

II. WAGE AND SALARY DISBURSEMENTS

Wages and salaries are broadly defined to include commissions, tips, and bonuses; voluntary employee contributions to deferred compensation plans, such as 401(k) plans; employee gains from exercising stock options; and receipts-in-kind that represent income.

Wage and salary disbursements are measured before deductions, such as social security contributions, union dues, and voluntary employee contributions to defined contribution pension plans and they reflect the amount of wages and salaries disbursed, but not necessarily earned, during the year. The estimates are prepared, with a few exceptions, at the North American Industry Classification System (NAICS) three-digit industry level.

Wage and salary disbursements accounted for almost 55 percent of total personal income at the national level in 2007 (table B).

The state and county estimates of wages and salaries are based primarily on data from quarterly unemployment insurance (UI) contribution reports that are filed with state employment security agencies by employers in industries that are covered by, and subject to state UI laws. Under most of these laws, wages and salaries include bonuses, tips, and the cash value of meals and lodging provided by the employer—that is, pay-in-kind.¹ The employment and security agencies summarize the data by county and NAICS six-digit industry on form ES-202. The data from all states are then published as the Quarterly Census of Employment and Wages (QCEW) by the Bureau of Labor Statistics (BLS) of the Department of Labor. The QCEW data account for 95 percent of wage and salary disbursements as estimated by BEA (table C).

Three industries—agricultural services, private education, and religious membership organizations—are only partially covered by state UI programs. The estimates of wages and salaries for these industries are calculated as the sum of wages and salaries in the fully covered portion of the industry, which is based on QCEW data, and wages and salaries in the incompletely covered portion, which is primarily based on other data.

The estimates of wages and salaries for industries that are not covered by UI programs or that are fully covered in only a few states are primarily based on data from a variety of sources as discussed below.

The sources of data and the methods that are used to prepare the estimates of wage and salary disbursements are described in two sections: Wages and salaries that are covered by UI programs and wages and salaries that are not covered by UI programs.

¹ State UI laws require employers to estimate (if applicable) the cash value of pay-in-kind and to add the estimate to the cash pay in their report of their payrolls. However, because employers are not required to distinguish between the two types of pay in their reports, it is doubtful that many comply with this requirement. Among the covered industries, pay-in-kind is significant only in food services and drinking places, and accommodation.

Wages and salaries covered by UI programs

Estimates of wages and salaries covered by state UI programs or by the UI program for Federal civilian employees are based on quarterly QCEW wage and salary (or payroll) data. However, these data do not precisely meet BEA's statistical and conceptual requirements; therefore, the data must be adjusted. These adjustments affect both the industrial and the geographic patterns of state and county personal income.

Adjustment for industry nonclassification

The industry detail of the QCEW data regularly shows minor amounts of payroll—only about 0.2 percent of total payrolls nationally—that have not been assigned to any industry. The industrial classification scheme used by BEA does not permit this not-elsewhere-classified category. Therefore, for each state and county, the amount in this category is distributed among the industries in proportion to the industry-classified QCEW payrolls. Because this adjustment only apportions the amount reported for a county within that county, no error is introduced into the total estimate for the county.

Adjustment for statewide reporting

A state UI contribution report is usually filed for each establishment by industry and by county; however, a report may be filed by an employer for a group of very small establishments by state, not by county. Therefore, county data are unavailable for these establishments.

The state totals of the wages and salaries reported for these statewide units for an industry are allocated to counties in proportion to the distribution of the wages and salaries for the industry that is reported by county. The statewide totals are allocated for each private-sector industry and for five government components—Federal civilian, state education, state noneducation, local education, and local noneducation.

Adjustments for misreported wage and salary data

Approximately \$129 billion of the wages and salaries not reported by employers is added to the QCEW (table C). Because state and county data are unavailable, the national estimate for each industry is allocated to states and counties in proportion to the QCEW payroll data for the industry.

The national estimate for each industry is prepared in two parts. One part is prepared for the payrolls that were underreported, and one part is prepared for the payrolls that were not reported because employers failed to file a report.²

In addition, tips are assumed to be understated in the UI contribution reports from the following industries: health and personal care stores; general merchandise stores; air transportation; railroad transportation; taxicabs, (a part of transit and ground passenger transportation); scenic and sightseeing transportation; couriers and messengers; administrative and support services; waste management and remediation services; amusement, gambling, and recreation industries; accommodation services; food services and drinking places; personal and laundry services; and religious, grant making, civic,

² Robert P. Parker, "Improved Adjustments for Misreporting of Tax Return Information Used to Estimate the National Income and Product Accounts, 1977," *Survey* 64 (June 1984): 17-25.

professional and similar organizations. For each of these industries, the national estimate of the unreported tips is allocated to states and counties in proportion to the QCEW payroll data for the industry (or Railroad Retirement Board data for the railroad transportation industry).

Further, the wages and salaries that employees contribute to tax-deferred thrift savings plans—such as 401(k) plans—had been omitted from the UI contribution reports of some employers in some states. This form of underreporting ended in 1997 in all states except Alaska. Beginning with 1996, Alaskan employers are no longer required to include employees' voluntary savings contributions with reported wages and salaries. Only the reported wages and salaries of the state government appear to have been affected by this change so far. A state control is allocated to counties in proportion to QCEW payroll data.

Adjustments for Federal civilian payrolls

Large proportions of the QCEW data for the wages and salaries of the civilian employees of some Federal Government agencies in New York (through 2002) and Wisconsin (through 1998) were reported by state, not by county. Therefore, the county estimates of the wages and salaries of these employees were derived from employment data provided by the Office of Personnel Management (OPM).

Prior to 2002, the state estimates of the wages and salaries of the civilian employees of the Postal Service in New York were allocated to the counties in the state in proportion to the OPM employment data for the agency.

In addition, in the QCEW payroll data for Federal civilian employees, all the wages and salaries for congressional staff are assigned to Washington, DC. However, some of these wages are earned by congressional staff who work in the state offices of the members of Congress. BEA assumes that 25 percent of the total congressional payrolls are earned by congressional staff in state offices, so this percentage of these payrolls is allocated to states in proportion to their congressional representation. The state estimates of this adjustment are allocated to counties in proportion to the QCEW payroll data.

Adjustment for a component of state government payrolls

The geographic coding of the QCEW data for the noneducation component of state government payrolls appears to attribute too much of the payrolls to the counties of the state capitals in six states. Therefore, data from the 2000 Census of Population are used in the preparation of the county estimates of the wages and salaries for these employees.

The county estimates of the wages and salaries for the noneducation component, from 1991 onward, for Illinois, Michigan, New Jersey, Rhode Island, Tennessee, and Wisconsin are based on data derived from unpublished tabulations of journey-to-work data from the census.³

Wage and salary estimates for the establishments of American Indian Tribal Councils are included with local governments.

³ Arizona is no longer included in this group due to recent improvements in the QCEW data series. This methodological change was applied back to year 2002 and will be taken further back during the next benchmark revision.

Adjustments for elements that are excluded from the QCEW data

The QCEW payroll data for some industries exclude small portions of the wages either because the employing establishments are not covered by the UI programs or because a portion of the establishments' payrolls are not subject to UI reporting. The following procedure is used to prepare the state and county estimates for the industries that include these noncovered elements.

A national estimate of each element is prepared, and then it is allocated to states on the basis of the best available related economic series. The state estimate of the element is added to the QCEW payroll data for the industry of the element. Then, the national estimate for the industry is allocated to states in proportion to the augmented QCEW data.

Because county data for the noncovered elements are unavailable, the state estimates are allocated to the counties in proportion to the unaugmented QCEW data. This procedure is used to prepare the state and county estimates of the following elements in the following industries:

- Payrolls of railroad carrier affiliates, which are classified in support activities for transportation, and payrolls of railway labor organizations, classified in religious, grant making, civic, professional, and similar organizations;
- Payrolls of nonprofit organizations, in numerous industries, that are exempt from UI coverage because they have fewer than four employees;
- Wages and salaries of students employed by the institutions of higher education in which they are enrolled, which are classified in private education, state government education, and local government education;
- Pay-in-kind of the members of religious orders who teach at private colleges and universities but who do not receive cash wages;
- Pay-in-kind of workers in private hospitals who do not receive cash wages (mainly interns, student nurses, and members of religious orders);
- Salaries of elected officials and members of the judiciary in state and local governments;
- Salaries of corporate officers in Washington state;
- Commissions received by insurance solicitors and real estate agents;
- Allowances paid to Federal civilian employees in selected occupations for uniforms;
- Compensation to justices of the peace for marriage fees in local government non-education;
- Compensation to jurors and expert legal witnesses in state government non-education; and
- Prisoner compensation, in counties where prisons are located, in state government non-education.

Wages and salaries not covered by the state UI programs

The estimates of wages and salaries for eight industries are primarily based on data other than QCEW data. The QCEW data are inadequate for five industries—farms,

farm labor contractors, private households, private elementary and secondary schools, and religious organizations—because these industries are extensively covered by state UI programs in only a few states. The QCEW data are unavailable for three industries—railroads, military, and “other”—because these industries are not covered by state UI programs.⁴ Consequently, the wages and salaries of all eight industries are treated as if they were not covered by state UI programs. In addition, because these estimates are primarily based on data that do not include wages paid in kind, an estimate of pay-in-kind is prepared for each of these industries except farm labor contractors, railroads, and “other.”

Farms

The estimates of wages and salaries for farms consist of cash wages, including the salaries received by the owner-operators of farm sole proprietorships, partnerships, and family-held corporations, and the pay-in-kind of hired farm labor.

The state estimates of cash wages are based on estimates of hired farm cash wages and operator wages prepared by the Department of Agriculture. Estimates for most states are allocated to counties by the distribution of wages paid to farm employees from the 1997 Census of Agriculture. However, farm employees have mandatory UI coverage or almost complete voluntary coverage in Arizona, California, Connecticut, Delaware, Florida, Hawaii, Massachusetts, New Jersey, Rhode Island, and Washington. Therefore, county estimates of cash wages for these states are derived from QCEW data.

State estimates of pay-in-kind are based on estimates prepared by the Department of Agriculture and are allocated to counties in proportion to the number of hired farm workers who worked 150 days or more in 1997 from the 1997 Census of Agriculture.

Farm labor contractors

Farm labor contractors are classified in support activities for agriculture and forestry. Farm labor contractors and their employees are only partially covered by UI laws in most states so most state and county estimates of wages are based on data for contract farm labor expenses from the 1992 and 1997 Censuses of Agriculture. Since in Arizona and California all employees in this industry are covered, estimates are based on QCEW payroll data.

Railroads

The estimates of the wages and salaries of railroad employees are based mainly on data provided by the Railroad Retirement Board (RRB), which administers the Railroad Unemployment Insurance and Retirement systems. The railroad industry is not covered by state unemployment insurance, and the RRB does not require railroads to submit employment and wage data by establishment. However, the RRB does collect data from each railroad company on its total payroll, and, for each railroad company employee, on the wages and salaries that are subject to the railroad UI and retirement tax. The state and county of residence of each employee can also be identified in the RRB records.

⁴ Military and “other” are BEA industry classifications.

The estimates of railroad wages and salaries by state and county of employee residence are based on the sum of the wages of employees whose wages do not exceed the ceiling for RRB taxation plus estimates of the wages of the employees with wages above the ceiling. To estimate the latter, the national total of the wages of railroad employees receiving below-ceiling wages—summed from the RRB employee data—is subtracted from the national total of the payrolls of all railroad companies—summed from the RRB company data—to yield the total of the wages of the employees with above-ceiling wages. This total is allocated to states and counties in proportion to the number of employees receiving above-ceiling wages, as determined from the RRB employee data.

To be consistent with the estimates of wages and salaries for other industries, the state and county estimates of railroad wages and salaries are converted to a place-of-work basis. This is accomplished through the use of unpublished journey-to-work (JTW) data for railroad employees from the 2000 Census of Population. From these data, the proportion of the wages of railroad employees who lived in one county but worked in another was calculated. Each of these proportions was multiplied by the corresponding place-of-residence wage estimates to calculate the intercounty flows of wages due to commuting; each of these flows was subtracted from the county of residence and added to the county of work to adjust the place-of-residence wage estimates to a place-of-work basis.

The current year state and county estimates of railroad wages and salaries reflect the geographic distribution of the previous year estimates.

Private elementary and secondary schools

State estimates of cash wages of private school employees are based on data from the Census Bureau's annual *County Business Patterns* (CBP) data, the data with the most uniform national coverage. State estimates of pay-in-kind reflect the number of full-time teachers in religious orders from the *Official Catholic Directory*.⁵

In about half of the states, the county estimates of cash wages and pay-in-kind are derived from the best available series chosen from (1) data on employment in private elementary and secondary schools published by the state departments of education, (2) employment data from the U.S. Department of Education's 2004 Survey of private elementary and secondary schools, or (3) relevant wage data from *County Business Patterns*.⁶

In the other states, the UI coverage is complete enough so that the QCEW data can be used as the basis for the county estimates. In these states, the QCEW distribution

⁵ See the "General Summary," in the *Official Catholic Directory* (New York: P.J. Kenedy and sons). The Directory is published annually. The "General Summary" is a tabulation of the number of members of religious orders who are employed in Catholic institutions in each diocese and in each state. The data are classified by clerical title and by religious assignment. The number of teachers does not distinguish between those who receive cash wages and those who receive only pay-in-kind, nor does it distinguish between those who teach in elementary and secondary schools and those who teach in colleges and universities.

⁶ The CBP data are tabulated from the administrative records of the Old-Age, Survivors, and Disability Insurance program. This program exempts nonprofit religious organizations, such as many of these schools, from mandatory coverage, but its provisions for elective coverage have resulted in the participation of most of these schools and many of the other religious organizations.

of wages and salaries is the basis for the estimates of cash pay, and the QCEW distribution of employment is the basis for the estimates of pay-in-kind.

Religious organizations

The state estimates of cash wages and pay-in-kind of religious organizations are based on CBP data. However, the CBP county data are too frequently suppressed to avoid disclosure of information about individual organizations to be useful; therefore the state estimates are allocated to counties in proportion to the distribution of the civilian population.⁷

Private households

The national estimates of cash wages for private household employees are allocated to states—and the state estimates to counties—in proportion to total wages prepared from unpublished Census JTW data. Summations of these data by place of work were used as the allocators for 1980, 1990, and 2000 and the intervening years were interpolated. The 2000 summations for states were extrapolated forward by the annual change in civilian population, but the 2000 county summations were used as the county allocators for the 2001-forward estimates.⁸

National estimates of pay-in-kind are allocated to states and counties by private household employment.

Military

Estimates of wages and salaries for the military consist of estimates of cash wages (including allowances) of full-time military personnel and members of the military Reserves, including the National Guard, and of estimates of the pay-in-kind provided to enlisted personnel.⁹

For military bases that extend across county boundaries, source data by county are available only for Forts Benning, Gordon, and Stewart, Georgia; for Wright-Patterson Air Force Base, Ohio; and for Quantico Marine Corps Base, Virginia; the data for each of the other intercounty bases are assigned to the county that contains the base headquarters.

State estimates of cash wages for full-time military personnel, which are based mainly on payroll data, are allocated to counties in proportion to the number of personnel for the Coast Guard from the Department of Homeland Security and to the county payroll estimates prepared by the Department of Defense for each of the other services.

State estimates of cash wages for the Reserves are based on data from the appendix of the *Budget of the United States Government*. Because county payroll data are unavailable, the state estimates are allocated to counties in proportion to the distribution of the civilian population.

The national estimate for the pay-in-kind of the full-time personnel of each service is allocated to states and counties in proportion to the number of enlisted

⁷ County total population is from the Census Bureau. County civilian population is obtained by subtracting BEA's estimate of active duty military employment, adjusted to a place of residence basis, from total population.

⁸ State civilian population is from the Census Bureau.

⁹ Officers do not receive pay-in-kind. The imputation for clothing is limited to standard issue clothing; it does not include clothing and equipment for special or unusual duties.

personnel. The national estimate of the pay-in-kind of the Reserves is allocated to states and counties in proportion to the estimates of cash pay.

Other

This industry consists of the wages and salaries of U.S. residents who are employed in the United States by international organizations and by foreign embassies and consulates.¹⁰ The national estimate is allocated to states and counties in proportion to estimates of the administrative expenditures of these organizations in 1968.¹¹

Alternative measure of county wages

Another measure of county wages by place of work is the payroll data published in the Census Bureau's *County Business Patterns* (CBP). It differs in source data and coverage from BEA's wage and salary disbursements and QCEW wages.¹²

The CBP data are derived from Census Bureau business establishment surveys and Federal administrative records.

The coverage of the CBP data differs from that of the QCEW data primarily because the CBP data exclude most government employees, while the QCEW data cover civilian government employees.¹³ CBP data also exclude several private industries covered at least in part by the QCEW: crop and animal production; rail transportation; insurance and employee benefit funds; trusts, estates, and agency accounts; and private households. However, the CBP data cover the employees of educational institutions, membership organizations, and small nonprofit organizations in other industries more completely than the QCEW data.¹⁴

Beginning in 2001, QCEW includes employees of Indian tribal governments and enterprises in local government. These employees were previously included in the relevant private industries.¹⁵ In the CBP data, these employees are still classified in private industries.

¹⁰ This category corresponds to a portion of the rest-of-the-world category in the national estimates, which also includes the wages and salaries of U.S. residents who commute to work in Canada and from which is subtracted the wages and salaries of foreign residents who work in the United States.

¹¹ The estimates of the expenditures for 1968 were prepared by the Balance of Payments Division of BEA.

¹² See table C.

¹³ The CBP data cover only those government employees who work in government hospitals, federally chartered savings institutions and credit unions, retail liquor stores, wholesale liquor establishments and university publishers. QCEW data in most states exclude state and local elected officials, members of the judiciary, state national and air national guardsmen, temporary emergency employees, and those in policy and advisory positions.

¹⁴ Some religious elementary and secondary schools are not covered by QCEW because of a 1981 Supreme Court decision stating "schools operated and supported by churches and not separately incorporated [are] held exempt from unemployment compensation taxes." College students (and their spouses) employed by the school in which they are enrolled and student nurses and interns employed by hospitals as part of their training are also excluded from QCEW. While QCEW coverage varies, half of the states only include nonprofit organizations with four or more employees during twenty weeks in a calendar year.

¹⁵ For example, employees of casinos owned by tribal councils were included in the North American Industry Classification System subsector "Amusement, Gambling, and Recreation Industries."