

The Relevance of Occupational Wage Leveling

by John E. Buckley
Bureau of Labor Statistics

Originally Posted: April 27, 2012

For more than 50 years, the Bureau of Labor Statistics (BLS) [National Compensation Survey \(NCS\)](#) and its predecessor surveys were a principal source of occupational wage data broken out by work level. Occupational pay data by work level provide more refined results than data rolled up to a higher aggregated level. Leveling is the process that reflects differences in duties and responsibilities within the occupation. For example, the federal government recognizes eight levels of chemists, from entry-level chemist to a chemist who may have responsibility for an entire chemical program or equivalent responsibilities.

Having data without levels for an occupation—engineers, for example—would have limited value to a large company with several hundred engineers from entry level to engineering department manager. The federal government has a 15-grade General Schedule (GS) that covers a majority of its white-collar workers. This 15-grade system was used by the NCS to develop a system to classify by level the occupational data obtained from survey respondents.

The locality pay portion of the NCS, which produced the occupational levels, was used by the designated federal authority, the presidents pay agent, to adjust federal white-collar salaries. The publication of the 2010 NCS national estimates marked the end of wage estimates based on the locality pay program. Instead, an alternative program will produce occupational levels.

This article explains the importance of producing occupational wage level data, which are collected from sampled establishments by BLS field economists. Typically, the initial data collection was conducted through personal visit to the establishments' representatives, and data were updated annually by a combination of email, regular mail, and telephone. The publication [National Compensation Survey: Occupational Earnings in the United States, 2010](#) presents published data for 10 aggregated (rolled up) levels of management occupations.¹ To illustrate, table 1 shows overall aggregated levels 9 and 12, along with data for four detailed management occupations at the same two levels.

Table 1. Mean hourly earnings in full-time management occupations, aggregated and detailed levels 9 and 12, private industry workers, National Compensation Survey, July 2010

Occupation	Level 9	Level 12	Level 12 as percent of level 9
Aggregated level	\$31.20	\$63.57	204
Finance managers	30.01	84.18	281
General and operations managers	30.83	63.38	206
Education administrators, postsecondary	29.99	81.59	272
Medical and health services managers	27.55	51.86	188

The weighted average hourly earnings rate for all level-9 management workers, \$31.20, was close to the rates for the four detailed level-9 occupations, and, lacking detailed levels, could reasonably be a proxy for the detailed occupation. However, the aggregated level 12 is not a good substitute for detailed occupational levels. Without data by level for medical and health services managers, employers relying on the aggregated rate would be paying a premium of approximately 23 percent, all other things being equal: $[(\$63.57 \div 51.86) \times 100] - 100 = 22.6$ percent. Occupational earnings by level can also indicate the career earnings path for different jobs. Table 2 shows average hourly earnings for selected level-5 (entry level), level-9 (midpoint career), and level-12 (journey level) management and professional jobs. In this example, average earnings of level-5 engineers are considerably higher than those of accountants and financial analysts at the same level. The differences in earnings are considerably narrower for level-9 professional jobs. The average hourly earnings of engineers and

accountants are not significantly different at level 12, but at this level the average earnings of financial analysts and advisors surpassed those of engineers by a significant amount.

Table 2. Mean hourly earnings in selected full-time management and professional occupations, levels 5, 9, and 12, private industry workers, National Compensation Survey, July 2010

Occupation	Level 5	Level 9	Level 12	Level 12 as percent of level 5
Accountants and auditors	\$17.93	\$29.92	\$52.27	192
Financial analysts and advisors	19.52	33.04	71.09	264
Engineers	28.00	34.36	53.16	90

As indicated by the percentage figures in the right-hand column in table 2, higher or lower earnings at the entry level do not necessarily mean that the same patterns will be sustained at higher work levels. Level-5 engineers had considerably higher earnings than the earnings of level-5 accountants and financial analysts. At level 12, however, engineers' average earnings were a modest 90 percent higher than level-5 engineers, while level-12 financial analysts' earnings were 264 percent higher than level-5 financial analysts.

The Future Of Occupational Leveling

As noted previously, with the replacement of the locality pay portion of the National Compensation Survey, no BLS program will publish occupational wage data by level. The NCS is introducing a sample design under which it will continue to collect data by occupational level, but the sample sizes will not be sufficient to produce occupational detail by level. The Bureau's [Occupational Employment Statistics \(OES\)](#) program provides annual data on employment and wages by occupation and industry for over 800 occupations and for about 400 industries throughout the nation, as well as similar data for all states and selected metropolitan areas. The occupational data are not broken out by level; however, both the NCS and the OES staff are currently researching methods to incorporate the leveling data from the NCS with the OES data by means of modeling techniques. This will result in producing more leveling data for more areas than was the case under the locality pay survey.

How Occupations Are Leveled

Before the locality pay portion of the National Compensation Survey was replaced, the Bureau's field economists evaluated each sampled job, as the data were collected, using a point-factor method to determine its work level based on related duties and responsibilities. Four factors—*knowledge, job controls and complexity, contacts* (nature and purpose), and *physical environment*—were applied to each of the sampled jobs as they were slotted into one of 15 work levels based on the total number of points attained. The Bureau's publication *National Compensation Survey: Guide for Evaluating Your Firm's Jobs and Pay* provides a full description of the leveling process with examples and worksheets.²

John E. Buckley

Economist (retired), Division of Compensation Data Analysis and Planning, Office of Compensation and Working Conditions, Bureau of Labor Statistics.

Notes

1 See *National Compensation Survey: Occupational Earnings in the United States, 2010*, Bulletin 2753 (Bureau of Labor Statistics, May 2011), <http://www.bls.gov/ncs/ncswage2010.htm>.

2 *National Compensation Survey: Guide for Evaluating Your Firm's Jobs and Pay* (Bureau of Labor Statistics, October 2003, <http://www.bls.gov/ncs/ocs/sp/hcbr0004.pdf>). This publication will be updated to reflect the replacement of the 2000 version of the [Standard Occupational Classification](#) system with the 2010 version. The basic leveling process remains unchanged. For a more in-depth discussion of the National Compensation Survey and of the methods and mechanics of leveling occupations, see Richard E. Schumann, "Occupational Selection and Leveling in the National Compensation Survey," *Compensation and Working Conditions Online* (August 31, 2011), <http://www.bls.gov/opub/cwc/cm20110829ar01p1.htm>; see also, John E. Buckley, "Fifty Years of BLS Surveys on Federal Employees Pay," *Monthly Labor Review* (September 2009), <http://www.bls.gov/opub/mlr/2009/09/art3full.pdf>, which provides a summary of the federal pay adjustment process and includes an example of how work levels are determined.

U.S. Bureau of Labor Statistics | Division of Information and Marketing Services, PSB Suite 2850, 2 Massachusetts Avenue, NE Washington, DC 20212-0001 | www.bls.gov/OPUB | Telephone: 1-202-691-5200 | [Contact Us](#)