

## Chapter 14. Net Interest December 2023

Definitions and Concepts

Recording in the NIPAs

Overview of Source Data and Estimating Methods

Annual estimates

Current quarterly estimates

Table 14A—Summary of Methodology for Net Interest

Appendix: Miscellaneous Payments

The NIPA measure of “net interest” for the domestic economy reflects the aggregate interest paid, less the aggregate interest received, by business and by the rest of the world; conversely, it reflects the net income earned by government and persons for providing certain financial resources to the production process. As the measure includes only the interest that is charged for the provision of financial resources used in, or associated with, production, it is a useful indicator of the return to that type of financial investment.

Interest is a type of property income; specifically, interest is a measure of the income “receivable by the owners of certain kinds of financial assets, namely: deposits, debt securities, loans and (possibly) other accounts receivable for putting the financial asset at the disposal of another institutional unit.”<sup>1</sup> As such, interest income is not directly generated in the production process, and it is therefore excluded from the NIPA measure of gross domestic income.<sup>2</sup> However, net receipts of interest (that is, receipts less payments) are included in the NIPA measures of corporate profits and of proprietors’ income, both of which are components of gross domestic income. To offset these receipts, the NIPAs include net interest payments (payments less receipts) as a component of gross domestic income to ensure that this measure appropriately reflects only those incomes that are directly generated in production.<sup>3</sup>

In the NIPA measures of gross domestic income and of national income, net interest is consolidated with “miscellaneous payments”—a measure of the rent and royalty payments that accrue to owners of land or subsoil assets in return for leasing the rights to these assets for

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<sup>1</sup> *System of National Accounts, 2008* (SNA). 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](#): 7.113.

<sup>2</sup> Interest is adjusted to capture the value of services provided by financial institutions furnished without payment, which are directly generated by the production process. As such, measures of these services are imputed and recorded in the NIPA measures of output and income, as described later in this chapter and in the technical note to [Chapter 5: Personal Consumption Expenditures](#).

<sup>3</sup> Interest flows are offset entirely in the computation of gross domestic income. However, national income includes net interest received from the rest of the world, which is consistent with the treatment of interest in the *System of National Accounts, 2008* (SNA).

various productive uses. The sources and methods underlying miscellaneous payments are described in the appendix to this chapter.

### Definitions and Concepts

The NIPAs provide measures of *monetary* and *imputed* interest transactions. The inclusion of monetary interest transactions in the NIPAs is straightforward; as explained in [Chapter 2: Fundamental Concepts](#), the income approach measure of GDP, or gross domestic income (GDI), is the sum of the income payments and other costs incurred in the production of goods and services. The inclusion of “imputed” interest transactions warrants further explanation. Measures are imputed to reflect (1) the implicit income received by the financial services provider for the provision of services where explicit fees are not charged; these imputations allow the NIPAs to separately identify the value of financial services furnished without payment by commercial banks, savings institutions, credit unions, regulated investment companies, and by property and casualty insurance companies; (2) the under- or overfunding of defined benefit pension plans; and (3) certain transactions that are re-routed in the NIPAs so that they are attributed to the ultimate recipient and/or provider of the service rather than to intermediaries.<sup>4</sup> This last category includes the allocation to policyholders of the interest earned on their behalf by life insurance carriers and by property and casualty insurance carriers, and the allocation to households of interest earned by pension funds.

Financial services furnished without payment. Businesses often provide financial services related to investment activities that are not matched by explicit service charges, such as check processing, disbursing or transferring funds, bookkeeping, protecting deposited funds, and intermediation. Instead, payment for these services may be implicit, such as when banks pay depositors lower rates of interest or charge borrowers higher rates of interest than what they would otherwise charge, or when insurance companies charge lower premiums than they would in the absence of the interest earned on technical reserves. The NIPAs record imputed measures of these service charges to ensure that the accounts accurately reflect the final demand, output, and value added related to these services and to keep GDP invariant to whether banking services involve an explicit or implicit charge. These measures are recorded as both personal consumption expenditures and government consumption expenditures for financial services furnished without payment.<sup>5</sup> A corresponding amount is recorded as interest income. For depositor services, the amount is recorded as imputed interest paid by depository institutions to depositors. For borrower services, the amount is recorded as negative imputed interest received by depository institutions from borrowers.

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<sup>4</sup> For a detailed accounting of the imputations included in GDP, see [NIPA table 7.12, “Imputations in the National Income and Product Accounts,”](#) available on BEA’s website at [www.bea.gov](http://www.bea.gov).

<sup>5</sup> See the technical note on “Financial services furnished without payment” in [Chapter 5: Personal Consumption Expenditures](#).

Under- or overfunding of defined benefit pension plans. The benefit entitlements of defined benefit plans are determined by actuarial calculations, and their value often does not coincide with the value of the assets that the plan has on hand; a plan that has a pay-as-you-go funding scheme might have only enough assets to ensure that it can make the current period's benefit payments. Thus, a defined benefit pension plan may be, and often is, underfunded, implying that it does not have sufficient financial assets to meet its obligations. In other cases, the plan may be overfunded, implying that it has assets in excess of what are needed. As employers are usually liable to ensure the payment of promised benefits, the NIPAs record as a component of depositor services an imputed measure of the liability, in the case of underfunding, as imputed interest paid by the pension plans and received by persons. In the case of overfunding, the NIPAs record an imputed measure of the excess funds as negative imputed interest paid and received by the plans and by persons, respectively.

Interest earned on behalf of others. The interest income that is earned by pension funds, by life insurance companies, and by property and casualty insurance carriers on technical reserves, as referenced above, is not actually distributed to persons in the current period. However, as the income is earned on their behalf, the NIPAs record it as imputed payments of interest to persons to accurately reflect by-sector income on an accrual basis. In effect, this rerouting implements a timing change so that the accrued interest is recorded as if it were disbursed to policyholders in the current period. Offsetting transactions are also recorded, whereby the policyholders reinvest the same amount of income in the pension fund or in the life insurance company or property and casualty insurance company in the form of household pension contribution supplements or as premium supplements, respectively.<sup>6</sup> In the absence of these imputations, the investment returns and the increases in insurance reserves would be included in business and government income and saving rather than in personal income and saving.

Table 14.1 shows the types of transactions that are included in, and excluded from, payments and receipts of interest in the NIPAs.

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<sup>6</sup> See Brent R. Moulton and Eugene P. Seskin, "[Preview of the 2003 Comprehensive Revision of the National Income and Product Accounts](#)," *Survey* 83 (June 2003): 17-34.

Table 14.1—Content of Net Interest

Category of expenditure	Comments
Monetary interest paid	<p>For business: Includes monetary interest paid on deposits and other liabilities, including mortgage debt of tenant-occupied housing; on excess reserves held by Federal Reserve banks; and on reverse repurchase agreements by Federal Reserve banks.</p> <p>For households and institutions: Includes monetary interest paid on loans, including mortgage debt of owner-occupied housing.</p> <p>For the rest of the world: Includes monetary interest paid to U.S. residents on deposit and other liabilities, including mortgage debt.<sup>7</sup></p> <p>For federal government: Includes interest paid on the public debt (that is, interest paid on U.S. Government securities issued by the Treasury Department); on special issues (certificates of indebtedness and special issue bonds to employee retirement funds, such as the federal Thrift Savings Program); and on debt securities issued by federal agencies other than the Treasury Department (such as those issued by the Tennessee Valley Authority). Excludes interest paid on special issues that are held by other government trust funds, such as the Old-Age and Survivors Insurance Trust Fund and the Disability Insurance Trust Fund (referred to as social security or OASDI) because they represent intragovernmental transactions.</p> <p>For state and local government: Includes interest paid on general debt (such as municipal securities, loans from the Federal government); and interest paid on the debt of water, electric power, and gas supply utilities and mass transit systems. Excludes premiums paid on retired debt and interest paid on securities held by government social insurance funds.</p>
Monetary interest received	<p>For business, households, and the rest of the world: Includes receipts of interest received on deposits and other assets; for the rest of the world, includes receipts from U.S. residents.</p> <p>For federal government: Includes interest received on loan programs, such as student and housing loan programs, loans administered by the Small Business Administration, and loans provided through the Troubled Asset Relief Fund. Also includes interest received by the Internal Revenue Service on late taxes, and interest from investments or other capital transactions. Excludes interest earnings on deposits and investments of employee retirement and other insurance trust funds.</p> <p>For state and local government: Includes interest received on interest-earning deposits, accrued interest on investment securities sold, interest on funds held for construction and interest related to the public debt. Excludes interest earnings on deposits and investments of employee retirement and other insurance trust funds; interest on bonds issued by the government (which is netted against interest paid), accrued interest on the purchase of investments, and interest on lottery funds.</p>
Imputed interest paid	<p>Includes interest earned on technical reserves re-routed from property and casualty insurance carriers to households and institutions, governments, domestic business, and the rest of the world; the imputed value of implicitly priced services provided to depositors (recorded as imputed interest paid by domestic depository institutions and the rest of the world to depositors); and the imputed value of implicitly priced services provided to borrowers (recorded as negative imputed interest payments by borrowers).</p>
Imputed interest received	<p>Includes the offsetting receipts of imputed interest paid.</p>

The NIPAs provide two measures of net interest. “Net interest and miscellaneous payments, domestic industries,” a component of gross domestic income, reflects the net interest paid by domestic businesses; that is, businesses located within U.S. geographic boundaries. The measure includes interest paid to the rest of the world and excludes interest received from the rest of the

<sup>7</sup> For information on the NIPA definition of residence, see the section on “Definitions and Concepts” in [Chapter 8: Net Exports](#).

world. “Net interest and miscellaneous payments,” a component of national income, reflects interest paid by both residents and non-residents to U.S. residents; it excludes interest paid to the rest of the world and includes interest received from the rest of the world.<sup>8</sup>

### 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 the seven summary accounts of the NIPAs, “net interest and miscellaneous payments, domestic industries” is included as part of net operating surplus (a component of gross domestic income) in the Domestic Income and Product Account (Account 1). As noted above, the inclusion of net interest paid in these measures serves to offset the inclusion of net interest received in other components.

Additionally, interest payments and receipts are recorded as part of the income and outlays of each domestic sector; as such, they are recorded in the Private Enterprise Account (account 2), in the Personal Income and Outlays Account (Account 3), and in the Government Receipts and Expenditures Account (Account 4); the interest flows between the nation and the rest of the world appear in the Foreign Transactions Current Account (Account 5).

The NIPAs include a substantial number of tables that present nominal, or “current-dollar,” estimates of net interest paid and the gross interest flows of business, persons, and government. The following is a list of the principal NIPA tables that present estimates of interest for the nation and for sectors.<sup>9</sup>

- 1.7.5 Relation of Gross Domestic Product, Gross National Product, Net National Product, National Income, and Personal Income
- 1.10 Gross Domestic Income by Type of Income
- 1.12 National Income by Type of Income
- 1.13 National Income by Sector, Legal Form of Organization, and Type of Income
- 1.14 Gross Value Added of Domestic Corporate Business in Current Dollars and Gross Value Added of Nonfinancial Domestic Corporate Business in Current and Chained Dollars

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<sup>8</sup> For a discussion of domestic and national measures, see “Geographic Coverage,” in [Chapter 2: Fundamental Concepts](#).

<sup>9</sup>The NIPAs also present annual, quarterly, and monthly estimates of “Personal interest income” in NIPA table group 2 as a component of personal income. Annual and quarterly estimates of personal interest income are available in [NIPA table 2.1. Personal Income and Its Disposition](#), and monthly estimates are available in [NIPA table 2.6. Personal Income and Its Disposition, Monthly](#). Personal interest income is distinguished between households and nonprofit institutions in [NIPA table 2.9. Personal Income and Its Disposition by Households and by Nonprofit Institutions Serving Households](#).

- 1.15 Price, Costs, and Profit Per Unit of Real Gross Value Added of Nonfinancial Domestic Corporate Business
- 1.16 Sources and Uses of Private Enterprise Income
- 7.11 Interest Paid and Received by Sector and Legal Form of Organization
- 7.12 Imputations in the National Income and Product Accounts
- 7.17 Relation of Monetary Interest Paid and Received in the National Income and Product Accounts to Corresponding Measures as Published by the Internal Revenue Service

BEA also prepares nominal estimates of the net interest and miscellaneous payments of domestic industries that are not seasonally adjusted; these are available in NIPA table group 8.

### **Overview of Source Data and Estimating Methods**

As described earlier, the NIPA estimates, including those for interest payments and receipts, 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](#)”). For monetary interest flows, the estimates are based primarily on statistical reports from the Internal Revenue Service’s (IRS) Statistics of Income (SOI) program, the Department of Agriculture, and the Federal Reserve Board (FRB), and on administrative and regulatory agency reports from the Federal Deposit Insurance Corporation (FDIC). For imputed interest flows, the estimates are based primarily on data from the IRS’ SOI program, the FRB, the FDIC, and BEA’s International Transactions Accounts (ITAs), as well as trade association data from the National Credit Union Association, the Credit Union National Association, and the American Council of Life Insurers.

Table 14.A following the main text summarizes the source data and estimating methods that are used to prepare the current-dollar annual estimates for measures of monetary and imputed interest paid and received as shown in NIPA table 7.11. For most measures, the estimating methods are the same for all years; the table notes those cases where the method differs for the most recent year. As quarterly estimates are available only for selected aggregates, they are described below but are not included in the table.

## Annual estimates

The NIPAs provide separate measures of the monetary and imputed interest paid and received for each NIPA sector, although the sectors differ according to the type of measure because of the various institutional arrangements associated with different assets and liabilities, and because of the mixed sectoring scheme employed by the NIPAs.<sup>10</sup> Specifically, for monetary interest payments, measures are provided for domestic corporate business (financial and nonfinancial), unincorporated business (sole proprietorships and partnerships and “other private business”), for households and institutions, for government (including government enterprises), and for the rest of the world. For monetary interest receipts, measures are provided for domestic corporate business (financial and nonfinancial), for financial sole proprietorships and partnerships, for other private business, for persons, for government, and for the rest of the world.<sup>11</sup> “Other private business” is comprised of certain individuals that rent property and of tax-exempt cooperatives; persons is comprised of households, nonprofit institutions serving households, and owners of nonfinancial noncorporate businesses.

Measures of imputed interest payments are also provided for selected sectors, but these measures are further distinguished by the type of service, as follows: (1) For imputed interest paid by providers of *depositor, insurance, and pension services*, measures are provided for domestic financial and nonfinancial corporations, for government, and for the rest of the world. (2) For imputed interest received by users of depositor, insurance, and pension services, measures are provided for domestic business (financial and nonfinancial corporations, sole proprietorships and partnerships, and other private business), for households and institutions, for government, and for the rest of the world. (3) For imputed interest paid by users of *borrower services*, measures are provided for domestic financial and nonfinancial corporate business, for sole proprietorships and partnerships, for other private business, for households and nonprofit institutions, for government, and for the rest of the world. (4) For (negative) imputed interest received by providers of borrower services, measures are provided for domestic financial corporations (i.e., banks, credit agencies, and investment companies) and for the rest of the world.

The benchmark and nonbenchmark annual measures of interest paid and received are derived using the same methodologies.

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<sup>10</sup> For more information on NIPA sectors, see [Chapter 2](#); see also Stephanie H. McCulla, Karin E. Moses, and Brent R. Moulton, “[The National Income and Product Accounts and the System of National Accounts 2008: Comparison and Research Plans](#),” Survey 95 (June 2015): 1-17.

<sup>11</sup> The mixed sectoring scheme employed in the NIPAs classifies “other private business”—that is, individuals that rent property and are required to report rental and royalty income on the IRS individual income tax return (or those that would be so required if they met size or income criteria), and tax-exempt cooperatives—as part of the business sector for production measures, and as part of the personal sector for income measures, with the exception of production-related interest transactions, such as interest payments on mortgage loans, which are classified in the business sector.

Monetary interest

For payments and receipts of monetary interest, annual measures are based on unique source data for each sector or, in some cases, subsector. For monetary interest paid and received by *domestic corporate business and by sole proprietorships and partnerships*, annual estimates except the most recent year are primarily based on data from the IRS SOI program.<sup>12</sup> For the most recent year, SOI data are not available, and estimates are extrapolated using various indicators. For monetary interest payments, extrapolations primarily use Compustat data on interest expense by industry and FDIC Call Report tabulations of interest expense for financial corporations. For monetary interest receipts, the extrapolations are based on FDIC Call Report data on interest income. Estimates of monetary interest payments and receipts for Federal Reserve banks, a component of corporate financial business, are based on data from FRB annual reports.

While the SOI data are largely consistent with the concepts and definitions underlying the NIPA estimates of interest payments and receipts, BEA makes several adjustments to account for differences in coverage and definitions. A reconciliation of the IRS and NIPA estimates of interest payments and receipts is published annually in NIPA table 7.17, a reproduction of which is shown for a single year in table 14.2 below.

Table 14.2—Relation of Monetary Interest Paid and Received  
in the National Income and Product Accounts to Corresponding Measures  
as Published by the Internal Revenue Service  
[Billions of dollars]

Line in NIPA table 7.17	Component	2020
	<b>Corporations</b>	
1	<b>Interest paid, IRS</b>	845.3
2	Less: Interest paid by foreign branches of commercial banks	-9.6
	Plus:	
3	Interest paid by organizations not filing corporation income tax returns	33.8
4	Federal Reserve Banks	8.6
5	Federally sponsored credit agencies	12.4
6	Other <sup>1</sup>	12.7
7	Interest paid by regulated investment companies reported as distributions to stockholders	221.0
8	Adjustment for mutual savings banks and savings and loan associations	-11.2
9	Other <sup>2</sup>	17.0
10	<b>Equals: Monetary interest paid by corporations, NIPAs</b>	1,115.6
	<b>Nonfarm proprietorships and partnerships</b>	

<sup>12</sup> For more information on the SOI program, see “[Business Tax Statistics, Corporations](https://www.irs.gov/statistics/soi-tax-stats-corporation-tax-statistics),” at <https://www.irs.gov/statistics/soi-tax-stats-corporation-tax-statistics>.



11	<b>Interest paid, IRS</b>	137.7
	Plus:	
12	Interest reported on rental expense schedule	154.4
13	Interest passed through to partners	86.3
14	Interest capitalized on tax returns	0.0
15	Less: Adjustment for misreporting on income tax returns	29.1
16	<b>Equals: Monetary interest paid, NIPAs</b>	349.4
	<b>Corporations</b>	
17	<b>Interest received, IRS</b>	1,343.6
18	Less: Interest received by foreign branches of commercial banks	9.6
	Plus:	
19	Interest received by organizations not filing corporation income tax returns	182.7
20	Federal Reserve banks	102.0
21	Federally sponsored credit agencies	20.2
22	Other <sup>3</sup>	60.5
23	Adjustment for mutual savings banks and savings and loan associations	-40.6
24	Other <sup>4</sup>	205.6
25	<b>Equals: Monetary interest received by corporations, NIPAs</b>	1,681.7

<sup>1</sup> Consists of interest paid by nonprofit organizations serving business and by credit unions.

<sup>2</sup> Consists of construction interest capitalized on tax returns, interest reported on tax returns in cost of goods sold, and interest passed through to shareholders by small business corporations.

<sup>3</sup> Consists of nonprofits organizations serving business, of credit unions, and of other tax-exempt interest received by commercial banks and nonlife insurance carriers.

<sup>4</sup> Consists of interest received by credit agencies and finance companies reported as business receipts on tax returns, of interest passed through to shareholders by small business corporations, and of interest received by defined benefit pension plans.

Adjustment for interest paid by foreign branches of commercial banks (line 2). This adjustment excludes the interest paid by the foreign offices of U.S. banks, based on SOI data.<sup>13</sup>

Interest paid by organizations not filing corporation income tax returns (line 3). This adjustment is made to include the interest paid by Federal Reserve banks and by tax-exempt federally sponsored credit agencies, which are not covered by the SOI program, based primarily on the income and expense statements of these institutions. These agencies include agricultural credit banks, farm credit banks, and federal home loan banks.

Interest paid by regulated investment companies reported as distributions to stockholders (line 7). This adjustment is made to reclassify selected dividend payments as interest payments, based on data for regulated investment companies from the SOI's *Corporation Income Tax Returns* data. Regulated investment companies report all distributions to stockholders as dividends, but some portion of these distributions arise from interest-bearing assets and not from stock.<sup>14</sup>

Adjustment for mutual savings banks and savings and loan associations (line 8). This adjustment is made to include in corporate interest payments the monetary interest that is paid by savings

<sup>13</sup> The SOI data include interest paid by domestic branches of foreign banks.

<sup>14</sup> For more information on the treatment of dividend and interest payments by regulated investment companies, see the "Technical Note: Adjustments to IRS Tax Return Data" in [Chapter 13: Corporate Profits](#) and Robert J. Kornfeld "[Improved Measures of Regulated Investment Companies and Real Estate Investment Trusts for the U.S. National Economic Accounts](#)." *Survey of Current Business* 103 (May 12, 2023).

institutions and credit unions; the IRS does not include these institutions in corporations. The adjustment is based on FDIC data on income and expenses of these institutions.

Adjustment for interest reported on rental expense schedule (line 12). This adjustment is made to include interest that is deducted as an expense related to real estate rentals, which is excluded from the IRS measure of interest paid, based on SOI data.

Adjustment for interest passed through to partners (line 13). This adjustment excludes from income the interest paid to purchase property held for investment, based on SOI data.

Adjustment for interest capitalized on tax returns (line 14). This adjustment is extrapolated based on SOI data on depreciable assets and Moody's data on the yield on seasoned Baa-rated corporate bonds; the adjustment is allocated to industry according to the distribution of SOI monetary interest paid.

Adjustment for misreporting on income tax returns (line 15). This adjustment is primarily based on IRS audit data.<sup>15</sup>

For monetary interest paid by *other private business*, estimates are primarily comprised of mortgage interest paid by landlords of tenant-occupied property.<sup>16</sup> For monetary interest received by other private business, estimates are judgmentally extrapolated. For monetary interest paid by *households and institutions*, estimates of mortgage interest paid by owner-occupiers are primarily based on FRB data on total mortgage debt outstanding and Black Knight Financial Services data on average interest rates on that debt. For non-mortgage interest paid by persons, estimates are based on a weighted average interest rate paid on new and used autos, personal loans, revolving loans, student loans, mobile homes, recreational vehicles, and boats multiplied by total consumer credit outstanding, both components of which are based on FRB data. For monetary interest paid by *federal government*, estimates are primarily based on data from the U.S. Bureau of the Fiscal Service; for *state and local government*, estimates are primarily based on data from the Census Bureau's Annual Survey of State and Local Government Finances.

For monetary interest received by *persons*, measures are derived as the residual of total monetary interest paid less monetary interest received by all other sectors. For monetary interest received by *federal government*, estimates are primarily based on IRS data, federal budget data, and ITA data. For *state and local government*, estimates are primarily based on data from the Census Bureau's Annual Survey of State and Local Government Finances data and government administrative data. For monetary interest paid and received by the *rest of the world*, estimates are based on ITA data.

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<sup>15</sup> For more information on the method underlying misreporting adjustments, see the "Technical Note: Adjustments to IRS Tax Return Data" in [Chapter 13: Corporate Profits](#).

<sup>16</sup> For more information on estimates of mortgage interest paid on rental property, derived as part of BEA's measures of rental income of persons, see [Chapter 12: Rental Income of Persons](#).

### Imputed Interest

For imputed interest paid and received, annual estimates are based on source data for the type of service for which the measure is imputed—that is, for depositor, insurance, and pension services and for borrower services—and for the type of institution. Only financial corporations and the rest of the world pay imputed interest for *depositor and insurance services*; imputed interest payments for *pension services* are paid by financial and nonfinancial corporations, and by government.

For *financial corporations*, the derivation of estimates of imputed interest paid for depositor and insurance services differs according to the specific type of institution. Specifically, for banks and credit agencies, measures are derived using the “reference rate approach,” in which the value of the services that are provided without explicit payment is measured as equal to the difference between the monetary interest paid to depositors or charged to borrowers and a “reference rate” that reflects the opportunity cost of borrowing or lending funds.<sup>17</sup> For regulated investment companies, measures are derived as the sum of commissions and the imputed interest received from commercial banks on deposits the companies hold on behalf of its investors. For life insurance carriers, the NIPAs derive measures of the interest earned on the carriers’ technical reserves based on trade source data. For property and casualty insurance companies, the NIPAs measure the value of the services that are provided without explicit payments as equal to the expected investment income earned on technical reserves.<sup>18</sup> For the *rest of the world*, the measures of imputed interest paid for depositor and insurance services are derived using the reference rate approach as described above.

The total measures of imputed interest paid for depositor and insurance services are allocated to the receiving sectors (that is, financial and nonfinancial corporations, partnerships and proprietorships, other private business, households and institutions, government, and the rest of the world) based on their share of each type of asset held, based on data from the FRB’s Financial Accounts of the United States (FAUS) and on ITA data.

For *pension services*, measures of interest are imputed to reflect the under- or overfunding of defined benefit employee pension plans for *domestic financial and nonfinancial*

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<sup>17</sup> The reference rate approach and the NIPA treatment and measurement of the output of depository institutions is described in Dennis J. Fixler, Marshall B. Reinsdorf, and George M. Smith, “[Measuring the Services of Commercial Banks in the NIPAs](#),” *Survey of Current Business* 83 (September 2003): 33-44, and in Moulton and Seskin, 2003. Also see the technical note on “Financial services furnished without payment” in [Chapter 5: Personal Consumption Expenditures](#).

<sup>18</sup> The NIPA treatment and measurement of expected investment income and the output of property and casualty insurance companies is described in greater detail in Baoline Chen and Dennis J. Fixler, “[Measuring the Services of Property-Casualty Insurance in the NIPAs: Changes in Concepts and Methods](#),” *Survey* 83 (October 2003):10-26, and in Moulton and Seskin, 2003. Also see the technical note on “Property and casualty insurance” in [Chapter 5: Personal Consumption Expenditures](#).

*corporations and government.* Specifically, the NIPAs derive measures of the liability reflected by under- or overfunding plans using an accrual accounting approach, in which the under- or overfunding is measured as equal to the difference between the actuarially determined present value of the plans' liabilities (or "normal cost") and the actual financial assets held by the plans.<sup>19</sup>

Only domestic and rest of the world *financial institutions* provide *borrower services* without explicit payment; the associated value of imputed interest is recorded as negative interest receipts for these sectors. Measures of the total imputation for banks, credit agencies, and investment companies are derived using the reference rate approach; the resulting negative totals are allocated to the borrowing sectors (domestic financial and nonfinancial institutions, sole proprietorships and partnerships, other private business, households and institutions, government, and the rest of the world) based on the share of each type of liability held by each sector from the FRB FAUS data and the ITAs.<sup>20</sup>

### Current quarterly estimates

As with the annual measures, the quarterly measures of interest paid and received in the NIPAs are the sum of monetary interest and imputed interest. However, quarterly measures are provided only for select net interest aggregates and sectors, because the source data required for more detailed components are not consistently available on a quarterly basis. Specifically, the NIPAs provide quarterly measures of aggregate "net interest and miscellaneous payments, domestic industries" and "net interest and miscellaneous payments" for corporate business and for nonfinancial corporate business, but separate quarterly measures of interest payments and interest receipts are provided only for government and for persons.<sup>21</sup>

For "*net interest and miscellaneous payments, domestic industries*" in GDI, quarterly measures of net interest are derived as the residual of personal interest receipts less personal interest payments less net interest paid by government less net interest paid by the rest of the world. This derivation is based on the axiom that the total amount of interest paid by all sectors must equal the total interest received by all sectors, as follows:

$$B_p + P_p + G_p + F_p = B_r + P_r + G_r + F_r$$

<sup>19</sup> The NIPA treatment and measurement of the over- or underfunding of defined benefit pension plans is described in Marshall B. Reinsdorf and David G. Lenze, "[Defined Benefit Pensions and Household Income and Wealth](#)," *Survey* 89 (August 2009): 50-62; see also "[Preview of the 2013 Comprehensive Revision of the National Income and Product Accounts: Changes in Definitions and Presentations](#)," *Survey* 93 (March 2013): 13-39.

<sup>20</sup> See Dennis J. Fixler, Marshall B. Reinsdorf, and George M. Smith, 2003, and Brent R. Moulton and Eugene P. Seskin, 2003.

<sup>21</sup> The NIPAs also provide monthly measures of personal interest income and interest payments as part of BEA's monthly personal income and outlays statistics.

Where:

$B_p$  = interest paid by U.S. corporate business

$P_p$  = interest paid by persons

$G_p$  = interest paid by U.S. governments

$F_p$  = interest paid by the rest of the world to the United States

and

$B_r$  = interest received by U.S. corporate business

$P_r$  = interest received by persons

$G_r$  = interest paid by U.S. governments

$F_r$  = interest received by the rest of the world from U.S. business

Rearranging the equation above shows that net interest paid for domestic industries ( $B_p - B_r$ ) can be measured as:<sup>22</sup>

$$\text{Net domestic interest} = (P_r - P_p) - (G_p - G_r) - (F_p - F_r)$$

Following the axiom detailed above, for personal interest receipts, estimates are derived as the sum of monetary and imputed interest receipts. Quarterly monetary receipts are judgmentally extrapolated from the estimate for the previous quarter based on the FRB FAUS data on personal sector assets and on corresponding interest rates based on data from the Treasury Department's *Monthly Treasury Statement of Receipts and Outlays*, from the Bureau of the Fiscal Service, from market spot rates, and from Moody's Corporation. Quarterly measures of personal imputed interest receipts for depositor, insurance, and pension services are derived as the sum of imputed interest paid to persons by the rest of the world and the share of total imputed interest paid by corporate business that is allocated to persons.<sup>23</sup> Generally, the measures of total interest paid to persons by the rest of the world are based on ITA data; measures of imputed interest paid by corporate business are either extrapolated from the annual estimates or derived using the same source data and methods as the annual measures; for imputed interest paid by the rest of the world, the measures are based on ITA data.<sup>24</sup> As with the annual estimates, the allocation of the interest paid by corporate business to persons is based on the FRB FAUS data.

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<sup>22</sup> For the measure "net interest and miscellaneous payments" in national income, this formula is adjusted to include receipts from, and exclude payments to, the rest of the world.

<sup>23</sup> Persons and government do not receive imputed interest for borrower services.

<sup>24</sup> For more information on the sources and methods underlying the ITA measures of exports and imports of services furnished without payment by financial intermediaries, see Elye Bliss, "[Preview of the 2020 Annual Update of the International Economic Accounts](#)," Survey 100 (April 2020).

For personal monetary interest payments, quarterly measures are derived as the sum of margin interest paid on security purchases and non-margin interest payments. For margin interest payments, the advance estimates are judgmentally extrapolated; second and third estimates are based on SEC FOCUS report data. For non-margin interest payments, quarterly measures are based on FRB data on consumer credit outstanding and a weighted average interest rate on that debt, as in the annual estimates. For personal imputed interest payments, measures are derived as the sum of (1) the share of imputed interest received by domestic business and by the rest of the world that is paid by persons for depositor, insurance, and pension services, and (2) the share of imputed interest received by domestic corporate business and by the rest of the world that is paid by persons for borrower services. Generally, the measures of total interest received by corporate business are either extrapolated from the annual estimates or derived using the same source data and methods as the annual measures; for imputed interest received by the rest of the world, the measures are based on ITA data.

For the federal government, quarterly measures of net monetary interest paid are based on data from the Treasury Department's *Monthly Treasury Statement of Receipts and Outlays*, data from the Bureau of the Fiscal Service, ITA data on federal government monetary interest payments to, and receipts from, the rest of the world. For state and local governments, quarterly measures of both payments and receipts of monetary interest are judgmentally extrapolated. For federal and state and local government, quarterly measures are separately derived for imputed interest paid and received; measures of imputed interest paid are judgmentally extrapolated, and measures of imputed interest received are derived in the same way as imputed interest received by persons—as the sum of imputed interest paid to government by the rest of the world and the share of total imputed interest paid by corporate business that is allocated to government, based on FRB FAUS data.

For the rest of the world, quarterly measures of monetary and imputed interest payments and receipts are based on ITA data.

**Table 14.A—Summary of Methodology Used to Prepare Estimates of Net Interest**

Line in NIPA Table 7.11	Component	Benchmark and Other Annual Estimates
	<b>Monetary interest</b>	
1	<b>Monetary interest paid</b>	
2	Domestic business <sup>1</sup>	
3	Corporate business	
4	Financial	<p><u>Most financial industries</u>: SOI, with adjustments by BEA for coverage, misreporting, and definitions (see the section “Adjustments to the SOI data”). For most recent year, extrapolated using a BEA-weighted interest rate based on FRB data on interest rates and sector liabilities.</p> <p><u>Federal Reserve banks</u>: FRB Annual Reports data on total interest expense.</p> <p><u>Regulated investment companies</u>: For all but most recent year, based on SOI Corporation Income Tax Returns (CITR) data on interest payments. For most recent year, projected based on mutual fund data from the Investment Companies Institute (ICI) and set equal to monetary interest received by regulated investment companies by definition.</p> <p><u>Credit unions</u>: Credit Union National Association data on monetary interest payments.</p> <p><u>Savings institutions</u>: FDIC data on monetary interest payments.</p>
5	On deposits <sup>2</sup>	Share of total interest paid by financial institutions allocated according to ratio of deposits to total liabilities, based on FDIC data.
6	On other liabilities	Share of total interest paid by financial institutions allocated according to ratio of non-deposit liabilities to total liabilities, based on FDIC data.
7	Nonfinancial	<p><u>Nonfarm</u>: For all but most recent year, SOI data, with adjustments by BEA for coverage, misreporting, and definitions (see the section “Adjustments to the SOI data”). For most recent year, extrapolated using a weighted interest rate based on sector liabilities.</p> <p><u>Farm</u>: USDA ERS Farm Forecast data.</p>
8	Sole proprietorships and partnerships	Sum of monetary interest paid by farm and by nonfarm sole proprietorships and partnerships.
9	Farm	USDA ERS Farm Income Forecast data on farm interest payments for sole proprietors, including mortgage interest paid on non-dwelling structures.
10	Nonfarm	For all but most recent year, SOI, with adjustments by BEA for coverage, misreporting, and definitions (see the section “Adjustments to the SOI data”). For most recent year, extrapolated using weighted interest rate based on sector asset holdings.
11	Other private business	Sum of monetary interest paid by personal landlords (recorded in the NIPAs as rental income of persons) and by tax-exempt cooperatives (recorded in the NIPAs as proprietors’ income).

**Table 14.A—Summary of Methodology Used to Prepare Estimates of Net Interest**

Line in NIPA Table 7.11	Component	Benchmark and Other Annual Estimates
12	Rental income of persons	<p>Sum of:</p> <p><u>Mortgage interest paid by persons on tenant-occupied nonfarm dwellings</u>: Extrapolated from 2009 value from discontinued Census Bureau Residential Finance Survey (RFS) based on FRB mortgage debt outstanding and effective rate of interest from Black Knight Financial Services, allocated between tenant- and owner-occupied housing based on data from BEA's benchmark input-output accounts, unpublished source data, or judgmental trends.</p> <p><u>Interest paid by persons on nonfarm nonresidential property</u>: Judgmental trend.</p> <p><u>Farm mortgage interest paid by operator and nonoperator landlords</u>: For non-corporate farm operators, total mortgage interest paid by farm operators, based on USDA ERS Farm Income Forecast data, less mortgage interest paid for owner-occupied farm dwellings. For farm nonoperators, USDA ERS Farm Income Forecast data on mortgage interest paid by non-operator landlords.</p>
13	Proprietors' income	Sum of monetary interest payments of telephone cooperatives, electric cooperatives, and whole trade cooperatives, extrapolated judgmentally.
14	Households and nonprofit institutions	
15	Households	
16	Owner-occupied housing	<p><u>Nonfarm owner-occupied housing</u>: Extrapolated from 2009 RFS-based value based on FRB data on mortgage debt outstanding and Black Knight Financial Services data on effective rate of interest.</p> <p><u>Farm owner-occupied housing</u>: USDA ERS Farm Income Forecast data on farm mortgage interest payments.</p>
17	Persons <sup>3</sup>	<p>Sum of monetary non-mortgage interest paid by individuals to business and to government. For interest paid to business, sum of interest paid on multiple payment loans, life insurance policy loans, security purchases, farmers' consumer loans, and student loans.</p> <p><u>Multiple payment and student loans</u>: Monetary interest paid on consumer credit outstanding less monetary interest paid on mobile homes (included in interest paid by owner-and tenant-occupied housing). For interest paid on consumer credit outstanding, the product of FRB data on consumer credit outstanding and an FRB "blended" rate, based on individual interest rates for different types of consumer loans.</p> <p><u>Life insurance policy loans</u>: Product of American Council of Life Insurers data on policy loans outstanding and Moody's AAA rate.</p> <p><u>Security purchases</u>: Sum of interest paid to brokers on security purchases, based on SEC FOCUS Report data and interest paid to banks on security purchases, derived as the product of FRB FAUS data on the value of loans outstanding and FRB prime interest rate.</p> <p><u>Farmers' consumer loans</u>: USDA data.</p> <p>For interest paid to government, sum of interest paid to federal and to state and local government; see entries for federal and state and local government monetary interest receipts from persons.</p>



**Table 14.A—Summary of Methodology Used to Prepare Estimates of Net Interest**

Line in NIPA Table 7.11	Component	Benchmark and Other Annual Estimates
18	Nonprofit institutions	Judgmental trend.
19	Government	
20	Federal	Sum of interest paid on the public debt to persons, to business, and to ROW; interest paid to federal government employee pension plans, and interest paid on tax refunds. <u>Interest paid to federal employee pension plans:</u> For all but most recent year, pension financial statements and MTS calendar-year estimates. For most recent year, trends guided by budget projections. <u>Interest paid on tax refunds:</u> For all but most recent year, IRS calendar-year data. For most recent year, trends guided by budget projections. <u>Interest paid on the public debt:</u> For all but most recent year, data from the Treasury Department's Bureau of the Fiscal Service, the U.S. Budget, and the MTS. For most recent year, trends guided by budget projections. For interest paid to the rest of the world, BEA ITAs. For interest paid to persons and to businesses, total interest paid on the public debt less the amounts paid to the rest of the world and to government employee pension plans.
21	State and local	For all but the most recent year, Census GF data adjusted from a fiscal-year to a calendar-year basis. For most recent year, judgmentally extrapolated from previous year.
22	Rest of the world	Sum of monetary interest paid to business, to persons, and to government by the rest of the world.
23	To business and persons	ITA data
24	To government	ITA data
25	<b>Monetary interest received</b>	
26	Domestic business <sup>1</sup>	
27	Corporate business	
28	Financial <sup>4</sup>	For all but most recent year, SOI data, with adjustments by BEA for coverage, misreporting, and definitions (see the section "Adjustments to the SOI data"). For most recent year, extrapolated using weighted interest rate based on sector asset holdings.
29	Nonfinancial	For all but most recent year, SOI data, with adjustments by BEA for coverage, misreporting, and definitions (see the section "Adjustments to the SOI data"). For most recent year, extrapolated using weighted interest rate based on sector asset holdings.
30	Financial sole proprietorships and partnerships <sup>5</sup>	For all but most recent year, SOI data, with adjustments by BEA for coverage, misreporting, and definitions (see the section "Adjustments to the SOI data"). For most recent year, extrapolated using weighted interest rate based on sector asset holdings.
31	Other private business	Judgmental trend.
32	Persons <sup>5</sup>	Residual of total monetary interest paid less monetary interest received by all other sectors.
33	Government	Sum of federal and state and local monetary interest received.

**Table 14.A—Summary of Methodology Used to Prepare Estimates of Net Interest**

Line in NIPA Table 7.11	Component	Benchmark and Other Annual Estimates
34	Federal	Sum of interest received from persons and from business on late taxes and loans, interest received from the rest of the world, and interest received from other miscellaneous sources. <u>Interest received on late taxes</u> : IRS fiscal year data interpolated to quarters without indicator and summed to calendar year estimates. <u>Interest received on loans</u> : Fiscal year federal budget data interpolated to quarters without indicator and summed to calendar year estimates. <u>Interest from the rest of the world</u> : BEA ITA data. For all other interest, fiscal year data from U.S. budget interpolated to quarters and summed to calendar year estimates.
35	State and local	For all but the most recent year, Census GF data on state and on local government receipts of interest, adjusted from a fiscal-year to a calendar-year basis. For most recent year, judgmentally extrapolated from previous year.
36	Rest of the world	ITA Data
37	From business	ITA Data
38	From government	ITA Data
	<b>Imputed interest</b>	
39	<b>Total imputed interest paid (41+76)</b>	
	<b>Depositor, insurance, and pension services:</b>	
41	<b>Imputed interest paid</b>	
42	Domestic corporate business	
43	Financial	
44	Banks, credit agencies, and investment companies	<u>For depositor services, sum of imputed interest paid for depositor services by commercial banks, credit unions, savings institutions, Federal Reserve Banks, and regulated investment companies.</u> <u>Commercial banks and savings institutions</u> : Reference rate approach: the product of the average liability for each type of liability, based on FRB tabulations of Call Report data from the Federal Finance Institutions Examination Council, and the difference between the reference rate and the book-value interest rate, allocated to sectors in proportion to the sector ownership of deposit balances based on FDIC and FRB FAUS data. For reference rate, the average of the rate earned on government securities and the one-year moving average rate earned on five-year Treasury bonds. For book-value interest rate for each type of product, the ratio of the annualized interest payment for that product over the average book value of the stock of that product, based on FRB tabulations of Call Report data. <u>Credit unions</u> : Reference rate approach, based on National Credit Union Administration and Credit Union National Association data on monetary interest, premiums, and benefits paid. <u>Federal Reserve Banks</u> : FRB Annual Report data on operating expenses.

**Table 14.A—Summary of Methodology Used to Prepare Estimates of Net Interest**

Line in NIPA Table 7.11	Component	Benchmark and Other Annual Estimates
		<p><u>Regulated investment companies</u>: For all but most recent year, sum of direct and indirect commissions earned plus imputed interest received from commercial banks, allocated to persons, corporate business, life insurers, state and local government, and noninsured pension plans based on FRB FAUS data on the proportion of mutual funds held by each sector. Total commissions for benchmark years based on Census Bureau Economic Census data; for nonbenchmark years, based on Financial and Operational Combined Uniform Single Reports data, other federal government administrative agency data, and stock exchange data. (For more information on commissions, see the technical note “Special Estimates” in chapter 5 of this Handbook). For most recent year, projection is based on mutual fund net asset data from the Investment Companies Institute (ICI).</p> <p><u>For unfunded liabilities of defined benefit pension plans for employees of banks, credit agencies, and investment companies</u>: For all but most recent year, present value of unfunded liabilities derived as the product of the plans’ surplus or deficit funding, based on Pension Benefit Guarantee Corporation (PBGC) data on plan assets and liabilities, and a BEA-derived discount rate. For most recent year, generally based on 5-year moving averages of the annual estimates of normal costs, actual employer contributions, and imputed interest paid which are based on the PBGC microdata tabulations, and judgmental trends.</p>
45	Life insurance carriers	<p><u>For insurance services</u>: For all but most recent year, investment income from American Council of Life Insurers, change in net investment income from A.M. Best review/Preview: Life and Annuity Edition, Profits before tax of life insurance companies. For most recent year, extrapolated using the previous year’s estimate.</p> <p><u>For unfunded liabilities of defined benefit pension plans for employees of life insurance carriers</u>: For all but most recent year, present value of unfunded liabilities derived as the product of the plans’ surplus or deficit funding, based on PBGC data on plan assets and liabilities, and a BEA-derived discount rate. For most recent year, generally based on 5-year moving averages of the annual estimates of normal costs, actual employer contributions, and imputed interest paid which are based on PBGC microdata tabulations.</p>
46	Property and casualty insurance companies	<p><u>For insurance services</u>: Imputed interest paid by domestic property and casualty insurance companies: Measured as equal to the premium supplements paid to property and casualty insurance companies, based on AM Best data.</p> <p><u>For unfunded liabilities of defined benefit pension plans for employees of property and casualty insurance companies</u>: For all but most recent year, present value of unfunded liabilities derived as the product of the plans’ surplus or deficit funding, based on PBGC data on plan assets and liabilities, and a BEA-derived discount rate. For most recent year, generally based on 5-year moving averages of the annual estimates of normal costs, actual employer contributions, and imputed interest paid which are based on PBGC microdata tabulations.</p>

**Table 14.A—Summary of Methodology Used to Prepare Estimates of Net Interest**

Line in NIPA Table 7.11	Component	Benchmark and Other Annual Estimates
47	Employee pension plans <sup>6</sup>	Sum of the imputed interest for unfunded liabilities of defined benefit and defined contribution pension plans, recorded to reroute those payments to persons.
48	Other <sup>7</sup>	For unfunded liabilities of defined benefit pension plans for employees of other financial entities for all but most recent year, present value of unfunded liabilities derived as derived as the product of the plans' surplus or deficit funding, based on PBGC data on plan assets and liabilities, and a BEA-derived discount rate. For most recent year, generally based on 5-year moving averages of the annual estimates of normal costs, actual employer contributions, and imputed interest paid which are based on PBGC microdata tabulations.
49	Nonfinancial <sup>8</sup>	For unfunded liabilities of defined benefit pension plans for employees of nonfinancial corporations, for all but most recent year, present value of unfunded liabilities derived as the product of the plans' surplus or deficit funding, based on PBGC data on plan assets and liabilities, and a BEA-derived discount rate. For most recent year, generally based on 5-year moving averages of the annual estimates of normal costs, actual employer contributions, and imputed interest paid which are based on PBGC microdata tabulations.
50	Government <sup>8</sup>	
51	Federal	Imputed interest paid by federal pension funds: Present value of unfunded liabilities of federal pension funds based on actuarial reports for the pension plans and projections of interest rates and demographics.
52	State and local	Imputed paid by S&L pension funds: For all but most recent year, present value of unfunded liabilities based on actuarial reports, adjusted to a calendar year basis. For most recent year, extrapolated judgmentally.
53	Rest of the world	<u>Insurance services</u> : premium supplements paid by the rest of the world: ITA data. <u>Financial services furnished without payment</u> : ITA data.
54-62 and 71-74	<b>Imputed interest received</b>	Except for the specific entries provided below for households and for the rest of the world, imputed interest received (by domestic business, government, and NPISHs) is derived as an allocation of the imputed interest paid on depositor, and pension services by commercial banks, savings institutions, credit agencies, and investment companies based on FRB FAUS data on each depositor's asset holdings. The allocation of insurance services is determined by I-O commodity flow data.
63	Households and nonprofit institutions	
64	Households	
65	Owner-occupied housing	Insurances services only, based on I-O estimates on the portion of insurance services received by owner-occupied housing.
66	Persons	

**Table 14.A—Summary of Methodology Used to Prepare Estimates of Net Interest**

Line in NIPA Table 7.11	Component	Benchmark and Other Annual Estimates
67	From banks, credit agencies, and investment companies	Sum of imputed interest paid for depositor services by credit unions and a share of imputed interest paid for depositor services by commercial banks, savings institutions, and regulated investment companies (see line 44).
68	From life insurance carriers	Equal to imputed interest paid by life insurance carriers for insurance services (see line 45).
69	From property and casualty insurance companies	Insurances services only, based on I-O estimates on the portion of insurance services received by persons
70	From employee pension plans <sup>6</sup>	Sum of total monetary interest received by defined benefit and defined contribution private and government plans and unfunded liabilities of defined benefit private and government pension plans.
75	Rest of the world	Financial services furnished without payment based on ITA data
	<b>Borrower services:</b>	
76-93	<b>Imputed interest paid</b>	Except for the specific entry provided below for the rest of the world, imputed interest paid for borrower services by domestic business, government, and households and NPISHs is derived as an allocation of imputed interest received by the lenders, based on FRB FAUS data on each lender's liability holdings, by sector; see entries for imputed interest received for borrower services in lines 95-97 below.
94	Rest of World	ITA data
95	<b>Imputed interest received</b>	
96	Domestic corporate business, financial	
97	Banks, credit agencies, and investment companies	<u>Commercial banks and savings institutions:</u> Reference rate approach: the product of the average liability for the year of each type of liability, based on FRB tabulations of call report data from the Federal Finance Institutions Examination Council, and the difference between the reference rate and the book-value interest rate, allocated to sectors in proportion to the sector ownership of loan liabilities based on FDIC data and FRB FAUS data. Reference rate derived as average of rate earned on government securities and the one-year moving average rate earned on five-year Treasury bonds. Book-value interest rate for each type of product derived as the ratio of the annualized interest payment for that product over the average book value of the stock of that product, based on FRB tabulations of call report data. <u>Credit unions:</u> Reference rate approach, based on data from the National Credit Union Administration and the Credit Union National Association.
98	Rest of the World	ITA Data

Note. In this table, imputed interest paid (line 39) is the sum of (1) premium supplements paid to property and casualty insurance carriers by households and institutions, governments, domestic business, and the rest of the world as a measure of imputed services provided to these sectors by the property and casualty insurance providers, (2) the difference between the property income received by financial intermediaries from the investment of depositors' or beneficiaries' funds and the interest paid by them to business, households and institutions, governments, and the rest of the world, and (3) the imputed services provided to these sectors in the role of borrowers of financial services; these services are included as negative amounts paid by the borrowers and received by the financial intermediaries.

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<sup>1</sup> Excludes interest paid or received by government enterprises, which is included in the government sector.

<sup>2</sup> Consists of interest paid on the deposit liabilities of commercial and mutual savings banks, savings and loan associations, and credit unions.

<sup>3</sup> Consists of nonmortgage interest paid by households.

<sup>4</sup> Includes monetary interest received by employee pension plans.

<sup>5</sup> Interest received by nonfinancial sole proprietorships and partnerships is considered interest received by persons and is included in line 32.

<sup>6</sup> Includes interest imputed to persons from employee pension plans and imputed interest income attributable to under- or over-funded defined benefit employee pension plans.

<sup>7</sup> Consists of the imputed interest attributable to the under- or over-funded defined benefit employee pension plans of other financial entities, including those establishments providing nondepository credit intermediation services; securities, commodity contracts, and other financial investment services; insurance brokerage, and related services; and real estate investment trust services.

<sup>8</sup> Consists of the imputed interest attributable to the under- or over-funded defined benefit employee pension plans.

## Appendix: Miscellaneous Payments

Miscellaneous payments is a measure of the rent and royalty payments that accrue to federal and to state and local government owners of land or subsoil assets (that is, mineral deposits located within the earth or on the earth's surface) in return for leasing the rights to these assets for various productive uses.<sup>25</sup> Specifically, this includes federal government receipts from leasing federally-owned lands for mining or energy production and state and local receipts from allowing temporary possession of government-owned buildings, land, or other fixed properties; these include revenues such as grazing fees, timberland leases, and natural resource exploration and production.

Bonus payments, which are typically one-time payments made to hold the land during the bidding process, are excluded because they are unrelated to production; the NIPAs record them as part of nonproduced assets.<sup>26</sup> In the United States, rent—which the NIPAs treat as a distinct and separate transaction from rental payments made for housing—is paid during the initial, non-productive phase of a lease and reflects the “holding cost” of the lease. Royalties are paid during actual production and vary based on the market value of minerals extracted and sold during a set period of time.<sup>27</sup>

Table 14.A.1 shows the types of transactions that are included in, and excluded from, miscellaneous payments in the NIPAs.

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<sup>25</sup> Miscellaneous payments do not include rents and royalties that accrue to private landowners for the provision of rights to physical assets such as mineral rights as well as privately-owned intellectual property rights; these measures are included in rental income of persons, proprietors' income, and corporate profits.

<sup>26</sup> The NIPA treatment of rents and royalties is consistent with the recommendations of the SNA. The SNA groups rent and royalty payments together as “rents”; see paragraph 7.110 in 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*, available at <http://unstats.un.org/unsd/nationalaccount/SNA2008.asp>.

<sup>27</sup> An additional category of royalties refers to payments made to use or reproduce copyrighted or patented resources; these transactions are treated as sales of services, which are unrelated to natural resources and are not included in the NIPA measure of miscellaneous payments.

Table 14.A.1—Content of Miscellaneous Payments

Rents and royalties received by federal government	Includes federal government receipts from leases of mineral resources and land, receipts from offshore leases of Outer Continental Shelf lands, and transfers of royalty in kind oil to the Strategic Petroleum Reserve.  Excludes oil bonus payments for drilling rights, which are classified as nonproduced assets.
Rents and royalties received by state and local government	Includes state and local receipts from the temporary leasing of government-owned buildings and land; grazing fees; timber leases; and receipts from land, including its use for natural resource exploration and production or for development; receipts from the use of operating rights (such as oil, gas, and mineral rights); and the portion of the receipts of parks and recreational assets operated by government that reflect receipts for land use or resource extraction.  Excludes oil bonus payments for drilling rights, which are classified as nonproduced assets.

Rents and royalties are recorded in the NIPAs as a component of property income receipts and as a component of the aggregate “net interest and miscellaneous payments.” The following is a list of the principal NIPA tables that present estimates of rents and royalties.

- 1.12 National Income by Type of Income
- 1.13 National Income by Sector, Legal Form of Organization, and Type of Income
- 1.16 Sources and Uses of Private Enterprise Income
- 3.1 Government Current Receipts and Expenditures
- 3.2 Federal Government Current Receipts and Expenditures
- 3.3 State and Local Government Current Receipts and Expenditures

### Overview of Source Data and Estimating Methods

#### Annual estimates

For federal receipts of rents and royalties, annual estimates are based on data on total receipts from the leasing of rights to mineral resources, land, or royalty in kind oil, from the Treasury Department’s “Combined Statement of Receipts and Expenditures.” As the data include receipts of bonus payments for drilling rights, Department of Interior data on receipts of these bonus payments are used to remove them.

For state and local receipts of rents and royalties, annual estimates are based on the Census Bureau’s quinquennial census of governments and annual surveys of state and local



governments, adjusted to a calendar year basis from a fiscal year basis. As the data include receipts of bonus payments for drilling rights, administrative data from oil-producing states are used to remove them.

**Current quarterly estimates.**

Quarterly measures of federal receipts of rents and royalties are measured as the sum of onshore and offshore rents and royalties. Measures of onshore receipts rely on projections of receipts from the budget, data from the Treasury Department's Monthly Treasury Statement and data from the Energy Department's Strategic Petroleum Reserve. Quarterly measures of offshore receipts are extrapolated from fiscal-year data from the Budget and from the Combined Statement of Receipts and Expenditures.

Quarterly measures of state and local receipts of rents and royalties are judgmentally extrapolated from the most recent annual estimate.