

CHAPTER 10: COMPENSATION OF EMPLOYEES

(Updated: November 2012)

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Compensation measures the total income—both wages and salaries and supplements to wages and salaries—earned by employees in return for contributing to production during an accounting period. It is the largest component of gross domestic income (GDI), of national income, and of personal income in the U.S. national income and product accounts (NIPAs). Compensation estimates are an integral part of the NIPAs, a set of accounts that provides a logical and consistent framework for presenting statistics on U.S. economic activity (see “Chapter 2: Fundamental Concepts”).

BEA’s measures of compensation provide comprehensive and consistent economic measures of the income earned by all U.S. workers. In contrast to other available measures of compensation, the NIPA measures include not just wages and salaries but also noncash benefits such as employer contributions to pension funds, to health insurance, and to social insurance programs. Thus, the NIPA measures of compensation are particularly useful in analyses of labor’s share in the functional distribution of income. Additionally, unit labor costs—the ratio of compensation to real output—is an important indicator of potential inflation. Moreover, analyses of the components and supporting detail underlying the compensation measures are useful for considering the differences between the individual experiences of households and the picture of the economy captured in broader aggregates such as GDP and personal income.¹ In addition, wages and salaries—the largest component of compensation—is critical for projecting federal budgets and Social Security trust fund balances.

¹ For instance, the components of compensation can be used to compare the growth of cash income—what households have available for consumption—with noncash payments. Between 1967 and 2007, supplements, after adjustment for inflation, grew at an average annual rate of 3 percent, while real wages and salaries grew at an average annual rate of 1 percent. See J. Steven Landefeld, Brent R. Moulton, Joel D. Platt, and Shaunda M. Villones, “GDP and Beyond: Measuring Economic Progress and Sustainability,” *Survey of Current Business* 90 (April 2010): 12-25.

Definitions and Concepts

The NIPAs provide three measures of compensation:

- “Compensation of employees, paid” is a measure of the compensation paid by U.S. resident employers to their resident and nonresident employees. That is, it excludes compensation received from the rest of the world, and it includes compensation paid to the rest of the world.² It is measured on an *accrual* basis—that is, it reflects the compensation liabilities incurred, or accrued, by employers regardless of whether the wages and salaries are actually received by labor during a given period.
- “Compensation of employees” is a measure of the compensation paid by resident and nonresident employers to U.S. resident employees. That is, it excludes compensation paid to the rest of the world, and it includes compensation received from the rest of the world. It is also measured on an accrual basis.
- “Compensation of employees, received” is similar to “compensation of employees” in that it measures the compensation of U.S. resident employees from both resident and nonresident employers. However, unlike the other two measures of compensation, it is measured on a *cash* basis—that is, it reflects the compensation actually received by persons during a given period, regardless of when the liability was accrued by employers.

The NIPAs present these three measures in order to (1) distinguish the compensation earned by all of the employees of resident U.S. employers from the compensation earned by resident U.S. employees from all employers, and (2) reflect differences in timing between accrual-based and cash-based measures of compensation.³

The presentation of compensation on an accrual basis is consistent with the conceptual basis of the NIPAs; however, the source data underlying the estimation of compensation are available only for disbursements (see the section “Overview of Source Data and Estimating Methods” below). In most years, the pattern of wage and salary accruals and disbursements is relatively stable, so there is little difference between the measures of accruals and disbursements.⁴ However, when there is evidence of a substantial departure from the usual

² Compensation paid to the rest of the world consists of compensation paid to foreign residents temporarily working in the United States (including undocumented migratory workers) and to Canadian and Mexican workers who commute to work in the United States. Compensation received from the rest of the world consists of compensation received by U.S. residents temporarily working abroad, working in foreign diplomatic installations, or working for international organizations in the United States, and by workers from the United States who commute to Mexico or Canada.

³ For a discussion of the accrual and cash methods of accounting, see “Accounting principles” in chapter 2.

⁴ As a simple example, if wages and salaries accrued annually include bonuses that typically equal \$100, with one-half of the bonuses paid in the current year and one-half paid in the following year, then each year’s disbursed wages will include a \$50 bonus payment accrued in the current year and a \$50 bonus payment accrued in the previous year; the total bonuses paid in each year—\$100—equals the bonuses accrued.

pattern, BEA prepares a timing adjustment—*wage accruals less disbursements* (WALD)—in order to better reflect the earnings accrued in each period. A positive WALD adjustment indicates a net amount of compensation earned, but not actually received, during the period, and a negative WALD adjustment indicates a net amount of compensation received, but not earned, during the period. Bonus payments are the most common source of WALD adjustments on an annual basis, because many bonuses are declared (and therefore earned) at the end of a year but are not actually paid until the following year.

Table 10.1 shows the kinds of transactions that are included in, and excluded from, compensation of employees. The NIPA treatment of compensation is consistent with the treatment recommended by the *System of National Accounts 2008* (SNA), in which compensation reflects the total remuneration, in cash or in kind, payable to an employee in return for their work during the accounting period.⁵ Compensation consists of the earnings of employees, but it does not include the earnings of the self-employed, which the NIPAs treat as proprietors’ income (and the SNA treats as mixed income). Compensation is equal to the sum of *wage and salary accruals* and of *supplements to wages and salaries*. Wage and salary accruals consists of cash and in-kind remuneration of labor and generally accounts for over 80 percent of compensation. Supplements to wages and salaries consists of employer payments that are made on behalf of employees but are not included in the regular wage payments provided directly to employees—specifically, *employer contributions for employee pension and insurance funds* and *employer contributions for government social insurance*. Because these payments are made for the benefit of employees and because the value of the contributions is typically determined, in some fashion, by their labor, they are treated as compensation.

Table 10.1—Content of Compensation of Employees

Category of transaction	Comments
Wages and salaries in cash	<p>Includes monetary wages and salaries payable by employers to employees and to corporate officers at regular intervals, including piecework payments; overtime or unusual-hour payments; payments for periods away from work due to temporary discontinuation of production, such as holidays or absences for illness; allowances for unusual location or conditions; early retirement (buyout) payments; severance pay; and regular supplementary allowances, such as housing allowances.⁶</p> <p>Includes incentive payments, commissions, tips, and bonuses payable to employees and to corporate officers.</p> <p>Includes voluntary employee contributions to certain deferred compensation plans such as 401(k) plans and to “cafeteria plans”—employee benefit plans that allow the use of pre-tax earnings to pay for health insurance and to contribute to “flexible spending arrangements,” which reimburse for medical and dependent-care expenses.</p> <p>Includes employee gains from exercising nonqualified stock options (NSOs).⁷</p>

⁵ 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: 7.5* at <http://unstats.un.org/unsd/nationalaccount/SNA2008.asp>.

⁶ The source data underlying the estimates of wages and salaries do not provide the separate estimates of severance payments or of payments for time away due to illness or injury that are required for excluding them from compensation (as the SNA recommends), so they are included in the NIPA measures of compensation.

⁷ NSOs are regarded as additional, taxable, income at the time they are exercised; in contrast, incentive stock options

	<p>Includes wages and salaries paid to employees of unincorporated enterprises.</p> <p>Excludes the income received by the owners or associated household members of unincorporated enterprises, which is treated as proprietors' income.</p> <p>Excludes the income received by tax-exempt cooperatives, which is treated as proprietors' income.</p> <p>Excludes reimbursement by employers of expenditures made by employees in order to carry out their work (such as purchases of tools and equipment), which are treated as intermediate expenditures by the employer.</p>
Wages and salaries in kind	<p>Includes employer-provided in-kind earnings, such as transit subsidies, meals, and lodging.</p> <p>Excludes goods or services that employers must provide in order for employees to perform their work, which are treated as intermediate expenditures by the employer.</p>
Supplements to wages and salaries	<p>Includes employer contributions for employee pension and insurance funds: private employee pension and profit-sharing funds; publicly administered government employee retirement plans; private insurance funds such as group health and life insurance; workers' compensation; and supplemental unemployment insurance.</p> <p>Includes employer contributions for government social insurance: old age, survivors, and disability insurance (social security); hospital insurance; unemployment insurance; railroad retirement; pension benefit guaranty; veterans life insurance; workers' compensation; military medical insurance; and temporary disability insurance.</p>

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, “compensation of employees, paid” appears as an income component in the Domestic Income and Product Account (account 1) and “compensation of employees, received” appears in the Personal Income and Outlay Account (account 3) as a component of personal income.⁸ Wage accruals less disbursements—the difference between “compensation of employees, paid” and “compensation of employees, received”—appears as a component of saving in the Domestic Capital Account (account 6). As “compensation of employees” reflects the compensation liabilities of both resident and nonresident employers, it appears as a component of national income and does not appear in the seven summary accounts.⁹

do not require the reporting of additional income and are taxed as long-term capital gains when sold. The detailed data required for treating NSOs as compensation of employees when the options are granted (as the SNA recommends) are not currently available. Instead, NSOs are valued at the time that they are exercised, and the difference between the market price at the time of the exercise and the price paid by the employee at the time of the exercise is recorded as wages and salaries. For a discussion of the SNA recommendations and BEA's research on NSOs, see Carol E. Moylan, “[Employee Stock Options and the National Economic Accounts](#),” *Survey* 88 (February 2008): 7-13, and Marshall B. Reinsdorf and David G. Lenze, “[Defined Benefit Pensions and Household Income and Wealth](#),” *Survey* 89 (August 2009): 50-62.

⁸ In addition, compensation of general government employees is a product-side component of government consumption expenditures and gross investment in account 1; see “Chapter 9: Government Consumption Expenditures and Gross Investment” for more information on the NIPA presentation of government as both a consumer/investor and a producer and on the measurement of government output as the sum of the cost of its inputs.

⁹ For a discussion of the relationship between GDP, GNP, national income, and other important NIPA aggregates, see “Major NIPA aggregates” in chapter 2. For a discussion of domestic and national measures of production, see “Geographic coverage” in chapter 2.

The NIPAs present current-dollar annual estimates of gross domestic income by type of income, national income by type of income, and national income by sector and legal form of organization.

- The presentation of gross domestic income by type of income includes “compensation of employees, paid” and selected aggregate components—wage and salary accruals, wage and salary disbursements to persons and to the rest of the world, WALD, and supplements to wages and salaries.
- The presentation of national income by type of income includes “compensation of employees” and selected aggregate components—wage and salary accruals for government and for the aggregate of all other sectors and supplements to wages and salaries from employer contributions for employee pension and insurance funds and from employer contributions for government social insurance.
- The presentation of national income by sector and legal form of organization also includes “compensation of employees” and selected aggregate components—wage and salary accruals and supplements to wages and salaries.¹⁰

Additionally, annual estimates of “compensation of employees,” wage and salary accruals, and the major components of supplements to wages and salaries are presented by industry.

The sector-specific estimates follow the NIPA sectors—business (including government enterprises), households and institutions, general government, and the rest of the world; within the business sector, the estimates by legal form are classified according to the Internal Revenue Service (IRS) filing requirements for corporate and noncorporate business.¹¹ The industry-specific estimates for 1998 forward are classified according to the 2002 North American Industry Classification System (NAICS) at the three-digit industry level, and the estimates prior to 1998 are classified according to the Standard Industrial Classification (SIC); the estimates for 1998-2000 are also available on an SIC basis.¹² The industry-specific estimates include estimates for federal general government (which includes both civilian employees and military personnel), for federal government enterprises, for state and local general government, and for state and local government enterprises.

Estimates of “compensation of employees, paid” and “compensation of employees” and

¹⁰ The NIPAs include several aggregate measures of real (inflation-adjusted) income, such as real gross domestic income and real gross national income, as counterparts to the aggregate measures of real production; however, inflation-adjusted estimates are generally not presented for more detailed income components, and estimates of real compensation are not generally prepared. As a component of the product-side measure of government consumption expenditures and gross investment, compensation of general government employees is an exception. For more information on the derivation of inflation-adjusted measures, see “Price and Quantity Estimates” in “Chapter 4: Estimating Methods.” For more information on the derivation of real compensation of general government employees, see the section “Quantity and price estimates” in chapter 9, and see Bruce E. Baker and Pamela A. Kelly, “[A Primer on BEA’s Government Accounts](#),” *Survey* 88 (March 2008): 29-38.

¹¹ For descriptions of NIPA sectors and of legal forms of organization, see the section “Classification” in chapter 2.

¹² Time-series breaks caused by the conversion to NAICS and by previous revisions to the SIC are reflected in the separation of estimates into distinct tables for each range of estimates based on a different classification. For instance, table 6.2, Compensation of Employees by Industry, comprises four separate tables: table 6.2A, based on the 1942 SIC; table 6.2B, based on the 1972 SIC; table 6.2C, based on the 1987 SIC; and table 6.2D, based on the 2002 NAICS. For more information on the conversion from the SIC to NAICS, see John R. Kort, “The North American Industry Classification System in BEA’s Economic Accounts,” *Survey* 81 (May 2001): 7–13.

certain aggregate components are also available quarterly.¹³ The following is a list of the principal NIPA tables that present current-dollar estimates of compensation as a component of GDI and of national income.

- 1.10 Gross Domestic Income by Type of Income
- 1.11 Percentage Shares of Gross Domestic Income
- 1.12 National Income by Type of Income
- 1.13 National Income by Sector, Legal Form of Organization, and Type of Income
- 6.2 Compensation of Employees by Industry
- 6.3 Wage and Salary Accruals by Industry

Annual estimates of supplements to wages and salaries are also presented by industry and by detailed type of supplement in the following NIPA tables:

- 3.6 Contributions for Government Social Insurance¹⁴
- 6.10 Employer Contributions for Government Social Insurance by Industry
- 6.11 Employer Contributions for Employee Pension and Insurance Funds by Industry and by Type
- 7.8 Supplements to Wages and Salaries by Type

Annual and quarterly estimates of wages and salaries paid to the rest of the world and wages and salaries received from the rest of the world are presented in “Table 4.1. Foreign Transactions in the National Income and Product Accounts.”

Additional information on compensation is available in underlying detail tables.¹⁵ Compensation paid to general government employees—that is, both civilian and military employees of federal and state and local agencies excluding government enterprises—is available in several tables, but table 3.25U provides detail not found elsewhere. And while annual estimates of employer contributions for government social insurance are available in table 3.6, quarterly estimates are available as underlying detail in table 3.6U.

Other measures of compensation—or more specifically, measures of wages and employment—are prepared by the Census Bureau’s County Business Patterns series and by the

¹³ The NIPAs also present annual and quarterly estimates of “compensation of employees, received” in NIPA table group 2 as part of personal income. Annual and quarterly estimates of “compensation of employees, received” are available in NIPA table 2.1. Annual and quarterly estimates of wage and salary disbursements—the primary component of “compensation, received”—are available by industry in NIPA table 2.2. Monthly estimates of wage and salary disbursements for total private industries and for total government and monthly estimates of total supplements are available in NIPA table 2.6. Quarterly and monthly estimates of wage and salary disbursements by aggregate industry groupings are available in tables 2.2 and 2.7, respectively. BEA also prepares state and local area estimates of compensation and its components by industry and by type. For more information, see the “Regional” page at www.bea.gov.

¹⁴ The NIPAs also present estimates of the benefits paid by government social insurance programs in table 3.12.

¹⁵ BEA does not include these detailed estimates in the published tables because their quality is significantly less than that of the higher level aggregates in which they are included. Compared with these aggregates, the more detailed estimates are more likely to be based on judgmental trends, on trends in higher level aggregates, or on less reliable source data.

Bureau of Labor Statistics' (BLS) Quarterly Census of Employment and Wages program.¹⁶ The Census estimates are derived from Federal administrative records and survey information from business establishments. BEA's statistics and BLS' statistics are both based primarily on BLS tabulations of employment and wage data from the unemployment insurance program; BEA presents the relationship between them in "Table 7.18. Relation of Wages and Salaries in the National Income and Product Accounts to Wages and Salaries as Published by the Bureau of Labor Statistics." A reproduction of table 7.18 appears below in the section "Adjustments to the QCEW data."

Overview of Source Data and Estimating Methods

As described earlier in the handbook, the NIPA estimates, including those for compensation of employees, 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"). Specifically, the compensation estimates are based on statistical reports from federal agencies including BLS and the Department of the Treasury, on federal budget publications and other administrative and regulatory agency reports, and on reports from private organizations (such as trade associations).

Tables 10.A (wages and salaries), 10.B (employer contributions for pension and insurance funds), and 10.C (employer contributions for government social insurance) at the end of this chapter summarize the source data and estimating methods that are used to prepare the annual estimates and the current quarterly estimates of compensation and its components. The tables follow the categories shown in NIPA tables 6.3 (for wage and salary accruals), 6.11 (for employer contributions for pension and insurance funds), and 3.6 (for employer contributions for government social insurance).¹⁷

Annual estimates

"Compensation of employees, paid" is measured as the sum of wage and salary accruals and of supplements to wages and salaries. As the source data underlying wages and salaries are

¹⁶ See "What is the difference between BEA employment and wages and BLS and Census employment and wages?" on BEA's "FAQs" page at www.bea.gov.

¹⁷ In NIPA table 6.3, total wage and salary accruals on a national income basis—which includes wages and salaries received from the rest of the world and excludes wages and salaries paid to the rest of the world—is shown on line 1. The industry-specific estimates, beginning with "Domestic industries" on line 2, include payments to the rest of the world (and exclude receipts from the rest of the world) in order to accurately reflect each industry's total wage and salary liability. The offsetting entry, total wages and salaries paid to the rest of the world netted against wages and salaries received from the rest of the world, is shown on line 97.

In NIPA table 3.6, the entry "Rest-of-the-world contributions" on line 32 recognizes the employer and employee contributions for government social insurance from residents of the U.S. territories of Guam, American Samoa, and the U.S. Virgin Islands and of the U.S. commonwealths of Puerto Rico and the Northern Mariana Islands. In the NIPAs, these are treated as contributions from "nonresidents" (see the section "Geographic coverage in chapter 2) and as a consequence, they are not included in the NIPA estimates of total supplements to wages and salaries and are not shown in table 10.C.

for disbursements, BEA estimates accruals as the sum of wage and salary disbursements plus wage accruals less disbursements (which are typically zero, as discussed above). The primary source of information on annual wages and salary disbursements is the BLS quarterly census of employment and wages (QCEW); the sources of information on supplements to wages and salaries are as varied as the programs themselves.

Wage and salary disbursements. The benchmark and annual estimates are derived using the same source data and methodologies. For private industry employees and for civilian employees of federal government, of state and local general government, and of the U. S. Postal Service, the estimates are primarily based on the QCEW. Estimates for the military and for other government enterprises are discussed below in the section “Adjustments to the QCEW data.” QCEW data on wage and salary disbursements are generally available for all four quarters of the previous year at the time of the annual revision of the NIPAs, which typically occurs in July.

The QCEW is a federal-state cooperative program in which state employment agencies compile and report to BLS the monthly data on employment and the quarterly data on total and taxable wages that are reported to the states each quarter by private industries on quarterly tax returns and by federal agencies and state and local governments on similar reports for employees covered by state unemployment insurance (UI) laws or by the Unemployment Compensation for Federal Employees (UCFE) program. These data cover about 97 percent of employees on nonfarm payrolls.

The wages reported to the state employment agencies are generally consistent with the NIPA definition of wage and salary disbursements. They reflect the total wages and salaries paid during the calendar quarter, regardless of when the services were performed (though a few state laws specify that wages be reported on an accrual basis). BLS tabulates the data by geographical categories (county, metropolitan statistical area, combined statistical area, state, and the nation), by six-digit industry level (for 2007 forward, as defined under the 2007 NAICS), and by ownership sectors (private industry, federal government, and state or local government).

BEA sums the quarterly QCEW data for each industry to derive annual estimates and makes additional adjustments to account for misreporting of wages on employment tax returns and for differences in coverage and in definitions (see the section “Adjustments to the QCEW data”); these adjustments account for only about 7 percent of the NIPA estimate of wage and salary disbursements. Additionally, if the QCEW data or other sources indicate that there are timing issues, such as significant and unusual accelerations or deferrals of bonuses or retroactive pay raises, BEA prepares quarterly and annual estimates of WALD. BEA uses industry payroll data from the Census Bureau’s Economic Census to aggregate the estimates across industries and levels of government to prepare estimates of total wages and salaries by legal form and sector.

Supplements to wages and salaries. Employer contributions for employee pension and insurance funds consist of the contributions made by private or government employers to privately administered retirement and insurance programs and by government employers to publicly administered retirement programs for government employees. Employer contributions for government social insurance consist of the contributions made by private and public employers

to other publicly administered programs that provide certain social benefits, such as social security and Medicare.¹⁸

For employer contributions for pension and insurance funds, supplements are estimated by type of fund, such as private pension and profit-sharing funds and government employee retirement funds. The estimates are primarily based on survey and administrative data from government agencies—including the Department of Labor, the Department of the Treasury, the Census Bureau, the Office of Personnel Management, the Pension Benefit Guaranty Corporation, and the Department of Health and Human Services—and from private data sources, including A.M. Best’s *Aggregates and Averages*.

For employer contributions for government social insurance, supplements are estimated by program. The estimates are primarily based on administrative data from the Social Security Administration, the Department of Labor, and the Veterans’ Administration; on survey data from the Census Bureau; and on financial data from the *Budget of the United States Government (Budget)* as published by the Office of Management and Budget.

The industry-specific estimates are prepared by allocating the program and fund estimates to three-digit NAICS industries using industry-specific information from the source data or from other industry-specific data that is related to the program or fund. For instance, the source data underlying the estimates of workers’ compensation do not include industry information, so industry ratios are derived from industry-specific data on occupational injuries and illnesses from BLS.

Current quarterly estimates

Current quarterly estimates of wage and salary accruals and of supplements to wages and salaries are published only at aggregate levels and not by detailed industries or by program. For wage and salary accruals, current quarterly estimates are prepared by averaging the monthly estimates of wage and salary disbursements that are released as part of BEA’s monthly personal income estimates. For the published aggregates of supplements to wages and salaries, current quarterly estimates are derived as the sum of the components (or some aggregate level of the components) that are, in most cases, prepared by extrapolation, either judgmentally or by using an indicator series (for an explanation of this method, see “Interpolation and extrapolation using an indicator series” in chapter 4).¹⁹ For example, the current quarterly estimate of employer contributions for private employee pension and profit-sharing funds is derived as the sum of (1) the aggregate of private employer contributions for private pension and profit-sharing funds, for group life insurance, for privately administered workers’ compensation, and for the supplemental unemployment benefits fund and of (2) the aggregate of state and local employer contributions

¹⁸ For descriptions of the government social insurance programs included in the NIPA measure of employer contributions for government social insurance, see U.S. Bureau of Economic Analysis, *MP-5: Government Transactions* (Methodology Papers: U.S. National Income and Product Accounts, September 2005) at www.bea.gov.

¹⁹ Most of the source data that are used for extrapolation are seasonally adjusted; when this is not the case, BEA seasonally adjusts data that display seasonality (see the section on “Seasonal adjustment” in chapter 4). In cases where estimates are extrapolated without the use of indicator series, there is no monthly or quarterly seasonality.

for private pension funds, for group life insurance, and for privately administered workers' compensation.

Wage and salary disbursements. As noted above, the primary source for the annual estimates of private wage and salary disbursements is QCEW data. Because these quarterly data are generally available 5 months after the end of a quarter, the estimates of private wages and salaries for the quarters for which the QCEW data are not yet available are derived by averaging the current monthly estimates.²⁰ The current monthly estimates are extrapolated for each industry from the historical monthly estimates, which are in turn based on the most recent quarterly QCEW data that are available; the industry estimates are then summed to derive the monthly estimates for total disbursements. The extrapolation is based on the growth rate of the product of the most recent monthly data on employment, average weekly hours, and average hourly earnings from the BLS current employment statistics (CES) program. Similarly, once the QCEW data are incorporated into the quarterly estimates, the monthly estimates are interpolated based on the same CES indicator series. For example, the end-of-November release of Personal Income and Outlays for October contains monthly estimates of wage and salary disbursements for July through October that are CES extrapolations of revised monthly estimates for the second quarter that are based on newly available QCEW data. In turn, the end-of-November release of GDP for the third quarter (second estimate) contains third-quarter estimates of wages and salaries that are derived by averaging the monthly Personal Income and Outlay estimates.

In general, the release of the “third” current quarterly estimate of GDP marks the last opportunity to revise those estimates until the next annual revision. However, because of the importance of the QCEW as a data source and because of the 5-month lag in its availability, an exception is made for private wages and salaries and for private employer contributions for government social insurance (for which the estimates are generally based on estimates of private wages and salaries). As part of the “second” current quarterly release of GDP, the *preceding* quarter's estimates for these series and for affected income-side aggregates are revised in order to incorporate the newly available QCEW data.²¹ Thus, continuing with the example above, the end-of-November release of GDP for the third quarter (second estimate) *also* contains revised estimates of wages and salaries for the *second* quarter that are derived by averaging the revised QCEW-based monthly estimates.

For federal and for state and local government employees, the current quarterly estimates are derived by summing monthly extrapolations of the annual estimates. Federal civilian estimates for both general government and government enterprises are extrapolated using an

²⁰ The monthly estimates of personal income, including compensation, are expressed at annual rates; consequently, the current quarterly estimates, also expressed at annual rates, may be derived by averaging the monthly estimates.

²¹ This procedure was introduced as part of the 2002 annual revision in order to reduce the magnitude of revisions to the estimates of wages and salaries. (See the box “Revisions to Wages and Salaries and to Profits” in Eugene P. Seskin and Stephanie H. McCulla, “[Annual Revision of the National Income and Product Accounts](#),” *Survey* 82 (August 2002): 24-25.) Affected aggregates include gross domestic income, the statistical discrepancy, gross national income, national income, personal income, disposable personal income, personal taxes, personal saving, gross (national) saving, compensation, and gross product of corporate business. Other components that are closely linked to wages and salaries, such as personal current taxes and employer contributions for government social insurance, are also revised. Product-side series, including government compensation, which is a component of GDP, are not revised.

indicator series that is based primarily on CES employment data. Federal military estimates are extrapolated using Department of Defense employment data. State and local government estimates for both general government and government enterprises are extrapolated using an indicator series that is based on CES employment data and on information on the change in the cost of labor from the BLS employment cost index.

Supplements to wages and salaries. Current quarterly estimates of private employer contributions for pension and insurance funds are released only for the aggregate, which is prepared as the sum of the components. In most cases, the component estimates are prepared by judgmentally projecting annual estimates into the next year and then interpolating those projected annual estimates into quarterly (and monthly) estimates.

Current quarterly estimates of employer contributions for government social insurance funds are also prepared as the sum of its components. These components are generally extrapolated from the annual estimates to quarterly (and monthly) estimates using indicator series, so they are made available as part of the NIPA underlying detail (see the section “Recording in the NIPAs”). In most cases, the indicator series are based on NIPA wage and salary estimates or the component estimates are extrapolated without an indicator but with information from *Budget* projections of relevant outlays. As mentioned earlier, the estimates of employer contributions for government social insurance funds for the preceding quarter are revised to incorporate newly available QCEW data as part of the “second” current quarterly release of GDP.

Adjustments to the QCEW data

The QCEW data on wage and salary disbursements are largely consistent with the concepts and definitions underlying the NIPA estimates of wages and salaries. However, in deriving the annual estimates of wage and salary disbursements for the NIPAs, BEA adjusts the QCEW data to account for misreporting of wages (including tips) on employment tax returns and for differences in coverage and in definitions. A reconciliation of the BLS and the NIPA estimates of wage and salary disbursements is presented annually in NIPA table 7.18, a reproduction of which is shown for a single year in table 10.2 below.

Table 10.2: Relation of BLS Wages and Salaries and NIPA Wages and Salaries
(Billions of dollars)

Line in NIPA table 7.18	NIPA line item	2008
1	Total wages and salaries, BLS	6,142.2
2	Plus: Adjustment for misreporting on employment tax returns	87.8
3	Adjustment for wages and salaries not covered or not fully covered by unemployment insurance	320.9
4	Government	137.4
5	Other	183.5
6	Equals: Wage and salary disbursements, NIPAs	6,550.9
7	Plus: Wage accruals less disbursements, NIPAs	-5.0

8	Equals: Wage and salary accruals, NIPAs	6,545.9
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Adjustment for misreporting on employment tax returns (line 2). Adjustments are made to the QCEW data to account for wages and salaries that are underreported on employment tax returns, for tips that are underreported, and for wages and salaries that are not reported at all because the employers fail to file an employment tax return.

- The estimates of underreported income are based on audits of individual employment tax returns undertaken as part of the IRS National Research Program (NRP) for 2001.²²
- The adjustment for underreported tips or gratuities is derived in the preparation of BEA's input-output accounts for industries—primarily accommodations, food services, taxis, barber shops, and beauty salons—where tips are a significant factor in compensation. The adjustment is based on the assumption that not all tips are included in the wages and salaries reported on the employment tax returns, and it is derived using information on industry sales and information on “tip rates” from the IRS.
- The estimates of nonreported income are based on “exact-match” studies that the Census Bureau provides to BEA. These studies match records from the Census Bureau's Current Population Survey with individual IRS tax returns in order to estimate nonfiler income for individuals.

Adjustment for wages and salaries not covered or not fully covered by unemployment insurance (line 3). The QCEW data provide almost complete coverage for most private industry employees, federal civilian employees, and state and local government employees. However, for military personnel and for certain private industries for which the QCEW provides little or no coverage—railroads, farms, farm labor contractors, private elementary and secondary schools, religious membership organizations, and private households—estimates of wage and salary disbursements are prepared separately using other source data.

- Government (line 4). This entry reflects the addition of the NIPA estimate for wages and salaries of military personnel and for various other government wage and salary payments not captured by the QCEW. The compensation paid to military personnel is based on *Budget* data and includes cash wages as well as in-kind compensation such as uniform and housing allowances and rations. The wage and salary information in the *Budget* is available on a fiscal year basis; actual wage and salary expenses are provided for one year, and projections are provided for the current and budget years (for example, the FY2011 *Budget* provides actual expenses for FY2009 and projected expenses for FY2010 and FY2011). BEA converts the fiscal year estimates to a calendar year basis by allocating one quarter of the estimate for a given fiscal year to the previous year and three quarters to the given year.

Additional government-related adjustments are made for students and their spouses employed by public colleges or universities, for elected officials and members of

²² The IRS Taxpayer Compliance Measurement Program had provided estimates of misreported income for selected years since 1963. In 2001, the IRS launched the NRP to update the research and to reflect a changing economy, revisions to the tax code, and shifts in individual behavior.

the judiciary, for intelligence agents, for interns employed by publicly administered hospitals and by social service agencies, for judicial fees paid to jurors and witnesses, for compensation of prison inmates, and for marriage and license fees paid to justices of the peace. These adjustments, which comprise only a very small share of the total government adjustment, are prepared using a variety of source data, including data from the Census Bureau and the Department of Justice.

- Other (line 5). This entry accounts for all of the other adjustments that are made in the estimation of NIPA wage and salary disbursements, including estimates for employees not covered by the QCEW and estimates for differences between the QCEW and the NIPA definitions of wages and salaries.

Adjustments for employees not fully captured in the QCEW data are made as follows:

- *for federal government enterprises* excluding the U.S. Postal Service (which is covered by the QCEW), based on *Budget* data.
- *for farms*, based on data on farm labor expenses from the U.S. Department of Agriculture (USDA).
- *for farm labor contractors*, primarily based on data for contract farm labor expenses from the Census of Agriculture.
- *for private elementary and secondary schools*, primarily based on annual payroll data from the Census Bureau’s *County Business Patterns*; estimates of in-kind wages are judgmentally derived.
- *for religious membership organizations*, primarily based on annual payroll data from the Census Bureau’s *County Business Patterns*; estimates of in-kind wages are judgmentally derived.
- *for private households*, primarily based on Census Bureau data from the Current Population Survey; estimates of in-kind wages are judgmentally derived.
- *for railroads*, primarily based on wage and salary data from the Railroad Retirement Board.

Adjustments for differences between the QCEW and the NIPA definitions of wages and salaries include the following:

- An adjustment to include compensation received from foreign employers and to exclude compensation paid to foreigners in order to make the measure consistent with national income, derived from ITA estimates of compensation received from foreigners. Alternatively, in gross domestic income tables, the ITA estimate of compensation paid to the rest of the world is included and the ITA estimate of compensation received from the rest of the world is excluded. The ITA estimates of compensation received from, and paid to, foreigners are based mostly on data from foreign statistical authorities and from the IRS, as well as various demographic and labor market data from the USDA and the Department of Labor.²³

²³ For more information on the sources and methods for estimating compensation paid to and received from the rest of the world, see the chapter “Compensation of Employees” in “U.S. International Transactions Accounts: Concepts

- An adjustment to include employer contributions to “cafeteria plans” that are excluded from the QCEW data for private industries and for state and local governments when state laws do not count them as wages for unemployment insurance purposes. These plans allow participating employees to use a portion of their salaries on a pre-tax basis to pay for health insurance and for “flexible spending arrangements,” which reimburse employees for medical care and for dependent care. The adjustment is based on data from the Agency for Healthcare Research and Quality’s Medical Expenditures Panel Survey and on trade source data.²⁴ This adjustment is not needed for federal employer contributions to these plans because they are included in the QCEW data for all states.

and Estimation Methods,” on the “Methodologies” tab of the International page at www.bea.gov.

²⁴ For more information, see Clinton P. McCully and Steven Payson, “[Preview of the 2009 Comprehensive Revision of the NIPAs](#),” *Survey* 89 (May 2009): 11.

Table 10.A—Summary of Methodology Used to Prepare Estimates of Wage and Salary Disbursements

Line in NIPA table 6.3	Component	Annual estimates	Current quarterly estimates (Indicator series used to extrapolate)
3	Private industries	<p><u>Most industries</u>: QCEW, with adjustments by BEA for coverage, misreporting, and definitions (see the section “Adjustments to the QCEW data”). For certain other industries, or types of enterprises within industries, other sources as follows: <u>Farms</u>: USDA farm labor expense data on cash wages and payments-in-kind by owner-operators to hired farm labor. <u>Farm labor contractors</u>: For Arizona and California, QCEW. For other states, for benchmark years, Census of Agriculture contract farm labor expenses, and for nonbenchmark years, straight-line interpolations of benchmark-year estimates. <u>Private elementary and secondary schools</u>: For cash wages, Census Bureau <i>County Business Patterns</i> data on annual payrolls; for pay-in-kind, judgmentally derived. <u>Religious membership organizations</u>: For cash wages, Census Bureau <i>County Business Patterns</i> data on annual payrolls. For in-kind wages, judgmentally derived. <u>Private households</u>: For cash wages, Census Bureau <i>Current Population Survey</i> data. For pay-in-kind, judgmentally derived. <u>Railroads</u>: U.S. Railroad Retirement Board data on wages and salaries subject to the payroll tax that supports the railroad retirement system, adjusted to include the portion of wages and salaries not subject to the tax, based on the number of employees whose wages and salaries exceed the limit for retirement taxation.</p>	CES employment, hours, and earnings data.
86	Government:		
	Federal government:		
89	Civilian general government	For cash wages, QCEW with adjustments by BEA for coverage (see the section “Adjustments to the QCEW data”). For in-kind transit benefits, Department of Transportation.	CES civilian employment data.
90	Military	For cash and in-kind wages, <i>Budget of the United States Government</i> .	Department of Defense manpower reports.
91	Government enterprises	For U.S. Postal Service, QCEW data. For other enterprises, <i>Budget</i> data.	CES employment data for Postal Service.
92	State and local government:		
93	General government	For employees except teachers, QCEW data for all state and local employees allocated to general government and government enterprises using Census Bureau <i>Public Employment</i> payroll data with adjustments by BEA for coverage (see the section “Adjustments to the QCEW data”). For teachers, QCEW data.	CES employment data and BLS employment cost index data.
96	Government enterprises	QCEW data for employees allocated to government enterprises using Census Bureau <i>Public Employment</i> payroll data.	CES employment data and BLS employment cost index data.
97	Rest of the world:		
98	Receipts from the	ITA estimates.	ITA estimates.

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	rest of the world		
99	Less: Payments to the rest of the world	ITA estimates.	ITA estimates.

- BEA Bureau of Economic Analysis
- BLS Bureau of Labor Statistics
- CES Current Employment Statistics, BLS
- ITA International Transactions Accounts, BEA
- QCEW Quarterly Census of Employment and Wages, BLS

Table 10.B—Summary of Methodology Used to Prepare Estimates of Employer Contributions for Employee Pension and Insurance Funds			
Line in NIPA table 6.11	Component	Annual estimates	Current quarterly estimates* (Indicator series used to extrapolate)
24	Employer contributions for private employee pension and profit-sharing funds	For private employers, for all except 2 most recent years, Department of Labor’s Employment Benefits and Security Administration tabulations of IRS form 5500 for three-digit NAICS industries. For second most recent year, Pension Benefit Guaranty Corporation tabulations, and for most recent year, Standard and Poor’s 500 and other corporate financial data. For state and local government contributions for private pension funds administered by private carriers, data from Teachers Insurance and Annuity Associate/College Retirement Equities Funds.	For the aggregate of private employer contributions for private pension and profit-sharing funds, to group life insurance, to privately administered workers’ compensation, and to supplemental unemployment benefit funds, judgmental trend. For the aggregate of state and local government contributions for private pension funds, to group life insurance, and to privately administered workers’ compensation, CES employment data.
27	Publicly administered government employee retirement plans	<u>Federal civilian</u> : for payroll-based and general-revenue contributions for defined benefit plans, <i>Monthly Treasury Statement</i> (MTS) data supplemented by OPM data. For contributions to the Thrift Savings Plan (TSP), Federal Retirement Thrift Investment Board data. <u>Federal military</u> : MTS data. <u>State and local</u> : For all except 2 most recent years, Census Bureau <i>State and Local Government Public Employee Retirement Systems</i> annual fiscal year data on contributions adjusted to a calendar year basis. For 2 most recent years, Census Bureau <i>Finances of Selected State and Local Government Employee Retirement Systems</i> quarterly data and consolidated financial reports of retirement plans.	<u>Federal civilian</u> : for payroll-based contributions for defined benefit plans, civilian wages and salaries; for payments from general revenues, judgmental trend based on <i>Budget</i> projections of payments. For federal government contributions to TSP, CES employment data. <u>Federal military</u> : For contributions for defined benefit plans, payroll-based contributions, based on military wages and salaries, plus payments from general revenues, based on judgmental trend. For defined contributions plans, judgmental trend. <u>State and local government employees</u> : judgmental extrapolation.
33	Private group health insurance	For private employer contributions, Agency for Health Care Research and Quality’s <i>Medical Expenditure Panel Survey</i> (MEPS) data on insurance purchased by employers for employees and on health insurance provided by employers who insure themselves (self-insurance). For state and local government contributions, for all except most recent year, same as for private employers. For most recent year, judgmental trend. For federal government contributions, OPM internal accounting report for the Federal Employee Health Benefits Program.	For private employers, judgmental trend. For state and local government, judgmental trend. For federal government, CES employment data.
34	Private group life insurance	For private and for state and local government, for all except the most recent year, A.M. Best’s <i>Aggregate and Averages Life/Health</i> data on premiums paid. For most recent year, extrapolated based on the percent change in net premiums	For the aggregate of private employer contributions for private pension and profit-sharing funds, to group life insurance, to privately administered workers’ compensation, and to supplemental unemployment

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		<p>from A.M. Best data. For federal government contributions for civilian employees, OPM internal accounting report for the Federal Employee Group Life Insurance Program. For federal government contributions for active duty military personnel and their families, Veterans' Affairs Administration data on premiums paid for Servicemen's Group Life Insurance.</p>	<p>benefit funds, judgmental trend. For federal government contributions for civilian employees, CES employment data. For the aggregate of state and local government contributions for private pension funds, to group life insurance, and to privately administered workers' compensation, CES employment data.</p>
35	Workers' compensation	<p>A.M. Best's <i>Aggregates and Averages Property/Casualty</i> data on premiums paid, supplemented by data from the National Academy of Social Insurance for self-insured and for large deductible policies, and by data on the contributions made to privatized funds that are not covered by A.M. Best or by NASI from the National Council on Compensation Insurance, the National Association of Insurance Commissioners, and the American Association of State Compensation Insurance Funds.</p>	<p>For the aggregate of private employer contributions for private pension and profit-sharing funds, to group life insurance, to privately administered workers' compensation, and to supplemental unemployment benefit funds, judgmental trend. For the aggregate of state and local government contributions for private pension funds, to group life insurance, and to privately administered workers' compensation, CES employment data.</p>
36	Supplemental unemployment benefit funds	<p>Various industry sources.</p>	<p>For the aggregate of private employer contributions for private pension and profit-sharing funds, to group life insurance, to privately administered workers' compensation, and to supplemental unemployment benefit funds, judgmental trend.</p>

*Quarterly estimates are provided only for the aggregate of employer contributions for pension and insurance funds.

- BEA Bureau of Economic Analysis
- BLS Bureau of Labor Statistics
- CES Current Employment Statistics, BLS
- IRS Internal Revenue Service
- MTS Monthly Treasury Statement
- NAICS North American Industry Classification System
- OPM Office of Personnel Management

Table 10.C—Summary of Methodology Used to Prepare Estimates of Employer Contributions to Government Social Insurance			
Line in NIPA table 3.6	Component	Annual estimates	Current quarterly estimates* (Indicator series used to extrapolate)
5	Old-age, survivors, and disability insurance	SSA <i>Social Security Bulletin: Annual Statistical Supplement</i> data on wages and salaries subject to OASDI taxes multiplied by OASDI tax rate.	NIPA wages and salaries for appropriate industries.
6	Hospital insurance	For all employees except those in the railroad industry, SSA wages and salaries multiplied by the hospital-insurance tax rate. For railroad employees, U.S. Railroad Retirement Board calendar year data on railroad wages and salaries multiplied by the hospital insurance tax rate.	For workers covered by OASDI, same as for OASDI. For workers not covered by OASDI, judgmental trend.
8	State unemployment insurance	QCEW data on total unemployment insurance taxes.	For contributions by private employers, NIPA private wages and salaries less those of railroad, farm, and private household workers. For state and local reimbursements, unemployment insurance rate.
9	Federal unemployment tax	Sum of (1) Office of Workforce Security, Department of Labor tabulations of taxable wages and salaries by state from annual tax returns filed by employers multiplied by the effective federal tax rate and (2) for states that have borrowed funds to finance unemployment benefits, either the taxable wages and salaries multiplied by the surtax rate or state-provided data on the amount of surtax.	NIPA private wages and salaries less those of railroad, farm, and private household workers.
10	Railroad employees unemployment insurance	<i>Monthly Treasury Statement</i> data on railroad unemployment tax receipts.	NIPA railroad wages and salaries.
11	Federal employees unemployment insurance	Imputation based on Office of Workforce Security data on unemployment benefits paid to unemployed former federal employees.	Same as for annual estimates.
12	Railroad retirement	U.S. Railroad Retirement Board <i>Annual Report</i> data on wages and salaries subject to railroad retirement multiplied by railroad retirement tax rates.	NIPA railroad wages and salaries.
13	Pension benefit guaranty	Pension Benefit Guaranty Corporation monthly data on premiums paid by employers, aligned to the calendar years in which the premiums were accrued.	Extrapolated using information from fiscal year projections of premium collections from the <i>Budget of the United States Government</i> .
14	Veterans life insurance	Veterans Affairs <i>Annual Report</i> data on premiums paid by the federal government to life insurance programs for veterans.	Judgmental trend.
15	Workers' compensation	Imputation equal to benefits paid based on unpublished data on benefits from the Department of Labor's Employment Standards Administration.	Extrapolated using information from fiscal year projections of premium collections from the <i>Budget</i> .
16	Military medical insurance	Imputation equal to benefits based on benefits data from the Department of Defense Military Health System's annual TRICARE report.	Extrapolated using information from fiscal year projections of premium collections from the <i>Budget</i> .
18	State and local	Required only by New Jersey and California. For New Jersey,	Judgmental trend.

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	temporary disability insurance	estimated as a percentage of Census COG/GF data on total contributions for New Jersey. For California, estimated based on data on total employee contributions from California Employment Development Department.	
19	State and local workers' compensation	For state government contributions, COG/GF fiscal year data on state and local government contributions. For local government contributions, state government contributions multiplied by the ratio of local government full-time equivalent employees to state government full-time equivalent employees. For private employer contributions, COG/GF data on premiums.	CES employment data and judgmental extrapolation of premiums data.

*Quarterly estimates are provided as underlying detail only; these detailed estimates are not included in the published tables because their quality is significantly less than that of the higher level aggregates in which they are included. Compared with these aggregates, the more detailed estimates are more likely to be either based on judgmental trends, on trends in the higher level aggregate, or on less reliable source data.

- BEA Bureau of Economic Analysis
- BLS Bureau of Labor Statistics
- COG/GF Census of Governments and Annual Surveys of Government Finances
- NIPA National Income and Product Accounts
- OASDI Old-age, Survivors, and Disability Insurance
- QCEW Quarterly Census of Employment and Wages, BLS
- SSA Social Security Administration