

Converting from Nine Factors to Four in the Occupational Work Leveling System of the National Compensation Survey

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Originally Posted: September 29, 2004

The [National Compensation Survey \(NCS\)](#) collects and publishes earnings data for a variety of detailed occupations. During the collection process, occupations randomly selected from participating establishments are classified into their appropriate work level. Work levels are an established hierarchy of difficulties and scope of the primary duties and responsibilities of individual jobs related to either a grade or salary level. Until recently, the NCS process involved using nine leveling factors--ranging from knowledge required to perform the job to workplace environmental conditions. To simplify the leveling procedure, NCS is changing to a new four-factor leveling system. Both the four- and nine-factor occupational work leveling systems are derived from the Office of Personnel Management's (OPM) Factor Evaluation System (FES), which is the point-factor job evaluation system that underlies the Federal Government's General Schedule (GS) job classification system.¹

Point factor evaluation systems are used to measure job duties. The factors describe features important to the job, such as the knowledge required, the supervision received, and the nature of the working environment. Within each factor, points or levels are assigned that describe the degree of the factor required for the job. Looking at the knowledge factor, for example, levels could range from knowledge of simple, routine tasks to mastery of a professional or administrative field. The overall value or level of a job is determined by totaling the points assigned to each of the factors examined.

Since 1996, the NCS has used a nine-factor system that employs a single set of general job factor descriptions that applies to nearly all occupations in the economy.² At the request of the President's Pay Agent and the Federal Salary Council,³ BLS agreed to revise the system to employ job factor descriptions for 24 families of jobs, rather than a single set of descriptions. Under the new system, the descriptions for the predominant factor, knowledge, are tailored to each of 24 families of closely related jobs. To support the development of these multiple descriptions, it was necessary to reduce the number of factors from nine to four.

BLS worked with OPM to develop a four-factor occupational work level system for the NCS that streamlines the nine-factor system. NCS determines the occupational work level by classifying each occupation (job) according to a point-factor method.

Each job receives a specified number of points based on a series of four factors. For example, the factor "Physical Environment" gives 10 points for sedentary work with low risk. (Most office occupations would probably match this level for "Physical Environment.") The four factors deal with the amount of knowledge required for the job, the amount of supervision received, the level of decision making and contacts outside the immediate supervisory chain, and the risk involved in the job and its working conditions. This streamlined four-factor system has been tested over the last 3 years.

The following table lists how the individual factors compare between the two systems:

Four factors for occupational work leveling	Nine factors for occupational work leveling
1. Knowledge (24 occupation-specific guides)	1. Knowledge
2. Job controls and complexity	2. Supervision received
	3. Guidelines
	4. Complexity
	5. Scope and effect

Four factors for occupational work leveling	Nine factors for occupational work leveling
3. Contacts (their nature and purpose)	6. Personal contacts 7. Purpose of contacts
4. Physical environment	8. Physical demands 9. Work environment

The point-level breaks within the guides include only those necessary to make a difference in the final work level and were introduced in newly sampled establishments. The use of four factors results in fewer leveling decision points than in the nine-factor system. The four-factor system allows for quicker work-level matching and reduces the opportunity for error. Tests showed the use of four factors produces more consistent work-level matching than did the nine-factor system.

For the knowledge factor, 20 occupation-specific knowledge guides were developed by BLS and OPM. (This factor and the associated factor-point levels are identical in both the four- and nine-factor systems.) BLS developed an additional four knowledge guides: Service, Sales, Blue Collar, and Pilots and Air Transportation. Occupations are now classified under the [2000 Standard Occupational Classification \(SOC\)](#) system codes, and the knowledge guides cover occupations in related fields and areas. The 24 new knowledge leveling guides include occupation-specific examples to help clarify factor-level distinctions.

The following table shows the 24 knowledge factor guides:

<ul style="list-style-type: none"> • Business Administration • Professional Accounting, and Auditing • Information Technology • Professional Mathematics and Statistics • Professional Engineering and Architecture • Engineering and Scientific Technician • Professional Biological and Physical Science • Professional Economics, Sociology, Geography, Psychology, and similar jobs • Social, Welfare, and Health Administration • Professional Legal • Administrative Legal • Professional Education 	<ul style="list-style-type: none"> • Professional Librarian, Museum Curator, and Archivist • Communications and Arts • Professional Medical • Medical, Hospital, Dental, Public Health, and Veterinary Technician • Protective Service • Investigation, Inspection, and Compliance • Service • Sales • Office and Administrative Support • Miscellaneous Technician • Blue Collar • Pilots and Air Transportation
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The NCS four-factor system measures the assigned duties and responsibilities of the occupation at the full performance level of the job, not the qualifications of the incumbent who presently holds the position. The assigned duties that control the qualifications of the job and constitute the primary reason for the occupation (pay factors) are the leveling determinants. The four-factor system, like the Federal FES system, is a "threshold" system in which the occupation must fully meet the criteria listed for a factor level to match at that level.

In addition to changing the factor system, the NCS is making modifications on how it levels supervisory positions. Supervisory positions in the NCS must have the authority, in the interest of the employer, to hire, transfer, lay off, promote, reward, or discipline other employees. In some situations they may only recommend or initiate such actions, but the exercise

is not merely routine or advisory input; it requires the use of independent judgment and is generally accepted. These responsibilities are in addition to assigning work to, and reviewing work of, subordinates.

In the nine-factor system, NCS used an experimental tenth factor to record the position of the supervisor in the organization's hierarchy (team leader or first-line supervisor, for example). However, this information was not used to determine the work level of the supervisory occupation. Instead, supervisory work levels were determined by applying the nine-factor system. Initial data for 1997 showed that about 1 in 8 employees in private industry had supervisory responsibilities.⁴

During the 3 years that the four-factor grading system was tested, BLS and OPM tested and refined a new approach to determining the work level of supervisors. The new approach is two-pronged, because field testing showed that some supervisory positions were paid primarily for the technical knowledge and skills of the incumbents, whereas other jobs were paid primarily for planning and overseeing the work of subordinates. For both types of supervisory jobs, the NCS records the supervisor's position in the organizational hierarchy.

Most supervisory positions will continue to be graded by examining the duties and responsibilities of the supervisor's own job, using the new four-factor system. This method focuses on the technical knowledge and skills required for the job.

A second method will be used for professional and administrative supervisors who meet the following two criteria:

- The position is paid primarily to supervise.
- The supervisor and the highest level nonsupervisory worker supervised are on 1 of 12 specified knowledge guides for professional and administrative job families.

The second method focuses on the supervisor's relation to his or her subordinates. For these types of supervisors, NCS determines the work level (using the four factors) of the highest nonsupervisory subordinate overseen by the supervisor and records the relationship of the supervisor and the subordinate (first line, second line, and so on). The supervisor's work level is then determined by adding a designated number of points for the supervisory relationship to the factor points determined for the subordinate's job.

The NCS system of total points for occupational levels remains the same in the four-factor system, so these changes can be viewed as a simplification of the previous nine-factor system. A detailed booklet entitled *National Compensation Survey: Guide for Evaluating Your Firm's Jobs and Pay*, which explains the four-factor occupational and supervisory leveling criteria and includes instructions on how to use the new system, is now available.⁵

Current BLS plans call for all supervisory occupations to be converted over to four-factor leveling and revised supervisory leveling by July 2005, with publication beginning soon afterward. The conversion to four-factor leveling for all nonsupervisory occupations is being phased in by NCS sample replenishment groups and requires 5 years for full implementation because approximately 20 percent of NCS sample units are replaced annually. When these changes are implemented, BLS will post a special notice on the NCS Wages home page of its website (<http://www.bls.gov/ncs/ocs/home.htm#notices>).

Notes

¹ For more information on the OPM classification system, see *The Classifier's Handbook* (Office of Personnel Management, August 1991); available on the Internet at <http://www.opm.gov/fedclass/clashnbk.pdf>; or visit the OPM website at <http://www.opm.gov>.

² For a description of the former system, see Kenneth J. Hoffmann, "New Approach to Measuring Occupational Wages," *Compensation and Working Conditions*, December 1996, pp. 4-8; and Brooks Pierce, "Using the National Compensation Survey to Predict Wage Rates," *Compensation and Working Conditions*, Winter 1999, pp. 8-16.

³ The President's Pay Agent consists of the Secretary of Labor, the Director of the Office of Management and Budget, and the Director of the Office of Personnel Management.

The Federal Salary Council consists of members appointed by the President. The Council includes three experts in labor relations and pay policy and six representatives of employee organizations representing large numbers of General Schedule employees. The Council submits recommendations on the locality pay program to the President's Pay Agent.

⁴ For an analysis of this information on supervisory positions, see James Smith, "Supervisory Duties and the National Compensation Survey," *Compensation and Working Conditions*, Spring 2000, pp. 9-20.

⁵ See *National Compensation Survey: Guide for Evaluating Your Firm's Jobs and Pay*, available on the Internet at <http://www.bls.gov/ncs/ocs/sp/ncbr0004.pdf>. For more detailed information, see *National Compensation Survey: Occupational Wages in the United States, July 2002*, Bulletin 2561 (Bureau of Labor Statistics, September 2003), "Appendix C, Occupational Leveling Criteria," pp. 172-77; available on the Internet at <http://www.bls.gov/ncs/ocs/sp/ncbl0552.pdf>.

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