The National Income and Product Accounts and the *System of National Accounts 2008*

Comparison and Research Plans

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THE U.S. NATIONAL economic accounts serve many purposes. In addition to providing consistent historical time series that provide measures of the nation's production, income, saving, and investment, they are also used for comparisons of economic activity across countries and for assessing the effects of international economic developments. But the growing importance of multinational production arrangements and of globally synchronized business cycles has highlighted the urgent need to improve the international comparability of these economic statistics.

The Bureau of Economic Analysis (BEA) and other U.S. statistical agencies—including the Bureau of Labor Statistics (BLS), the Census Bureau, and the Federal Reserve Board (FRB)—have acted on many fronts to improve the economic statistics available to policymakers and economic researchers. These efforts include initiatives to improve the framework of the national accounts and make it more relevant to today's technology-driven and globalizing economy, such as the integration of the national income and product accounts (NIPAs) with the financial accounts and balance sheets produced by the FRB and the continued harmonization of the NIPAs with the recommendations put forth in the international guidelines for national economic accounts, the *System of National Accounts 2008* (SNA).[1]

These efforts have been underway for some time, and they all contribute to a more robust and internationally comparable set of economic statistics.[2] Each of the recent comprehensive revisions of the NIPAs has included conceptual and methodological changes to improve consistency with the SNA. Nevertheless, work remains to be done. This article compares the NIPAs and the SNA and previews the research that is currently underway or planned by BEA for the continued adoption of SNA recommendations. When specific changes are planned, they will be included in BEA's strategic plan, and BEA's customers will be engaged, as always, via user conferences, BEA advisory committee meetings, Web site announcements, and regular SURVEY OF CURRENT BUSINESS articles that preview changes in NIPA concepts and methods prior to future annual or comprehensive revisions.[3]

The first section of this article provides an overview of the SNA's framework and sectors. The second section describes the research that is currently underway or planned by BEA to address differences between the SNA and the NIPAs; the box "Harmonization of the NIPAs With the SNA" reviews some of the SNA-related improvements that BEA has already implemented in the NIPAs. The third section reviews other differences for which no research is currently planned and for which no adjustments are made to the SNA-based estimates provided to the Organisation for Economic Co-operation and Development (OECD). Finally, an appendix to this article describes the full set of NIPA estimates that BEA provides to the OECD on an SNA basis.

The *System of National Accounts 2008:* Framework and sectors

The SNA is a set of comprehensive guidelines developed by the international community to facilitate international comparisons of national economic statistics and to serve as a guide for countries establishing or maintaining economic accounting systems. The recommendations are established to allow flexibility with respect to differences in economic issues or

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 2008* (Brussels/Luxembourg, New York, Paris, and Washington, DC, 2009).

2. These efforts are also consistent with the "new architecture" for the national accounts proposed in Dale W. Jorgenson, "Designing a New Architecture for the U.S. National Accounts to Capture Innovation," SURVEY OF CURRENT BUSINESS 90 (February 2010): 17–22.

3. One SNA-related change—an improved treatment of refundable tax credits—will be implemented as part of the upcoming annual revision of the NIPAs; this change and others are discussed in the June issue of the SURVEY. This type of advanced communication with BEA's customers is critical, as the impacts of implementing changes in the NIPAs can be significant. For instance, when the treatment of research and development expenditures was improved as part of the 2013 comprehensive revision of the NIPAs, the impact on GDP of treating these expenditures as investment was almost $400 billion. BEA does not anticipate that its current research plans will lead to impacts on GDP of this magnitude.

in data availability across nations. As a result, the recommendations are able to reflect economic theory without being constrained by the circumstances in any particular nation.

The framework of the SNA is designed to integrate balance sheet information with information on production, income, saving, and real and financial investment; it also encompasses industry supply and use tables. The accounts use consistent definitions, classifications, and accounting conventions, and they are harmonized with other international guidelines, such as the International Monetary Fund's *Balance of Payments and International Investment Position Manual* (sixth edition), known as BPM6.

The system is organized to summarize the transactions of groups of institutional units (or sectors), of groups of establishments (or industries) engaged in production, and of the total economy. The accounts flow from one to the next through the use of balancing items; the balancing item of one account becomes the initial entry of the next account. In this way, the accounts present the sequence of transactions from the balance sheet position of one accounting period to the next. This sequence of accounts defines the relationships between production, income, consumption, saving, capital formation, and acquisition of financial assets and liabilities. The accumulation of nonfinancial and financial assets and liabilities and their revaluation explain the differences between the opening and closing balance sheets, which summarize the wealth of a nation or of a sector. This sequence is fully consistent with the industry and product information from the supply and use tables.

BEA's plans: Addressing differences between the SNA and the NIPAs

BEA has supported the goal of international harmonization of national accounts for many years; BEA was active in the 1993 and 2008 revisions of the SNA, and it has made many changes over the last two decades to bring the NIPAs into closer alignment with SNA recommendations (see the box "Harmonization of the NIPAs With the SNA"). The coverage of GDP in BEA's accounts is now essentially consistent with the SNA; however, several other important differences remain between the SNA and the NIPAs. Differences in sector definitions and boundaries affect the comparability of estimates throughout the accounts, even though they generally don't affect GDP. Additionally, certain NIPA definitions and accounting conventions differ from those recommended by the SNA. Finally, the NIPAs use a framework that is less comprehensive than the SNA and that does not include financial accounts or balance sheets, which are produced by the FRB.

Some of these differences have been addressed by the SNA-based estimates that BEA regularly submits to the OECD and by the integrated macroeconomic accounts (IMAs) that BEA and the FRB have produced jointly since 2007. However, these accounts are not as widely known as BEA's core national income and product accounts, and each provides only partial resolutions of the differences.

The SNA-based estimates allow international comparisons of NIPA estimates with estimates of other nations that follow the SNA recommendations. Published NIPA estimates are converted to an SNA basis in a series of reconciling adjustments, and classifications are adjusted to generally follow the sectoring classifications of the SNA. However, the reconciliations are generally based on available detailed NIPA estimates; they do not utilize additional data or alternative estimating methodologies. Consequently, while the SNA-based estimates are suggestive of the implications of full adoption of the SNA guidelines, they fall short of complete implementation of the SNA. A summary of the SNA-based estimates is presented in table 1 (page 4), and tables 2–4 illustrate the reconciliation of selected NIPA by-sector estimates with the SNA sector classifications.

The IMAs were developed as part of an interagency effort to further harmonize the NIPAs and the FRB's financial accounts. In so doing, the IMAs also bring both sets of accounts into closer accordance with the SNA. However, as they are derived from the existing U.S. NIPA and financial accounts statistics, the IMAs do not completely follow SNA sectoring guidelines or reconcile the conceptual or definitional differences between the U.S. accounts and the SNA (although they do use existing statistics to derive certain aggregates called for by the SNA framework). Instead, they reconcile NIPA estimates with financial accounts data and present them according to a modified SNA framework; they will not be discussed in detail in this article.[4]

Despite their differences with the SNA, these alternative estimates provide an important foundation for further work on moving the NIPAs toward the SNA guidelines. In coming years, BEA will seek to take advantage of that foundation and perform additional research to develop alternative data sources, methodologies, and presentations to move toward the SNA guidelines in sectors, definitions, and accounting conventions, and frameworks. These research areas are described as follows.

4. For more information on the IMAs, see Takashi Yamashita, "A Guide to the Integrated Macroeconomic Accounts," Survey 93 (April 2013): 12–26.

Sectors

The most significant remaining differences between the NIPAs and the SNA are in the classification of economic units into sectors; these differences affect the international comparability of a number of NIPA estimates throughout the system. The SNA's sectoring guidelines have several advantages, but the most important in comparison with the NIPAs, is that the SNA sectors are consistently defined across all measures. This allows for analyses of the entire sequence of transactions for any sector and of the effects on other sectors and on the total economy. The NIPAs, on the other hand, have a "mixed" sectoring scheme under which certain entities are defined one way for production-related measures and another way for income-related measures. This mixed treatment complicates consistent analysis across production and income measures.

The SNA includes five major domestic sectors—nonfinancial corporations, financial corporations, general government, nonprofit institutions serving households (NPISHs), and households. Each

Harmonization of the NIPAs With the SNA

Although the early national income and product accounts (NIPAs) were similar to the international recommendations in the 1953 *System of National Accounts* (SNA), the 1968 SNA introduced changes that did not meet the statistical needs of the United States at that time, and the two systems became less consistent. As economic activity—and thus, economic policy—became increasingly globalized, the comparability of economic statistics became more critical, and BEA reinitiated efforts to harmonize its accounts with the SNA. It was very active in both the 1993 and 2008 revisions of the system, and since the early 1990s, BEA has implemented many improvements to the NIPAs that have also improved their consistency with the SNA's recommendations.

The SNA-related improvements BEA has implemented in the NIPAs include the following:

- In the 1990s, BEA introduced chain-type indexes of real output and of prices, developed estimates of investment in computer software, instituted the treatment of government purchases of structures, equipment, and software as investment, and incorporated improved quality-adjusted measures of high-tech products.
- In the early 2000s, BEA introduced improved measures of insurance and banking services and a new treatment of government as a producer of goods and services. Additionally, the definition of national income was broadened to be consistent with the SNA, and the summary accounts, tables, and terminology were revised to more closely conform to the SNA classification of transactions.
- In the late 2000s, BEA updated the classification system for personal consumption expenditures to provide more useful categories for analysis of spending by households and nonprofit institutions (NPISHs) serving households and to make BEA's presentation of consumption expenditures by households and by NPISHs generally consistent with the classification recommended by the SNA. Additionally, BEA adopted a new treatment for disasters that is consistent with SNA guidelines, that better reflects the distinctions between current and capital transactions, and that directly affect balance sheets.
- In 2013, BEA expanded the asset boundary in the accounts by recognizing expenditures for research and development and for the creation of entertainment, literary, and artistic originals as fixed investment to allow better measurement of the effects of innovation and intangible assets on the economy. BEA also began measuring pension income on an accrual basis in a manner that is generally consistent with recommendations of the SNA 2008.

More detail on these and other changes is available in various SURVEY OF CURRENT BUSINESS articles available on BEA's Web site; in particular, see the following:

Robert P. Parker and Jack E. Triplett, "Preview of the Comprehensive Revision of the National Income and Product Accounts: Recognition of Government Investment and Incorporation of a New Methodology for Calculating Depreciation." SURVEY OF CURRENT BUSINESS 75 (September 1995): 33–41.

Brent R. Moulton, Robert P. Parker, and Eugene P. Seskin, "A Preview of the 1999 Comprehensive Revision of the National Income and Product Accounts: Definitional and Classificational Changes," SURVEY OF CURRENT BUSINESS 79 (September 1999): 7–20.

Brent R. Moulton and Eugene P. Seskin, "Preview of the 2003 Comprehensive Revision of the National Income and Product Accounts: Changes in Definitions and Classification." SURVEY OF CURRENT BUSINESS 83 (June 2003): 17–33.

Eugene P. Seskin and Shelly Smith, "Preview of the 2009 Comprehensive Revision of the NIPAs: Changes in Definitions and Presentations." SURVEY OF CURRENT BUSINESS 89 (March 2009): 10–27.

Stephanie H. McCulla, Alyssa E. Holdren, and Shelly Smith, "Preview of the 2013 Comprehensive Revision of the National Income and Product Accounts: Changes in Definitions and Presentations." SURVEY OF CURRENT BUSINESS 93 (March 2013).

Stephanie H. McCulla, Alyssa E. Holdren, and Shelly Smith, "The 2014 Annual Revision of the National Income and Product Accounts" SURVEY OF CURRENT BUSINESS 93 (August 2014).

institutional unit is classified in one and only one of these sectors, and each transaction in the full sequence of accounts is included in the accounts for that sector (though certain accounts or transactions may be inapplicable to certain sectors). 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. Alternative groupings can also be created by combining sectors or subsectors; for example, the SNA describes a "public" sector, which is comprised of the general government sector and "public corporations" (that is, government-owned or controlled enterprises that are primarily engaged in market production).

The discussion of the NIPA and SNA sectors requires a note on a difference in terminology. In the NIPAs, "corporations" refers solely to those entities legally identified as such; however, in the SNA, "corporations" refers not only to legally constituted corporations but also to other enterprises that behave like corporations in that they charge economically significant prices, keep separate accounts from their owners, have limited liability, and are able to act autonomously. Examples of enterprises that are classified as noncorporate business in the NIPAs but that might be classified as corporations in the SNA include cooperatives, limited liability partnerships, and government-owned or -controlled enterprises, that are engaged in market production, such as the Postal Service. Other important differences in terminology are noted in the box "Differences in Terminology: SNA and NIPAs."

In the NIPAs, economic institutions are also

Table 1. Simplified SNA Nonfinancial Accounts by Sector, 2013 [1]

[Billions of dollars]

Uses					Resources			
Corporations	General government	Households and NPISHs	Total economy		Corporations	General government	Households and NPISHs	Total economy
				Generation of income account				
				Value added, gross (Gross domestic product)	9,626.1	2,128.4	5,225.5	16,768.1
				Less: Statistical discrepancy	....	....	....	–211.9
5,443.1	1,675.9	1,734.7	8,853.6	*Less*: Compensation of employees				
776.2	....	386.3	1,162.4	*Less*: Taxes on production and imports				
7.3	....	52.9	60.2	Subsidies				
3,414.1	452.5	3,157.4	7,024.1	*Operating surplus and mixed income, gross*				
....	....	1,742.0	1,742.0	*Of which: Mixed income, gross*				
				Distribution of income account				
				Operating surplus and mixed income, gross	3,414.1	452.5	3,157.4	7,024.1
				Compensation of employees	....	....	8,844.8	8,844.8
				Taxes on production and imports	....	1,162.4	....	1,162.4
				Less: Subsidies	....	60.2	....	60.2
3,203.3	603.2	858.4	4,664.9	Property income	2,436.3	242.8	2,218.9	4,898.1
474.3	....	1,661.8	2,136.0	Current taxes on income, wealth, etc.	....	2,121.1	....	2,121.1
0.0	2,391.1	1,104.5	3,495.6	Social contributions and social benefits	....	1,109.9	2,372.2	3,482.1
86.4	46.4	199.9	332.6	Other current transfers	....	180.4	42.3	222.7
2,086.6	2,168.4	12,811.1	17,066.0	Gross disposable income				
1,426.7	481.9	718.7	2,627.2	*Less:* Consumption of fixed capital				
659.9	1,686.5	12,092.4	14,438.8	Net disposable income				
				Use of disposable income account				
				Net disposable income	659.9	1,686.5	12,092.4	14,438.8
....	2,547.6	11,484.3	14,031.9	Final consumption expenditure				
659.9	–861.1	608.1	406.8	*Saving, net*				
Changes in assets					Changes in liabilities and net worth			
				Capital account				
				Saving, net	659.9	–861.1	608.1	406.8
				Capital transfers, received	5.7	26.2	6.5	38.3
				Less: Capital transfers, paid	0.0	13.0	26.2	39.1
1,762.4	560.8	921.2	3,244.3	*Less:* Gross capital formation				
1,705.2	560.8	904.3	3,170.2	Gross fixed capital formation				
57.2	0.0	16.9	74.1	Changes in inventories				
–1,426.7	–481.9	–718.7	–2,627.2	Consumption of fixed capital				
–4.7	6.5	–1.8	0.0	Less: Acquisitions less disposals of non-financial non-produced assets				
334.5	–933.3	387.7	–211.1	*Net lending/net borrowing*				

NPISHs Nonprofit institutions serving households
SNA *System of National Accounts*
1. Based on Organisation for Economic Co-operation Development, submission table 119, with uses and resources in a T-account format.

grouped into sectors, but the sector classification system is more complicated than in the SNA and differs in several important ways (chart 1). As noted, certain entities—or in SNA terms, "institutional units"—are grouped in one way for measuring their contribution to production (value added) and in another way for measuring income, outlays, and saving. For measuring value added, producers are grouped into three sectors—business, households and institutions, and general government. For measuring income, outlays, and

Differences in Terminology: SNA and NIPAs

As BEA continues to implement improvements that bring the national income and product accounts (NIPAs) into closer alignment with the *System of National Accounts 2008* (SNA), it will also consider whether to adopt SNA terminology when it differs from the NIPA terminology. In many cases, the NIPAs and the SNA use different terms for the same concept or similar terms for measures that are conceptually different. Consider the following:

- **GDP and GDI versus GDP(E) and GDP(I).** The sum of final expenditures in the NIPAs is referred to as "gross domestic product (GDP)," and the conceptually equivalent sum of incomes generated in production is referred to as "gross domestic income (GDI)." In the SNA, these same concepts are both referred to as "GDP," though they are distinguished based on the measurement approach (expenditure approach or income approach or in some countries, GDP(E) and GDP(I).
- **GNP versus GNI.** The national, rather than domestic, measure of production—that is, the measure that includes the production by residents outside of the geographic boundaries of the United States—is referred to in the NIPAs as "gross national product (GNP)." Given the inclusion of income components in this measure, the SNA refers to this same concept as "gross national income (GNI)."
- **Command-basis GDP and GNP versus real GDI and GNI.** The NIPA measures of command-basis GDP and command-basis GNP are referred to by the SNA as "real GDI" and "real GNI," respectively.
- **Investment versus gross fixed capital formation.** The concept of investment is the same in the NIPAs and in the SNA (though the asset boundaries differ as discussed in this article), but the NIPAs refer to investment expenditures as investment, while the SNA prefers the term capital formation.
- **Operating surplus versus mixed income.** The SNA makes a distinction between the operating surplus of enterprises for which separate accounts and measures can be derived and those for which operating surplus cannot be reliably distinguished from the income accruing to the owner's labor, which the SNA refers to as "mixed income." The NIPAs do not make a distinction between the two because the income of all unincorporated enterprises is included in the household sector.
- **Proprietors' income versus mixed income.** The measure of the income of unincorporated businesses that cannot be separated from the income accruing to the labor of the businesses' owners is referred to in the NIPAs as "operating surplus"; in the SNA, this is referred to as "mixed income."
- **Social contributions versus contributions for social insurance.** The NIPA measure of contributions for social insurance differs from the SNA concept of social contributions. The NIPA measure consists of contributions for government social insurance programs. The SNA concept of social contributions is more similar to the NIPA concept of supplements to wages and salaries. Both include contributions to all types of social insurance plans—including pension and insurance funds—not just to government- provided social insurance programs.
- **Income receipts (payments) on assets versus property income.** The NIPAs use the term "income receipts (payments) on assets" to refer to the receipts of (or payments to) asset owners for the use of their assets; this income includes interest and miscellaneous receipts, dividends, and reinvested earnings on direct investment. The only difference between this and the SNA term "property income" is the SNA's inclusion of rent, which refers to the income paid to the owner of a natural resource for its use. In the NIPAs, rent is netted out in the presentation of income receipts on assets between enterprises and is therefore not shown as a component of income receipts on assets; for households, rent is included as a component of rental income of persons. Despite the NIPA title of "income receipts on assets" for this estimate, it is often referred to as "property income" in the United States, including in footnotes to BEA tables.
- **Corporations.** In the NIPAs, corporations refers solely to those entities legally identified as such. In the SNA, corporations refers to legally constituted corporations as well as cooperatives, limited liability partnerships, notional resident units, and quasi-corporations

If BEA's research results in a determination to make changes to the NIPA presentation, it may also include changes to the terminology in order to clarify the NIPA definitions or adopt the SNA terms. Any such plans would be explained to users well in advance.

saving in the NIPAs, they are grouped into three other sectors—personal, government, and corporate.

This mixed sectoring is a disadvantage of the NIPAs, and in coming years, BEA will reconsider the definitions and sector classifications of unincorporated businesses, government enterprises, and nonmarket producers—the three types of entities most affected by this mixed sectoring—with the goals of moving toward conformity with the SNA and providing consistent sectoring across product and income estimates.

Private unincorporated business. In the NIPAs, private unincorporated businesses include all enterprises that are not legally incorporated—that is, sole proprietorships, partnerships, and other private businesses, such as tax-exempt cooperatives (including credit unions, mutual insurance companies, and rural utilities that provide utility services and farm marketing and purchasing services). The mixed sectoring in

Chart 1. Comparison of Sector Classifications: NIPA, OECD, IMA, and SNA

NIPA Sectors: Production	NIPA Sectors: Income	IMA Sectors	BEA's OECD Submission Sectors	SNA Sectors
Households and NPISHs (excludes unincorporated enterprises)	Personal	Households and NPISHs	Households and NPISHs and noncorporate business	
Households			Households and noncorporate business	Households
NPISHs			NPISHs	NPISHs
Business (includes nonprofit institutions serving business, unincorporated enterprises, and government enterprises)	Corporate (includes nonprofit institutions serving business)	Nonfinancial noncorporate business (includes rental income)		
		Nonfinancial corporate business	Nonfinancial corporations (includes federal government enterprises, state and local gas, water, and electric utilities enterprises)	Nonfinancial corporations
		Financial business (corporate and noncorporate)	Financial corporations	Financial corporations
General government (excludes government enterprises)	Government (includes government enterprises)		Total general government (includes state and local enterprises except gas, water, and electric enterprises)	Public sector
				General government
Federal government (excludes enterprises)	Federal government (includes enterprises)	Federal government (includes enterprises)	Federal general government	Federal government
State and local governments (excludes enterprises)	State and local governments (includes enterprises)	State and local governments (includes enterprises)	State and local general government (includes state and local enterprises except gas, water, and electric enterprises)	State and local governments
				Public corporations (includes government quasi-corporations)

IMAs Integrated Macroeconomic Accounts
NIPAs National income and product accounts
NPISHs Nonprofit institutions serving households
OECD Organisation for Economic Co-operation and Development
SNA *System of National Accounts*

the NIPAs classifies these enterprises in the business sector for production-related measures and in the personal sector for income-related measures. In the SNA, unincorporated enterprises that are owned by households and that do not enjoy limited liability or maintain separate accounts are classified in the household sector; unincorporated businesses that function as if they were corporations and keep separate accounts qualify as “quasi-corporations” and are included in the nonfinancial or the financial corporations sectors. Thus, the production-side business sector in the NIPAs is broader than the SNA corporations sector because it includes unincorporated business that don’t qualify as quasi-corporations, and the income-side corporate sector in the NIPAs is narrower than the SNA corporations sectors because it does not include enterprises that have the characteristics of corporations but are not legally incorporated.

BEA’s SNA-based estimates provide a starting point for research into further harmonization with the SNA treatment of unincorporated enterprises. Based on an assumption that most of these enterprises do not keep separate accounts from their owners, the SNA-based estimates classify them all in the sector for households and NPISH. This adjustment aligns the production and income measures of households and NPISHs and recognizes, as the SNA recognizes, that for small businesses with unlimited liability, it’s generally not possible to separate the business and household balance sheets.[5]

Table 2, which illustrates the adjustments made in deriving estimates for an SNA-based households and NPISH sector, starts with the SNA’s generation of income account. The NIPA estimate of value added for households and NPISHs is adjusted by adding the value added of unincorporated private businesses, derived as the sum of the NIPA by-sector measures of national income and consumption of fixed capital (CFC) for sole proprietorships, partnerships, and other private business.[6] These businesses are, in turn, excluded from the SNA-based sector for corporations (table 3, page 10). Similar adjustments are made in the derivation of the other SNA-based measures in this account. For example, the balancing item, operating surplus and mixed income, is derived as value added less measures of compensation and taxes on production and imports and plus subsidies—each of which has been adjusted to include the corresponding measures for unincorporated business. The SNA concept of mixed income is similar to the NIPA concept of proprietors’ income and is used as the balancing item for unincorporated enterprises that do not qualify as quasi-corporations (that is, for all the entities in the adjusted, SNA-based households and NPISH sector except for owner-occupiers, households leasing dwellings, and households employing domestic staff).[7] Thus, table 2 shows total “operating surplus and mixed income, net” as well as a distinct measure of mixed income for the income of unincorporated businesses.

These adjustments provide estimates that are more consistent with the SNA, but further improvements to consistency will require reevaluating the assumption that none of the unincorporated enterprises qualify as quasi-corporations. Full consistency with SNA guidelines will also require the development of additional source data and methods to allow for the reclassification from the personal sector to the business sector of the income of unincorporated businesses that do qualify as quasi-corporations and conversely, for the reclassification from the business sector to the household sector of the production of unincorporated enterprises that do not qualify as quasi-corporations. Research may well determine that most sole proprietorships and the rental income of persons should be classified in the household sector, but this assumption is more questionable for partnerships. Many partnerships have limited liability, and they have grown rapidly in recent years; their significant size raises questions about their inclusion in measures of proprietors’ income, which is often interpreted as self-employed or small business income. Developing data and methods that would allow the separation of such enterprises from the household sector would benefit the measures of both households and business and would align the definitions of the household sector for both production and income measures.

Nonprofit institutions and nonmarket producers. Both the NIPAs and the SNA include measures of nonmarket output—that is, in the NIPAs, output that is not sold on the market or is sold at prices that do not reflect market values or production costs, such as the health care provided by free clinics, the educational services provided by state and local governments, or the defense services provided by the federal government. The SNA defines nonmarket output similarly as “goods and individual or collective services produced by non-profit institutions serving households (NPISHs) or government that are supplied free, or at prices that are not economically significant, to other institutional units or the community as a whole.”[8]

5. The IMAs take a different approach by creating a separate sector for noncorporate businesses, using unadjusted NIPA data.

6. National income by sector, shown in NIPA table 1.13, is the income-based equivalent to by-sector net value added.

7. *System of National Accounts 2008*, paragraph 7.9

8. *System of National Accounts 2008*, paragraph 6.128

Table 2. Reconciliation of NIPA and SNA Households and NPISH Sector Estimates, 2013 [1]

[Billions of dollars]

Generation of income account	
SNA-based value added, gross	**5,225.5**
Value added, households and NPISH (1.3.5, line 5)	2,094.6
National income by sector, noncorporate business (1.13, lines 19 and 28)	2,839.3
CFC for noncorporate business (7.5, line 7)	291.6
Less: SNA-based compensation of employees, paid	1,734.7
Compensation paid by noncorporate business (1.13, lines 20 and 29)	958.6
Compensation paid, households and NPISH (1.13, lines 43 and 50)	776.1
Less: SNA-based taxes on production and imports, paid	386.3
Taxes on production and imports paid by noncorporate business (unpublished detail)	386.3
Plus: SNA-based subsidies, received	52.9
Subsidies received by noncorporate business by government (unpublished detail)	52.9
***Equals:* Operating surplus and mixed income, gross**	**3,157.4**
***Of which:* SNA-based mixed income, gross**	**1,742.0**
Distribution of income account	
Operating surplus and mixed income, gross	**3,157.4**
Plus: Compensation of employees, received	8,844.8
Compensation of employees, domestic industries (6.2d, line 1)	8,844.8
Less: Property income, paid	858.4
Interest paid by noncorporate business (7.11, lines 8, 11, 81, and 84)	305.2
Monetary interest paid by households and nonprofit institutions (7.11, lines 14, and 86)	553.2
Plus: Property income, received	2,218.9
Interest received by noncorporate business (7.11, lines 30, 31, 59, and 62)	137.9
Monetary interest received by persons (7.11, line 32)	431.1
Interest received by households and NPISH (7.11, line 63)	825.4
Dividends received by persons (7.10, lines 12 and 14)	824.5
Less: Current taxes on income, wealth, etc., paid	1,661.8
Personal current taxes (2.1, line 26)	1,661.8
Plus: Current taxes on income, wealth, etc., received	0.0
Less: Social contributions and social benefits, other than social transfers in kind, paid	1,104.5
Employee and self-employed contributions for government social insurance (3.6, line 20)	578.4
Employer contributions for government social insurance (2.1, line 8)	526.1
Plus: Social contributions and social benefits, other than social transfers in kind, received	2,372.2
Government social benefits to persons (2.1, line 17)	2,372.2
Less: Other current transfers, paid	199.9
Business current transfer payments, paid by noncorporate business (1.7.5, line 21 less 1.14, line 10)	34.2
Personal current transfer payments (2.1, line 31)	165.6
Plus: Other current transfers, received	42.3
Other current transfer receipts, from business (net) (2.1, line 24)	42.3
Equals: Gross national disposable income	12,811.1
Less: SNA-based consumption of fixed capital for households and NPISH	718.7
***Equals:* Net disposable income**	**12,092.4**
Use of disposable income	
Net disposable income	**12,092.4**
Less: Final consumption expenditure	11,484.3
Personal consumption expenditures (2.1, line 29)	11,484.3
***Equals:* Saving, net**	**608.1**
Capital account	
Saving, net	**608.1**
Less: Capital transfers, paid	26.2
Capital transfers paid by persons and noncorporate business (5.10, lines 18 and 7)	26.2
Plus: Capital transfers, received	6.5
Capital transfers received by persons and by noncorporate business (5.10, lines 43 and 32)	6.5
Less: Gross capital formation	921.2
Gross fixed capital formation	904.3
Gross private domestic fixed investment by noncorporate business, (1.1.5, part of line 8), unpublished detail	904.3
Changes in inventories	16.9
Changes in private inventories, noncorporate business (1.1.5, part of line 14), unpublished detail	16.9
Acquisitions less disposals of valuables	0.0
Plus: Consumption of fixed capital	718.7
CFC noncorporate business (7.5, line 8 and 11)	291.6
CFC households and institutions (7.5, line 18)	427.1
Less: Acquisitions less disposals of non-financial non-produced assets	–1.8
Net purchases of nonproduced assets by noncorporate business (3.1, part of line 38), unpublished detail	–1.8
***Equals:* Net lending/net borrowing**	**387.7**

CFC Consumption of fixed capital
NIPAs National income and product accounts
NPIs Nonprofit institutions
NPISHs Nonprofit institutions serving households
OECD Organisation for Economic Co-operation and Development
SNA *System of National Accounts*

1. Based on NIPA tables and Organisation for Economic Co-operation Development, submission table 119.
2. References in parentheses indicate NIPA tables and line numbers.

"Economically significant" prices are identified as prices that do not have a significant effect on production or purchasing decisions.[9] In many countries, this SNA criteria is implemented using what is known as the "50 percent rule"—that is, producers are considered to be nonmarket producers if their sales cover less than 50 percent of their production costs. The NIPAs do not follow the 50 percent rule; instead, nonmarket production tends to be based on historical practice or associated with the functional purposes served by nonprofit institutions and general government agencies. In both the SNA and the NIPAs, nonmarket output is valued as the sum of production costs.

In the SNA, nonmarket producers are included in either the general government sector or the NPISH sector. Similarly, in the NIPAs, nonmarket producers are included in either the general government sector or the households and institutions sector (for NPISHs). However, because households and NPISHs are likely to behave differently, the NIPAs provide separate estimates of their income and outlays; this subsectoring facilitates analyses of the distinct saving behavior of households and NPISHs, allows evaluation of the importance of NPISHs in the economy, and provides consistency with the SNA guidelines.

The scope of NPISHs in the NIPAs is relatively broad, and this, combined with the measurement of their output as the sum of their input costs, can be problematic. Many private nonprofit organizations, such as health care providers and educational institutions, behave very much like for-profit organizations, and sales often cover a very large share of their production costs. Consequently, a relatively small share of NPISHs' output is classified as final consumption expenditures of NPISHs. Such organizations may arguably be considered to be engaged in market production. A similar issue arises in the government sector, where state and local governments recoup a significant portion of the costs associated with the production of some government services through, for example, tuition and hospital charges. These revenues, shown as sales to other sectors, are netted against expenses in the calculation of government consumption expenditures. Netting such significant sales values complicates the interpretation of the estimates of government consumption expenditures.

Other than the reclassification of certain government enterprises discussed in the following section, BEA's SNA-based estimates do not make adjustments to the NIPA measures of the production of general government or NPISHs. But in coming years, BEA will evaluate the characteristics of institutions in both the government and household and NPISH sectors to improve the definitions and sector classifications of both and to better separate production that is primarily directed toward sales from production that is primarily nonmarket in nature.[10]

Government enterprises. The NIPA general government sector includes government units that collect taxes and other compulsory transfers to implement fiscal, social, and international policies. Government enterprises are those government units that produce and sell goods and services and cover a substantial portion of their operating costs through sales to the public. As with unincorporated enterprises, the NIPA treatment of government enterprises is mixed. For measuring production, these enterprises are included in the business sector as part of "other noncorporate businesses." But their surplus or deficit as well as their interest payments and receipts and their investments are included in the government sector (as opposed to the business sector), and estimates of most transactions between them and their general government owners are not provided. This treatment complicates the separate analyses of general government and government enterprises and of their relative effects on the economy.

The SNA defines the general government sector similarly to the NIPAs. Government units that behave as corporations (or in the SNA, "public corporations") are treated as quasi-corporations and are classified in the corporations sector as long as they meet several criteria, including independence with respect to decision-making and finance, "economically significant" prices, and the existence of separate and complete accounts. Those units that meet most criteria, but for which complete accounting information is unavailable, are included in the general government sector, and their output is valued at market prices. The SNA classifies government units consistently across all measures, facilitating analyses of the full value and costs of output provided by public corporations and of the transactions and costs associated with general government units that implement policy.

BEA's SNA-based estimates for the general government sector and for government enterprises are reflected in tables 3 and 4. In table 3, for the corporations sector, the SNA-based measure of value added starts with value added of corporate businesses and adds the value added of all federal enterprises and state and

9. *System of National Accounts 2008*, paragraph 22.28

10. BEA has developed price indexes for health care that could be used to value the output of health care providers that are currently treated as NPISHs. For more information, see Abe Dunn, Lindsey Rittmueller, and Bryn Whitmire, "Introducing the New BEA Health Care Satellite Account," SURVEY 95 (January 2015).

local utilities except transit enterprises. Table 4, for the general government sector, shows value added as the sum of NIPA measures of value added for general government and for nonutility state and local government

Table 3. Reconciliation of NIPA Business and Corporate Estimates With SNA Corporations Estimates, 2013 [1]

[Billions of dollars]

Generation of income account	
SNA-based value added, gross	**9,626.1**
Value added, domestic corporate business (1.14, line 1)	9,518.4
Value added, government enterprises reclassified as corporations, unpublished detail	107.7
Less: SNA-based compensation of employees, paid	5,443.1
Compensation, domestic corporate business (1.14, line 4)	5,359.6
Compensation, government enterprises reclassified as corporations (6.2d, line 91, and unpublished detail)	83.4
Less: SNA-based taxes on production and imports, paid	776.2
Corporate taxes on production less subsidies (1.14, line 7)	768.9
Subsidies received by corporations, unpublished detail (part of 1.10, line 8)	7.3
Plus: SNA-based subsidies, received	7.3
Subsidies received by corporations, unpublished detail (part of 1.10, line 8)	7.3
***Equals:* SNA-based operating surplus and mixed income, gross**	**3,414.1**
Net operating surplus, corporate business (1.14, line 8)	1,987.7
CFC, domestic corporate business (7.5, line 4)	1,402.1
Surplus/deficit, government enterprises reclassified as corporations (3.2, line 18 and unpublished detail)	–0.2
CFC, government enterprises reclassified as corporations (7.5, line 26 and unpublished detail)	24.5
Distribution of income account	
Operating surplus, gross	**3,414.1**
Less: SNA-based property income, paid	3,203.3
Interest paid, domestic corporate business (7.11, lines 3, 43, 49, and 78)	1,791.8
Dividends paid by domestic corporate business (7.10, line 2 and 13)	1,291.3
Reinvested earnings on foreign direct invest in U.S. (1.16, line 11)	100.1
Rents and royalties paid by corporations, unpublished detail (3.1, part of line 11)	21.7
Adjustment for interest paid by government enterprises reclassified as corporations, unpublished detail	–1.6
Plus: SNA-based property income, received	2,436.3
Interest received, domestic corporate business (7.11, lines 27, 56, and 96)	1,616.0
Reinvested earnings on U.S. direct investment abroad (1.16, line 6)	370.2
Dividends received, domestic financial corporate business (7.10, line 7)	464.6
Adjustment for interest from government enterprises reclassified as corporations, unpublished detail	–14.5
Less: SNA-based current taxes on income, wealth etc., paid	474.3
Taxes on corporate income (1.14, line 12)	474.3
Less: SNA-based other current transfers, paid	86.4
Business current transfer payments (net) (table 1.14, line 10)	86.4
Equals: SNA-based gross disposable income	2,086.6
Less: SNA-based consumption of fixed capital	1,426.7
***Equals:* SNA-based net disposable income**	**659.9**
Undistributed corporate profits w/ IVA and CCAdj (1.16, line 24)	673.0
Surplus, deficit, government enterprises reclassified as corporations (3.2, line 18 and part of 3.3, line 18)	–0.2
Interest adjustments, government enterprises reclassified as corporations, unpublished detail	–12.9
Use of disposable income	
SNA-based net disposable income	**659.9**
Less: SNA-based final consumption expenditure	....
***Equals:* SNA-based saving, net**	**659.9**
Capital account	
SNA-based net saving	**659.9**
Less: SNA-based capital transfers, paid	0.0
Capital transfers paid by corporations (5.11, lines 3 and 6)	0.0
Plus: SNA-based capital transfers, received	5.7
Capital transfers received by corporations (5.11, lines 26 and 29)	5.7
Less: SNA-based gross capital formation	1,762.4
SNA-based gross fixed capital formation	1,705.2
Corporate portion of gross private domestic fixed investment, unpublished detail	1,669.6
Gross investment by government enterprises reclassified as corporations, (5.9.5b, line 69 and unpublished detail)	35.6
SNA-based changes in inventories	57.2
Changes in inventories, corporations, unpublished estimate	57.2
Plus: SNA-based consumption of fixed capital	1,426.7
CFC, domestic corporate business (7.5, line 4)	1,402.1
CFC, government enterprises reclassified as corporations (7.5, line 26 and part of line 27)	24.6
Less: SNA-based acquisitions less disposals of nonfinancial, nonproduced assets	–4.7
Corporate part of net purchases of nonproduced assets, unpublished detail (3.1, part of line 36)	–4.7
***Equals:* SNA-based net lending/net borrowing**	**334.7**

CCAdj Capital consumption adjustment
CFC Consumption of fixed capital
IVA Inventory valuation adjustment
NIPAs National income and product accounts
OECD Organisation for Economic Co-operation and Development
SNA System of National Accounts

1. Based on NIPA tables and Organisation for Economic Co-operation Development Submission Table 119.
2. References in parentheses indicate NIPA tables and line numbers.

Notes. Government enterprises reclassified as corporations are federal government enterprises plus gas, water, and electric state and local utilities government enterprises.

Government enterprises included in general government include all state and local enterprises except gas, water, and electric utilities.

Table 4. Reconciliation of NIPA Government Estimates With SNA General Government Sector Estimates, 2013 [1]

[Billions of dollars]

Generation of income account	
SNA-based value added, gross	**2,128.4**
Value added for general government (3.10.5, line 3)	2,053.6
Value added for government enterprises included in general government, unpublished estimate	74.8
Less: SNA-based compensation of employees, paid	1,675.9
Compensation of general government employees (3.10.5, line 4)	1,609.2
Compensation paid by government enterprises included in general government (6.2d, part of line 96)	66.7
Less: Taxes on production and imports, paid	0.0
Plus: SNA-based Subsidies, received	0.0
***Equals:* SNA-based operating surplus and mixed income, gross**	**452.5**
Surplus/deficit, government enterprises included in general government, unpublished detail	–29.4
Plus: CFC for SNA-based general government sector which is defined below, in capital account	481.9
Distribution of income account	
Mixed income, gross	**452.5**
Plus: Compensation of employees, received	0.0
Plus: SNA-based taxes on production and imports, received	1,162.4
Taxes on production and imports (3.1, line 4)	1,162.4
Less: SNA-based subsidies, paid	60.2
Subsidies (3.1, line 27)	60.2
Less: SNA-based property income, paid	603.2
Interest paid by general government(3.1, line 24)	617.7
Less: Interest adjustment for government enterprises reclassified to corporations sector, unpublished detail	14.5
Plus: SNA-based property income, received	242.8
Income receipts on assets received by general government(3.1, line 8)	244.4
Less: Interest adjustment for government enterprises reclassified to corporations sector, unpublished detail	1.6
Less: Current taxes on income, wealth etc., paid	0.0
Plus: SNA-based Current taxes on income, wealth etc., received	2,121.1
Personal current taxes received by government (3.1, line 3)	1,661.8
Taxes on Corporate income (3.1, line 5)	440.2
Taxes from the rest of the world (3.1, line 6)	19.2
Less: SNA-based social contributions and social benefits, other than social transfers in kind, paid	2,391.1
Government social benefits paid (3.1, line 20)	2,391.1
Plus: Social contributions and social benefits, other than social transfers in kind, received	1,109.9
Contributions for government social insurance (3.1, line 7)	1,109.9
Less: Other current transfers, paid	46.4
Other current transfers paid to the rest of the world (net) (3.1, line 23)	46.4
Plus: Other current transfers, received	180.4
Current transfer receipts (3.1, line 13)	180.4
Equals: Gross disposable income	2,168.4
Less: CFC for SNA-based general government sector which is defined below, in capital account	481.9
***Equals:* Net disposable income**	**1,686.5**
Use of disposable income	
Net disposable income	**1,686.5**
Less: Final consumption expenditure	2,547.6
Government consumption expenditures (3.10.5, line 1)	2,547.6
***Equals:* Saving, net**	**–861.1**
Capital account	
Saving, net	**–861.1**
Less: Capital transfers, paid	13.0
Capital transfers paid by government (5.10, line 8 less line 10)	13.0
Plus: Capital transfers, received	26.2
Capital transfers received by government (5.10, lines 36, 39, and 40)	26.2
Less: Gross capital formation	560.8
Gross fixed capital formation	560.8
Gross government investment (3.1, line 35)	596.3
Less: Gross investment by government enterprises reclassified as corporations, (5.8.5b, line 58 and unpublished detail)	35.6
Changes in inventories	0.0
Acquisitions less disposals of valuables	....
Plus: Consumption of fixed capital	481.9
CFC, general government (3.10.5, line 5)	444.4
CFC, government enterprises included in general government, unpublished detail (7.5, part of line 27)	37.5
Less: Acquisitions less disposals of non-financial non-produced assets	6.5
Net purchases of nonproduced assets (3.1, line 37)	6.5
***Equals:* Net lending/net borrowing**	**–933.3**

CFC Consumption of fixed capital
NIPAs National income and product accounts
OECD Organisation for Economic Co-operation and Development
SNA *System of National Accounts*

1. Based on NIPA tables and Organisation for Economic Co-operation Development, submission table 119.
2. References in parentheses indicate NIPA tables, line numbers.

NOTES. Government enterprises reclassified as corporations are federal government enterprises plus gas, water, and electric state and local utilities government enterprises.

Government enterprises included in general government include all state and local enterprises except gas, water, and electric utilities.

enterprises and transit enterprises.[11] Similar adjustments are made throughout the tables; additionally, adjustments are made to eliminate transactions that become intrasector transactions as a result of the reclassifications. While the effects of the reclassifications on the corporations sector are small relative to the size of the corporate measures, the assumptions illustrated by the table are important. All federal government enterprises are reclassified under the assumption that they all qualify as quasi-corporations, but the characteristics of these enterprises have not been evaluated recently, and it is possible that they may not meet the criteria for quasi-corporations with respect to independence, separate and complete accounts, or market prices.

Given the complexity of government activities in the United States, BEA plans to engage in research to address the availability of source data and the characteristics of government units, many of which engage in activities for which the application of SNA classification criteria may be unclear.

Social benefits

The NIPA measure of personal income includes the value of the social benefits that households receive from governments. These transfers include cash benefit payments as well as in-kind transfers—that is, actual goods and services provided directly to households by government. Governments provide these in-kind transfers either by purchasing goods and services on behalf of households (such as health care services financed by Medicare or Medicaid) or by producing them directly. The NIPAs do not distinguish in-kind transfers from cash transfers, and both are treated the same way. They are recorded as current expenditures by general government (specifically, as government social benefits to persons) and as receipts (of government social benefits) by households; an equivalent value for in-kind transfers is recorded in personal consumption expenditures (PCE). This treatment obscures the distinction between cash and in-kind transfers, which complicates analyses of household consumption decisions by overstating the value of consumption financed by households, especially during recessions when government benefit payments tend to increase.

In the SNA, "social transfers in kind" are treated differently from transfers in cash. Transfers in cash—or "social benefits other than social transfers in kind"—are a component of household disposable income, with detail provided on the type of benefit. But to avoid distorting the analysis of household consumption decisions, the SNA does not include the value of social transfers in kind in disposable income; instead, they are added to the disposable income of households (and payments of social transfers in kind are deducted from the disposable income of government and of NPISHs) to derive measures of "*adjusted* disposable income" for each sector. The measure of disposable income reflects the value of the income available for household decisions about consumption, and the measure of actual disposable income reflects the income actually available for consumption. The SNA provides two corresponding measures of expenditures—final consumption expenditures and actual final consumption expenditures. Social transfers in kind by government are treated as final consumption expenditures by government—not by households, as in the NIPA treatment. Household final consumption expenditures exclude the household consumption financed by social transfers in kind; instead, they are added to it in the derivation of *actual* final consumption.

In coming years, BEA will (1) work to identify the programs that are currently included in the NIPA measure of social benefits that are consistent with the SNA definition of social transfers in kind, (2) analyze the impact of reclassifying these programs as government consumption expenditures instead of personal consumption expenditures, (3) evaluate estimation methodologies to ensure that the separation of government-funded goods and services from privately purchased goods and services does not affect the quality of the aggregate measures (which may be particularly important for measures of health care services), and (4) design presentations to clarify the additional measures, including measures of adjusted disposable income and actual final consumption.

Interest paid on owner-occupied housing mortgages

The NIPAs treat owner-occupied housing as an unincorporated enterprise; its output is included in the output of the household sector (unlike the output of other unincorporated enterprises, which is included in the business sector).[12] However, the production-related transactions associated with housing services, including interest payments on mortgage loans, are included in the business sector; that is, the mortgage interest payments are deducted in the calculation of rental income of persons and are instead included in the measure of net interest paid by private business.

11. State and local transit enterprises are not considered quasi-corporations in the SNA-based estimates because they are heavily subsidized, and state and local non-utility enterprises are not considered quasi-corporations because complete accounts are not available.

12. The services of owner-occupied housing were reclassified from the business sector to the household sector as part of the 2003 comprehensive revision of the NIPAs.

The SNA recommends that owner-occupiers be treated as unincorporated enterprises in the household sector; therefore, their interest payments are treated as an outlay of the household sector. The reclassifications of the production and income measures of unincorporated business without separate accounts to the household sector, as discussed earlier, would include reclassifying the transactions associated with owner-occupied housing to the household sector. As a result, the payment of interest on mortgage loans would be treated as payments by households, rather than business. This is a change that NIPA users have been interested in for some time. This treatment would not only better align with SNA guidelines but would also be more in line with how data users envision the accounts of the household sector.

Cultivated assets

In the SNA, cultivated natural resources, such as trees and livestock, that are used continuously in production for more than a year are treated as cultivated fixed assets; examples of these assets include fruit and nut trees and dairy cattle. Their production is treated as part of fixed investment. The NIPAs include estimates of investment in produced assets by private business and by government; these consist of structures, equipment, and intellectual property products. The NIPAs do not treat estimates of cultivated natural resources, such as livestock or orchards, as investment; instead, they are treated as intermediate inputs.

BEA's SNA-based estimates do not reclassify expenditures on cultivated assets from intermediate purchases to investment. Doing so in the NIPAs would require (1) additional source data to estimate the stock of, and fixed investment in, these assets; and (2) developing methods to estimate the consumption of fixed capital for these assets.

Government fees

As noted, general government is generally associated with the compulsory collection of taxes and with the provision of services for free. However, for many services, the government charges a fee. The SNA recommends that such fees be treated as taxes if they significantly exceed the value of the service or as sales if the fee approximates the value of the service.

The NIPAs treat fees as taxes in some cases, such as fees for the provision of motor vehicle licenses, drivers' licenses, and business licenses. In other cases, when the fee is for a good or service that is not administrative or regulatory in nature, the revenue is classified as a sale by general government (and their value is deducted from government consumption expenditures). Examples of general government sales include the charges of public hospitals, tuition of state institutions of higher education, and charges for the services of U.S. Department of Agriculture meat graders. But in many cases, such as regulatory and inspection fees where no good, service, or financial asset is given to the payer, the NIPAs treat these government receipts as transfers from persons or from businesses. This treatment overstates the value of government transfer receipts in the NIPAs in comparison with countries that follow the SNA recommendations; moreover, this treatment complicates the analysis of the government's provision of goods and services. Therefore, BEA will explore the reclassification of these transfer receipts as sales or as taxes.

Accounting framework

As BEA's research leads to changes in the NIPAs, it will provide an opportunity to also consider changes to the presentation of the NIPAs. It is useful to note that the organization of both the SNA and the NIPAs is illustrative; the frameworks sometimes need to be adapted for presenting time series. Nevertheless, they summarize the types of transactions, aggregates, and sectors used by each system and are therefore useful for presenting an overview of the economy; they are also useful tools for comparing and understanding the systems.

The NIPA accounts are organized differently than the SNA sequence of accounts, as illustrated by chart 2. While production, income generation and distribution, consumption, saving, and investment are depicted in the NIPAs, the summary presentation is more condensed and does not explicitly present these aggregates and their associated transactions in a sequence that flows from one account to the next. Instead, production, investment, and transactions with the rest of the world are shown only for the total economy and not by sector. Income and outlay accounts are shown by sector, for business, personal, and government sectors.

Specifically, the NIPAs are organized as seven summary accounts (with nearly 300 underlying tables) that present transactions that are grouped in the SNA as the production account, the distribution and use of income accounts, and the capital accounts.[13] In particular, in the NIPAs, the domestic income and product account (account 1) provides estimates of GDP and its components; the GDP estimates correspond to the SNA measures presented in the production account for the total economy. It also provides

13. Several other sets of U.S. economic accounts also fall within the purview of the SNA. BEA's input-output accounts and the GDP-by-industry accounts provide detailed information on 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.

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); these measures correspond to the SNA measures in the generation of income account. The NIPA's private enterprise income account (account 2), personal income and outlay account (account 3), and government current receipts and expenditures account (account 4) roughly correspond to the SNA's distribution and use of income accounts for each sector. 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 current account and a capital account for the rest-of-the-world sector (NIPA accounts 5 and 7), which summarize the transactions of foreign residents with U.S. residents. The NIPA summary accounts stop with the capital account; they do not provide a financial account or balance sheets.

The SNA framework, as described above, provides several advantages. The provision of a full set of accounts for each sector allows for the analysis of types of activity, such as consumption and investment, by each sector. The framework also provides several useful aggregates that are not provided by the NIPAs as well as the flexibility needed to address changing economic circumstances or institutional arrangements. Additionally, the SNA's progression of transactions through the accounts from one balance sheet to the next allows analysts to examine the impacts of each sector's transactions on its own balance sheet and on the nation's; while most of these transactions are available in the many detailed NIPA tables, they are not presented in sequence. Finally, and perhaps most importantly, the SNA's integration of financial and balance sheet information with the information on nonfinancial transactions allows the accounts to track production and income as well as the net lending, net borrowing, and net of each sector.[14]

14. Palumbo, Michael G., and Jonathan A. Parker, "The Integrated Financial and Real System of National Accounts for the United States: Does It Presage the Financial Crisis?" *American Economic Review* 99, No. 2 (May 2009): 80–86. Palumbo and Parker were able to use the integrated, SNA-based framework of BEA's IMAs to show the household sector's shift from a net lending to a net borrowing position beginning in the mid-1990s and increasing in the years preceding the recent global financial crisis.

Chart 2. SNA Sequence of Accounts and United States National Accounts

<table>
<tr><th>SNA Accounts
(Total Economy and By Sector)</th><th colspan="4">BEA NIPA Summary Accounts, BEA Industry Economic Accounts, and Federal Reserve Board's (FRB) Financial Accounts
(Total Economy and By Sector)</th></tr>
<tr><td>Production account</td><td colspan="3">BEA NIPA Summary Account 1. Domestic Income and Product Account (Total Economy) and BEA Industry Economic Accounts</td><td rowspan="5">NIPA Foreign Transactions Current Account (Account 5)</td></tr>
<tr><td>Generation of income account</td><td rowspan="4">NIPA Private Enterprise Income (Account 2)</td><td rowspan="4">NIPA Personal Income and Outlay (Account 3)</td><td rowspan="4">NIPA Government Current Receipts and Expenditures (Account 4)</td></tr>
<tr><td>Allocation of primary income account</td></tr>
<tr><td>Secondary distribution of income account</td></tr>
<tr><td>Use of income account</td></tr>
<tr><td>Capital account</td><td colspan="3">NIPA Domestic Capital Account
(Account 6)
(Total Economy)</td><td>NIPA Foreign Transactions Capital Account (Account 7)</td></tr>
<tr><td>Financial account
Other changes in volume of assets account
Revaluation account
Balance sheets (opening and closing)</td><td colspan="4">FRB Financial Accounts and the joint BEA/FRB Integrated Macroeconomic Accounts</td></tr>
</table>

BEA Bureau of Economic Analysis
FRB Federal Reserve Board
NIPAs National income and product accounts
SNA *System of National Accounts*

The NIPA presentation also has certain advantages. The domestic income and product account (account 1) illustrates the "circular flow" characteristic of the economy—that is, the theoretical equality between national product and national income—and reflects the familiar equation for output as the sum, across all sectors, of consumption, investment, and net exports. Additionally, the NIPA's concise framework facilitates an emphasis on aggregates that are useful for analysis without being burdened by the level of detail presented for each sector in the SNA. Finally, the framework presents certain analytically useful aggregates, such as corporate profits and personal income, which are not provided by the SNA framework.

As BEA continues to move toward the SNA, it will consider making presentational changes that will allow the NIPA accounting framework to more closely mesh with the SNA-based framework. However, in making these changes, BEA recognizes the potential need to retain certain NIPA-based aggregates that are important for NIPA users. In addition, BEA plans to work collaboratively with the staff of the Federal Reserve Board to maintain the integration of its financial account and balance sheet information with a more comprehensive NIPA framework.

While its research has just commenced, BEA intends to communicate well in advance with users about any planned changes in presentation, and any changes will take account of users' needs. This may be especially important with respect to the retention of NIPA aggregates that are not included in the SNA framework.

Other differences between the NIPAs and the SNA

There are several other differences between the NIPAs and the SNA that are not currently on BEA's research agenda (and that are not addressed in the SNA-based estimates that BEA provides to the OECD). As progress is made toward resolving the issues on the current research agenda, some of these additional issues may be added.

Illegal activities. As noted, the NIPA measure of GDP is almost fully consistent with the SNA. However, the NIPAs exclude measures of production derived from illegal activities. Most illegal activity has been excluded from the NIPAs due to an absence of source data that would be required to derive reliable estimates for the value of these activities.[15] However, activities that are legal, but that are (illegally) excluded from tax filings are reflected in the "misreporting" adjustments BEA makes to tax-based data.[16]

In contrast, the SNA recommends that national accounts include the value of any legal or illegal activity that adheres to the definition of production as any activity that is "carried out under the responsibility, control and management of an institutional unit, that uses inputs of labour, capital, and goods and services to produce outputs of goods and services," though certain exceptions, such as the value of services produced by households for their own consumption, are made.[17] The SNA recognizes the complications associated with deriving accurate measures of illegal activity in practice, however, and notes that doing so "will depend on assessments of the importance of illegal activities, how it might be done and the resources available."[18]

Valuables. The NIPAs do not treat estimates of expenditures on valuables that are acquired as stores of value—such as jewelry or precious metals (excluding monetary gold)—as investment. Instead, these are treated as personal consumption expenditures or as intermediate purchases. In contrast, the SNA includes valuables as a category of nonfinancial produced assets because they represent a store of value that accrues benefits to their owners over time. An exception is made for valuables that are used as inputs into production, in which case they are treated as intermediate purchases.

While the exclusion of valuables from the asset boundary affects the comparability of the NIPA measure of GDP with the SNA measure, BEA has developed alternative methods to prevent international trade in nonmonetary gold held for investment, for example, from affecting GDP. Nevertheless, if reliable source data on the both the stock and value of transactions related to valuables can be developed, valuables could be considered for inclusion within the asset boundary.

Appendix: BEA's SNA-Based Estimates

BEA's SNA-based estimates are presented in 21 tables in response to a detailed OECD questionnaire that is based on its own publication needs. These estimates are available on the National page of BEA's Web site under "Supplemental Estimates"; see "Estimates prepared for international comparison on an SNA basis."

15. Historically, illegal activity was also excluded from the NIPAs by convention, as it was argued that they detract from, rather than add to, the nation's "welfare." However, that argument is inconsistent with the inclusion and exclusion of certain other activities (such as unpaid household production). Therefore, BEA relies on the availability of source data and methodologies for deriving reliable estimates rather than subjective notions of welfare.

16. The IRS Taxpayer Compliance Measurement Program had provided estimates of misreported income for selected years since 1963. In 2001, the IRS launched the National Research Program to update the research and to reflect a changing economy, revisions to the tax code, and shifts in individual behavior.

17. *System of National Accounts 2008*, paragraphs 6.28–6.31 and paragraphs 6.39–6.48.

18. *System of National Accounts 2008*, paragraph 25.31.

The most comprehensive table (table 800) presents a condensed version of the sequence of SNA accounts through the capital account for the total economy and for the three SNA-based sectors discussed above. Table 119 presents a simplified version of this table. These tables reflect additional adjustments that do not reflect significant conceptual differences between the two systems. The following section describes some of those adjustments. After that, the appendix describes the other SNA-based estimates provided by BEA.

Additional adjustments in the SNA-based sequence of accounts

Production account. As noted, BEA does not prepare estimates of gross output by sector. However, BEA does prepare estimates of value added by sector, and these estimates are presented in the SNA-based production account. Conceptually, the sum of value added across all sectors equals GDP, but in the NIPAs, this equality does not hold, as 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, which is 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-based production account are primarily derived from the income-related estimates in the NIPAs. Thus, the sum of value added across sectors in the SNA-based measure of GDP differs from the NIPA measure by the value of the statistical discrepancy.

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 income that is earned in production (gross value added) 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 surplus) or for unincorporated enterprises, to labor and capital combined (as gross mixed income).

Most of the differences between the SNA-based measures for the generation of income accounts and the related measures in the NIPAs are due to the differences in sectoring and are described in the main article. In addition to these differences, the SNA separates taxes that are associated with the ownership or the use of resources in production from all the other types of taxes on production and imports. As a result, the SNA-based 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. This separate measure does not exist in the NIPAs, but its value is derived for the SNA-based estimates from some of the more detailed NIPA measures of taxes on production and imports.

Distribution and use of income accounts. The distribution of income account in the SNA provides information on how the income that is generated in production is distributed across the sectors of the economy. For each sector, the distribution accounts record the income that is received from production and from property, as well as subsidies, taxes, and transfer payments received and paid, in order to derive a measure of disposable income. The use of disposable income account shows how this income is allocated between final consumption and net saving for sectors that have final consumption.

For corporations, the differences between the SNA-based measures and the NIPA measures are mainly accounted for by the differences in the sector definitions of government enterprises. The other differences are more in presentation and in detail rather than in concept. For instance, referring back to table 3, the SNA-based distribution of income account includes the transactions associated with all the sources and uses of income. Measures of “property income, paid” and “property income, received” are similar to the NIPA measures of corporate income payments and receipts on assets. Additionally, while the NIPAs do not include a measure of disposable income for businesses, that measure is conceptually related to the NIPA concept of undistributed corporate profits.

There are differences for the general government sector. As with corporations, many of the adjustments made in the derivation of SNA-based distribution of income and use of income accounts are due to the reclassification of government enterprises. But the SNA-based measures also reflect the SNA’s different treatment of government inventories. In the NIPAs, inventory estimates cover only private inventories, because the available source data on inventories held by government are incomplete. Consequently, the NIPAs treat government purchases of goods as consumption regardless of whether they are immediately used or are entered into inventories. This lack of source data prevents extensive adjustments in the SNA-based estimates.

Capital account. The SNA capital account shows the relationship of net saving 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, nonproduced assets.

The most important difference between the NIPA measures of investment and the SNA-based measures are due to the SNA's presentation of investment by sector; this is not provided in the NIPAs. However, BEA's accounts for fixed assets and consumer durable goods provide estimates of investment by legal form of organization. These are used as the basis for deriving SNA-based estimates by sector that are consistent with the definition of sectors used in the other SNA-based accounts (tables 2–4).

Additional SNA-based tables

Additional tables also present aggregates for the total economy. Table 101 presents the production account aggregates for the total economy—that is, gross value added by industry and GDP by industry.[19] Table 102 presents GDP (expenditures side) and its components, and table 103 presents GDP (income side) and its components. Tables 107 and 109 provide additional balancing items, for the total economy, in current and chained (2009) dollars. Table 110 provides population and employment for the total economy.

Six tables present by-sector estimates that focus on particular transactions for general government and for households. Table 200 provides the main SNA aggregates for general government; table 900 provides detail on tax receipts and social contributions received by type and by receiving subsector; and table 1100 provides detail on general government expenditures classified according to the Classification of Functions of Government (COFOG) recommended by the SNA.[20] There are also three tables for the household sector, focusing on final consumption expenditures by durability (table 117) and by purpose (tables 501 and 502). The final by-sector table presents the balance sheet for nonfinancial fixed assets by sector and by type of fixed asset.

BEA also provides SNA-based by-industry estimates. Estimates of employment, hours and jobs; of value added and its components; and of labor input are presented in tables 111, 301, and 303, respectively. These by-industry tables are classified according to the International Standard Industrial Classification of All Economic Activities Revision 4 (ISIC, Rev. 4) recommended by the SNA.

The NIPAs classify industries according to the North American Industry Classification System (NAICS); the SNA most often references the ISIC, although it recognizes the need within individual countries to use classifications that most accurately reflect their individual institutional arrangements. Nevertheless, the greater the comparability between classification systems, the more useful they are for comparisons of industry performance and productivity.

It is important to note that there are differences between the two systems. NAICS was jointly developed and issued by the statistical agencies in the United States, Canada, and Mexico in 1997 to classify establishments common to those countries. The conceptual framework is based on the principle that establishments are grouped into industries according to similarities in their production processes. This has also been a criterion in the ISIC, though the ISIC also considers the characteristics of goods and services produced, the range of activities under the same ownership or control, and differences in scale, organization, and other features of enterprises. Comparability with ISIC was an objective during the initial development of NAICS, and it was agreed that NAICS industries would be developed to avoid crossing 2-digit ISIC boundaries. For the most part, this objective was achieved, but there are areas where the additional ISIC criteria contradicted the single conceptual principle of NAICS, and as a result, the 2-digit boundaries were crossed in some cases. However, the discrepancies are minor and don't have a significant impact on the comparability of data. In general, the original 1997 NAICS improved comparability with ISIC compared with the previous Standard Industrial Classification System and improvements to comparability have been implemented with each successive revision of NAICS. As noted in the preface of the 2007 revision of NAICS, it increases "compatibility with the two-digit level of the International Standard Industrial Classification (ISIC Rev.4) of the United Nations" and efforts continue to identify and evaluate the differences between the two.

The SNA-based by-industry estimates are prepared using a concordance prepared by BEA that maps to the ISIC codes, generally at the 2-digit level.

19. Value added statistics in this table exclude other taxes on production which would typically be included in the basic value.

20. The NIPA estimates of government expenditures by function are also classified according to COFOG.