.267	1.339
PTRUCKS	1.060	1.128	1.202	1.265	1.335
PAIRCRAFT	1.117	1.188	1.269	1.342	1.423
RREQDEF	1.059	1.144	1.247	1.347	1.453
PINSTS&E	1.064	1.134	1.210	1.275	1.347
PEL&SECD	1.060	1.124	1.195	1.274	1.363
PSEW	1.127	1.251	1.372	1.490	1.605
FPBLDGS	1.069	1.150	1.231	1.307	1.391
FPSV	1.076	1.155	1.240	1.324	1.410
FPNDLC	1.066	1.138	1.214	1.296	1.386
FPAIRCRAFT	1.051	1.119	1.194	1.263	1.340
FPSHIPS	1.065	1.137	1.209	1.278	1.354
FPNASAEQ	1.048	1.105	1.169	1.234	1.302
FPDUR	1.053	1.118	1.191	1.259	1.334
FPIFPEC&T	1.070	1.147	1.228	1.308	1.393
PICNR	1.079	1.165	1.255	1.336	1.427
HEPIQ	1.072	1.142	1.217	1.301	1.397
PDIRR	1.016	1.040	1.074	1.116	1.165
PGSL	1.063	1.132	1.209	1.296	1.396

APPENDIX C

NATIONAL INCOME ACCOUNTS UPDATE

Table C-1 presents new estimates of federal expenditures on a national income accounts basis which have been revised since their publication in "Five-Year Budget Projections: Fiscal Years 1978-1982." The estimates are based as before on the 1977 second concurrent resolution and the current policy projections for fiscal years 1978-1982. The revisions result from further adjustments to CBO's NIA tabulator, which was described in Appendix A of the Five-Year Projections Report.

Table C-1. Estimates of Federal Expenditures, National Income Accounts, 1977-1982

	1977	1978	1979	1980	1981	1982
Purchases	144.5	162.0	171.5	183.3	196.2	208.3
Defense	(93.5)	(105.3)	(112.1)	(120.2)	(129.4)	(137.6)
Nondefense	(51.0)	(56.7)	(59.5)	(63.1)	(66.8)	(70.6)
Transfers	170.6	180.8	195.1	211.1	229.5	250.5
Domestic	(166.1)	(176.2)	(190.2)	(206.0)	(224.1)	(244.8)
Foreign	(4.5)	(4.6)	(4.9)	(5.1)	(5.4)	(5.7)
Grants	70.7	73.7	75.4	78.4	83.4	89.2
Net Interest	29.4	34.5	38.1	39.5	40.1	40.6
Subsidies less CS	7.6	7.9	9.4	10.8	11.8	13.0
Total	422.9	458.9	489.4	523.1	561.0	601.5

The new figures do not differ significantly from those previously published. Nondefense purchases are now lower by \$0.9 billion dollars in fiscal year 1977 but the difference narrows to \$0.1 billion in 1982. Net interest, subsidies less current surplus of government enterprises (CS), and total expenditures are now slightly higher.

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