Occupational Employment and Wages Technical Note

Technical Note

Scope of the survey

The Occupational Employment Statistics (OES) survey is a semiannual mail

survey measuring occupational employment and wage rates for wage and salary

workers in nonfarm establishments in the United States. OES data available

from BLS include cross-industry occupational employment and wage estimates

for the nation; over 500 areas, including states and the District of

Columbia, metropolitan statistical areas (MSAs), metropolitan divisions,

nonmetropolitan areas, and territories; national industry-specific

estimates at the North American Industry Classification System (NAICS) sector,

3-, 4-, and selected 5- and 6-digit industry levels; and national estimates by

ownership across all industries and for schools and hospitals.

The OES survey is a cooperative effort between BLS and the State

Workforce Agencies (SWAs). BLS funds the survey and provides the procedures

and technical support, while the State Workforce Agencies collect most of

the data. OES estimates are constructed from a sample of about 1.2 million

establishments. Each year, forms are mailed to two semiannual panels of

approximately 200,000 sampled establishments, one panel in May and the

other in November. May 2012 estimates are based on responses from six

semiannual panels collected over a 3-year period: May 2012, November 2011,

May 2011, November 2010, May 2010, and November 2009. The overall national

response rate for the six panels is 76.6 percent based on establishments

and 72.9 percent based on employment. The unweighted employment of sampled

establishments across all six semiannual panels represents approximately

59.3 percent of total national employment.

The occupational coding system

The OES survey categorizes workers into 821 detailed occupations based

on the 2010 Office of Management and Budget’s Standard Occupational

Classification (SOC) system. Together, these detailed occupations make

up 22 of the 23 SOC major occupational groups. Major group 55, Military

Specific Occupations, is not included. OES estimates for 2010 and 2011

were based on a hybrid structure of the 2000 and 2010 SOC systems. For more

information about the hybrid structure, please see the Bureau of Labor

Statistics website at www.bls.gov/oes/oes\_ques.htm#q40.

For more information about the SOC system, please see the BLS website

at www.bls.gov/soc/.

The industry coding system

The 2012 OES estimates are the first estimates based on the 2012 NAICS.

Previous OES estimates were based on the 2007 NAICS. For more information

about NAICS, see the BLS website at www.bls.gov/bls/naics.htm.

The OES survey excludes the majority of the agricultural sector, with

the exception of logging (NAICS 113310), support activities for crop

production (NAICS 1151), and support activities for animal

production (NAICS 1152). Private households (NAICS 814) also are excluded.

OES federal government data include the U.S. Postal Service and the federal

executive branch only. All other industries, including state and local

government, are covered by the survey.

The OES survey covers all full- and part-time wage and salary workers in

nonfarm industries. The survey does not include the self-employed, owners

and partners in unincorporated firms, household workers, or unpaid family

workers.

Survey sample

The OES survey draws its sample from state unemployment insurance (UI)

files. Supplemental sources are used for rail transportation (NAICS 4821)

and Guam because they do not report to the UI program. The OES survey

sample is stratified by metropolitan and nonmetropolitan area, industry,

and size.

To provide the most occupational coverage, larger employers are more

likely to be selected than smaller employers. An annual census is taken of

the executive branch of the federal government, the U.S. Postal Service,

and state government.

Concepts

Occupational employment is the estimate of total wage and salary

employment in an occupation. The OES survey defines employment as the

number of workers who can be classified as full- or part-time employees,

including workers on paid vacations or other types of paid leave; workers

on unpaid short-term absences; salaried officers, executives, and staff

members of incorporated firms; employees temporarily assigned to other

units; and employees for whom the reporting unit is their permanent

duty station, regardless of whether that unit prepares their paycheck.

Wages for the OES survey are straight-time, gross pay, exclusive of

premium pay. Base rate; cost-of-living allowances; guaranteed pay;

hazardous-duty pay; incentive pay, including commissions and production

bonuses; and tips are included. Excluded are overtime pay, severance pay,

shift differentials, nonproduction bonuses, employer cost for supplementary

benefits, and tuition reimbursements.

OES receives wage rate data for the federal government, the U.S. Postal

Service, and some state governments. For the remaining establishments, the

OES survey collects wage data in 12 intervals. For each occupation,

respondents are asked to report the number of employees paid within

specific wage intervals. The intervals are defined both as hourly rates and

the corresponding annual rates, where the annual rate for an occupation is

calculated by multiplying the hourly wage rate by a typical work year of

2,080 hours. The responding establishments are instructed to report the

hourly rate for part-time workers, and to report annual rates for

occupations that are typically paid at an annual rate but do not work 2,080

hours per year, such as teachers, pilots, and flight attendants. Other

workers, such as some entertainment workers, are paid hourly rates, but

generally do not work 40 hours per week, year round. For these workers,

only an hourly wage is reported.

Estimation methodology

The OES survey is designed to produce estimates by combining six panels

of data collected over a 3-year period. Each OES panel includes approximately

200,000 establishments. The full six-panel sample of nearly 1.2 million

establishments allows the production of estimates at detailed levels of

geography, industry, and occupation.

Wage updating. Significant reductions in sampling errors are obtained by

combining six panels of data, particularly for small geographic areas and

occupations. Wages for the current panel need no adjustment. However, wages

in the five previous panels need to be updated to the current panel's

reference period.

The OES program uses the BLS Employment Cost Index (ECI) to adjust

survey data from prior panels before combining them with the current

panel's data. The wage updating procedure adjusts each detailed

occupation's wage rate, as measured in the earlier panel, according to

the average movement of its broader occupational division.

Imputation. About 23 percent of establishments do not respond for a

given panel. A "nearest neighbor" hot deck imputation procedure is used to

impute missing occupational employment totals. A variant of mean imputation

is used to impute missing wage distributions.

Weighting and benchmarking. The sampled establishments are weighted to

represent all establishments for the reference period. Weights are further

adjusted by the ratio of employment totals (the average of November 2011

and May 2012 employment) from the BLS Quarterly Census of Employment and

Wages to employment totals from the OES survey.

For more information

Answers to frequently asked questions about the OES data are available

at www.bls.gov/oes/oes\_ques.htm. Detailed technical information about the

OES survey is available in our Survey Methods and Reliability Statement on

the BLS website at www.bls.gov/oes/2012/may/methods\_statement.pdf.