

**BEA BRIEFING****A Primer on BEA's Government Accounts**

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**G**OVERNMENT activity—at the federal, state, and local levels—affects the economy in many ways. Governments contribute to economic output when they purchase goods and services and when they invest in capital. They also contribute by making payments to households and businesses, who use those resources to buy goods and services. Governments also affect the economy through taxes, withdrawing resources that might be used elsewhere and providing incentives for various activities. In addition, governments affect the economy through their collective saving, the difference between their revenue and spending.

The Bureau of Economic Analysis (BEA) national income and product accounts (NIPAs) are designed to measure the revenue, expenditure, and saving flows among four sectors of the economy—consumer, business, government, and foreign. The government sector is divided into a federal subsector and a state and local subsector. Information about state and local governments usually is reported together because some states provide services mainly at the state level, while others provide services mainly at the local level.<sup>1</sup>

The NIPAs are a widely used tool for analysis because they provide consistent measures over time and across sectors. The government sector of the NIPAs is particularly useful to policymakers because it provides economic data that can be used to effect and analyze various economic policies.

The federal estimates in the NIPAs contain much of the same information as the *Budget of the United States Government*, although the information is classified differently. The state and local estimates in the NIPAs are the only comprehensive estimates of state and local government activity available on a timely basis.

This article provides an overview of the government accounts. It describes the basic structure and concepts and provides a broad discussion on how the estimates

are prepared. It concludes with a discussion of future directions for BEA's government accounts.

**Government in the NIPAs**

The NIPAs are designed to provide a snapshot of economic activity at a point in time. The headline measures of the NIPAs are the familiar gross domestic product (GDP) and gross domestic income. The NIPAs include seven summary accounts, each designed to capture activity in the different sectors of the economy. Various aspects of government economic activity are included in six of these summary tables (table 1). The main government account is account 4, the government receipts and expenditures account.

The left side of account 4 details government current expenditures for goods and services, interest, and government programs, including benefit payments to social security recipients, subsidies to farmers, and assistance to foreign governments. On the right side, the account shows government current revenue from a variety of sources, including income and employment taxes. The account excludes capital transactions.<sup>2</sup>

The NIPAs reflect three different measures of government spending: value added, consumption and gross investment, and current expenditures.

**Value added**

One way to measure production within the economy is to sum up value added for each industry. Value added, as the name suggests, is the actual value created within each industry and represents the contribution of each industry to GDP. For government, value added is defined as the sum of compensation paid to general government employees plus consumption of government-owned fixed capital (CFC), which is commonly known as depreciation. Depreciation is used as a partial measure of the services provided by capital investment.

1. The NIPAs provide much information that aggregates the federal government and state and local governments. When different levels of governments are aggregated, special adjustments are necessary to remove inter-governmental transactions. Separate tables for state governments and for local governments are available annually.

2. The NIPAs make a distinction between “current” transactions and “capital” transactions. Capital transactions in the government accounts include investment in equipment, structures, and software, as well as capital transfers. Capital transactions are shown in account 6.

Table 1. Government in the Summary National Income and Product Accounts, 2006

[Billions of dollars]

## Account 1. Domestic Income and Product Account

Line			Line		
1	Compensation of employees, paid .....	7,454.8	15	Personal consumption expenditures.....	9,224.5
2	Wage and salary accruals .....	6,032.2	16	Durable goods .....	1,048.9
3	Disbursements .....	6,024.7	17	Nondurable goods .....	2,688.0
4	Wage accruals less disbursements (4-9).....	7.5	18	Services.....	5,487.6
5	Supplements to wages and salaries.....	1,422.6	19	Gross private domestic investment.....	2,209.2
6	<b>Taxes on production and imports (4-16) .....</b>	<b>967.3</b>	20	Fixed investment.....	2,162.5
7	<b>Less: Subsidies (4-8) .....</b>	<b>49.7</b>	21	Nonresidential .....	1,397.7
8	Net operating surplus .....	3,225.3	22	Structures.....	405.1
9	Private enterprises .....	3,239.2	23	Equipment and software.....	992.6
10	<b>Current surplus of government enterprises (4-26) .....</b>	<b>-13.9</b>	24	Residential.....	764.8
11	Consumption of fixed capital .....	1,615.2	25	Change in private inventories.....	46.7
12	<b>Gross domestic income.....</b>	<b>13,212.8</b>	26	Net exports of goods and services.....	-762.0
13	Statistical discrepancy .....	-18.1	27	Exports .....	1,467.6
			28	Imports .....	2,229.6
			29	<b>Government consumption expenditures and gross investment (4-1 and 6-3).....</b>	<b>2,523.0</b>
			30	<b>Federal.....</b>	<b>932.5</b>
			31	<b>National defense .....</b>	<b>624.3</b>
			32	<b>Nondefense.....</b>	<b>308.2</b>
			33	<b>State and local .....</b>	<b>1,590.5</b>
14	<b>GROSS DOMESTIC PRODUCT .....</b>	<b>13,194.7</b>	34	<b>GROSS DOMESTIC PRODUCT .....</b>	<b>13,194.7</b>

## Account 2. Private Enterprise Income Account

Line			Line		
1	Income payments on assets.....	3,109.3	19	Net operating surplus .....	3,239.2
2	<b>Interest and miscellaneous payments<sup>1</sup> (4-21).....</b>	<b>2,946.8</b>	20	Income receipts on assets.....	2,575.3
3	Dividend payments to the rest of the world .....	91.4	21	<b>Interest<sup>2</sup> .....</b>	<b>2,155.5</b>
4	Reinvested earnings on foreign direct investment in the United States .....	71.1	22	Dividend receipts from the rest of the world.....	167.2
5	Business current transfer payments (net).....	90.2	23	Reinvested earnings on U.S. direct investment abroad.....	252.6
6	To persons (net).....	27.2			
7	<b>To government (net) (4-24).....</b>	<b>60.6</b>			
8	To the rest of the world (net).....	2.5			
9	Proprietors' income with inventory valuation and capital consumption adjustments .....	1,006.7			
10	Rental income of persons with capital consumption adjustment .....	54.5			
11	Corporate profits with inventory valuation and capital consumption adjustments .....	1,553.7			
12	Taxes on corporate income .....	453.9			
13	<b>To government (4-17).....</b>	<b>435.5</b>			
14	To the rest of the world .....	18.4			
15	Profits after tax with inventory valuation and capital consumption adjustments.....	1,099.8			
16	Net dividends (4-22).....	698.9			
17	Undistributed corporate profits with inventory valuation and capital consumption adjustments .....	400.9			
18	<b>USES OF PRIVATE ENTERPRISE INCOME .....</b>	<b>5,814.5</b>	24	<b>SOURCES OF PRIVATE ENTERPRISE INCOME.....</b>	<b>5,814.5</b>

## Account 3. Personal Income and Outlay Account

Line			Line		
1	<b>Personal current taxes (4-15) .....</b>	<b>1,354.3</b>	10	Compensation of employees, received.....	7,440.8
2	Personal outlays .....	9,590.3	11	Wage and salary disbursements .....	6,018.2
3	Personal consumption expenditures.....	9,224.5	12	Domestic (1-3 less 5-11).....	6,015.3
4	<b>Personal interest payments<sup>1</sup> .....</b>	<b>238.0</b>	13	Rest of the world (5-3).....	2.9
5	Personal current transfer payments.....	127.8	14	Supplements to wages and salaries.....	1,422.6
6	<b>To government (4-25).....</b>	<b>78.9</b>	15	Employer contributions for employee pension and insurance funds.....	970.7
7	To the rest of the world (net).....	48.9	16	<b>Employer contributions for government social insurance .....</b>	<b>451.8</b>
8	Personal saving .....	38.8	17	Proprietors' income with inventory valuation and capital consumption adjustments .....	1,006.7
			18	Rental income of persons with capital consumption adjustment .....	54.5
			19	Personal income receipts on assets .....	1,796.5
			20	<b>Personal interest income<sup>2</sup> .....</b>	<b>1,100.2</b>
			21	Personal dividend income (2-16 less 4-22).....	696.3
			22	Personal current transfer receipts.....	1,612.5
			23	<b>Government social benefits (4-4) .....</b>	<b>1,585.3</b>
			24	From business (net).....	27.2
			25	<b>Less: Contributions for government social insurance (4-19) .....</b>	<b>927.6</b>
9	<b>PERSONAL TAXES, OUTLAYS, AND SAVING .....</b>	<b>10,983.4</b>	26	<b>PERSONAL INCOME .....</b>	<b>10,983.4</b>

1. Includes interest payments to government.

2. Includes interest payments from government.

## Account 4. Government Receipts and Expenditures Account

Line			Line		
1	Consumption expenditures .....	2,089.3	14	Current tax receipts .....	2,769.8
2	Current transfer payments .....	1,618.3	15	Personal current taxes .....	1,354.3
3	Government social benefits .....	1,588.7	16	Taxes on production and imports .....	967.3
4	To persons .....	1,585.3	17	Taxes on corporate income .....	435.5
5	To the rest of the world .....	3.3	18	Taxes from the rest of the world .....	12.6
6	Other current transfer payments to the rest of the world (net) .....	29.6	19	Contributions for government social insurance .....	927.6
7	Interest payments .....	372.9	20	Income receipts on assets .....	111.9
8	Subsidies .....	49.7	21	Interest and miscellaneous receipts .....	109.3
9	Less: Wage accruals less disbursements .....	0.0	22	Dividends .....	2.6
10	Net government saving .....	-195.4	23	Current transfer receipts .....	139.5
11	Federal .....	-220.0	24	From business (net) .....	60.6
12	State and local .....	24.6	25	From persons .....	78.9
			26	Current surplus of government enterprises .....	-13.9
13	<b>GOVERNMENT CURRENT EXPENDITURES AND NET SAVING .....</b>	<b>3,934.8</b>	27	<b>GOVERNMENT CURRENT RECEIPTS .....</b>	<b>3,934.8</b>

## Account 5. Foreign Transactions Current Account

Line			Line		
1	Exports of goods and services .....	1,467.6	9	Imports of goods and services .....	2,229.6
2	Income receipts from the rest of the world .....	691.4	10	Income payments to the rest of the world .....	633.4
3	Wage and salary receipts .....	2.9	11	Wage and salary payments .....	9.4
4	Income receipts on assets .....	688.6	12	Income payments on assets .....	624.0
5	Interest <sup>1</sup> .....	268.8	13	Interest <sup>2</sup> .....	461.5
6	Dividends .....	167.2	14	Dividends .....	91.4
7	Reinvested earnings on U.S. direct investment abroad (2-23) .....	252.6	15	Reinvested earnings on foreign direct investment in the United States .....	71.1
			16	Current taxes and transfer payments to the rest of the world (net) .....	90.1
			17	From persons (net) .....	48.9
			18	<b>From government (net) (4-5 and 4-4 less 4-18) .....</b>	<b>20.3</b>
			19	From business (net) .....	20.9
			20	Balance on current account, national income and product accounts .....	-794.1
8	<b>CURRENT RECEIPTS FROM THE REST OF THE WORLD .....</b>	<b>2,159.0</b>	21	<b>CURRENT PAYMENTS TO THE REST OF THE WORLD AND BALANCE ON CURRENT ACCOUNT .....</b>	<b>2,159.0</b>

## Account 6. Domestic Capital Account

Line			Line		
1	Gross domestic investment .....	2,642.9	8	Net saving .....	251.7
2	Private fixed investment .....	2,162.5	9	Personal saving .....	38.8
3	<b>Government fixed investment .....</b>	<b>433.8</b>	10	Undistributed corporate profits with inventory valuation and capital consumption adjustments .....	400.9
4	Change in private inventories .....	46.7	11	Wage accruals less disbursements (private) .....	7.5
5	Capital account transactions (net) <sup>3</sup> .....	3.9	12	<b>Net government saving (4-10) .....</b>	<b>-195.4</b>
6	Net lending or net borrowing (-), national income and product accounts .....	-798.0	13	Plus: Consumption of fixed capital .....	1,615.2
			14	Private .....	1,347.5
			15	<b>Government .....</b>	<b>267.7</b>
			16	<b>General government .....</b>	<b>223.6</b>
			17	<b>Government enterprises .....</b>	<b>44.1</b>
			18	Equals: Gross saving .....	1,866.9
			19	Statistical discrepancy .....	-18.1
7	<b>GROSS DOMESTIC INVESTMENT, CAPITAL ACCOUNT TRANSACTIONS, AND NET LENDING .....</b>	<b>1,848.8</b>	20	<b>GROSS SAVING AND STATISTICAL DISCREPANCY .....</b>	<b>1,848.8</b>

1. Includes interest payments to government.

2. Includes interest payments from government.

3. This value reflects only transfers with the rest of the world. All government capital transfers to the business and household sectors net to zero.

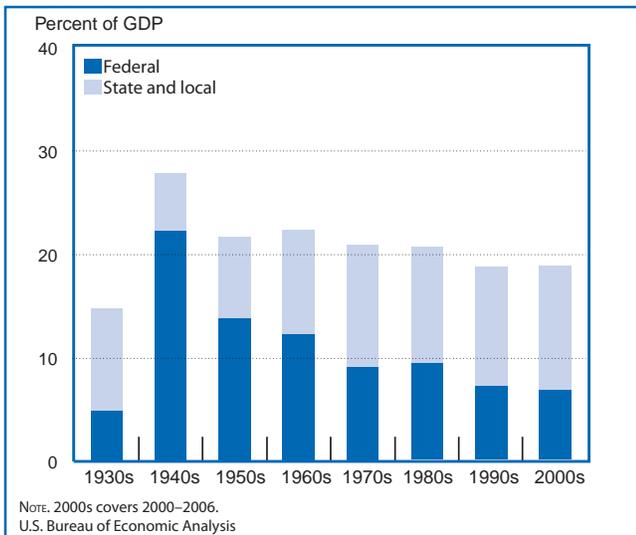
Note: "Account 7. Foreign Transactions Capital Account" is not shown.

## Consumption and gross investment

Account 1, the domestic income and product account, shows another measure of government spending—consumption expenditures and gross investment, which is the portion of GDP, or final expenditures, accounted for by the government sector (chart 1). Consumption expenditures can be defined as value added plus the intermediate goods and services purchased from other industries that are inputs to the government production process, less sales to other sectors and own-account investment.<sup>3</sup> Consumption expenditures can be thought of as a measure of services produced by government, or in other words, general government output. In the NIPAs, services produced by the government sector are shown as if they were then purchased by the government sector.

Gross investment is the value of investment in structures, equipment, and software.

**Chart 1. Consumption Expenditures and Gross Investment**



## Current expenditures

Current expenditures represent another measure of government spending, which is reported in the government receipts and expenditures account. It includes consumption expenditures, as defined above. Other current expenditures include government payments

3. In the NIPAs, government purchases are recorded on a net basis—that is, they exclude sales revenue. This convention is adopted so that GDP is not double counted and transactions are counted only in the sector for which they represent final demand. For example, goods and services produced in the government sector, but purchased by the household sector, are recorded as personal consumption expenditures, not government consumption expenditures.

that cross sectors. For example, social benefit payments to persons for social security are paid to the household sector, where they are used to finance personal consumption expenditures, which are shown as expenditures in the household sector.

## General Government and Government Enterprises

Government output is divided into market and nonmarket output. Most government output is nonmarket in nature, meaning that services are provided without charge or with only a nominal charge, such as public education.<sup>4</sup> Nonmarket output of the government sector is classified in the NIPAs as general government output.

Like private businesses, governments sometimes provide goods and services that are sold to households and businesses in a market transaction. In the NIPAs, these government entities are called enterprises. The largest government enterprise is the U.S. Postal Service. Other federal enterprises include the Tennessee Valley Authority, other power authorities, the Federal Housing Administration, and the National Flood Insurance Program.

State and local government enterprises include housing authorities, transit systems, airports, water ports, and utilities. Frequently, but not always, the government provides services in the market economy because special circumstances prevent private companies from doing so. These circumstances include natural monopolies and externalities. Sometimes governments undertake projects of a scale too large for the private sector. Other times, the enterprises perform a public service that would result in operating losses if performed by the private sector.

Government enterprises occupy a unique status in the NIPAs. Because they are businesses, their value added is recorded in the business sector. However, their investment, interest payments, and operating surplus (or deficit) are recorded as government transactions because it is difficult to separately identify these transactions for government enterprises and for general government.

4. In theory, transactions in the national accounts should be recorded according to market valuations. However, most government outputs are not sold in the marketplace, so market valuations, such as sales, are not available. As a second-best solution, government output is estimated based on the cost of production by measuring inputs.

## Receipts, Expenditures, and the Fiscal Balance

**Receipts and expenditures.** Governments finance their activities with revenue from a number of sources. The NIPAs classify revenue in five main categories.

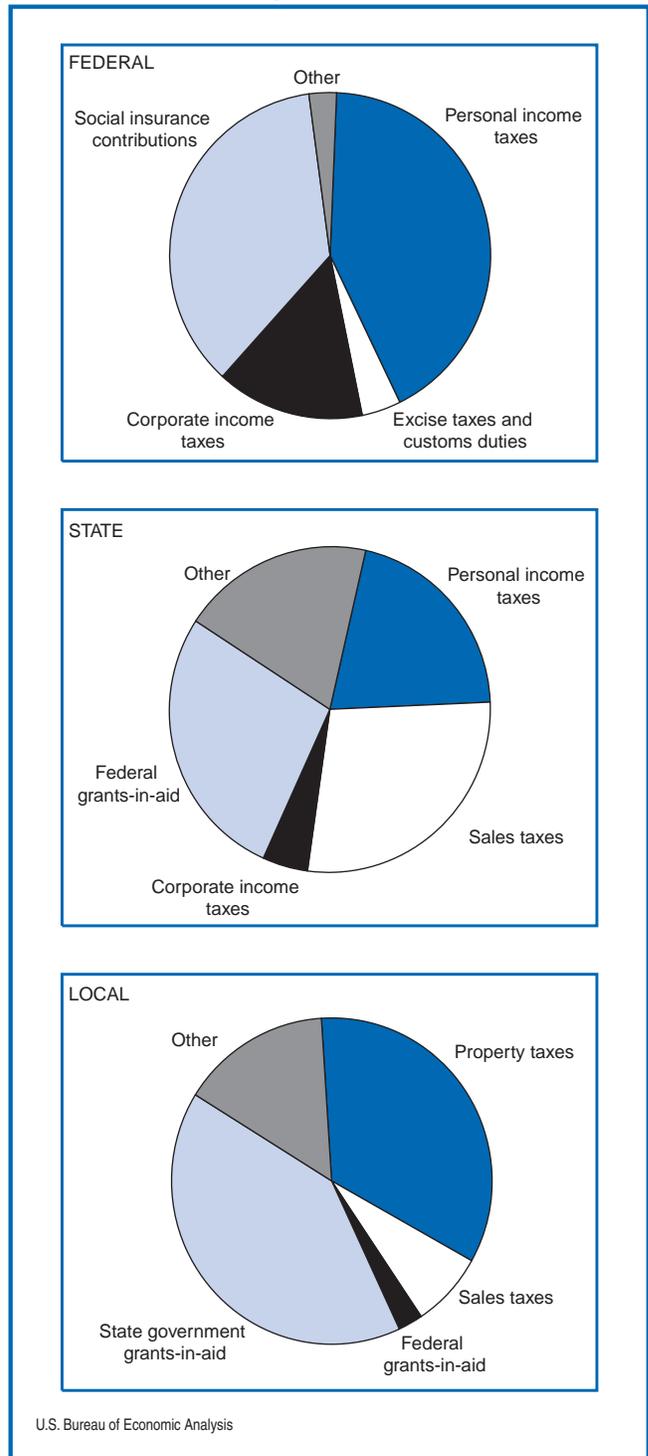
- **Current taxes.** These are tax payments made by persons or businesses: income taxes, sales taxes, property taxes, excise taxes, customs duties, severance taxes, documentary and stamp taxes, and special assessments.<sup>5</sup> Current taxes also include fees for motor vehicle licenses, drivers' licenses, and business licenses.
- **Social insurance contributions.** These finance the provision of certain social benefits to qualified persons. These contributions include contributions for social security, Medicare, unemployment insurance, and a number of smaller programs.
- **Income receipts from government assets.** These include interest, dividends, and rental income, such as royalties paid on drilling on the outer continental shelf. Also, governments earn interest and dividend income on financial assets.
- **Current transfer receipts.** These include grants from other levels of government, fines, fees, donations, unclaimed bank deposits, deposit insurance premiums, and tobacco settlements. Also included are net insurance settlements, certain penalty taxes, miscellaneous transfers, and excise taxes paid by nonprofit institutions serving households (see the box "Grants-in-Aid in the Government Accounts" on page 35).<sup>6</sup>
- **Current surplus of government enterprises.** This is a "profit-type measure" for government enterprises. Some types of enterprises, such as state lotteries, consistently earn surpluses, which are used to fund general government activities. In contrast, many enterprises run deficits, and these deficits reduce receipts.

Governments also receive income from the sale of goods and services, such as school tuition. In the NIPAs, this income is treated as an offset against expenditures, not revenue. This income comes from voluntary purchases that might have been made from a private sector provider of such services.

The NIPAs classify current expenditures into four main categories.

- **Consumption expenditures.** These are government services provided, as measured as the sum of inputs used: compensation of employees, consumption of fixed capital, and intermediate goods and services purchased, less sales to other sectors and own-account investment.

**Chart 2. Current Receipts, 2006**



5. In the NIPAs, investment in owner-occupied housing is accounted for in the business sector and is treated as if homeowners rent their houses to themselves. This treatment has an important implication for the government account. Property taxes on real property are recorded entirely as business taxes, not personal taxes.

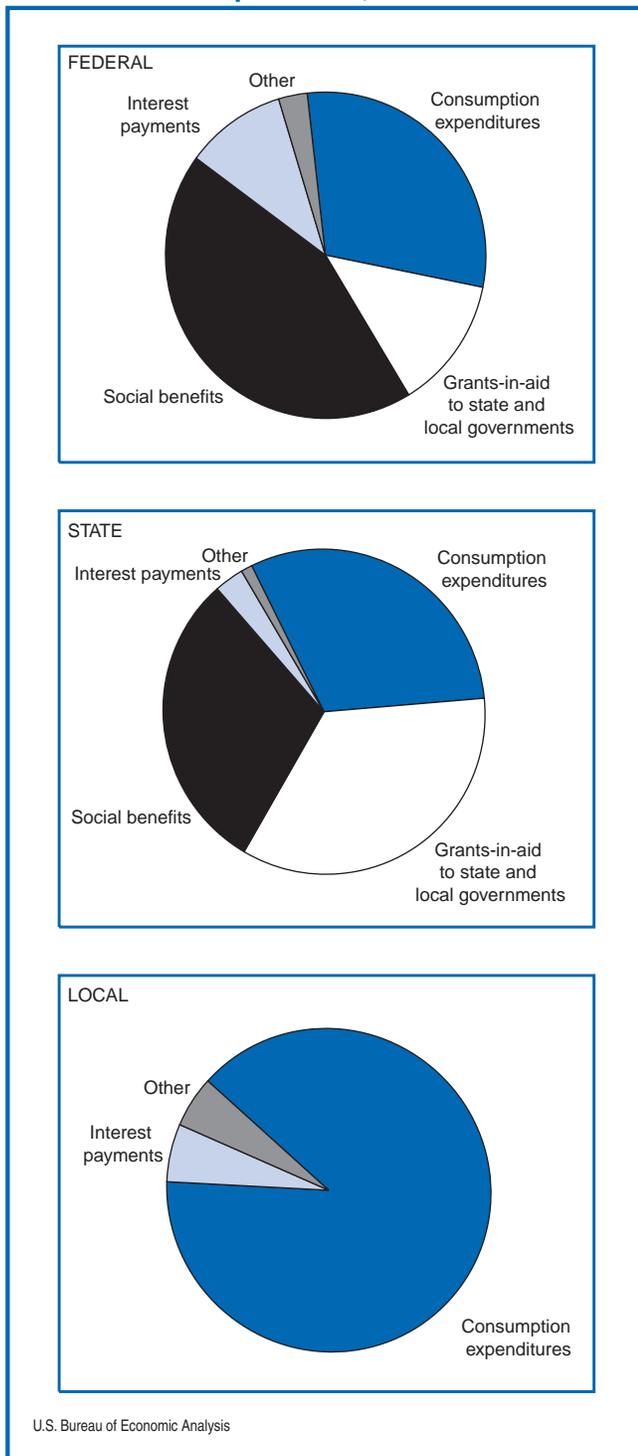
6. In the NIPAs, the services of insurance providers are equal to premiums plus premium supplements, less "normal" losses. This treatment minimizes distortion to GDP resulting from large disaster losses.

- **Current transfer payments.** These consist of social benefits and other current transfer payments to the rest of the world. Social benefits are payments from social insurance funds, such as social security and Medicare, and payments providing other income support, such as Medicaid and food stamp benefits. Other current transfers to the rest of the world consists of federal aid to foreign countries and

payments to international organizations such as the United Nations. Federal “other current transfer payments” also includes grants-in-aid to state and local governments.

- **Interest payments.** These represent the cost of borrowing by governments to finance their capital and operational costs.
- **Subsidies.** These are payments to businesses, including homeowners and government enterprises at another level of government.

**Chart 3. Current Expenditures, 2006**



In addition to showing expenditure by type, the NIPAs include annual tables of expenditure by function. These functions include defense; public order and safety; economic affairs; housing and community services; health, recreation, and culture; education; and income security. Within these functions, some functions include subfunctions. For example, public order and safety includes police, fire, law courts, and prisons.

**Fiscal balance.** In the NIPAs, there are two measures of the fiscal balance. Net saving is the difference between current receipts and current expenditures. Current expenditures exclude capital investment but include CFC, a depreciation measure. Net saving can be thought of as a measure of the extent to which governments are covering their current operations from current receipts.

The other balance measure, net lending or net borrowing, is the difference between total receipts and total expenditures. Total receipts differ from current receipts because they include capital transfer receipts. Total expenditures differ from current expenditures because they include capital investment, capital transfer payments, and net purchases of nonproduced assets but exclude CFC. The former three categories are cash expenditures, while the latter is a noncash charge. Net lending or net borrowing represents the governments' cash surplus or borrowing requirement. This measure is normally negative because governments borrow to finance their capital investment (and sometimes to finance current operations as well).<sup>7</sup>

### Real Expenditures and Price Indexes

Many, if not most, users of the NIPAs are interested in “inflation-adjusted” estimates of GDP and its components. For the government accounts, these estimates provide information on the government’s contribution to real GDP growth.

Inflation-adjusted measures of consumption

7. It is not unusual for the federal government to run an operating deficit. The combined state and local government sector sometimes runs a deficit as well. Most state and local governments have statutory requirements to balance their budgets, although specific requirements vary from government to government. Usually the requirements pertain to “general funds” only. This allows governments the flexibility to run deficits in the short term by, for example, interfund transactions.

**Grants-in-Aid in the Government Accounts**

**Government Current Receipts and Expenditures**  
[Billions of dollars]

	2006
<b>Current receipts</b> .....	<b>3,934.8</b>
Current tax receipts .....	2,769.8
Contributions for government social insurance .....	927.6
Income receipts on assets .....	111.9
Current transfer receipts .....	139.5
Current surplus of government enterprises ...	-13.9
<b>Current expenditures</b> .....	<b>4,130.3</b>
Consumption expenditures .....	2,089.3
Current transfer payments .....	1,618.3
Government social benefits .....	1,588.7
Other current transfer payments to the rest of the world (net) .....	29.6
Interest payments .....	372.9
Subsidies .....	49.7
Less: Wage accruals less disbursements .....	0.0
<b>Net government saving</b> .....	<b>-195.4</b>
<b>Addenda:</b>	
<b>Total receipts</b> .....	<b>3,967.5</b>
Current receipts .....	3,934.8
Capital transfer receipts .....	32.6
<b>Total expenditures</b> .....	<b>4,312.3</b>
Current expenditures .....	4,130.3
Gross government investment .....	433.8
Capital transfer payments .....	18.1
Net purchases of nonproduced assets .....	-2.1
Less: Consumption of fixed capital .....	267.7
<b>Net lending or net borrowing (-)</b> .....	<b>-344.8</b>

Government current receipts and current transfer receipts are each the sum of federal and state and local government estimates less grants-in-aid.

Government current expenditures and current transfer payments are each the sum of federal and state and local government expenditures less grants-in-aid.

Total receipts is the sum of federal and state and local government receipts less the sum of current and capital grants-in-aid.

Total expenditures is the sum of federal and state and local government expenditures less the sum of current and capital grants-in-aid.

**Federal Government**  
[Billions of dollars]

	2006
<b>Current receipts</b> .....	<b>2,495.8</b>
Current tax receipts .....	1,537.5
Contributions for government social insurance .....	901.6
Income receipts on assets .....	24.7
Current transfer receipts .....	35.2
Current surplus of government enterprises ...	-3.2
<b>Current expenditures</b> .....	<b>2,715.8</b>
Consumption expenditures .....	812.8
Current transfer payments .....	1,576.1
Government social benefits .....	1,187.9
Other current transfer payments .....	388.2
Grants-in-aid to state and local governments .....	358.6
To the rest of the world .....	29.6
Interest payments .....	277.5
Subsidies .....	49.4
Less: Wage accruals less disbursements .....	0.0
<b>Net Federal Government saving</b> .....	<b>-220.0</b>
<b>Addenda:</b>	
<b>Total receipts</b> .....	<b>2,523.6</b>
Current receipts .....	2,495.8
Capital transfer receipts .....	27.8
<b>Total expenditures</b> .....	<b>2,786.9</b>
Current expenditures .....	2,715.8
Gross government investment .....	119.7
Capital transfer payments .....	70.2
Net purchases of nonproduced assets .....	-13.3
Less: Consumption of fixed capital .....	105.4
<b>Net lending or borrowing (-)</b> .....	<b>-263.3</b>

Federal grants-in-aid to state and local government are federal government expenditures and state and local government receipts.

Federal expenditures for capital transfer payments includes federal capital grants-in-aid to state and local governments. These grants are included in state and local government capital transfer receipts.

**State and Local Government**  
[Billions of dollars]

	2006
<b>Current receipts</b> .....	<b>1,797.7</b>
Current tax receipts .....	1,232.3
Contributions for government social insurance .....	26.0
Income receipts on assets .....	87.1
Current transfer receipts .....	462.9
Federal grants-in-aid .....	358.6
Other .....	104.3
Current surplus of government enterprises .....	-10.7
<b>Current expenditures</b> .....	<b>1,773.0</b>
Consumption expenditures .....	1,276.5
Government social benefits .....	400.8
Interest payments .....	95.4
Subsidies .....	0.4
Less: Wage accruals less disbursements .....	0.0
<b>Net state and local government saving</b> .....	<b>24.6</b>
<b>Addenda:</b>	
<b>Total receipts</b> .....	<b>1,854.5</b>
Current receipts .....	1,797.7
Capital transfer receipts .....	56.9
<b>Total expenditures</b> .....	<b>1,936.0</b>
Current expenditures .....	1,773.0
Gross government investment .....	314.0
Capital transfer payments .....	.....
Net purchases of nonproduced assets .....	11.2
Less: Consumption of fixed capital .....	162.3
<b>Net lending or borrowing (-)</b> .....	<b>-81.5</b>

expenditures and gross investment are adjusted for price changes using various price indexes. BEA constructs these indexes based on estimates of a “market basket” of goods and services purchased by governments and price data primarily from the Bureau of Labor Statistics (BLS).

Most price indexes in the government sector are based on BLS Consumer Price Indexes and BLS Producer Price Indexes. For state and local estimates, price indexes are matched with detailed spending estimates from BEA's benchmark input-output tables, which show purchases by commodity.

For the federal estimates, price indexes are matched with spending estimates based on object class data from the budget or contract awards. In addition, for defense, BEA constructs price indexes for military equipment because BLS does not produce price indexes for many types of goods purchased by the military, such as fighter jets or air-to-air missiles.

Deflation is not the only technique used for estimating real output in the government sector. Employee compensation is estimated in constant dollars directly from hours worked, with an adjustment to reflect changes in workers' experience and education. For example, all things being equal, teachers with more experience and education will receive higher wages than teachers with less experience and education. This adjustment puts the higher wages in the “quantity” measure instead of the “price” measure.

### Preparation of the Estimates

BEA's government sector estimates are prepared separately for the federal government and for the combined state and local government sector.

#### Federal estimates

The main data source for the federal estimates is the *Budget of the United States Government*, an annual document published by the Executive Office of the President, usually in early February. Each year, BEA “translates” the budget into the NIPA framework.

The translation includes sorting the budget receipts and expenditures data into NIPA categories and adjusting the data to conform to NIPA accounting conventions. This translation provides the starting point for preparing monthly and quarterly estimates, which requires data from other sources.

The Department of the Treasury's *Monthly Treasury Statement of Receipts and Outlays* (MTS) includes monthly data in the budget framework; however, the MTS contains far less detail than the budget, especially on expenditures. BEA augments MTS data with un-

published details from the Department of the Treasury, but the result is still less detailed than the budget. In contrast, the receipts data in the MTS are similar in detail to that found in the budget.

Additional source data comes from many agencies, including the Department of Defense, the Social Security Administration, the Center for Medicare and Medicaid Services within the Department of Health and Human Services, and the Internal Revenue Service. Most provide monthly, quarterly, and annual reports.

For more information on how the budget is translated into a NIPA framework including coverage, timing and netting adjustments, please see “NIPA Translation of the Fiscal Year 2009 Federal Budget” on page 19.

#### State and local estimates

The most important data sources for state and local estimates are the quinquennial *Census of Governments* (COG) and the annual Government Finances surveys (GF). The annual GF surveys gather the same information as the COG. However, the information for local governments includes a sample of the 87,525 governments, while the COG includes the entire universe. Data collected include revenue, expenditures, financial assets, and debt.

Additional data from other sources are also incorporated. For example, social benefit data from federal sources adds detail on Medicaid, while data from BLS on employment, wages, and supplements adds detail on employee compensation.

The COG and the GF provide data on a fiscal-year basis, requiring BEA to make various adjustments to prepare its calendar year estimates.

Collecting financial data from 50 states and up to 87,525 local governments is time consuming. Generally, it takes about 2 years from the close of each fiscal year for the Census Bureau to tabulate and release COG and GF data. However, BEA's production schedule calls for more timely monthly and quarterly estimates.

Fortunately, many of the largest components of the state and local government estimates can be estimated with data from other sources.

For receipts, both the Census Bureau and the Rockefeller Institute of Government (State University of New York at Albany) operate quarterly surveys of taxes, the largest source of state and local revenue. In addition, the federal Department of the Treasury provides source data on grants-in-aid from the federal government. Taxes and federal grants account for nearly 90 percent of state and local government

receipts in recent years. Some of the remaining components of receipts are estimated based on actual source data or economic models; however, most are based on trend extrapolations.

For expenditures, surveys by BLS provide estimates of state and local government employee compensation, which accounts for just over half of spending. Another important spending component is Medicaid. Estimates of Medicaid spending are available from the Centers for Medicare and Medicaid (CMS) with a roughly 6-month lag, and estimates for the federal share are available on a daily basis. Another large spending component is investment in structures, which accounts for more than 80 percent of total investment. Monthly statistics are available from the Census Bureau.

### Release and revision cycle

BEA releases its first estimate of quarterly GDP about a month after the quarter is complete (table 2). That is, BEA makes its “advance” estimate of GDP for the January-March quarter in late April. In May, BEA revises those estimates in its “preliminary” release. In June, it revises the estimates again in its “final” release.

The “final” estimates remain unrevised until they undergo an annual revision.<sup>8</sup> Annual revisions allow the Bureau to incorporate source data that were not available when the current estimates were made. Annual revisions cover the prior 3 years and the current year and include both annual and quarterly estimates. That is, in 2007, BEA revised 2004, 2005, 2006, and the first two quarters of 2007. Comprehensive revisions are like annual revisions except that they are broader in scope. Traditionally, comprehensive revisions incorporated high-quality source data based on the most recent Economic Census. They also updated economic concepts, definitions, accounting structure, table layouts, and the reference year for index numbers and real estimates. In the future, BEA will incorporate more of these kinds of updates in annual revisions (see the box “NIPA Revision Cycle” on page 12 of this issue).

### Future Directions for the Government Accounts

Keeping the NIPAs up to date in an ever-changing economic environment is a challenging task. For the government accounts, BEA faces a host of challenges. Chief among these is the need to better measure government output, especially when the output is not sold in market transactions.

8. Estimates of federal personal income taxes and federal contributions for social insurance are subject to revision for two quarters during the “preliminary” estimate. These revisions reflect the impact of revisions to wage and salary disbursements also subject to revision at that time to incorporate data from the Quarterly Census of Employment and Wages.

The following are examples of research that BEA is currently undertaking to address some of these challenges.

**Direct measurement of education.** Education constitutes nearly one-third of the services produced by government. Replacing input-based measures with measures of education output would greatly improve the government sector estimates. In concept, it is easy to count school children and the hours of instruction that they receive. Difficulties arise when the “quality” of education is taken into account. Currently, research is underway to measure the “quality” of education by looking at teacher qualifications and student achievement.

Table 2. Government in the National Income and Product Account Tables

	NIPA tables
<b>Current receipts</b> .....	3.1-3.3
Current tax receipts .....	3.1-3.3
Personal current taxes .....	3.1-3.3, 3.4
Taxes on production and imports .....	3.1-3.3, 3.5
Taxes on corporate income .....	3.1-3.3
Taxes from the rest of the world .....	3.1, 3.2
Contributions for government social insurance .....	3.1-3.3, 3.6, 3.14
Income receipts on assets .....	3.1-3.3
Current transfer receipts .....	3.1-3.3, 3.7
Current surplus of government enterprises .....	3.1-3.3, 3.8
<b>Current expenditures</b> .....	3.1-3.3, 3.16
Consumption expenditures .....	3.1-3.3, 3.9.1-3.9.6, 3.10.1-3.10.6, 3.11.1-3.11.6, 3.17
Current transfer payments .....	3.1-3.3
Government social benefits .....	3.1-3.3, 3.12, 3.14, 3.17
To persons .....	3.1-3.3, 3.12, 3.14
To the rest of the world .....	3.1-3.3, 3.12, 3.14
Other federal current transfer payments .....	3.1, 3.2
Grants-in-aid to state and local governments .....	3.2, 3.17
To the rest of the world (net) .....	3.1, 3.2
Interest payments .....	3.1-3.3
To persons and business .....	3.1, 3.2
To the rest of the world .....	3.1, 3.2
Subsidies .....	3.1-3.3, 3.13, 3.17
Less: Wage accruals less disbursements .....	3.1-3.3
<b>Net government saving</b> .....	3.1-3.3
Social insurance funds .....	3.1-3.3, 3.14
Other .....	3.1-3.3
<b>Addenda:</b>	
<b>Total receipts</b> .....	3.1-3.3
Current receipts .....	3.1-3.3
Capital transfer receipts .....	3.1-3.3, 5.10
<b>Total expenditures</b> .....	3.1-3.3
Current expenditures .....	3.1-3.3
Gross government investment .....	3.9.1-3.9.6, 3.11.1-3.11.6, 3.17, 5.2.3-5.2.6, 5.8.3-5.8.6
Capital transfer payments .....	3.1, 3.2, 3.17, 5.10
Net purchases of nonproduced assets .....	3.1-3.3
Less: Consumption of fixed capital .....	3.1-3.3, 5.1
<b>Net lending or net borrowing (-)</b> .....	3.1-3.3

NOTE: NIPA table 3.20 shows estimates for state governments and NIPA table 3.21 shows estimates for local government that are similar to the estimates shown in NIPA table 3.3. Quarterly estimates for some annual tables are also available.

**Research and development.** Research and development (R&D) expenditures differ from other types of current expenditures because they often lead to creation of an asset with lasting value. BEA's R&D satellite account is the first step in devising a treatment for intangible capital.<sup>9</sup> The government is an important financier of R&D through grants and a performer of R&D through public universities and federal agencies, including national laboratories.

**Rate of return to government fixed assets.** Government consumption expenditures include CFC; however, CFC is an incomplete measure of the services provided by the stock of existing government capital because it excludes a rate-of-return on this capital. Research is underway to estimate a rate-of-return on government fixed assets.

**More timely data.** The quarterly federal accounts are based on timely source data from the MTS; however, the state and local accounts are based on annual data, received with a 2-year lag. Work is ongoing at the Census Bureau to accelerate processing of the current data. BEA is working to find new sources for quarterly data.

**Balance sheets.** The System of National Accounts, an international set of national accounting guidelines, recommends that countries provide an integrated set of balance sheets as part of their national economic ac-

counts. Currently, the Board of Governors of the Federal Reserve System is responsible for the flow of funds accounts of the United States, which include balance sheets of financial assets and liabilities for the various sectors of the economy. BEA continues to work with staff from the Federal Reserve Board to develop an integrated set of accounts.<sup>10</sup>

10. Preliminary work on this subject is described in: Charlotte Anne Bond, Teran Martin, Susan Hume McIntosh, and Charles Ian Mead, "Integrated Macroeconomic Accounts for the United States," SURVEY 87 (February 2007): 14–31.

### Fixed Assets Accounts

In estimating the national income and product accounts, it is necessary to compute consumption of fixed capital (CFC) or depreciation. CFC is used throughout the accounts to estimate net investment and related series such as Net Domestic Product. In the government accounts, CFC is used as a proxy for the services derived from government capital investment, both past and present.

CFC is estimated through a "perpetual inventory" method, where investment flows are cumulated over time into stocks and depreciated. As part of the CFC calculations, gross and net capital stocks are generated. These stocks have value in their own right, especially in studies of productivity in the economy. For this reason, BEA publishes fixed assets accounts, including fixed assets for the government sector.

9. See Carol A. Robbins and Carol E. Moylan, "Research and Development Satellite Account Update," SURVEY OF CURRENT BUSINESS 87 (October 2007): 49.