CHAPTER 8: NET EXPORTS OF GOODS AND SERVICES

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Net exports of goods and services is the difference between U.S. exports of goods and services and U.S. imports of goods and services. Exports measures the portion of total U.S. production of goods and services—gross domestic product (GDP)—that is provided to the rest of the world; thus, movements in exports reflect changes in foreign demand for U.S.-produced goods and services. Imports measures the portion of total U.S. expenditures—gross domestic purchases—that is accounted for by goods and services provided by the rest of the world; thus, movements in imports reflect changes in domestic demand for foreign-produced goods and services. The impact of imports on the U.S. economy depends on the degree to which they act as substitutes for, or as complements to, domestic production.

Together, the two measures reflect the extent to which the United States participates in the global marketplace, which provides broad opportunities for specialization and other economic efficiencies. As the difference between the two, net exports represents the gap between U.S. domestic production and U.S. domestic demand and the extent to which a surplus or deficit of domestic production relative to domestic demand is addressed by foreign markets.

Net exports in the national income and product accounts (NIPAs) corresponds to the measure "balance on goods and services"—commonly referred to as the "trade deficit" (when imports exceeds exports) or the "trade surplus" (when exports exceeds imports)—in the international transactions (or balance of payments) accounts (ITAs), also produced by BEA. The two measures are very similar, but they differ in coverage, definitions, and in timing of revisions (see the section "Adjustments and other differences between the NIPA and ITA estimates). Net exports is also a component of the "balance on current account," a measure in both the ITAs and the NIPAs that also includes receipts and payments of income and net unilateral current transfers.

Net exports also relates GDP to other important aggregates in the NIPAs. GDP less net exports is equal to gross domestic purchases, which is the market value of goods and services purchased by U.S. residents regardless of where those goods and services are produced. Final sales of domestic product (worldwide final sales of U.S. production) less net exports is equal to final sales to domestic purchasers, which is the market value

of final goods and services purchased by U.S. residents regardless of where those goods and services are produced.

Net exports is also used in preparing two alternative measures of U.S. production—*command-basis GDP* and *command-basis gross national product (GNP)*—that provide information on the real purchasing power of the income generated by U.S. production of goods and services.[1] These measures reflect the impact of changes in the terms of trade and of changes in production on the purchasing power associated with the nation's output. More specifically, these measures deflate exports and imports of goods and services (and, in the case of command-basis GNP, also income receipts and payments) by the price index for gross domestic purchases (which measures the prices of goods and services purchased by U.S. residents). Thus, the command-basis measures reflect the prices of *purchased* goods and services, while real GDP and real GNP reflect the prices of *produced* goods and services. Other related measures include the *trading gains index*, which is measured as the ratio of the GDP price index to the price index for gross domestic purchases, and the *terms of trade index*, which is measured as the ratio of the price index for exports of goods and services to the price index for imports of goods and services.[2]

The estimates of net exports are an integral part of the NIPAs, a set of accounts that provide a logical and consistent framework for presenting statistics on U.S. economic activity (see "Chapter 2: Fundamental Concepts").

Definitions and Concepts

As discussed in chapter 2, net exports is one of the final expenditures components of GDP. It is equal to *exports*, which measures *all goods and services* sold or transferred by *residents of the United States* to *nonresidents (also referred to as foreigners or the rest of the world)* less *imports*, an offsetting component of GDP that measures all goods and services sold or transferred by nonresidents to U.S. residents.

The inclusion of exports as a component of GDP is straightforward; as explained in chapter 2, in the final expenditures approach, GDP is measured by summing the final expenditures of persons, businesses, governments, *and foreigners* for goods and services produced in the United States. Because exports to nonresidents represent the endpoint of domestic production, they include goods and services intended for intermediate as well as final use; any further processing that occurs outside of the United States is foreign production and is not included in GDP. For example, automotive parts that are produced in the United States and shipped to a final assembly plant in Canada are included in U.S. exports and counted as final expenditures in GDP.

[1] GDP measures the value of goods and services produced by labor and property located in the United States, while GNP measures the value of goods and services produced by labor and property supplied by U.S. residents. GNP is equal to GDP less net income payments to the rest of the world.
[2] For more information, see the section "Principal quantity and price measures" in chapter 2.

The inclusion of imports as an offsetting entry in deriving GDP and the inclusion of intermediate goods and services in imports warrant further explanation. Imports represent production that has occurred outside the United States, and thus they are not included in GDP. However, purchases of imported goods and services, as well as purchases of domestic goods and services, are included in personal consumption expenditures (PCE), gross private domestic investment, and government consumption expenditures and gross investment so that these final expenditure components of GDP will accurately reflect the aggregate demand of persons, businesses, and governments for goods and services wherever they are produced.[3] Thus, imports is included in the calculation of GDP as a counter-entry that offsets the non-U.S. production that is included in these final expenditures components. For example, a U.S. consumer may purchase an automobile (a final good) that is produced in the United States or in a foreign country. In either case, the purchase is recorded in PCE (a positive entry in deriving GDP); however, in the case of a foreign automobile, the purchase is offset in U.S. imports (a negative entry in deriving GDP).[4] Similarly, a domestic automobile manufacturer may purchase steel (an intermediate good) from either a domestic or a foreign manufacturer; the steel is either used in the production process and included in the value of the final product (and therefore GDP) during that period, or it is added to the manufacturer's inventory of materials and supplies (also a positive entry in deriving GDP). [5] The domestically produced steel reflects value added that contributes to GDP; in contrast, the foreign-produced steel reflects value added that does not reflect U.S. production and that is offset by the recording of imports of steel (a negative entry in deriving GDP).

Residents of the United States—as defined in both the NIPAs and the ITAs—are (1) individuals residing permanently in the United States, (2) business enterprises and nonprofit organizations established under U.S. laws, including corporations, partnerships, and proprietorships; and (3) U.S. federal, state, and local governments, together with their subdivisions. Individuals who reside or expect to reside in the United States for 1 year or more are considered U.S. residents. An exception is made for U.S. students who study abroad and foreign students who study in the United States; students retain the residency of their home country regardless of their length of stay. U.S. government employees stationed abroad (and their families) such as diplomats, consular officials, and members of the armed forces are also considered U.S. residents, regardless of their length of stay abroad.

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[3] Additionally, the source data for estimating these final expenditures components do not, for the most part, distinguish between domestically produced and foreign-produced goods and services.

[4] Another example is the payments by U.S. residents to foreign residents for passenger fares and travel services and the purchases by U.S. residents while traveling, working, or attending school outside the United States. These expenditures are included in PCE collectively as "Foreign travel by U.S. residents" in the category "Net foreign travel"; unlike other expenditures on imports, they are not distributed among the individual PCE categories. They are also recorded as imports of goods and services; thus, the PCE and import entries cancel out in deriving GDP.

[5] The NIPA accounting for change in private inventories ensures that the value added at each stage of domestic production—including production of intermediate goods—is included in GDP in the period in which it occurs without being double-counted as further processing occurs (see the box "Simple Example of CIPI Role in Calculating GDP" on page 7-3 in chapter 7).

Affiliates of multinational corporations are considered residents of the country in which they are located, not residents of the country of the parent; thus, U.S. affiliates of foreign corporations are considered U.S. residents, and foreign affiliates of U.S. corporations are considered foreign residents. Economic activities of production and consumption occur predominately in the countries in which the affiliates are located. [6]

Federal, state, and local governments and their agencies and subdivisions are considered residents of their home country. U.S. government installations abroad are considered residents of the United States, and foreign government installations in the United States are considered residents of their home country. International organizations such as the United Nations, the International Monetary Fund, and the International Bank for Reconstruction and Development are considered residents of an international area beyond national boundaries, rather than residents of the country in which they are located or in which they operate.

Nonresidents—as defined in both the NIPAs and the ITAs—are (1) individuals residing permanently outside of the United States, (2) business enterprises and nonprofit organizations established under the laws of foreign nations; (3) foreign governments, together with their subdivisions, and (4) international organizations located in the United States. Thus, for example, U.S. nationals who reside outside of the United States for more than 1 year (with the exception of U.S. students and U.S. government employees) and foreign affiliates of U.S. companies are considered nonresidents. In the NIPAs, the *"rest of the world"* sector consists of nonresidents who are transactors with U.S. residents.

The definition of residency impacts the NIPAs and the ITAs differently because the geographic boundary of the United States differs between the two sets of accounts. In the NIPAs, the *domestic economy of the United States* encompasses the 50 states, the District of Columbia, and U.S. military installations, embassies, and consulates abroad; Puerto Rico and other islands in the Pacific Ocean and the Caribbean Sea that are designated as commonwealths or territories of the United States are excluded. That is, the NIPAs treat U.S. commonwealths and territories as part of the rest of the world, so the flows of goods and services between them and the United States are included in exports and imports. In the ITAs, U.S. commonwealths and territories are included as part of the domestic economy; the flows of goods and services between them and the United States

[6] The measure of net exports presented in the NIPAs is referred to in the ITAs as the "cross-border" measure of international transactions. The cross-border measure is an important indicator of U.S. performance in foreign markets; it reflects the net value of the transactions in goods and services between U.S. residents (including companies) and foreign residents.

In addition, BEA annually provides a supplemental, "ownership-based" framework of the current-account portion of the ITAs in which net receipts resulting from sales by affiliates of U.S. and of foreign companies are combined with the "cross-border" measures of exports and imports to provide an indicator of the net effect of United States-foreign commerce on the U.S. economy. This alternative framework recognizes that both cross-border trade and sales through affiliates represent methods of active participation in the international markets for goods and services. See "An Ownership-Based Framework of the U.S. Current Account, 1999–2008," *Survey of Current Business* 90 (January 2010): 44-46.

are excluded from exports and imports, but the flows of goods and services between them and the rest of the world are included in exports and imports.[7]

Table 8.1 shows the types of transactions that are included in, and excluded from, exports and imports in the NIPAs.

Table 8.1—Content of Net Exports

Category of expenditure	Comments
Exports of goods	With the exception of certain items noted below, includes all new and used goods sold, given away, or otherwise transferred from U.S. residents to foreign residents, valued at the transactions—or market—price at the customs boundaries of the United States. Includes one service—electrical energy—in accordance with the recommendation of the Balance of Payments and International Investment Position Manual (BPM6). Excludes certain goods that are classified as services exports: goods purchased and used in the United States by foreign travelers and students; supplies purchased by foreign air and ocean carriers at U.S. ports except fuel; goods transferred to the rest of the world under military agency sales contracts (except those transferred under the Foreign Military Sales (FMS) program); and certain nonmilitary goods delivered by military and civilian agencies of the U.S. government to nonresidents in the United States or delivered by U.S. installations abroad to nonresidents.[8] Excludes sales of dwellings and major improvements because ownership implies either real or notional residency. Excludes sales of illegal goods because of insufficient source data on illegal activities.

[7] BEA's long-run goal is to make the geographic coverage in the NIPAs consistent with the treatment in the ITAs. BEA has prepared separate GDP estimates for American Samoa, the Northern Mariana Islands, Guam, and the U.S. Virgin Islands for the years beginning with 2002. Although these estimates are not currently integrated with the GDP estimates for the United States, they represent an important first step toward consistency. For more information, go to "Gross Domestic Product for the U.S. territories" on the "National" page of BEA's Website at www.bea.gov.

[8] Prior to the 2010 annual revision of the NIPAs, certain other exports or imports of goods were also classified as services, rather than as goods, including fuel purchased by foreign air and ocean carriers in U.S. ports or by U.S. air and ocean carriers in foreign ports (previously classified in "other" transportation services); goods transferred under the FMS program (previously classified in transfers under U.S. military agency sales contracts); and petroleum purchased abroad by U.S. military agencies (previously classified in direct defense expenditures). The NIPAs reclassified these items as goods for the 3 years covered by the annual revision to maintain consistency with the ITAs, which implemented the new treatment for 1999 forward as part of the 2010 annual revision of the ITAs. As part of the next comprehensive revision of the NIPAs, the new treatment will be implemented back to 1999. See Helen Y. Bai and Mai-Chi Hoang, "Annual revision of the U.S. International Transactions Accounts," *Survey* 90 (July 2010): 45, and see Eugene P. Seskin and Shelly Smith, "Annual Revision of the National Income and Product Accounts," *Survey* 90 (August 2010): 23.

Exports of services	With the exception of certain items noted below, includes all sales or transfers from U.S. residents to foreign residents of intangible commodities that may be produced, transferred, and consumed at the same time, such as legal services. Includes those goods excluded from exports of goods as noted above. Includes an imputation for financial services furnished without payment by commercial banks and by the Federal Reserve. Excludes electrical energy, as noted above. Excludes sales of illegal services because of a lack of source data on illegal activities.
Imports of goods	With the exception of certain items noted below, includes all new and used goods that are sold, given away, or otherwise transferred from foreign residents to U.S. residents, valued at the transactions price paid for merchandise for import into the United States, excluding import duties, freight, insurance, and other charges incurred in bringing the merchandise to the United States. Includes one service—electrical energy—in accordance with the recommendation of BPM6. Excludes certain goods that are classified as services imports: goods purchased and used abroad by U.S. travelers and students; supplies purchased abroad by U.S. air and ocean carriers at foreign ports except fuel; direct defense expenditures abroad for goods, except for petroleum, by U.S. military agencies; and goods purchased by nonmilitary agencies of the U.S. government.[8] Excludes purchases of dwellings and major improvements because ownership is treated as implied residency. Excludes purchases of illegal goods because of insufficient source data on illegal activities.
Imports of services	With the exception of certain items noted below, includes all sales or transfers from foreign residents to U.S. residents of intangible commodities that may be produced, transferred, and consumed at the same time, such as legal services. Includes those goods excluded from exports of goods as noted above. Excludes electrical energy, as noted above. Excludes purchases of illegal services because of insufficient source data on illegal activities.

As noted in the table, exports excludes capital expenditures by foreign residents on structures in the United States. Instead, these expenditures are included in private fixed investment because ownership of a structure in a country signifies a center of economic interest in that country.[9] Likewise, imports excludes capital expenditures by U.S. residents on structures in the rest of the world.[10]

[9] A nonresident owner of a dwelling without an economic interest in that country is treated as if he or she has transferred ownership to a hypothetical resident of the country (see the section "Center of Economic Interest" in the 6th edition of the *Balance of Payments and International Investment Position Manual* (BPM6), (Washington, D.C.: International Monetary Fund, 2009), available at http://www.imf.org/external/pubs/ft/bop/2007/bopman6.htm).

[10] The returns to U.S. residents on their investments outside the United States, including investments in structures, less the returns to foreign residents on their investments in the United States, are included in GNP but not in GDP.

As the NIPAs do not record transactions in financial assets, exports and imports do not include sales to, or purchases from, the rest of the world of financial assets (though the fees associated with these transactions are recorded as services provided).[11] The NIPAs also do not include illegal goods and services, which are excluded because there are insufficient source data available on illegal activities.[12]

The principal categories of exports and of imports are goods and services. In the NIPAs, goods are classified by type of product into broad categories that reflect the more detailed "end-use" classification system used by the ITAs. The end-use classification system for goods, which consists of 140 export categories and 142 import categories, is based on the principal use rather than the physical characteristics of the merchandise, and allows changes in trade to be compared with changes in production, consumption, and income.[13]

Services exports and imports in the NIPAs are generally classified by type of service. However, because of data limitations, certain services are instead classified according to the type of transactors associated with them. Examples include services that are exported and imported by U.S. military agencies, which are classified as "exports under U.S. military agency sales contracts," and its counterpart in imports, "direct defense expenditures."

Exports and imports of services in the NIPAs are each grouped into seven broad categories that correspond to the aggregate categories used in the ITAs: travel, passenger fares, other transportation, royalties and license fees, other private services, transfers under U.S. military agency sales contracts (for exports only), other exports, direct defense expenditures (for imports only), and other imports.[14]

Recording in the NIPAs

As described in chapter 2, the NIPAs can be viewed as aggregations of accounts belonging to individual transactors in the economy. In this context, net exports represents the difference between the aggregate demand by all foreign residents for goods and

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[11] However, financial transactions are recorded in BEA's international accounts and in the Federal Reserve Board's flow of funds accounts.

[12] For more information on the activities that are included in, and excluded from, production and on the exclusion of financial assets in the NIPAs, see the sections "Production boundary" and "Asset boundary" in chapter 2.

[13] The end-use categories used by BEA—such as foods, feeds, and beverages; capital goods; industrial supplies and materials; automotive products; and consumer goods—incorporate the *Harmonized Commodity Description and Coding System* (Brussels: Customs Cooperation Council): 1984. The system was developed under the auspices of the International Customs Cooperation Council to establish an accepted standard for the classification of internationally traded goods.

[14] For a description of these categories, see "U.S. International Transactions Accounts: Concepts and Estimation Methods;" on www.bea.gov, click on "International" and then "Methodologies." Also see Christopher L. Bach, "A Guide to the U.S. International Transactions Accounts and the U.S. International Investment Position Accounts," *Survey* 90 (February 2010): 37–38.

services produced in the United States and the aggregate demand by all U.S. residents for goods and services produced outside the United States.

In the seven summary accounts of the NIPAs, *net* exports of goods and services appears on the right, or credit, side of the Domestic Income and Product Account (account 1) as one of the final expenditures components of GDP. In the Foreign Transactions Current Account (account 5), exports of goods and services appears on the left, or debit, side as the largest component of current receipts from the rest of the world, and imports of goods and services appears on the right, or credit, side as the largest component of current payments to the rest of the world.

Information on exports and imports of goods and services by type of product and by service category is presented in NIPA table group 4.2. Information on the relationship between the NIPAs and the ITAs is shown in table 4.3.

The following is a list of the principal NIPA tables that present estimates of exports and imports:

4.2.1. Percent Change From Preceding Period in Real Exports and in Real Imports of Goods and Services by Type of Product
4.2.2. Contributions to Percent Change in Real Exports and in Real Imports of Goods and Services by Type of Product
4.2.3 Real Exports and Imports of Goods and Services by Type of Product, Quantity Indexes
4.2.4 Price Indexes for Exports and Imports of Goods and Services by Type of Product
4.2.5 Exports and Imports of Goods and Services by Type of Product
4.2.6 Real Exports and Imports of Goods and Services by Type of Product, Chained Dollars
4.3B Relation of Foreign Transactions in the National Income and Product Accounts to the Corresponding Items in the International Transactions Accounts

The NIPAs also present information on other international transactions, such as income receipts and payments, movements of capital, and taxes and transfer payments. These transactions are recorded in the Foreign Transactions Current Account (account 5) and in the Foreign Transactions Capital Account (account 7), as well as in NIPA table 4.1.

The ITAs present information on exports and imports in greater detail than in the NIPAs. For example, ITA table 2 presents measures of U.S. exports and imports of goods by country and by type of good, and ITA table 3 presents measures of exports and imports of more detailed services categories.[15]

[15] See "Table 2. U.S. Trade in Goods" and "Table 3. Private Services Transactions," on BEA's Website. Go to www.bea.gov; under "International" and "Balance of Payments," click on "Detailed estimates" (next to "Interactive Tables"), then click on "Begin using the data".

Overview of Source Data and Estimating Methods

As described earlier in the handbook, most of the NIPA estimates are prepared using a wide variety of source data (see "Chapter 3: Principal Source Data") and using estimating methods that adjust the source data to the required NIPA concepts and that fill in gaps in coverage and timing (see "Chapter 4: Estimating Methods"). Tables 8.A (exports of goods and services) and 8.B (imports of goods and services) at the end of this chapter summarize the source data and estimating methods that are used to prepare the current-dollar benchmark estimates, nonbenchmark annual estimates, and current quarterly estimates, as well as the quantity and price indexes, for the categories of exports and imports shown in NIPA table group 4.2.

The NIPA estimates of exports and imports are primarily based on the ITA estimates of exports and imports, though they also incorporate certain adjustments and other differences that reflect different revision schedules, geographic boundaries, and treatments for certain transactions (see the section "Adjustments and other differences between the NIPA and ITA estimates" below). In turn, the ITA estimates for goods are based primarily on Census Bureau data on trade in goods, and the ITA estimates for services are based primarily on data collected on BEA surveys and on data reported by other U.S. government agencies.[16]

Specifically, the ITA estimates of exports and imports of goods are based primarily on monthly compilations by the Census Bureau of data that are collected by the U.S. Customs and Border Protection, within the U.S. Department of Homeland Security. These data reflect the movement of goods between foreign countries and the United States. They exclude the following: shipments between the United States and its commonwealths and territories; shipments between the United States and its military, diplomatic, and consular installations abroad; shipments of U.S. goods returned to the United States by its Armed Forces; shipments of the personal and household effects of travelers; and shipments of goods that are in transit. The data on goods are valued at the transactions price at the port of exportation, which includes inland freight, insurance, and other charges incurred in placing the goods alongside the carrier. Loading costs and freight charges for transportation of goods beyond the port of exportation are assumed to be paid by the importing country; in the ITAs, these charges are included as exports or imports in "other" transportation services.

The ITA estimates of exports and imports of services are based primarily on 10 mandatory BEA "benchmark" and quarterly surveys of international services transactions.[17] These surveys provide information on the receipts and payments for a variety of services and for various types of intangible assets (such as intellectual property). The ITAs also use data from surveys conducted by other U.S. government agencies and mandatory reports submitted to BEA by U.S. government agencies engaged in international transactions. These data are used in deriving estimates of travel,

[16] For an overview of the source data and estimating methods used in preparing the ITAs, see Bach, 33–44.
[17] In this context, "benchmark" refers to the comprehensive nature of the survey and not to the NIPA comprehensive, or "benchmark," revisions.

passenger fares, foreign military sales and direct defense expenditures, as well as receipts and payments for U.S. government miscellaneous services. Finally, a variety of published and unpublished source data—including information from U.S. government budgetary documents, from international organizations, from trade associations, and from various other international transactors—are used in deriving certain ITA estimates of services.

Benchmark-year and nonbenchmark-year estimates

The benchmark and nonbenchmark annual NIPA estimates are derived using essentially the same methodologies. The differences between the benchmark and nonbenchmark annual NIPA estimates relate to the vintage of ITA data used and the number of years for which revisions are incorporated.

Each annual NIPA revision (which generally occurs in July) incorporates on a best-level basis the revised statistics from the most recent annual revision of the ITAs (which generally occurs in June).[18] The time spans of the ITA revisions are not generally limited. However, the annual NIPA revisions are generally limited to the previous 3 years, although the adoption of flexible annual revisions in 2010 allows the expansion to additional years if warranted.[19] Therefore, unless the revision period is expanded, the NIPA estimates for earlier years will differ from the ITA estimates by the revisions incorporated into the ITAs but not incorporated into the NIPAs (as well as by the other revisions incorporated into the NIPAs but not into the ITAs). As a result, the NIPA time series of foreign transactions may reflect a discontinuity between the years covered by the NIPA annual revision and the preceding years.[20] The discontinuities within the NIPA series and the statistical differences between the NIPAs and the ITAs are resolved during benchmark revisions of the NIPAs (which generally occur every 5 years and which incorporate revisions as far back as necessary). However, the adjustments and other differences described below will remain, and new differences between the two sets of accounts may be introduced when definitional or statistical changes are implemented in the NIPAs during benchmark revisions that are not fully incorporated into the ITAs. NIPA table 4.3 provides a complete reconciliation of the differences between the NIPAs and the ITAs.

Current quarterly estimates

Monthly statistics on trade in goods, based on Census Bureau compilations of the customs data, and on trade in services, primarily based on BEA surveys and on data

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[18] See "Best level and best change" in chapter 4.

[19] Beginning in 2010, BEA adopted a flexible approach to annual revisions that allows improvements in methodologies to be introduced and that allows the expansion of the 3-year revision period to earlier periods if necessary; see "BEA Briefing: Improving BEA's Accounts Through Flexible Annual Revisions," *Survey* 88 (June 2008): 29-32.

[20] Any discontinuities in NIPA series are presented in the *Survey* with the release of each annual revision (see the box, "Discontinuities in NIPA Foreign Transactions" in Seskin and Smith, 20).

reported by other U.S. government agencies, are provided in a Census Bureau-BEA news release.[21]

For exports and imports of goods, the "advance" quarterly NIPA estimates are based on Census Bureau trade data for the first 2 months of the quarter and on BEA projections for the third month, and the "second" quarterly NIPA estimates are based on the Census Bureau data for all three months of the quarter. The "third" quarterly NIPA estimates are based on the quarterly ITAs, which incorporate revised Census Bureau data.[22]

For exports and imports of services, the "advance" and "second" quarterly NIPA estimates are largely based on various ITA indicator series that are used to extrapolate from the latest source data. The "third" quarterly NIPA estimates are based on the quarterly ITA estimates, which incorporate data from BEA transportation surveys, extrapolations of BEA survey data on royalties and license fees and "other" private services, and data reported by other U.S. government agencies (and which are used to revise the monthly trade data). The ITA quarterly estimates are incorporated into the NIPA estimates on a "best-change" basis.[23] After the third current quarterly estimate, the NIPA estimates of net exports are not revised again until the next annual revision.

Adjustments and other differences between the NIPA and ITA estimates

As noted above, the NIPA estimates of exports and imports are equal to the ITA estimates with the exception of certain adjustments and other differences that reflect revision schedules, geographic boundaries, and treatments for certain transactions. These differences, as well as those between the NIPA and ITA estimates of receipts and payments of income and estimates of unilateral transfers, are presented annually in NIPA table 4.3.[24] Table 8.2 below is a subsample of table 4.3B that focuses on the differences associated with exports and imports.

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[21] See "U.S. International Trade in Goods and Services" at http://www.bea.gov/newsreleases/international/trade/tradnewsrelease.htm

[22] For information on BEA's adjustments to the Census data, go to www.bea.gov; under "International" and "Balance of Payments," click on "Detailed estimates" (next to "Interactive Tables"), then on "Begin using the data," and then on "Table 2a. U.S. Trade in Goods," which presents the balance of payments adjustments at the top of the table in section A.

[23] See "Best level and best change" in chapter 4.

[24] Table 4.3B is published each year with annual estimates as part of the annual revision of the NIPAs. A condensed version of table 4.3B with annual and quarterly estimates is published each month as table 1 in appendix A of the *Survey*.

Table 8.2— Relation of Exports and Imports in the National Income and Product Accounts to the Corresponding Items in the International Transactions Accounts
(Billions of dollars)

Line in NIPA table 4.3B	Component	2009
1	**Exports of goods, ITAs**	**1,069.5**
2	Less: Adjustment to remove gold, ITAs	13.9
3	Less: Statistical differences	0.0
4	Plus: Adjustment for U.S. territories	9.1
5	**Equals: Exports of goods, NIPAs**	**1,064.7**
6	**Exports of services, ITAs**	**505.5**
7	Less: Statistical differences	0.0
8	Less: Adjustment for other items (certain military grant transfers)	1.5
9	Plus: Adjustment for U.S. territories	4.6
10	Plus: Adjustment for financial services furnished without payment	9.8
11	**Equals: Exports of services, NIPAs**	**518.4**
18	**Imports of goods, ITAs**	**1,575.4**
19	Less: Adjustment to remove gold, ITAs	8.8
20	Less: Statistical differences	0.0
21	Plus: Adjustment to include gold, NIPAs	-5.1
22	Plus: Adjustment for U.S. territories	25.8
23	**Equals: Imports of goods, NIPAs**	**1,587.3**
24	**Imports of services, ITAs**	**380.9**
25	Less: Statistical differences	0.0
26	Plus: Adjustment for U.S. territories	6.4
27	**Equals: Imports of services, NIPAs**	**387.3**

The principal adjustments and other differences between the NIPA and ITA estimates are described in the following paragraphs.

Adjustment of gold (lines 2, 19, and 21). Gold is used for two purposes: for industrial demand (as an input into the production of goods and services, such as jewelry, watches, and electronic equipment) and for investment (as a store of wealth and a hedge against inflation). In the NIPAs, all domestic production of gold, regardless of its final use, is included in GDP. However, the NIPAs do not treat transactions in valuables, such as gold, as investments in fixed assets, and so investments in gold (other than gold held in industrial inventories) are not reflected in gross domestic purchases (PCE, gross private domestic investment, and government consumption expenditures and gross investment).[25]

[25] Because source data do not allow a complete accounting of valuables for the United States, investments in valuables are not included in the NIPAs. See "Asset boundary" in chapter 2.

For example, if households purchase gold as a form of investment, including that purchase in PCE would distort the analysis of consumption and saving. In contrast, in the SNA, the capital account includes the net acquisition of gold and similar valuables (such as antiques and other art objects) that are held as stores of value in gross fixed capital formation as "Acquisitions less disposals of valuables."

Only a small share of the international transactions in nonmonetary gold recorded in the ITAs is for business or industrial use; most transactions are for investment or other purposes.[26] Consequently, the NIPA estimates for exports and imports of nonmonetary gold are not based on the ITA estimates. Instead, the NIPAs incorporate a special adjustment for transactions in gold.

The NIPA estimates for gold begin with an estimate of domestic production of gold, which is included in GDP and in the associated gross domestic income for gold. Domestic gold production is measured as the sum of mine production of gold and of secondary production of gold in the United States multiplied by the average price of gold.[27] Annual estimates of gold production are based on data provided by Gold Fields Mineral Services (GFMS), and quarterly estimates are based on data provided by the U.S. Geological Survey's *Mineral Industry Surveys—Precious Metals.* The average price of gold is based on the producer price index for gold from the Bureau of Labor Statistics (BLS).

Part of domestic gold production is for domestic industrial use (that is, business transactions in gold used for production of final goods, such as jewelry, specialty coins, and medals and for electronics and dental applications). Annual and quarterly estimates of industrial demand for gold are derived using GFMS data on gold used for production multiplied by the average price of gold.

The difference between domestic gold production and industrial demand for gold is entered into the NIPAs in the form of an adjustment to net exports: specifically, the adjustment consists of removing the ITA estimates of exports (line 2) and imports (line 19) of nonmonetary gold and of adding "Gold, NIPAs" (line 21) to imports with its sign reversed.[28] This treatment maintains the relationship of GDP to gross domestic purchases (gross domestic purchases is equal to GDP minus net exports) while protecting the integrity of the other final expenditures components of GDP.[29]

<u>Adjustment for statistical differences (lines 3, 7, 20, and 25).</u> The lines in table 8.2 for "statistical differences" reconcile the different revision cycles of the NIPAs and the ITAs discussed earlier.

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[26] See Bach, 49.
[27] Secondary production of gold is the supply of gold available from scrap (used gold).
[28] Thus, if domestic gold production exceeds industrial demand for gold (as it has since 1987), the excess supply of gold is available for export or for use as a store of valuables by domestic investors. If industrial demand exceeds domestic production, the gap in the supply of gold would need to be filled by imports.
[29] This treatment is not strictly appropriate for analyses of international competitiveness, but its effects will not be significant as long as the net values remain small and stable.

Adjustment for U.S. territories (lines 4, 9, 22, and 26). As discussed earlier, the "U.S. estimates" for the NIPAs cover the 50 states, the District of Columbia, and U.S. military installations, embassies, and consulates abroad, while the "U.S. estimates" for the ITAs include these geographical areas as well as commonwealths and territories of the United States. Therefore, an adjustment must be made to the ITA statistics to make the geographic coverage consistent with the NIPA coverage. In practice, the adjustment is made only for Puerto Rico and the U.S. Virgin Islands; the value of trade with other U.S. territories and commonwealths is relatively small. The adjustment consists of adding the value of U.S. trade with Puerto Rico and with the U.S. Virgin Islands to the ITA estimates and of deducting the value of their trade with the rest of the world from the ITA estimates.

For U.S. exports and imports of goods to and from Puerto Rico and the U.S. Virgin Islands and for exports and imports between them and the rest of the world, the annual and quarterly estimates for the adjustments are based on the balance of payments accounts for those territories.

For exports and imports of services, the annual estimates of the value of U.S. exports to, and imports from, Puerto Rico are based on balance-of-payments data from Puerto Rico, and the quarterly estimates are based on judgmental trend. There is no territorial adjustment in the NIPAs for U.S. services exported to, or imported from, the U.S. Virgin Islands; however, the data for exports and imports of goods suggest that the value for services is very small. There is also no adjustment for the value of trade in services between either Puerto Rico or the U.S. Virgin Islands and the rest of the world; total trade data suggest that these values are also very small.

Adjustment for certain military grant transfers (line 8). In the ITAs, all military grant transfers are treated as exports of services. In the NIPAs, some transfers of services under military grant programs, such as peace and humanitarian operations, are included in federal government defense expenditures. Thus, an adjustment is made to remove these transfers from the ITA data on exports of services.

Adjustment for financial services furnished without payment (line 10). In the NIPAs, an imputation is made for the value of the services (such as check-clearing, recordkeeping, and investment services) that are provided to depositors and to borrowers by financial intermediaries without explicit charge. This imputation for "financial services furnished without payment" is made so that GDP and its components will be invariant to whether the charges for these services are implicit or explicit.[30] The ITAs do not include this imputation.

[30] Financial services furnished without payment by commercial banks and by the Federal Reserve to foreign commercial banks and to foreign governments are treated as exports of services. The underlying concepts and the source data and methods used for the imputation for commercial banks and its allocation are described in detail in "Financial services furnished without payment" in the technical note to "Chapter 5: Personal Consumption Expenditures." The source data for the imputation for the Federal Reserve are based on data on Federal Reserve transactions, assets, and liabilities from the balance sheet of the Federal Reserve.

For depositor services, the adjustment arises because U.S. depository institutions provide services to nonresidents for which they implicitly compensate themselves by paying depositors less interest on their deposits than the interest that the depository institutions earn from lending or investing funds. Thus, in the NIPAs, a depositor service is imputed as "financial services furnished without payment" and is recorded in exports of "other" services and as a corresponding entry in income payments to the rest of the world. Similarly, for borrower services, the adjustment arises because nonresidents pay a higher interest rate for loans in exchange for the unpriced services provided to them by U.S. institutions. The imputed borrower service is recorded in exports of "other" services, and a corresponding entry is subtracted from income receipts from the rest of the world. The adjustments for depositor services and income payments are offsetting, as are those for borrower services and income receipts, so there is no net impact on the balance on current account.

Quantity and price estimates

The estimates of quantities purchased, or real spending, for the most detailed components of most exports and imports are prepared by deflation. In the deflation method, the quantities are calculated by dividing the current-dollar value of the component by an "appropriate" price index with the reference year set equal to 100. For most categories of exports and imports of goods, the closest price indexes are BLS export and import price indexes. However, for some goods and for most services, BLS export or import prices are not available. Instead, producer price indexes, consumer price indexes, or BEA composite indexes of prices or of input costs are used for deflation.[31] In addition, the quantity estimates for insurance and for services furnished without payment are prepared using quantity extrapolation—that is, by extrapolating the base-year values by quantity indicators. The quantity estimates for petroleum and petroleum products imports are prepared using direct valuation—that is, multiplying the base-year price by the current-period quantity data. (For descriptions of these methods, see "Estimates for detailed components" in chapter 4.)

The aggregate measures of exports and imports are calculated from the detailed components as chain-type quantity and price indexes (for information about these calculations, see "Estimates for NIPA aggregates" in chapter 4). BEA also prepares measures of real exports and imports and their components in a dollar-denominated form, designated "chained-dollar" estimates (see "Chained-dollar measures" in chapter 4). Net exports in chained dollars is calculated as the difference between chained-dollar exports and chained-dollar imports—that is, real net exports is derived as the difference between real exports and real imports.[32]

[31] For goods, the deflation is carried out for 104 categories of exports and for 113 categories of imports; for services, it is carried out for 38 categories of exports and for 30 categories of imports.
[32] The Fisher formula cannot be used to compute quantity and price indexes for "net exports" because it would require taking the square root of a negative number. For more information, see the "Calculation of Output and Price Indexes" in the appendix to chapter 4.

Table 8.A—Summary of Methodology Used to Prepare Estimates of Exports of Goods and Services				
Line in NIPA table group 4.2	**Component**	**Current-dollar estimates**		**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	
2	**Exports of goods:**			
3	*Foods, feeds, and beverages*	Monthly Census Bureau compilations of export data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	BLS export price indexes for detailed end-use categories.
4	*Industrial supplies and materials:*			
5	Durable goods	Gold: the ITA estimate is replaced with an alternative estimate ("NIPA gold") that is recorded in imports. [See the section "Adjustments and other differences between the NIPA and ITA estimates."] Other components: monthly Census Bureau compilations of export documents with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Gold: same as for annual estimates. Other components: same as for annual estimates.	BLS export price indexes for detailed end-use categories.
6	Nondurable goods	Monthly Census Bureau compilations of export data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	Electrical energy: BEA unit-value index based on Census Bureau values and quantities from import data converted to a balance-of-payments basis. Other components: BLS export price indexes for detailed end-use categories.
7	*Capital goods, except automotive:*			
8	Civilian aircraft, engines, and parts	Monthly Census Bureau compilations of export data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	Civilian aircraft: BEA chain-type price index comprised of PPI for civilian aircraft, PPI for aircraft engines and engine parts, and PPI for aeronautical, nautical, and navigational instruments. Engines: BLS export price index for civilian

Table 8.A—Summary of Methodology Used to Prepare Estimates of Exports of Goods and Services				
Line in NIPA table group 4.2	**Component**	**Current-dollar estimates**		**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	
				aircraft engines. Parts: BLS export price index for civilian aircraft parts.
9	Computers, peripherals, and parts	Monthly Census Bureau compilations of export data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	Computers: BLS export price index for computers. Computer peripherals, accessories, and parts: BLS export price index for computer peripherals, accessories, and parts.
10	Other capital goods	Monthly Census Bureau compilations of export data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	Semiconductors: PPI for semiconductors and related device manufacturing. Business machinery and equipment except computers: BEA weighted average of BLS export price for nonelectrical machinery and of BEA photocopier price. Railway transportation equipment: BEA chain-type price index comprised of PPI for railroad rolling stock, PPI for locomotives and locomotive parts, PPI for passenger and freight train cars, and PPI for engineering services. Vessels (except military and pleasure craft): BEA chain-type price index comprised of PPI for ship building and repairing, PPI for boat building, PPI for outboard motorboats, including commercial and military, and PPI for inboard motorboats, including commercial and military. Spacecraft, engines, and parts, except military: BEA chain-type price index comprised of PPI for civilian aircraft, PPI for aircraft engines and engine parts, and PPI for aeronautical, nautical, and navigational instruments.

Table 8.A—Summary of Methodology Used to Prepare Estimates of Exports of Goods and Services				
Line in NIPA table group 4.2	**Component**	**Current-dollar estimates**		**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	
				Telecommunications equipment: for annual, BEA chain-type price index comprised of Federal Reserve Board price indexes for data networking equipment, telephone switching equipment, carrier line equipment, and wireless networking equipment and of BLS export price index for telecommunications equipment; for current quarterly, BEA chain-type price index of PPI for host computers and BLS export price index for telecommunications equipment. Other components: BLS export price indexes for detailed end-use categories.
11	*Automotive vehicles, engines, and parts*	Monthly Census Bureau compilations of export data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	BLS export price indexes for detailed end-use categories.
12	*Consumer goods, except automotive:*			
13	Durable goods	Monthly Census Bureau compilations of export data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	BLS export price indexes for detailed end-use categories.
14	Nondurable goods	Monthly Census Bureau compilations of export data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	BLS export price indexes for detailed end-use categories.
15	*Other exports of goods*	Territorial adjustment for Puerto Rico and the U.S. Virgin Islands: balance-of-payments data from the Commonwealth of Puerto Rico and	Territorial adjustment for Puerto Rico and the U.S. Virgin Islands: monthly Census Bureau data on trade in goods. Other: same as for annual estimates.	BEA chain-type price index for total exports excluding computers and a portion of semiconductors.

Table 8.A—Summary of Methodology Used to Prepare Estimates of Exports of Goods and Services				
Line in NIPA table group 4.2	**Component**	**Current-dollar estimates**		**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	
		from the U.S. Virgin Islands and monthly Census Bureau data on trade in goods. [See the section "Adjustments and other differences between the NIPA and ITA estimates."] Other: monthly Census Bureau compilations of export data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.		
16	**Exports of services:**			
17	Transfers under U.S. military agency sales contracts	Department of Defense data on services and some goods provided by U.S. military agencies adjusted by BEA to exclude certain transfers under military grant programs, such as peace and humanitarian operations, which are treated in the NIPAs as federal government defense expenditures.	For third estimate, same as for annual estimates. For second and advance estimates, extrapolated based on recent quarterly trends.	BEA chain-type price indexes for military facilities construction, for military services excluding compensation, and for other equipment (general government expenditures for medical, construction, industrial, ammunition plant, atomic energy, weapons and fire control, general and other military).
18	Travel	Department of Homeland Security data on the number of foreign visitors (excluding Canada and Mexico), Office of Travel and Tourism Industries data on average expenditures from its Survey of International Air Travelers; Statistics Canada data on the number of Canadian visitors and their expenditures, and Bank of Mexico data on expenditures of Mexican visitors.	Same as for annual estimates subject to source data availability. Missing source data are extrapolated as follows: for the number of foreign visitors, based on monthly enplanements data reported by the Air Transport Association and by individual airlines; for average expenditures of foreign visitors (excluding Canada and Mexico), based on foreign exchange rates and the U.S. CPI (excluding medical services); and for expenditures of Canadian and Mexican visitors, based on $US/$Canadian and $US/Peso exchange rates and on the	BEA weighted average of CPI for lodging away from home, CPI for food away from home, CPI for transportation, CPI for recreation, CPI for jewelry and watches, CPI for footwear, and various apparel CPIs.

Table 8.A—Summary of Methodology Used to Prepare Estimates of Exports of Goods and Services				
Line in NIPA table group 4.2	**Component**	**Current-dollar estimates**		**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	
			U.S. CPI (excluding medical services).	
19	Passenger fares	Department of Homeland Security data on the number of foreign visitors by air (excluding Canada), Office of Travel and Tourism Industries data on average airfares from its Survey of International Air Travelers, BEA data on interline settlements and on receipts for transport between two foreign points from its quarterly Survey of U.S. Airline Operators' Foreign Revenues and Expenses (BE-37), and Statistics Canada data on the number of Canadian air travelers and their airfare expenditures.	Same as for annual estimates subject to source data availability. Missing source data are extrapolated as follows: for the number of foreign visitors by air (excluding Canada), based on monthly enplanements data reported by the Air Transport Association and by individual airlines; for average airfares (including airfares for Canadian travelers), based on the BLS export price index for passenger fares; and for Canadian air travelers, based on the $US/$Canadian exchange rate.	BLS export price index for passenger fares.
20	Other transportation	Ocean and Great Lakes freight: BEA quarterly Survey of Ocean Freight Revenues and Foreign Expenses of U.S. Carriers (BE-30), U.S. Army Corps of Engineers (USACE) data on freight volume, and freight rates based on the Baltic Exchange's Baltic International Tanker Routes index (BITR) and the Baltic Dry Index (BDI). Air freight: BEA quarterly Survey of U.S. Airline Operators' Foreign Revenues and Expenses (BE-37). Ocean port expenditures: BEA annual Survey of Foreign Ocean Carriers' Expenses in the United States (BE-29) and USACE data on freight volume. Air port expenditures: BEA quarterly	Ocean and Great Lakes freight: for third estimate, same as for annual estimates; for second and advance estimates, freight volume extrapolated based on recent trends and freight rates extrapolated based the BITR index and the BDI index. Air freight: for third estimate, same as for annual estimates; for second and advance estimates, BE-37 revenues extrapolated based on Census data on goods exports. Ocean port expenditures: For third estimate, same as for annual estimates. For second and advance estimates, BE-29 foreign expenses and USACE data on freight volume extrapolated based on Census data on goods exports and imports.	Ocean and Great Lakes freight: PPI for deep sea freight transportation and PPI for Great Lakes – St. Lawrence Seaway freight transportation. Air freight: BLS export price for air freight receipts. Ocean port expenditures: BEA weighted average of PPI for marine cargo handling, PPI for port and harbor services, and PPI for navigational services to shipping. Air port expenditures: BEA weighted average of PPI for airport operations, PPI for freight transportation arrangement, and PPI for aircraft parts and auxiliary equipment. Other: PPI for general freight trucking—long distance, PPI for rail transport, PPI for pipeline transportation of crude oil, and PPI

Table 8.A—Summary of Methodology Used to Prepare Estimates of Exports of Goods and Services				
Line in NIPA table group 4.2	**Component**	**Current-dollar estimates**		**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	
		Survey of Foreign Airline Operators' Revenues and Expenses in the United States (BE-9). Other (truck freight, space freight, rail freight, pipeline freight, rail port, Great Lakes port): truck freight from Bureau of Transportation Statistics, space freight from U.S. Federal Aviation Administration (FAA), rail freight from U.S. Surface Transportation Board, pipeline freight from company data, rail port from Statistics Canada, and Great Lakes port from BEA annual Survey of Foreign Ocean Carriers' Expenses in the United States (BE-29) and from USACE data on freight volume.	Air port expenditures: for third estimate, same as for annual estimates; for second and advance estimates, BE-9 foreign expenses extrapolated based on Census data on goods exports and imports and on monthly enplanements data reported by Air Transport Association and by individual airlines. Other: for third estimate, same as for annual estimates; for second and advance estimates, Bureau of Transportation Statistics data on truck freight extrapolated based on Census data on goods exports and imports, FAA data on space freight (satellite launch services) are available, and data from Statistics Canada, U.S. Surface Transportation Board, pipeline company data, BE-29 data on foreign expenses in the United States, and USACE volume data extrapolated based on recent quarterly trends.	for Great Lakes – St. Lawrence Seaway freight transportation.
21	Royalties and license fees	BEA benchmark (BE-120) and quarterly (BE-125) Survey of Transactions in Selected Services and Intangible Assets with Foreign Persons.	BE-120/125 data extrapolated based on recent quarterly trends and on publicly available industry data.	BEA implicit price deflator for final sales to domestic purchasers.
22	Other private services	Business, professional, and technical services and telecommunications services: BEA benchmark (BE-120) and quarterly (BE-125) Survey of Transactions in Selected Services and Intangible Assets with Foreign Persons, Census Bureau data on	Business, professional, and technical services and telecommunications services: BE-120/125 data extrapolated based on recent quarterly trends, Census Bureau data on equipment repairs, and BEA estimates of medical services. Insurance services: BE-140/45 data	Business, professional, and technical services except medical services: BEA implicit price deflator for final sales to domestic purchasers. Medical services: CPI for hospitals and related services. Telecommunications services: PPI for international business switched access toll

Table 8.A—Summary of Methodology Used to Prepare Estimates of Exports of Goods and Services				
Line in NIPA table group 4.2	**Component**	**Current-dollar estimates**		**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	
		equipment repairs, and BEA estimates of medical services. Insurance services: BEA benchmark (BE-140) and quarterly (BE-45) Survey of Insurance Transactions by U.S. Insurance Companies with Foreign Persons, BE-125 data on insurance transactions, and publicly available industry data. Financial services: BEA benchmark (BE-180) and quarterly (BE-185) Survey of Financial Services Transactions between U.S. Financial Services Providers and Foreign Persons, and U.S. Treasury Department surveys of international capital flows. Education services: Institute of International Education data on numbers of students, U.S. Department of Education data on tuition rates, and BEA estimates of room and board and other living expenses. Other services: data from secondary sources, primarily on expenditures in the United States of foreign residents working in the United States.	extrapolated based on recent quarterly trends and on publicly available industry data. Financial services: BE-180/185 data extrapolated based on monthly data from the U.S. Treasury Department surveys of international capital flows, on BEA estimates of average brokerage commission rates and fees, on recent quarterly trends, and on publicly available industry data. Education services: numbers of students and tuition rates extrapolated based on recent trends and on publicly available industry data, and room and board and other living expenses extrapolated based on CPI for urban wage earners and clerical workers and on recent quarterly trends. Other services: expenditures in the United States of foreign residents working in the United States extrapolated based on recent quarterly trends.	service. Insurance services: quantity extrapolation using premiums deflated by a BEA weighted average of PPI for direct life insurance carriers and PPI for premiums of property and casualty insurance. Financial services: PPI for security and commodity contracts. Education services: CPI for college tuition and fees, CPI for housing at school excluding board, CPI for food away from home, and CPI for all items.
23	Other exports of services	Territorial adjustment: for Puerto Rico, annual balance of payments data from the Commonwealth of Puerto Rico. [See the section "Adjustments and other differences between the NIPA and ITA estimates."] Financial services furnished without	Territorial adjustment: for Puerto Rico, BEA projections. Financial services furnished without payment: for third estimate, same as for annual estimates.; for second and advance estimates, recent quarterly trends	Territorial adjustment: weighted average of BEA price indexes for exports of travel, for exports of other transportation, and for exports of other private services excluding insurance. Financial services furnished without payment: for annual, quantity extrapolation, using BLS

Table 8.A—Summary of Methodology Used to Prepare Estimates of Exports of Goods and Services				
Line in NIPA table group 4.2	**Component**	**Current-dollar estimates**		**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	
		payment: data from the Federal Deposit Insurance Corporation *Call Reports*, Federal Reserve flow of funds, and Federal Reserve balance sheet. U.S. government miscellaneous services: data reported by U.S. government agencies.	U.S. government miscellaneous services: for third estimate, same as for annual estimates; for second and advance estimates, recent quarterly trends.	banking output indexes; for quarterly, BEA projections. U.S. government miscellaneous services: BEA weighted average of employment cost index for professional and related services, of employment cost index for office and administrative support, and of PPI for offices of physicians.

* The NIPA annual estimates are also consistent with changes to methodology, source data, or seasonal factors implemented during the annual revision of the ITAs.
** For the goods components that use monthly Census Bureau compilations of export data, the source data for the “advance” quarterly estimate are available for only the first 2 months of the quarter; the third month is based on BEA projections using publicly available information. For both goods and services, the third quarterly estimates incorporate the ITA revisions to the monthly trade data.

BEA Bureau of Economic Analysis
BLS Bureau of Labor Statistics
CPI Consumer Price Index, BLS
ITAs International Transactions Accounts, BEA
NIPAs National Income and Product Accounts, BEA
PPI Producer Price Index, BLS

Table 8.B—Summary of Methodology Used to Prepare Estimates of Imports of Goods and Services				
Line in NIPA group 4.2	**Component**	**Current-dollar estimates**		
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
25	**Imports of goods:**			
26	*Foods, feeds, and beverages*	Monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	BLS import price indexes for detailed end-use categories.
27	*Industrial supplies and materials, except petroleum and products:*			
28	Durable goods	Gold: the ITA estimate is replaced with an alternative estimate ("NIPA gold"), which is based on data from Gold Fields Minerals Services (GFMS). [See the section on "Adjustments and other differences between the NIPA and ITA estimates."] Other components: monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Gold: same as for annual estimates and data from U.S. Geological Survey's *Mineral Industry Surveys—Precious Metals*. Other components: Same as for annual estimates.	Gold: PPI for gold. Other components: BLS import price indexes for detailed end-use categories.
29	Nondurable goods	Monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	Electrical energy: BEA unit-value index based on Census Bureau values and quantities from import data converted to a balance-of-payments basis. Other components: BLS import price indexes for detailed categories.
30	Petroleum and products	Monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	Direct valuation using quantities and unit-value indexes from monthly Census Bureau compilations of import data converted to a balance-of-payments basis.
31	*Capital goods, except automotive:*			
32	Civilian aircraft, engines, and parts	Monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	Civilian aircraft: BEA chain-type price index comprised of PPI for civilian aircraft, PPI for aircraft engines and engine parts, and PPI for aeronautical, nautical, and navigational instruments. Engines: BLS import price index for civilian aircraft engines.

Table 8.B—Summary of Methodology Used to Prepare Estimates of Imports of Goods and Services				
Line in NIPA group 4.2	**Component**	**Current-dollar estimates**		
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
				Parts: BLS export price index for civilian aircraft parts (an import price is not available).
33	Computers, peripherals, and parts	Monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	Computers: BLS import price index for computers. Computer peripherals, accessories, and parts: BLS import price index for computer peripherals, accessories, and parts.
34	Other capital goods	Monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	Semiconductors: BLS import price index for semiconductors. Business machinery and equipment, except computers: BEA weighted average of BLS import price index for business machinery and equipment, except computers and of BEA photocopier price. Railway transportation equipment: BEA chain-type price index comprised of PPI for railroad rolling stock, PPI for locomotives and locomotive parts, PPI for passenger and freight train cars, and PPI for engineering services. Vessels (except military and pleasure craft): BEA chain-type price index comprised of PPI for ship building and repairing, PPI for boat building, PPI for outboard motorboats, including commercial and military, and PPI for inboard motorboats, including commercial and military. Spacecraft, engines, and parts, except military: BEA chain-type price index comprised of PPI for civilian aircraft, PPI for aircraft engines and engine parts, and PPI for aeronautical, nautical, and navigational instruments. Telecommunications equipment: for annual, BEA chain-type price index comprised of Federal Reserve Board price indexes for data networking equipment, telephone switching equipment, carrier line equipment, and wireless networking equipment and of BLS import price index for telecommunications equipment; for

Table 8.B—Summary of Methodology Used to Prepare Estimates of Imports of Goods and Services				
Line in NIPA group 4.2	**Component**	**Current-dollar estimates**		
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
				current quarterly, BEA chain-type price index comprised of PPI for host computers and of BLS import price index for telecommunications equipment. Other components: BLS import price indexes for detailed end-use categories.
35	*Automotive vehicles, engines, and parts*	Monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	BLS import price indexes for detailed end-use categories.
36	*Consumer goods, except automotive:*			
37	Durable goods	Monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	BLS import price indexes for detailed end-use categories.
38	Nondurable goods	Monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Same as for annual estimates.	BLS import price indexes for detailed end-use categories.
39	Other imports of goods	Territorial adjustment for Puerto Rico and the U.S. Virgin Islands: balance-of-payments data from the Commonwealth of Puerto Rico and from the U.S. Virgin Islands and monthly Census Bureau data on trade in goods. [See the section "Adjustments and other differences between the NIPA and ITA estimates."] Other: monthly Census Bureau compilations of import data with adjustments by BEA for coverage and valuation to convert the data to a balance-of-payments basis.	Territorial adjustment for Puerto Rico and the U.S. Virgin Islands: monthly Census Bureau data on trade in goods. Other: same as for annual estimates.	Territorial adjustment for Puerto Rico: BEA weighted average of BEA chain-type price index for total imports excluding petroleum, computers, semiconductors, and gold and of PPI for pharmaceutical preparation manufacturing. Territorial adjustment for the U.S. Virgin Islands: PPI for petroleum refineries. Other: BEA chain-type price index for total imports excluding petroleum, computers, semiconductors, and gold.
40	**Imports of services:**			
41	Direct defense expenditures	Department of Defense (DOD) data on expenditures by U.S. military installations abroad and by U.S. military	For third estimate, same as for annual estimates; for second and advance estimates, DOD data extrapolated based	BEA chain-type price indexes for federal government investment in equipment and software, for military facilities construction, for

Table 8.B—Summary of Methodology Used to Prepare Estimates of Imports of Goods and Services				
Line in NIPA group 4.2	**Component**	**Current-dollar estimates**		
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		personnel abroad.	on recent quarterly trends.	transportation services, for federal procurement of clothing, textiles, and food, for installation support services, and for foreign labor personnel expenditures.
42	Travel	Department of Homeland Security data on the number of U.S. travelers overseas, Office of Travel and Tourism Industries data on average expenditures from its Survey of International Air Travelers, Statistics Canada data on the number of U.S. travelers to Canada and their expenditures, and Bank of Mexico data on expenditures of U.S. travelers in Mexico.	Same as for annual estimates subject to source data availability. Missing source data are extrapolated as follows: for the number of U.S. travelers overseas, based on monthly enplanements data reported by the Air Transport Association and by individual airlines; for average expenditures of U.S. travelers overseas, based on foreign exchange rates and foreign CPIs; and for expenditures of U.S. travelers in Canada and Mexico, based on $US/$Canadian and $US/Peso exchange rates and on Canadian and Mexican CPIs.	BEA weighted average of foreign CPIs for all items, adjusted by exchange rates.
43	Passenger fares	Department of Homeland Security data on the number of U.S. travelers overseas, Office of Travel and Tourism Industries data on average airfares from its Survey of International Air Travelers, BEA data on interline settlements from its quarterly Survey of U.S. Airline Operators' Foreign Revenues and Expenses (BE-37), and Statistics Canada data on the number of U.S. travelers to Canada by air and their airfare expenditures.	Same as for annual estimates subject to source data availability. Missing source data are extrapolated as follows: for the number of U.S. travelers overseas, based on monthly enplanements data reported by the Air Transport Association and by individual airlines; for average airfares (including airfares for Canadian travelers), based on the BLS import price index for passenger fares; and for U.S. travelers to Canada by air, based on the $US/$Canadian exchange rate.	BLS import price index for passenger fares.
44	Other transportation	Ocean and Great Lakes freight: BEA quarterly Survey of Ocean Freight Revenues and Foreign Expenses of U.S. Carriers (BE-30) and U.S. Army Corps of Engineers (USACE) data on freight charges. Air freight: Census data on air freight charges.	Ocean and Great Lakes freight: for third estimate, same as for annual estimates; for second and advance estimates, freight charges extrapolated based on Census data on goods imports and on recent trends. Air freight: same as for annual estimates. Ocean port expenditures: for third	Ocean and Great Lakes freight: PPI for deep sea freight transportation and PPI for Great Lakes – St. Lawrence Seaway freight transportation. Air freight: BLS import price for air freight payments. Ocean port expenditures: BEA weighted average of PPI for marine cargo handling, PPI

Table 8.B—Summary of Methodology Used to Prepare Estimates of Imports of Goods and Services				
Line in NIPA group 4.2	**Component**	**Current-dollar estimates**		
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		Ocean port expenditures: BEA quarterly Survey of Ocean Freight Revenues and Foreign Expenses of U.S. Carriers (BE-30) and USACE data on freight volume. Air port expenditures: BEA quarterly Survey of U.S. Airline Operators' Foreign Revenues and Expenses (BE-37). Other (truck freight, space freight, rail freight, rail port, Great Lakes port): truck freight from Bureau of Transportation Statistics, space freight from U.S. Federal Aviation Administration (FAA), rail freight and rail port from Statistics Canada, and Great Lakes port from BEA quarterly Survey of Ocean Freight Revenues and Foreign Expenses of U.S. Carriers (BE-30) and USACE data on freight volume.	estimate, same as for annual estimates; for second and advance estimates, BE-30 foreign expenses and USACE volume data extrapolated based on Census data on goods exports and imports. Air port expenditures: for third estimate, same as for annual estimates; for second and advance estimates, BE-37 foreign expenses extrapolated based on Census data on goods exports and imports and on monthly enplanements reported by the Air Transport Association and by individual airlines. Other: for third estimate, same as for annual estimates; for second and advance estimates, Bureau of Transportation Statistics data on truck freight extrapolated based on Census data on goods exports and imports, FAA data on space freight (satellite launch services) are available, and data from Statistics Canada and BE-30 data on foreign expenses of U.S. carriers and USACE data on freight volume extrapolated based on recent quarterly trends.	for port and harbor services, and PPI for navigational services to shipping. Air port expenditures: BEA weighted average of PPI for airport operations, PPI for freight transportation arrangement, and PPI for aircraft parts and auxiliary equipment. Other: PPI for general freight trucking—long distance, PPI for rail transport, PPI for pipeline transportation of crude oil, and PPI for Great Lakes – St. Lawrence Seaway freight transportation.
45	Royalties and license fees	BEA benchmark (BE-120) and quarterly (BE-125) Survey of Transactions in Selected Services and Intangible Assets with Foreign Persons.	BE-120/125 data extrapolated based on recent quarterly trends and on publicly available industry data.	BEA implicit price deflator for final sales to domestic purchasers.

Table 8.B—Summary of Methodology Used to Prepare Estimates of Imports of Goods and Services				
Line in NIPA group 4.2	**Component**	**Current-dollar estimates**		
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
46	Other private services	Business, professional, and technical (BPT) services and telecommunications services: BEA benchmark (BE-120) and quarterly (BE-125) Survey of Transactions in Selected Services and Intangible Assets with Foreign Persons, Census Bureau data on equipment repairs, and BEA estimates of medical services. Insurance services: BEA benchmark (BE-140) and quarterly (BE-45) Survey of Insurance Transactions by U.S. Insurance Companies with Foreign Persons, BE-125 data on insurance transactions, and publicly available industry data. Financial services: BEA benchmark (BE-180) and quarterly (BE-185) Survey of Financial Services Transactions Between U.S. Financial Services Providers and Foreign Persons; BE-125 data on financial services transactions. Education services: Institute of International Education data on numbers of students, U.S. Department of Education data on tuition rates, and BEA estimates of room and board and other living expenses. Other services: data from secondary sources, primarily on expenditures abroad of U.S. residents working abroad.	Business, professional, and technical services and telecommunications services: BE-120/125 data extrapolated based on recent quarterly trends, Census Bureau data on equipment repairs, and BEA estimates of medical services. Insurance services: BE-140/45/125 data extrapolated based on recent quarterly trends and on publicly available industry data. Financial services: BE-180/185/125 data extrapolated based on monthly data from the U.S. Treasury Department surveys of international capital flows, on BEA estimates of average brokerage commission rates and fees, on recent quarterly trends, and on publicly available industry data. Education services: numbers of students and tuition rates extrapolated based on recent quarterly trends and on publicly available industry data, and room and board and other living expenses extrapolated based on CPI for urban wage earners and clerical workers and on recent quarterly trends. Other services: expenditures abroad of U.S. residents working abroad extrapolated based on recent quarterly trends.	Business, professional, and technical services: BEA implicit price deflator for final sales to domestic purchasers. Telecommunications services: PPI for international business switched access toll service. Insurance services: quantity extrapolation using premiums deflated by a BEA weighted average price index of PPI for direct life insurance carriers and PPI for premiums of property and casualty insurance. Financial services: PPI for security and commodity contracts. Education services: BEA weighted average of foreign CPIs for all items adjusted by exchange rates.
47	Other imports of services	Territorial adjustment: for Puerto Rico, annual balance-of-payments data from the Commonwealth of Puerto Rico. [See the section “Adjustments and other differences between the NIPA and the ITA estimates.”]	Territorial adjustment: for Puerto Rico, BEA projections. U.S. government miscellaneous services: for the third estimate, same as for annual estimates; for second and first estimates, recent quarterly trends.	Territorial adjustment: weighted average of BEA price indexes for imports of other transportation services, for exports of travel, for imports of other private services excluding insurance, and for federal government services. Other miscellaneous government services: BEA

Table 8.B—Summary of Methodology Used to Prepare Estimates of Imports of Goods and Services				
Line in NIPA group 4.2	**Component**	**Current-dollar estimates**		
		Benchmark-year and nonbenchmark-year estimates*	**Current quarterly estimates****	**Quantity and price estimates (Quantity estimate prepared by deflating with price index unless otherwise indicated)**
		U.S. government miscellaneous services: ITA data from U.S. government agencies.		weighted average of foreign CPIs for all items adjusted by exchange rates.

* The annual NIPA estimates are also consistent with changes to methodology, source data, or seasonal factors implemented during the annual revision of the ITAs.
**For the goods components that use monthly Census Bureau compilations of import data, the source data for the “advance” quarterly estimate are available for only the first 2 months of the quarter; the third month is based on BEA projections using publicly available information. For both goods and services, the third quarterly estimates incorporate the ITA revisions to the monthly trade data.

BEA Bureau of Economic Analysis
BLS Bureau of Labor Statistics
CPI Consumer Price Index, BLS
ITAs International Transactions Accounts, BEA
NIPAs National Income and Product Accounts, BEA
PPI Producer Price Index, BLS