

The NIPAs and the System of National Accounts

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THE increased integration of the world's monetary, fiscal, and trade policies has led to a growing need for the international harmonization of economic statistics. Accordingly, the *System of National Accounts 1993* (SNA) was developed by the international community in order to facilitate international comparisons of national economic statistics and to serve as a guide for countries as they develop their economic accounting systems.¹ The Bureau of Economic Analysis (BEA) actively participated in preparing the 1993 revision of the SNA, and after the revision was approved by the United Nations Statistical Commission, BEA has moved its accounts toward improved consistency with the SNA, which now serves as the internationally accepted set of guidelines for the compilation of national accounts.²

The SNA provides a comprehensive framework for recording all of the stocks and flows that are defined as part of a nation's economy. Its accounts are organized to measure production, income, saving, investment, and financial and nonfinancial wealth; it also encompasses input-output tables, international transactions, financial accounts, and balance sheets. The SNA is designed to be an integrated system; that is, the accounts use consistent definitions, classifications, and accounting conventions. Furthermore, the SNA is almost completely harmonized with other international guidelines, such as the International Monetary Fund's *Balance of Payments Manual* (fifth edition).

Since 1993, BEA has continued to improve its national income and product accounts (NIPAs) and its other economic accounts to incorporate most of the major SNA guidelines that affect gross domestic product (GDP), investment, and saving.

- In the 1996 comprehensive NIPA revision, chain-type indexes were adopted for measuring changes in real GDP and prices, and government fixed investment was recognized.
- In the 1999 comprehensive revision, investment in software was recognized, the treatment of government employee retirement plans was changed, and certain transactions were reclassified as capital transfers.

1. See Commission of the European Communities, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, and the World Bank, *System of National Accounts 1993* (Brussels/Luxembourg, New York, Paris, and Washington, DC, 1993).

2. See "New International Guidelines in Economic Accounting," *SURVEY OF CURRENT BUSINESS* 73 (February 1993): 43.

- In the 2003 comprehensive revision, the implicit services provided by commercial banks to borrowers were recognized, the services produced by general government were explicitly recognized, the definition of national income was broadened to include all net income (net of consumption of fixed capital) earned in production, and the summary accounts, tables, and terminology were revised to more closely conform with the SNA.

BEA supports the goal of the international harmonization of its national accounts, and the NIPAs will continue to adopt the SNA guidelines to the extent that is feasible. However, some differences will persist because BEA has decided to retain several important NIPA aggregates, such as personal income and corporate profits, that do not appear in the SNA, and BEA must also consider the needs of the U.S. user community. Improving the consistency of the NIPAs with the SNA remains an important element of BEA's mission to produce accurate, relevant, and timely statistics, to respond to customers' needs, and to meet the challenges of measuring a changing economy.

BEA is also participating with other members of the international statistical community in the current review and update of the SNA that was recently authorized by the United Nations Statistical Commission. This review is considering revisions to the SNA that will address new issues that are emerging in the new economic environment, as well as some old issues that are increasing in economic significance or that may qualify for a different treatment as a result of advances in methodological research. A few of the changes that are being considered include treating research and development as part of fixed capital formation, recognizing a net return to government fixed assets, and using actuarial valuations to determine the liability and to allocate the net worth of employer-provided defined benefit plans between the employer and the employees.

For many years, BEA has prepared estimates on an SNA basis in response to a questionnaire used by the Organisation for Economic Co-operation and Development (OECD).³ These estimates are published by the OECD and by other international organizations. The estimates are derived from the published NIPA estimates and are converted to the SNA basis in a series

3. For a discussion of the 1968 version of the SNA and the NIPAs, see Carol S. Carson and Jeanette Honsa, "The United Nations System of National Accounts: An Introduction," *SURVEY* 70 (June 1990): 20–30.

of reconciling adjustments that are based on underlying detail and related estimates. However, the adjustments do not deal with all the differences between the NIPAs and the SNA; for example, information is not available to cover illegal production, which according to SNA, should be included as part of the production measured by GDP.

In the first part of this article, the organization and major features of the SNA are compared with those of the NIPAs. In the second part, the set of estimates on an SNA basis that are provided to the OECD are presented, and these estimates are compared with the related NIPA estimates. In the third part, the current revision of the SNA is described.

The SNA and the NIPAs

The SNA aims to provide a comprehensive record of the stocks and flows that are defined as part of a nation's economy. Like the NIPAs, the SNA organizes the major economic institutions (households, businesses, governments, and nonprofit institutions) and their transactions so that the resulting estimates are meaningful for economic analysis, forecasting, and policy.

The SNA is organized as a series of accounts that summarize the transactions of groups of institutions (or sectors), of groups of establishments engaged in production (or industries), and of the total economy. It includes a sequence of accounts that flow from one to another; for example, production generates income, which then is used to finance consumption and other current spending and saving. Saving is then used for capital formation or for acquiring financial assets and liabilities (net lending). Finally, the accumulation of

nonfinancial assets and of financial assets and liabilities and the revaluation of assets and liabilities explain the differences between the opening balance sheet and the closing balance sheet, which summarize the wealth of a nation or a sector.

The SNA encompasses accounts that are organized as separate sets of accounts in the United States. The NIPAs are organized as 7 summary accounts with nearly 300 underlying tables, and they cover the transactions that are grouped in the SNA as the production account, the distribution and use of income accounts, and the capital accounts. In particular, in the NIPAs, the domestic income and product account (chart 1, summary account 1) provides estimates of GDP and corresponds to the SNA production account for the total economy. The domestic income and product account also provides information about the income from production that accrues to labor (compensation of employees), to capital (net operating surplus and consumption of fixed capital), and to government (taxes on production and imports); in the SNA, these flows are included in the generation of income account. In the SNA, the remaining accounts in the distribution and use of income accounts for each of the domestic sectors roughly correspond to the NIPA personal income and outlay account (account 3), to the government current receipts and expenditures account (account 4), and partly to the private enterprise income account (account 2, which corresponds most closely to the SNA's "entrepreneurial income" account). The NIPA domestic capital account (account 6) corresponds to the SNA capital account for the total economy. Both the SNA and the NIPAs include a cur-

Chart 1. NIPA Summary Tables

Transactions	Domestic Accounts			Rest of the World
	Economic Sectors			
	Business	Government	Personal	
Production	Domestic income and product (Account 1)			Foreign transactions current account (Account 5)
Income and outlay	Private enterprise income ¹ (Account 2)	Government current receipts and expenditures (Account 4)	Personal income and outlay (Account 3)	
Saving and investment	Domestic capital account (Account 6)			Foreign transactions capital account (Account 7)

1. The private enterprise account covers all private businesses, both corporate and noncorporate, and it is most closely related to the SNA's entrepreneurial income accounts.
U.S. Bureau of Economic Analysis

rent account and a capital account for the rest-of-the-world sector (accounts 5 and 7), which summarize the transactions of foreign residents with U.S. residents.

Several other sets of U.S. economic accounts fall within the purview of the SNA. BEA's input-output accounts and the GDP-by-industry accounts provide a detailed analysis of the production process and the use of goods and services by domestic industries. BEA also prepares estimates of the net stock of fixed assets and consumer durable goods. The Federal Reserve Board's flow-of-funds accounts cover financial transactions and provide balance sheet information.⁴ In addition, two other sets of accounts are linked to the SNA but are not directly a part of it—the balance-of-payments accounts that are prepared by BEA and the productivity statistics that are prepared by the Bureau of Labor Statistics.

Differences in sectors

According to the SNA, the accounts of the related estimates for each of the domestic institutional sectors can be added to obtain an account of the total economy.

In the SNA, a nation's economic institutions are grouped into five major sectors—nonfinancial corporations, financial corporations, general government, nonprofit institutions serving households, and households. Each institution is classified in one of these sectors, and all of the accounts for the institutions (production, distribution and use of income, capital, financial, and balance sheets) are included in the accounts for that sector. Each sector can be divided into subsectors; for example, in the general government sector, accounts can be compiled for central government, state government, local government, and social security funds.

In the NIPAs, economic institutions are also grouped into sectors, but the sector classification scheme is more complicated than in the SNA. Institutions are grouped in one way for measuring their contribution to production, and they are grouped in another way for measuring income, outlays, and saving. In contrast, the SNA sector definitions are the same for all of the accounts.

For measuring the contribution, or value added, of various institutions to production, GDP, the Nation's producers are grouped into three sectors—business,

households and institutions, and general government.⁵ The business sector includes private entities that are organized for profit and other units (such as government enterprises) that are primarily engaged in producing goods and services for sale at a price that is intended to at least approximate the costs of production. The households and institutions sector consists of households and nonprofit institutions serving households. The sectors in the NIPAs differ from those in the SNA primarily in the treatment of noncorporate business enterprises. In the NIPAs, these businesses are in the business sector. In the SNA, unincorporated businesses that function and that keep complete accounts as if they were corporations, such as some private partnerships and government agencies, are classified as “quasi-corporations” in the nonfinancial or the financial corporations sectors, and other unincorporated enterprises are classified in the household sector.

For measuring income, outlays, and saving in the NIPAs, the institutions are grouped into three other sectors—personal, government, and corporate. The personal sector includes the income that is earned by, or transferred to, households and nonprofit institutions serving households and the net income of enterprises that are owned by households (proprietors' income and rental income of persons). The government sector includes general government and government business enterprises. The corporate sector consists of business entities that are legally organized as corporations and that are required to file corporate tax returns.

The NIPA personal sector is more broadly defined than the combined SNA sectors of households and of nonprofit institutions serving households, because the personal sector includes the net income of all private unincorporated businesses. The NIPA government sector is more broadly defined than the SNA general government sector because it includes the surplus of all government enterprises. The NIPA corporate sector is more narrowly defined than the combined SNA sectors of nonfinancial and financial corporations; the NIPA corporate sector does not include quasi-corporations.

Other differences between the NIPAs and the SNA

In the NIPAs, the major aggregates, such as GDP, are now mainly consistent with the SNA guidelines, but several minor differences remain. Some of these differ-

4. A related effort is a joint research project by BEA and the Federal Reserve Board to develop integrated NIPAs and flow-of-funds accounts that are based on the SNA. See Albert M. Teplin, Rochelle Antoniewicz, Susan Hume McIntosh, Michael Palumbo, Genevieve Solomon, Charles Ian Mead, Brent R. Moulton, and Karin Moses, “Integrated Macroeconomic Accounts for the United States: Draft SNA-USA” (paper prepared for Conference on Research in Income and Wealth, Washington, DC, April 16–17, 2004).

5. For more information about NIPA sectors, see “A Guide to the NIPAs,” M-20 at <www.bea.gov/nea/an/nipaguid.htm>. For changes to the sector classifications that occurred as part of the 2003 comprehensive NIPA revision, see Brent R. Moulton and Eugene P. Seskin, “Preview of the 2003 Comprehensive Revision of the National Income and Product Accounts: Changes in Definitions and Classifications,” SURVEY 83 (June 2003): 17–34.

ences are eliminated by the reconciling adjustments that BEA uses when it prepares SNA-based estimates for the OECD questionnaire, but BEA lacks the source data to produce some of the estimates that are conceptually included in the SNA.

In the NIPAs, all plant, equipment, and software that are used continuously in production for at least 1 year are treated as fixed investment. However, in the SNA, investment in defense weapons systems—such as aircraft, battleships, and tanks—are treated as consumption expenditures even if their service lives are longer than a year. As a result, the GDP estimates on an SNA basis are about 0.5 percent less than the NIPA estimates of GDP, because general government consumption expenditures include the consumption of fixed capital as a partial measure of the services provided by fixed assets in production. In preparing the estimates on an SNA basis, BEA removes the consumption of fixed capital for defense weapons systems and reclassifies the investment as consumption expenditures rather than as fixed investment.

Another minor difference affects the estimates of investment and consumption, but not the difference between GDP and SNA-based GDP. In the NIPAs, the inventory estimates cover only private inventories, because the available source data on inventories held by government is incomplete; consequently, the NIPAs treat government purchases of goods as consumption regardless of whether they are immediately used or are entered into inventories. However, information is available for some types of government inventories (for example, agricultural goods owned by the Commodity Credit Corporation and inventories in the Strategic Petroleum Reserve). For the SNA-based estimates, BEA treats the change in these inventories as part of government investment rather than as government consumption expenditures.

The NIPAs also differ from the SNA because some activities or assets are not covered by the NIPAs because of the lack of source data; as a result, the SNA-based NIPA estimates are not adjusted.⁶ In the SNA, illegal activities (such as prostitution or the cultivation or manufacture of illegal drugs) are treated the same as legal activities; the NIPAs do not include estimates of illegal production. In the SNA, trees and livestock, such as dairy cattle, that are used continuously in production for more than a year are treated as cultivated fixed assets, and their production is treated as part of

investment; the NIPAs do not currently include estimates of investment for these types of assets. In addition, in the SNA, entertainment, literary, or artistic originals (such as original films, sound recordings, and manuscripts) are treated as investment, but the NIPAs do not currently include investment in these types of assets. BEA's Strategic Plan calls for research to help fill some of these gaps in the NIPAs.

In preparing the SNA-based estimates for the OECD, it is not possible to completely adjust the NIPA estimates to the SNA standards for sectors, but some adjustments are made. Where data exist to separately identify all the transactions of government enterprises, these enterprises are classified to the SNA corporate sector; all Federal Government business enterprises and all state and local government utility enterprises except transit are classified to the corporate sector and state and local government transit and other nonutility business enterprises are classified as market producers in the general government sector. In addition, private unincorporated businesses are included in the households sector. These definitions reflect the source data that are presently available to partly implement the SNA guidelines on sectors.

Another definitional difference relates to the concept of disposable income in the accounts. In the SNA, disposable income is total income that is net of all current outlays except consumption expenditures. In the NIPAs, however, disposable personal income is personal income that is net of only taxes and social contributions; personal interest payments and personal current transfer payments are treated as outlays that are paid from disposable personal income.⁷

Other differences between the NIPAs and the SNA-based estimates also reflect differences in presentation. In the SNA, outflows are seldom netted against inflows; the presentational changes introduced in the 2003 comprehensive NIPA revision greatly reduced the extent of netting in the NIPAs, but some differences in the degree of netting still remain. In addition, some aggregates exist in one system but not in the other. For example, NIPA corporate profits and personal income do not have precise counterparts in the SNA, and the SNA concept of "mixed income"—that is, the residual business income of unincorporated corporations that is attributable to labor and to capital—has not been

6. For more information on the measurement of GDP in the United States and Canada and the SNA guidelines, see Kishori Lal, "Measurement of Output, Value Added, GDP in Canada and the United States: Similarities and Differences" (research paper, Statistics Canada, June 2003).

7. An additional difference between the NIPAs and the SNA is the treatment of employee pension plans. In the NIPAs, the income and saving associated with these plans are recorded as personal income and saving from the time employer contributes, whereas the SNA uses a system of *dual* recording; the measure of disposable income includes defined benefit plan pensions when they are paid as benefits, and the measure of saving treats the employee as the owner of the plan's assets as soon as the employer contributes to the plan.

implemented in the NIPAs, pending a review of the sectoring of unincorporated businesses.⁸

BEA's Estimates of SNA Aggregates

BEA prepares several tables that present SNA-based estimates for the OECD.⁹ One of these tables presents summary estimates by sector for a generation of income account, a distribution of income account, a use of disposable income account, and a capital account—that generally correspond to the series of accounts recommended by the SNA and that follow a complete production account. For each of these accounts, estimates for three SNA-derived institutional sectors are prepared—for corporations (combined financial and nonfinancial corporations), for general government, and for households and nonprofit institutions serving households along with estimates for the total economy. In addition, the major SNA accounts are discussed, the summary estimates are presented, and the reconciling adjustments that BEA makes in preparing the SNA-based estimates are summarized.

Production account

The production account in the SNA describes the relationship between gross output (which is the total goods and services that are produced) and value added (which is measured as the value of output less the value of intermediate consumption). Value added is a measure of the contribution to GDP by a producer, an industry, or a sector. BEA prepares estimates of gross output and of value added by industry and for the total economy in its integrated input-output accounts and GDP-by-industry accounts. BEA does not prepare estimates of gross output by sector, but it does prepare estimates of value added on both a NIPA basis and an SNA basis.

Total economy. The NIPA estimate of GDP differs from the SNA-based estimate of GDP because of the differing treatment of the investment in defense weapons systems; specifically, gross value added equals GDP less the estimate of the consumption of fixed capital associated with investment in defense weapons systems that underlies the NIPA measure. In addition, the sum of gross value added across the sectors of the economy in the SNA-based estimates does not equal GDP, because the statistical discrepancy is added to the sum of value added across sectors to arrive at GDP. The NIPAs

have two measures for the value of final goods and services produced in the economy—an income-side measure and an expenditure-side measure—and the difference between these two measures is reported as the statistical discrepancy, a concept that does not arise in the SNA. Although the expenditure-side measure of GDP is believed to be more accurate, the gross value-added estimates in the SNA account are primarily derived from the income-related estimates in the NIPAs.

Corporations. The NIPAs include estimates of value added for the business sector and for corporations. However, neither of these values match the value added of the corporations sector on an SNA basis. Specifically, the value added of the NIPA business sector includes the value added of unincorporated enterprises that are classified in the household sector and the value added of state and local government enterprises (other than nontransit utilities) that are classified in the general government sector for the SNA-based estimates. The value added of the NIPA corporations sector does not include the transactions of Federal Government enterprises and of state and local nontransit utility enterprises.

General government. The NIPA measure of value added for the general government sector, like the SNA estimate, is based on the cost of producing government services. However, the NIPA measure of value added for general government does not include state and local nontransit utility business enterprises, which are included in the NIPA business sector. In addition, general government value added is affected by the reclassification of investment in defense weapons systems.

Households and nonprofit institutions serving households (NPISHs). The NIPA value-added estimates for households are based on the difference between gross output (the imputed rental value) of owner-occupied housing less intermediate consumption plus the compensation paid to domestic household staff, and the value-added estimates for NPISHs are based on the cost of production. The NIPA estimates exclude the value added of unincorporated “other private businesses” that are included in the households and NPISHs sector in the SNA-based estimates.

Generation of income account

In the SNA, the generation of income account is the first in a series of distribution and use of income accounts. This account presents the distribution of the income that is earned in production (gross value added as derived in the production account) and that is distributed to labor (as compensation of employees), to government (as taxes on production and imports less subsidies received), to capital (as gross operating

8. In the NIPAs, residual business income is the income after paying for intermediate inputs, for compensation of employees, and for taxes on production and imports and is treated as gross operating surplus regardless of whether the business is a corporation or an unincorporated enterprise.

9. These estimates will soon be available on BEA's Web site at <www.bea.gov>; under “National” and “Supplemental Estimates,” and click on “SNA-based estimates.”

surplus) or to labor and capital combined (as gross mixed income) for unincorporated enterprises. Gross operating surplus and mixed income are profits-like measures that show business income after subtracting the costs of the compensation of employees and taxes on production and imports (less subsidies received) from gross value added, but before subtracting financing costs and business transfer payments.

SNA-based estimates for the measures in the generation of income accounts are prepared for the total economy, corporations, general government, and households and NPISHs. The relationships of these measures to the broad set of measures in the NIPAs are described, and some of the differences between the two sets of accounts are also explained.

Total economy. The measures in the generation of income account for the total economy are similar to the related measures in the NIPAs because the differences in the economic sectors are not an issue at the aggregated level of the total economy. However, a few of the concepts that are used for the two sets of accounts differ (chart 2).

The concept in the NIPAs of gross operating surplus differs from the concept in the SNA account. In the SNA, the operating surplus of business enterprises owned by households is identified and labeled as gross mixed income. To derive the estimate of gross mixed income on an SNA basis, BEA includes the NIPA operating surplus of private noncorporate business except owner-occupied housing. Thus, “gross operating surplus and mixed income” in the SNA account (net operating surplus and mixed income plus the consumption of fixed capital) equals net operating surplus plus the consumption of fixed capital in the NIPAs less the estimate of the consumption of fixed capital associated

with the investment in defense weapons systems that underlies the NIPAs (black arrows).

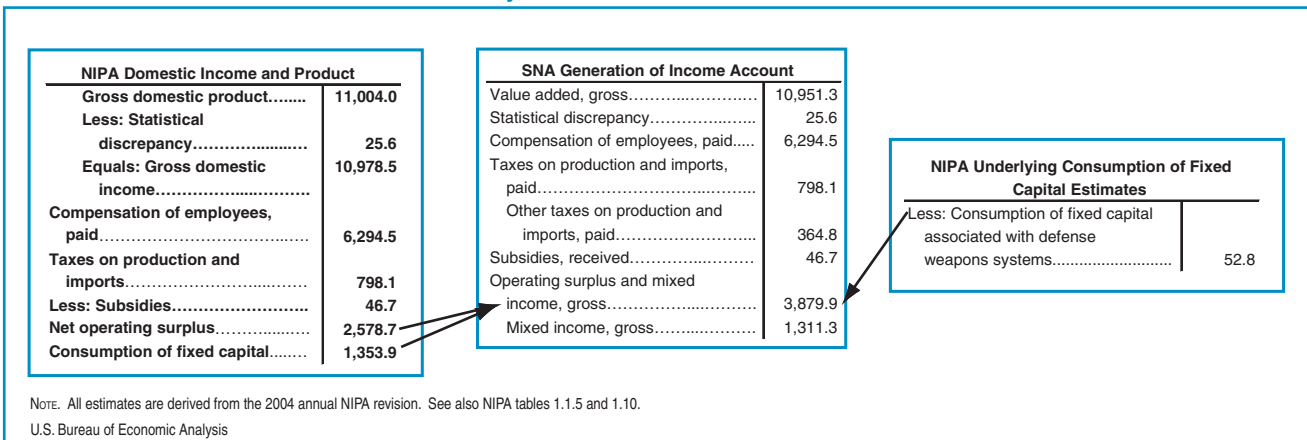
In addition, in the SNA, taxes associated with the ownership or the use of resources in production are separated from all the other types of taxes on production and imports. As a result, the SNA account includes a separate line item for “other taxes on production and imports, paid,” which is the sum of property taxes, motor vehicle license taxes, severance taxes, special assessments, business licenses, documentary taxes, and stamp taxes paid to state and local governments. Although a measure of “other taxes on production” does not exist in the NIPAs, its value can be derived from the sum of some of the more detailed NIPA measures of taxes on production and imports. In addition to the sum of excise taxes, sales taxes, and customs duties, “other taxes on production” are included in the broader category of taxes on production and imports.¹⁰

Corporations. In the NIPAs, a relatively complete set of measures are closely related to the measures for corporations in the SNA generation of income account. However, the values of the related measures generally differ because of the differences in the grouping of government enterprises in two sets of accounts. Specifically, the related NIPA measures do not include the transactions of Federal Government enterprises and of state and local nontransit utility enterprises. The transactions of these enterprises are included with those of “other noncorporate businesses” in the domestic income and product accounts of the NIPAs.

For details about the relationship between the measures in the generation of income account for corpora-

10. See NIPA table 3.5.

Chart 2. Relationship Between NIPA Domestic Income and Product and the SNA Generation of Income Account for the Total Economy, 2003



tions and the NIPA measures, see table 1. Only the estimates of taxes paid and subsidies received by corporations are unaffected by the differences in the sector definitions.

Table 1. SNA Generation of Income Account for Corporations Derived From the NIPAs

[Billions of dollars]

SNA series	2003	NIPA series
Value added, gross.....	6,626.4	Gross value added of domestic corporate business (table 1.14, line 1), plus estimates of the gross value added of Federal Government enterprises and state and local government enterprises reclassified into the SNA corporate sector (sum of elements listed below for compensation of employees paid and operating surplus of Federal Government enterprises and state and local government enterprises reclassified into the SNA corporate sector).
Compensation of employees, paid.....	4,221.4	Compensation of employees paid by domestic corporate business (table 1.14, line 4), plus compensation paid by Federal Government enterprises (table 6.2D, line 91), plus compensation paid by state and local government enterprises (table 6.2D, part of line 96) reclassified into the SNA corporate sector.
Taxes on production and imports, paid	528.3	Taxes on production and imports paid by domestic corporate business (table 1.14, part of line 7).
Other taxes on production and imports, paid	125.7	Sum of state and local property taxes, motor vehicle licenses, severance taxes, special assessments, and other taxes paid by domestic corporate business (table 3.5, parts of lines 27, 28, 29, 30, and 31, respectively).
Subsidies, received	5.1	Subsidies received by domestic corporate business (table 1.14, part of line 7).
Operating surplus, gross	1,881.8	Net operating surplus of domestic corporate business (table 1.14, line 8), plus consumption of fixed capital of domestic corporate business (table 7.5, line 4), plus current surplus of Federal Government enterprises (table 3.2, line 18), plus consumption of fixed capital by Federal Government enterprises (table 7.5, line 26), plus current surplus of state and local government enterprises (table 3.3, part of line 20) reclassified into the SNA corporate sector, plus consumption of fixed capital of state and local government enterprises (table 7.5, part of line 27) reclassified into the SNA corporate sector.

Table 2. SNA Generation of Income Account for General Government

[Billions of dollars]

SNA series	2003	NIPA series
Value added, gross.....	1,252.7	Gross value added of government (table 3.10.5, line 3), plus gross value added of state and local government enterprises not reclassified into the SNA corporate sector (sum of elements listed below for compensation of employees paid and operating surplus of state and local government enterprises not reclassified into the SNA corporate sector), less consumption of fixed capital associated with investment in defense weapons systems (table 7.5, part of line 23) reclassified as consumption expenditures.
Compensation of employees, paid.....	1,112.4	Compensation of employees paid by general government (table 3.10.5, line 4), plus compensation of employees by state and local government enterprises (table 6.2D, part of line 96) not reclassified into the SNA corporate sector.
Operating surplus, gross	140.3	Consumption of fixed capital for general government (table 7.5, line 21), plus current surplus of state and local government enterprises (table 3.3, part of line 20) not reclassified into the SNA corporate sector, plus consumption of fixed capital for state and local government enterprises (table 7.5, part of line 27) not reclassified into the SNA corporate sector, consumption of fixed capital associated with investment in defense weapons systems (table 7.5, part of line 23) reclassified as consumption expenditures.

General government. The NIPA measures for the government sector that are closely related to the SNA measures in the generation of income account for general government differ because of differences in the sector definitions. Specifically, the related NIPA measures for the government sector do not include state and local nontransit utility business enterprises, which are included in the business sector. In the SNA account, compensation of employees paid and gross operating surplus are affected by the different definition of the government sector (table 2). In addition, operating surplus is affected by the reclassification of investment in defense weapons systems.

Households and NPISHs. The estimates in the generation of income account for households and NPISHs are related to the NIPA estimates for the personal

sector, but the related estimates are affected by the differences in the sector definitions. Specifically, the NIPA estimates exclude many of the transactions associated with “other private businesses” that are included in the households and NPISHs sector in the SNA-based estimates (table 3). In addition, many of the estimates in the generation of income account for households and NPISHs—such as compensation of employees, operating surplus, and mixed income—can be derived from an array of estimates in the NIPAs.

Distribution and use of income accounts

The distribution and use of income accounts in the summary table cover the transactions in the SNA distribution and use of income accounts that follow the generation of income account. These remaining SNA

Table 3. SNA Generation of Income Account for Households and Nonprofit Institutions Serving Households Derived From the NIPAs

[Billions of dollars]

SNA series	2003	NIPA series
Value added, gross	3,046.6	Gross domestic product of households and institutions (table 1.3.5, line 5), plus compensation of employees paid, taxes on production and imports paid, and operating surplus of noncorporate domestic business, less subsidies received of noncorporate domestic business (sum of elements listed below for compensation of employees paid, taxes on production and imports paid, and operating surplus, less subsidies paid for noncorporate domestic business).
Compensation of employees, paid.....	960.7	Sum of compensation of employees paid by sole proprietorships and partnerships, by other private business, by households, and by nonprofit institutions serving households (table 1.13, lines 20, 29, 43, and 50, respectively).
Taxes on production and imports, paid	269.8	Taxes on production and imports paid by noncorporate domestic business (table 3.5, part of line 1).
Other taxes on production and imports, paid	239.1	Estimate of state and local property taxes, motor vehicle licenses, severance taxes, special assessments, and other taxes paid by noncorporate domestic business (table 3.5, parts of lines 27, 28, 29, 30, and 31, respectively).
Subsidies, received	41.6	Estimate of subsidies received by noncorporate domestic business (table 3.13, part of line 1).
Operating surplus and mixed income, gross..	1,857.8	Proprietors' income with IVA and CCAdj (table 2.1, line 9), plus rental income of persons with CCAdj (table 2.1, line 12), plus net interest paid by sole proprietorships and partnerships, other private business, owner-occupied housing, and nonprofit institutions (table 7.11, lines 95, 96, 97, and 98), plus consumption of fixed capital for sole proprietorships and partnerships and other private business (table 7.5, lines 8 and 11), plus noncorporate current transfer payments (table 1.10, part of line 14).
Mixed income, gross	1,311.3	Operating surplus (as listed above), less net interest paid by owner-occupied housing and by nonprofit institutions (table 7.11, lines 97 and 98), less consumption of fixed capital for households and institutions (table 7.5, line 18).

CCAdj Capital consumption adjustment
IVA Inventory valuation adjustment

distribution and use of income accounts provide information on how the income that is generated in production is distributed across the sectors of the national economy. For each sector, the first few remaining accounts record the income that is received from production (such as employee compensation received by households) and other property, subsidies, taxes, and transfer payments received and paid in order to derive a general measure of disposable income. The last remaining account, the use of disposable income, shows how this disposable income is allocated between final consumption and net saving for sectors that have final consumption.

The distribution of income account for the total economy in the summary table is derived from a variety of estimates in the NIPAs, and these estimates can be viewed as the sum of the associated transactions of the sectors of the economy. However, the estimates for the measures in the distribution of income account and in the use of disposable income account for each

SNA-based sector and their relationship to measures in the NIPAs are described.

Corporations. The differences between the estimates in the distribution of income account for corporations and the NIPAs are mainly accounted for by the differences in the sector definitions of government enterprises in the two sets of accounts, but the distribution of income account also includes a few estimates that do not exist in the NIPAs.

The distribution of income account includes the transactions associated with all the sources and the uses of income, not just the income that is directly related to production (table 4). Specifically, the distribution of income account includes the SNA measure of "property income, paid," which is similar to the NIPA measure of corporate income payments on assets. It also includes the SNA measure of "property income, received," which is analogous to the NIPA measure of corporate income receipts on assets. Net disposable income consists of income received (operating surplus

Table 4. SNA Distribution of Income Account for Corporations Derived From the NIPAs

[Billions of dollars]

SNA series	2003	NIPA series
Operating surplus, net ¹	1,084.3	See table 1 of this article.
Property income, paid	1,986.7	Interest paid by domestic corporations (table 7.11, sum of lines 3, 44, and 72), dividends paid by domestic corporate business (table 7.10, line 2), plus reinvested earnings on foreign direct investment in the United States by the rest of the world (table 4.1, line 24), plus interest paid by Federal Government enterprises and state and local government utility enterprises (table 7.11, sum of lines 19 and 85), plus rents and royalties paid by domestic corporations (table 3.2, line 14 and table 3.3, line 15).
Property income, received.....	1,600.4	Interest received by domestic corporations (table 7.11, sum of lines 27, 51, and 90), plus dividends received by domestic corporate business (table 7.10, line 7), plus reinvested earnings on U.S. direct investment abroad (table 4.1, line 12), plus interest received by Federal Government enterprises and state and local government enterprises (table 7.11, sum of parts of lines 35 and 66).
Current taxes on income, wealth, etc., paid	234.9	Taxes on domestic corporate income (table 6.18D, line 1).
Other current transfers, paid	65.0	Transfer payments by domestic corporate business (table 1.14, line 10).
Net disposable income.....	398.1	Undistributed corporate profits (table 1.16, line 24), plus current surplus of Federal Government enterprises (table 3.2, line 18), plus current surplus of state and local government utility enterprises (table 3.3, part of line 20), less interest paid by Federal Government enterprises and state and local government utility enterprises (table 7.11, sum of parts of lines 19 and 85).

1. Net operating surplus is used in the calculation of net national disposable income, but it is not included in the summary institutional sector accounts provided to the OECD.

Net operating surplus is equal to gross operating surplus from the generation of income account less the consumption of fixed capital.

and property income) less property income paid, “current taxes on wealth, income, etc.,” and other current transfers paid by corporations and by government enterprises that are treated as corporations in the SNA.

The SNA concept of net disposable income is not used in the NIPA corporate sector accounts, but its value for corporations is closely related to the NIPA measures of undistributed corporate profits. Because corporations and government enterprises do not have final consumption expenditures, net saving equals net disposable income in the use of disposable income account. Net disposable income and net saving measures for corporations in the distribution and use of disposable income accounts equal the measure of undistributed corporate profits in NIPAs plus estimates of the current surplus and net interest paid of government enterprises that are treated as corporations in the SNA.¹¹

General government. The relationships between the measures in the distribution of income account and the use of disposable income account and the NIPAs for government are complex, primarily due to

the differences in the classification of government business enterprises.

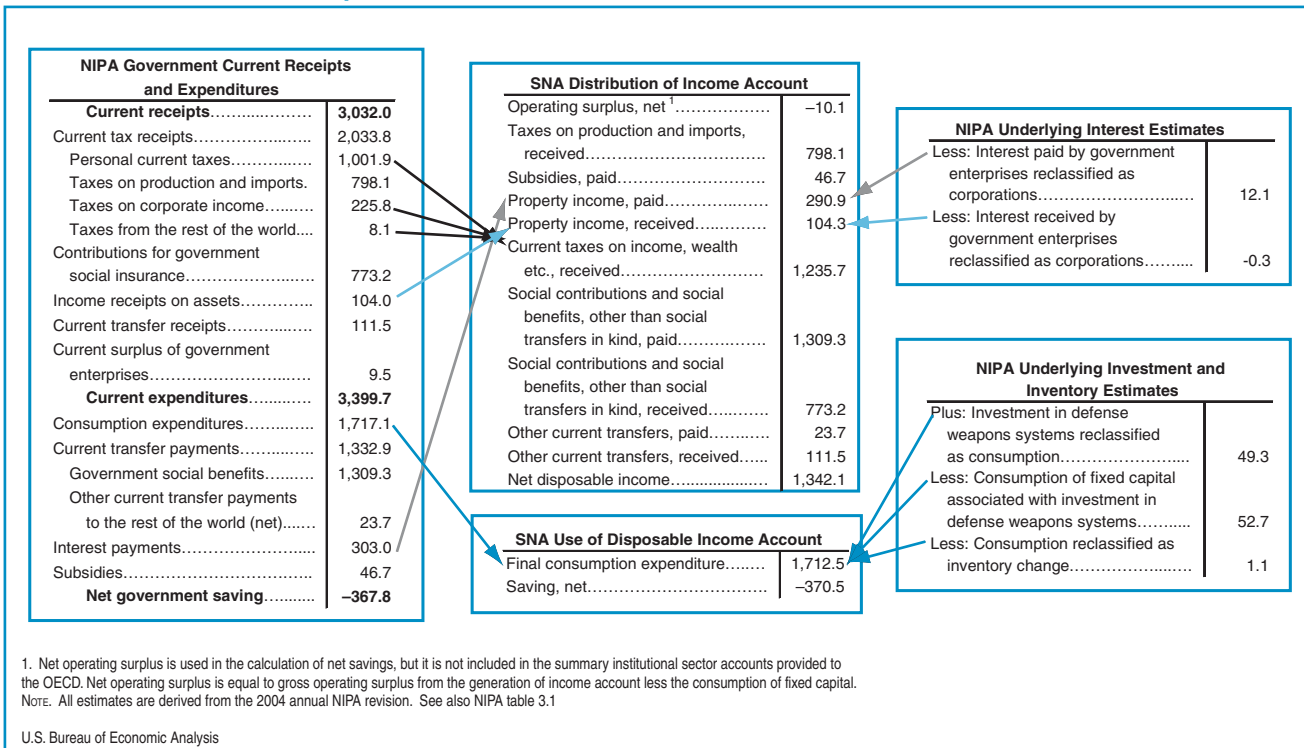
The grouping and the ordering of transactions among the three sets of measures also differs slightly (chart 3). For example, in the distribution of income account, “current taxes on income, wealth, etc.,” consists of the NIPA measures of personal current taxes, taxes on corporate income, and taxes from the rest of the world (black arrows).

The differences between the two sets of accounts also reflect the differing treatment of governmental transactions, such as investment in defense weapons systems and changes in the inventories of the Commodity Credit Corporation. As a result of these differences, final consumption expenditures in the use of disposable income account equal NIPA consumption expenditures, plus underlying NIPA measures of defense investment, less underlying NIPA measures of the consumption of fixed capital associated with investment in defense weapons systems, less underlying NIPA measures of the reclassified consumption associated with the Commodity Credit Corporation and the Strategic Petroleum Reserve (dark blue arrows).

In addition, as a result of differences in the classification of government enterprises, in the distribution

11. For estimates of undistributed corporate profits, see line 24 in NIPA table 1.16.

Chart 3. Relationship Between NIPA Government Current Receipts and Expenditures and the SNA Distribution and Use of Disposable Income Accounts, 2003



of income account, “property income, paid” equals NIPA interest payments less the estimate of interest paid by reclassified government enterprises that underlies the NIPA measure (gray arrows). Similarly, “property income, received” equals NIPA income re-

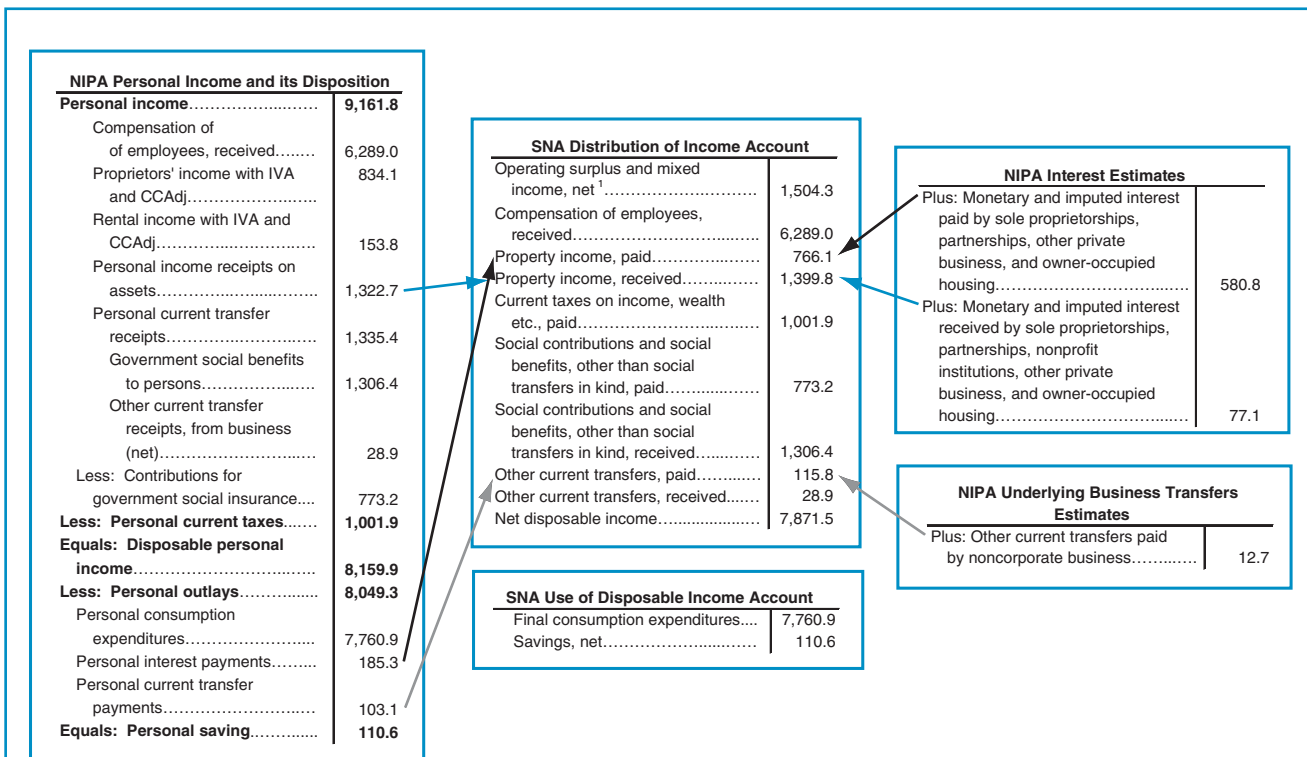
ceipts on assets less an estimate of interest received by reclassified government enterprises that underlies the NIPA measures (light blue arrows).

These differences also result in a difference between net government saving in the NIPAs and in the SNA.

Table 5. Reconciliation of NIPA Net Government Saving With SNA General Government Saving
[Billions of dollars]

	2003
Net government saving, NIPAs	-367.8
Less: Shift of net savings of government enterprises from government to corporate sector.....	7.2
Current surplus.....	19.6
Less: Net interest.....	12.4
Less: Shift of investment in defense weapons systems to final consumption expenditures.....	-3.4
Gross investment.....	49.3
Less: Consumption of fixed capital.....	52.7
Plus: Shift of Commodity Credit Corporation and strategic oil reserves consumption to inventory investment.....	1.1
Equals: Net general government saving, SNA	-370.5

Chart 4. Relationship Between NIPA Personal Income and Its Disposition and the SNA Distribution and Use of Disposable Income Accounts for Households and Nonprofit Institutions Serving Households, 2003



1. Net operating surplus and mixed income is used in the calculation of net savings, but it is not included in the summary institutional sector accounts provided to the OECD. Net operating surplus and mixed income is equal to gross operating surplus and mixed income from the generation of income account less the consumption of fixed capital. Notes: All estimates are derived from the 2004 annual NIPA revision. See also NIPA tables 2.1 and 7.11. IVA Inventory valuation adjustment CCAAdj Capital consumption adjustment

The total effect of these differences is not large, but net government saving in the NIPAs is usually slightly smaller than net general government saving in the use of disposable income account because of the treatment of investment in defense weapons systems as final consumption (chart 3 and table 5).

Households and NPISHs. The differences between the NIPA estimates for the personal sector and the estimates in the SNA distribution of income account and the use of disposable income account for households and NPISHs are mainly due to the definitions of sectors and the grouping of transactions in the sets of accounts (chart 4).

In the NIPAs, personal current taxes are subtracted from personal income to obtain the NIPA measure of disposable personal income. The broad concept of personal outlays, which consists of the sum of personal consumption expenditures, interest payments, and current transfer payments are then subtracted to obtain the NIPA estimate of personal saving. In the distribution of income account, income payments (excluding final consumption expenditures) and receipts are alternatively added or subtracted from net operating surplus to obtain a measure of net disposable income.

Disposable personal income includes personal interest payments and personal current transfer payments that are removed from net operating surplus in the derivation of net disposable income in the distribution of income account.

In addition, in the NIPAs, the measures for the personal sector only include the nonbusiness transactions of households and NPISHs. The measures in the SNA distribution of income account and the use of disposable income account also include the transactions of NIPA noncorporate businesses, such as proprietorships and partnerships, that are classified in the NIPAs as “other private business.”

Finally, the SNA concept of net operating surplus and mixed income is broad and includes not only proprietors’ income and rental income, but also includes net interest, rent and royalties, and current transfer payments. As a result, these last three types of transactions are also included in the measures of “property income, paid,” “property income, received,” and “other current transfers, paid” in the distribution of income account.

The effects of these differences on the sets of accounts can be seen in three places (chart 4). First, in the distribution of income account, “property income, paid” equals the personal interest payments in the NIPAs plus the monetary and imputed interest paid by sole proprietorships, partnerships, other private busi-

ness, and owner-occupied housing (black arrows). Second, “property income, received” equals personal income receipts on assets in the NIPAs plus the monetary and imputed interest received (blue arrows). Third, “other current transfers, paid” equals NIPA personal current transfer payments plus “other current transfers paid by noncorporate business” (gray arrows).

These differences do not result in differences between the net saving measures among the sets of accounts, because the transactions in the SNA-based measures of “property income, received,” “property income, paid,” and “other transfers, paid” that are not included in the NIPA personal sector measures are included in “net operating surplus and mixed income” and net against one another in the derivation of net saving.¹²

Capital account

The capital account shows the relationship of net saving in the distribution of income account for each sector to the acquisition of nonfinancial assets. In the capital account, net lending or net borrowing equals net saving plus capital transfers less net capital formation and acquisition less disposal of nonfinancial, non-produced assets.

The relationships between the SNA capital account and the NIPAs are generally not as strong as the relationships with the other accounts, because the investment section in the NIPA account is not classified by sector. However, capital account measures are estimated for each of the SNA sectors in order to prepare the SNA-based estimates. Thus, the relationship between the SNA capital account estimates for the total economy and the related NIPA estimates are discussed, and the relationship of the estimates for each sector is summarized.

Total economy. The measures in the SNA capital account for the total economy are similar to the measures in the NIPAs. However, the concepts used in the two sets of accounts differ.

Two minor differences relate to the netting of transactions against one another. “Capital transfers, paid” and “capital transfers, received” in the SNA account are netted against each other in the NIPA “capital account transactions (net)” (chart 5, black arrows). In addition, “changes in inventories” are shown in the capital account but not in the NIPA saving and invest-

12. Exceptions occur in years when wage accruals less disbursement (WALD) are not equal to zero. In these cases, net saving in the use of income accounts equals personal saving plus WALD because WALD is included in the compensation estimates in the distribution of income account, but not in NIPA table 2.1.

ment account; NIPA “change in inventories” is included in gross domestic investment.

In addition, the sets of estimates differ because of the treatment of investment in defense weapons system and the treatment of the changes in the inventories of the Commodity Credit Corporation and the Strategic Petroleum Reserve. As a result of these differences, gross capital formation in the capital account equals gross domestic investment in the NIPAs less investment in defense weapons systems plus consumption that is reclassified as inventory change (gray arrows). In addition, the consumption of fixed capital in the capital account equals the consumption of fixed capital in the NIPAs less the consumption of fixed capital associated with investment in defense weapons system that is classified as final consumption in the SNA (dark blue arrows).

Net saving and net investment (gross capital formation less the consumption of fixed capital) differ from their related NIPA-based measures by the same amount. As a result, the net lending or net borrowing measures only differ by the statistical discrepancy (light blue arrows).

Sectors. The measures in the capital account for each economic sector have no corresponding measures in the NIPAs, but BEA’s accounts for fixed assets and consumer durable goods provide estimates of investment by legal form of organization that are used as the basis for the estimates by institutional sector. The measures in the SNA-based capital account for each sector are consistent with the definition of sectors that are used in the other SNA-based accounts (tables 6, 7, and 8). In addition, the estimates for the government sector are consistent with the SNA treatment of investment in defense weapons systems and the SNA-based definition of changes in inventories (table 7). The measures of the “acquisitions less nonfinancial, nonpro-

duced assets” for corporations (table 6) and for households and NPISHs (table 8) offset these estimates for general government (table 7).

The Revision of the SNA

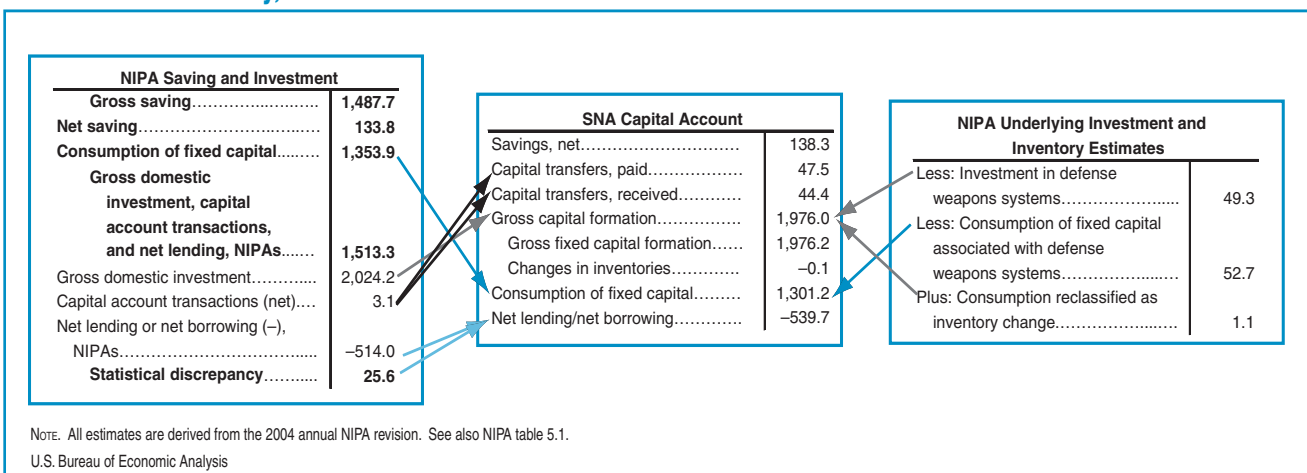
In 2002, BEA and the Australian Bureau of Statistics presented papers at the London meeting of the International Association for Official Statistics that recommended a consolidated review of the SNA.¹³ At about the same time, there was increased international interest in challenges in applying the SNA in a changing economic environment. As a result, in March 2003, the United Nations Statistical Commission endorsed a review of the SNA, which would be associated with reviews of related guidelines, such as those in the *Balance of Payments Manual* from the International Monetary Fund, in order to maintain their consistency. The Commission supported several criteria to be considered in updating the SNA:

- New issues that are emerging in the new economic environment,
- Old issues that may need further review because of an increase in economic significance or that may qualify for a different treatment as a result of advances in methodological research,
- Changes in users’ needs, and
- The feasibility of implementation.

The Inter-Secretariat Working Group on National Accounts is the group directly responsible for updating and maintaining the SNA; it consists of members from the Statistical Office of the European Communities, the International Monetary Fund, the OECD, the

13. See Brent R. Moulton, “The System of National Accounts for the New Economy: What Should Change?” *Review of Income and Wealth* 50 (June 2004): 261–278, and Rob Edwards, Peter Comisari, and Tony Johnson, “Beyond 1993: The System of National Accounts and the New Economy” (paper presented at the International Association for Official Statistics, London, August 27–29, 2002).

Chart 5. Relationship Between NIPA Savings and Investment and the SNA Capital Accounts for the Total Economy, 2003



United Nations, and the World Bank. The Working Group has also organized an Advisory Expert Group that consists of national accounting experts from 20 countries. The Working Group and the Advisory Expert Group are responsible for preparing the final recommendations for revisions to the SNA; the target date for approval by the Statistical Commission and for publication is 2008.

The work of researching and developing proposals has been assigned to several expert groups, to electronic discussion groups, and to workshops. BEA is participating in the three major expert groups, which are the Canberra II Group on Non-financial Assets,

the Balance of Payments Committee, and the Task Force on Harmonization of Public Sector Accounting.

Among the proposed changes are the following:

- Investment in defense weapons systems would be treated as investment in fixed assets if the systems are used to provide defense services, such as protection and deterrence, for more than 1 year. BEA already treats investment in defense weapons systems as investment in fixed assets.
- The measure of the output of property and casualty insurance would be based on normal claims rather than on actual claims so that the large swings in measured insurance output as a result of major

Table 6. SNA Capital Account for Corporations Derived From the NIPAs

[Billions of dollars]

SNA series	2003	NIPA series
Savings, net	398.1	Undistributed corporate profits (table 1.16, line 24), plus current surplus of Federal Government enterprises (table 3.2, line 18), plus current surplus of state and local government enterprises (table 3.3, part of line 20) reclassified into the SNA corporate sector, plus net interest of Federal Government enterprises and state and local government enterprises (table 7.11, part of line 100) reclassified into the SNA corporate sector.
Capital transfers, received	0.1	Investment grants to business (table 5.10, line 7).
Gross capital formation	897.1	Sum of gross fixed capital formation and changes in inventories (as defined below).
Gross fixed capital formation	899.0	Gross private domestic fixed investment of domestic corporate business (table 5.1, part of line 22), Federal Government enterprises (table 5.8.5B, line 58), and state and local enterprises (table 5.7.5B, part of line 61) reclassified into the SNA corporate sector.
Changes in inventories	-1.9	Change in inventories of domestic corporate business (table 5.2.5, part of line 22).
Consumption of fixed capital	797.5	Consumption of fixed capital of domestic corporate business (table 7.5, line 4), plus consumption of fixed capital of Federal Government enterprises (table 7.5, line 26), plus consumption of fixed capital of state and local government enterprises (table 7.5, part of line 27) reclassified into the SNA corporate sector.
Acquisitions less disposals of non-financial nonproduced assets	-7.0	Land and spectrum rights sold to or purchased from general government by domestic corporate business, plus outer continental shelf, land, and oil bonuses received by domestic corporate business from general government (table 3.1, part of line 37 with the sign reversed to indicate receipt rather than payment).
Net lending/net borrowing	305.7	Net lending or borrowing of domestic corporate business, Federal Government enterprises, and state and local enterprises (table 5.1, part of line 25) reclassified into the SNA corporate sector.

disasters, such as hurricanes and earthquakes, would be eliminated. BEA has already implemented this new measure as part of the 2003 comprehensive NIPA revision.

- Employee stock options would be included in compensation, would be recorded at vesting date or spread across the period from grant date to vesting

date, and would be valued at market price or at fair value using a suitable pricing model. In the NIPAs, employee stock options are currently included in compensation at exercise date, reflecting the value at exercise.

- Research and development would be capitalized and treated as part of fixed capital formation.

Table 7. SNA Capital Account for General Government Derived From the NIPAs

[Billions of dollars]

SNA series	2003	NIPA series
Savings, net.....	-370.5	Net savings of government (table 3.1, line 27), less investment in defense weapons systems (table 3.11.5, part of line 30) reclassified as consumption expenditures, plus consumption of fixed capital associated with investment in defense weapons systems (table 7.5, part of line 23) reclassified as consumption expenditures, plus consumption expenditures (table 3.10.5, part of line 41) reclassified as inventory change.
Capital transfers, paid	16.8	Investment grants to business from general government (table 5.10, line 7), plus capital transfers to the rest of the world from general government related to debt forgiveness and the Panama Canal (table 5.10, part of line 12).
Capital transfers, received.....	28.4	Estate and gift taxes paid by persons to Federal Government (table 5.10, line 3), plus estate and gift taxes paid by persons to state and local government (table 5.10, line 9).
Gross capital formation	287.0	Gross investment of government (table 3.9.5, line 3), less investment in defense weapons systems (table 3.11.5, part of line 30) reclassified as consumption expenditures, less gross fixed investment of Federal Government enterprises (table 5.8.5B, part of line 58), less gross fixed investment of state and local nontransit utility enterprises (table 5.8.5, part of line 61), plus change in inventories of Commodity Credit Corporation (table 3.10.5, line 42) and strategic petroleum reserves (part of line 43).
Gross fixed capital formation	286.0	Gross investment of government (table 3.9.5, line 3), less investment in defense weapons systems (table 3.11.5, part of line 30) reclassified as consumption expenditures, less gross fixed investment of Federal Government enterprises (table 5.8.5B, part of line 58), less gross fixed investment of state and local nontransit utility enterprises (table 5.8.5, part of line 61).
Changes in inventories	1.1	Change in inventories of Commodity Credit Corporation (table 3.10.5, line 42) and strategic petroleum reserves (part of line 43).
Consumption of fixed capital.....	150.4	Consumption of fixed capital for general government (table 7.5, line 21), plus consumption of fixed capital for state and local government enterprises (table 7.5, part of line 27) not reclassified into the SNA corporate sector, consumption of fixed capital associated with investment in defense weapons systems (table 7.5, part of line 23) reclassified as consumption expenditures.
Acquisitions less disposals of non-financial nonproduced assets.....	9.7	Net purchases of nonproduced assets for general government (table 3.1, line 37).
Net lending/net borrowing	-505.3	Net lending or borrowing of general government, and state and local enterprises (table 5.1, part of line 25) not reclassified into the SNA corporate sector.

- Capital services would be included in the production account for countries that can develop a measure of capital services inputs.
- A net return to government-owned fixed assets would be recognized.
- Actuarial valuations would be used to determine the liability and to allocate the net worth of employer-provided defined benefit pension plans between the employer and the employees.
- Recommendations are being developed regarding loan guarantees, contingent assets and liabilities, and certain intangible assets such as licenses and

leases.

The various expert groups are preparing these proposals, which will be reviewed and accepted or rejected by the Advisory Expert Group.

The SNA revision process is transparent; the expert groups welcome input and feedback from data users. Detailed information on the revision is available at the United Nations' Web site <unstats.un.org/unsd/nationalaccount/snarev1.htm>.

BEA also welcomes feedback from data users in the United States; e-mail Brent R. Moulton (brent.moulton@bea.gov).

**Table 8. SNA Capital Account for Households and Nonprofit Institutions
Serving Households Derived From the NIPAs**

[Billions of dollars]

SNA series	2003	NIPA series
Savings, net	110.6	Personal savings (table 2.1, line 33).
Capital transfers, paid	30.7	Estate and gift taxes paid by persons to the Federal Government (table 5.10, line 3), plus estate and gift taxes paid by persons to state and local governments (table 5.10, line 9), plus immigrant transfers paid by persons to the rest of the world (table 5.10, part of line 13).
Capital transfers, received	15.9	Capital transfers paid to persons (table 5.10, line 4), plus immigrant transfers received by persons from the rest of the world (table 5.10, part of line 13).
Gross capital formation	791.9	Noncorporate business gross private domestic fixed capital formation (table 5.3.5, part of line 1), plus noncorporate business change in inventories (table 5.6.5B, part of line 1).
Gross fixed capital formation.....	791.2	Noncorporate business gross private domestic fixed capital formation (table 5.3.5, part of line 1).
Changes in inventories	0.7	Noncorporate business change in inventories (table 5.6.5B, part of line 1).
Consumption of fixed capital	353.3	Consumption of fixed capital of households and institutions (table 7.5, line 18), plus consumption of fixed capital for noncorporate business (line 7).
Acquisitions less disposals of non-financial nonproduced assets	-2.6	Land sold to or purchased from general government by households, institutions, and noncorporate business (table 3.1, part of line 37 with the sign reversed).
Net lending/net borrowing	-340.1	Net lending or borrowing of households, institutions, and noncorporate business (table 5.1, part of line 25).