

# Supervisory Duties and the National Compensation Survey

How many workers in the civilian economy are supervisors and how much are they paid? Analysis of data from a new BLS survey finds that 12 percent of full-time workers are classified as supervisors and an additional 9 percent are considered team leaders.

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The Bureau of Labor Statistics (BLS) new National Compensation Survey (NCS) publishes nonfederal occupational earnings and work level data by locality and for the Nation as a whole. For each surveyed occupation, information is obtained on nine job attributes, called “generic leveling” factors, to establish an overall work level. A tenth job attribute, called “supervisory duties,” accounts for the effect of supervisory duties and responsibilities, and is currently being used only for research purposes. This article presents the results of an analysis of the effectiveness of the tenth factor in measuring the number of workers, the average hourly wage rates, and the work levels for different levels of supervisors.

In brief, research indicates that approximately 1 in 5 full-time workers has some level of supervisory responsibility, ranging from team leader to third-line supervisor. About 9 percent of full-time workers are considered team leaders, and about 12 percent are considered first-, second-, or third-line supervisors. The supervisory duties factor has been found to produce meaningful differences in wages from one

level of supervisor to another. While the NCS is not designed to measure the wage differences between supervisors and those they supervise, some estimates of the relative pay can be made.

## Generic leveling in the NCS

The NCS is designed to collect wage and work level information on any occupation in a surveyed establishment, from mailroom clerk to company executive. When an establishment is first surveyed for the NCS, specific establishment jobs are selected for study through probability sampling. The number of jobs sampled (8 to 20) depends on the total number of employees in the establishment. Within an establishment, the greater the number of people working in a job, the greater the job’s chance of selection. Every job in the economy is classified into one of 480 occupations using a list based on the 1990 Census of Population.<sup>1</sup> After an occupation is selected, the work level is established by assessing the duties and responsibilities of the job according to the survey’s nine generic leveling factors. This point factor system is drawn from

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the Factor Evaluation System (FES) established by the Office of Personnel Management (OPM).<sup>2</sup> The nine generic leveling factors are:

- Knowledge—the nature and extent of information or facts that the workers must understand and the skills needed to apply that knowledge
- Supervision received—the nature and extent of direct or indirect controls exercised by the supervisor
- Guidelines—the nature of guidelines available for the job and the judgment needed to apply them
- Complexity—the nature, number, variety, and intricacy of tasks in the work performed
- Scope and effect—the relationship between the nature of the work and the effect of work products or services
- Personal contacts—the requirements for an initial contact, the difficulty of communicating with those contacted, and the setting in which the contact takes place
- Purpose of contacts—the purpose of personal contacts
- Physical demands—the physical demands required to perform the job
- Work environment—the risks and discomforts of the work

Each factor contains a number of levels and every level has an associated written description and point value. During the original survey interview, the field economist and company official work together to arrive at the most appropriate factor levels for each job. The point values for each of the first nine factors are added together and the total number of points determines the overall work level of the occupation.<sup>3</sup>

**The tenth generic leveling factor—supervisory duties.** The tenth generic leveling factor, supervisory duties, accounts for the additional responsibilities of supervisors and is designed to indicate the hierarchical level of the position in the organization.<sup>4</sup> For the NCS, no point values are associated with the supervisory duties factor for survey publication. The level choices for supervisory duties are:

- No supervisory responsibilities
- Team leader, group leader, or lead worker<sup>5</sup>
- First-line supervisor<sup>6</sup>
- Second-line supervisor<sup>7</sup>
- Third-line supervisor<sup>8</sup>
- Not available<sup>9</sup>

Note that the supervisory duties factor used in the NCS primarily evaluates the position within the organizational structure. It does not directly take into account either the complexity of the work performed by those supervised or the overall impact of the directed activities. This imposes certain limitations on the results of the research conducted for this article.

**Data capture restrictions.** The 1990 Census of Population, adapted by the NCS, imposes some restrictions on the use of the supervisory duties factor by occupation and major occupational group (MOG). Occupations that are supervisory by nature (for example, personnel managers) are restricted to supervisory duties levels of first-line supervisor or higher. Certain nonsupervisory jobs (such as secretaries) are restricted to levels no higher than team leader. Professional specialty occupations have no level restrictions. In addition, nine occupations cannot be leveled: musicians, actors, dancers, and six other occupations, by virtue of their definitions, cannot be assigned generic leveling factors.<sup>10</sup>

## Background

**Testing.** BLS conducted two earlier

studies (1978 and 1996) of supervisory practices in the nonfederal economy. In August 1978, BLS conducted a “Test Survey of Compensation Practices for Supervisors,” which was requested by the former U. S. Civil Service Commission (now OPM). For purposes of that survey, supervisors were defined as employees who spend 80 percent or more of their working time performing supervisory duties, such as planning, organizing, directing, and reviewing the work of employees, as well as personnel functions such as hiring, evaluating, promoting, rewarding, disciplining, and firing employees.

Among the studied 177 establishments that employed supervisors, only 24 had a formal or informal recognized pay relationship between supervisors and those supervised. Of these, about half reported paying supervisors a constant percentage above those supervised, the most common being 10 percent. The other half usually paid a constant dollar differential. Those establishments not having a recognized pay relationship between supervisors and nonsupervisors indicated that supervisory pay was set on a case-by-case basis. Elements determining pay included individual merit, past pay, market value, sales volume, profits, periodic surveys, competition, and guidelines from the parent corporation. Respondents also furnished information regarding other benefits, or perquisites, sometimes provided to supervisors. These included company cars, parking spaces, educational assistance, travel accident insurance, store discounts, dental plans, and country club memberships.<sup>11</sup>

In May 1996, BLS conducted another “Supervisory Test” to aid in the planning for the NCS. The emphasis of the test was on the relationship between the pay of supervisors and those supervised. Results were similar to the 1978 test. Among the 143 establishments that reported having supervisors, only 40 had an established pay relationship between supervisors and nonsupervisors. Of these, 19 reported that they used a point or grading system in which supervisors were auto-

matically given additional points or higher grades than the workers they supervised. (The 1978 test did not ask about supervisory evaluation factors.) Thirteen establishments reported paying supervisors a certain percentage above those supervised; and ten paid a higher differential expressed in dollars.

The test summary concluded that a large number of establishments did not have a policy regarding the relationship of pay between supervisors and those supervised. Even formal differentials were often stated as a minimum differential, with actual differentials varying widely. In almost all instances, pay differences varied among workers and occupations, making it difficult to quantify the size of the differential between supervisors and those they supervised.<sup>12</sup>

**Private compensation plans.** For this article, contacts made to several private compensation consultant firms found that only a few have established systems to measure supervisory pay. One company uses three rather than four levels of supervision: Working supervisor, first-line supervisor, and management. Another classifies supervisors first by the type of employee supervised (for example, engineering, clerical, craft, or unskilled), and then by the number of employees supervised. A third company modified the BLS generic leveling system: a lead worker adds 20 points; a first-line supervisor, 50 points; a second-line supervisor, 100 points; and a third-line supervisor, 225 points. The firm also increased the point ranges for the work levels so that adding supervisory duty points did not produce a higher work level.

**Outside perspective.** An evaluation of the NCS was prepared in July 1998 by Dr. Charles H. Fay of Rutgers University. He considers the handling of management and supervisory categories to be a drawback of the NCS. Dr. Fay states, "The current NCS approach does not deal with management and supervisory jobs in a way meaningful

to private sector organizations. Level-of-work determination typically uses reporting level, number of direct and indirect reports, budget responsibility, and other similar measures."<sup>13</sup> Drawing on previous BLS analyses, Dr. Fay declares, "It is noteworthy that the experimental factor supervisory duties is in fact a significant explanatory variable in more than half the cases. While there may be conceptual arguments about its usefulness, empirically it is a useful factor to include."<sup>14</sup>

### Supervisory duties and the NCS

**Data analysis.** Using regression techniques,<sup>15</sup> an analysis of the effect of the supervisory duties factor was conducted using data from more than 16,000 establishments, weighted to represent more than 335,000 establishments employing almost 67 million workers. The analysis was limited to full-time workers; all data were appropriately weighted. Estimates of sample error were not available for the salary breakouts by supervisory duties factor analyzed in this article. In lieu of these estimates, relative standard error estimates for all full-time workers, both supervisory and nonsupervisory, found in BLS Bulletin 2519, *National Compensation Survey: Occupational Wages in the United States, 1997*, were used in assessing salary comparisons.<sup>16</sup>

The data were collected between fall 1996 and spring 1998, and covered all nonfederal, nonagricultural establishments in the contiguous United States with 50 or more employees. Of the 149 areas surveyed, data were published for 43 separate areas. Later, estimates for the "Rest of United States" were given to OPM.<sup>17</sup>

The research for this article was designed to answer four questions:

- How many supervisors were found by industry?
- Can the pay differentials between supervisors and the workers they supervise be determined?

- What are the earnings differences for supervisors and non-supervisors within the same work level?
- At which work levels are supervisors found?

### How many supervisors were found by industry?

**All industries.** One in five full-time workers (about 21 percent) is reported as having some level of supervisory responsibilities. A total of 9 percent of full-time workers are identified as team leaders, 10 percent as first-line supervisors, 2 percent as second-line supervisors, and fewer than 1 percent as third-line supervisors. Seventy-eight percent are reported as having no supervisory responsibilities and information on supervisory duties is not available for one percent. See table 1 for the number of full-time workers and the average hourly wage rate by supervisory duties level for selected industries.

For all industries, the average hourly wage rate for full-time workers is \$15.77. The rate for full-time workers with no supervisory responsibilities is \$13.64. The rates for team leaders and first-, second-, and third-line supervisors are \$19.58, \$22.16, \$35.15, and \$60.76, respectively.

The wage differentials between adjacent supervisory levels provide some interesting insights. The average hourly wage rate for workers classified as team leaders is 44 percent higher than that for workers with no supervisory responsibilities. The average rate for first-line supervisors is only 13 percent higher than that for team leaders. Second-line supervisors earn 59 percent more than first-line supervisors, and third-line supervisors earn 73 percent more than second-line supervisors. The small differential between team leaders and first-line supervisors can best be explained by looking at the occupations. Team leaders are often found in professional specialty occupations, which tend to be higher-paying. On the other hand,

there are a large number of first-line supervisors in service occupations, which tend to be lower-paying.

**Industry divisions.** The percent of full-time workers reported as supervisors in private industry and in State and local government is not appreciably different. One finding that does stand out, however, is that the differentials for second- and third-line supervisors are less pronounced in State and local government than in private industry.<sup>18</sup>

Within specific industry divisions, the industries with the highest percentages of supervisors (team leaders through third-line supervisors) are construction, 27 percent; public administration, 27 percent; and finance, insurance, and real estate, 26 percent. Table 1 includes data for private industry and State and local government. Manufacturing and services industries are presented separately because of the large number of workers they include. In manufacturing, about 16 percent of workers are identified as having supervisory responsibilities; in services, about 21 percent.

**Major occupational groups and selected occupations.** Supervisory duties were analyzed by major occupational group and selected individual occupations. Table 2 presents the number of full-time workers and average hourly wage rates by supervisory duties level for three managerial occupations and one management-related occupation.<sup>19</sup>

The occupational group titled “executives, administrators, and managers” includes 15 occupations encompassing 38 percent of the first-line supervisors, 92 percent of the second-line supervisors, and 98 percent of the third-line supervisors. In this occupational group, supervisory duties levels do not include nonsupervisory workers or team leaders.<sup>20</sup> “Managers and administrators, not elsewhere classified” is one of the most populous occupations for which the NCS collects data. It includes supervisors, managers, directors, and vice presidents in a variety of disciplines.

The occupational group “manage-

ment related occupations” includes 12 occupations such as accountants and auditors, management analysts, and personnel, training, and labor relations specialists. These jobs can be classified only as nonsupervisory or as team leaders.<sup>21</sup> Accountants and auditors are included in table 2.

Professional specialty occupations include a relatively high percentage of team leaders (18 percent). But fewer second- and third-line supervisors (1 and 0.03 percent, respectively) are found because supervisors of professional workers are usually classified within separate managerial occupations, not in professional specialty occupations. Within this group, 3 percent of the jobs (273,702 workers) are classified as “supervisory duties not available.” This is partially due to the fact that the professional specialty occupational group includes 8 of the 9 occupations that by definition cannot be leveled (for example, musicians, actors, and dancers).

Table 3 shows three professional specialty occupations that have relatively high numbers of full-time workers and high percentages of supervisors. Only the computer systems analysts and scientists occupation demonstrates an expected wage progression. First-line supervisors of electrical and electronic engineers show a slightly lower average hourly wage rate than do lead workers. Also, the average wage rate for lead workers of registered nurses is slightly lower than the rate for nonsupervisory registered nurses. One explanation for this unusual relationship is that the occupational mix includes highly paid nonsupervisory nurses (such as nurse anesthetists). Also note that there are no registered nurses classified as third-line supervisors because nursing supervisors at that level are classified in a different occupation—managers, medicine and health.

Technical occupations include a higher percentage of team leaders than first-line supervisors. In technical occupations, second- and third-line supervisors are classified within the managerial occupations. Three indi-

vidual technical occupations are shown in table 3. For licensed practical nurses, the average hourly wage rates for lead and nonsupervisory workers exhibit the same inversion noticed among registered nurses. For computer programmers, first-line supervisors have a slightly lower average wage rate than do team leaders.

The administrative support occupations, including clerical, cover five individual occupations that are classified as first-, second-, or third-line supervisors.<sup>22</sup> Very few are reported as second-line supervisors and none as third-line supervisors. The most populous of the five occupations is “supervisors, general office.” Data for this occupation and for secretaries, the most populous clerical occupation, are shown in table 4.

### **Can the pay differentials between supervisors and those they supervise be determined?**

Comparing data for supervisors and nonsupervisors in the aggregate presents a number of challenges. It may be tempting to compare sales supervisors, for example, with the rest of the major occupational group for sales occupations, or mechanics’ supervisors with the rest of mechanics. But the NCS is not designed to study an establishment’s complete organizational structure—only some occupations are sampled. Also, the list of occupations, based on the 1990 Census of Population, has few jobs with a direct supervisor to nonsupervisor relationship. And, as pointed out earlier, the supervisory duties factor does not take into account the complexity or impact of the nonsupervisory work performed.

Still, there are three occupations that may lend themselves to comparison: Personnel workers, firefighters, and police officers. Table 5 shows the relationship of nonsupervisors and supervisors within these occupations. While the comparisons may be interesting, they should not be considered statistically reliable because of the method of probability sampling of jobs within each establishment.

### What are the earnings differences for supervisors and nonsupervisors within the same work level and at which work levels are supervisors found?

We have seen that the NCS supervisory duties factor can produce meaningful differences in earnings. The next question is whether adding the supervisory duties factor to a work level can further differentiate earnings. Put another way, is there a measurable difference in pay between supervisors and nonsupervisors within the same work level?<sup>23</sup>

**Percent of supervisory workers.** As might be expected, when the work levels rise, so does the proportion of workers classified as supervisors. (See table 6.) At work levels 10 and above, more workers are reported as supervisors (team leader or higher) than are reported as nonsupervisory. And more than half of the workers at work levels 12 and above are identified as first-line supervisors or higher.

Work level 14 has the highest percentage of workers reported as supervisors. One reason why work level 15 does not have a higher percentage of supervisors is because it includes nonsupervisory research workers and professors.

Because the supervisory duties factor is closely tied to the major occupational group and occupation, differences produced by the supervisory duties factor are best examined within an occupational group. Professional specialty occupations can be classified with all of the supervisory duties factor levels. This occupational group includes more full-time workers than any other group. Yet, professional specialty occupations do not include a high proportion of supervisors. There are two main reasons for the absence of supervisors: (1) supervisors of professional specialty workers are usually classified within specific managerial occupations; and (2) professional specialty workers include a great many college, elementary, and secondary school teachers, and very

few teachers are classified as first-line supervisors or higher.

**Earnings of supervisory workers.** When average hourly earnings are examined by work level for the various supervisory duties factor levels, it is evident that when supervisors are in the majority (at work levels 10 and above) the supervisory duties factor produces reasonable and significant differences in earnings. Below work level 10, where supervisors make up less than 40 percent of the workers, sorting data by the supervisory duties factor does not create meaningful differences in earnings. In fact, under work level 10, the average earnings of those reported as supervisory often are lower than the average earnings of those reported as nonsupervisory. (Keep in mind that the NCS is not designed to study individual supervisory and nonsupervisory relationships.) Table 7 presents the average hourly wage rate by work level and supervisory duties factor level.

Within professional specialty occupations, at work levels 13 and above, sorting average hourly earnings by the supervisory duties factor levels usually shows that higher supervisory duties levels are associated with higher earnings. But between work levels 10 and 12, the average hourly earnings of supervisors and nonsupervisory workers in each work level show little variation. Under work level 10, where fewer than 25 percent of the professional specialty workers are supervisory, sorting data by supervisory duties factor level often shows supervisors with lower average earnings than nonsupervisory workers.

The occupational group executives, administrators, and managers includes only supervisors and managers; the occupations can be reported as first-, second-, or third-line supervisors. These occupations include most (92 percent) of the second- and third-line supervisors in the NCS. Table 8 illustrates the difference in average supervisory earnings for managerial occupations for work levels 7 through 15. Within each work level, higher super-

visory duties factor levels nearly always relate to higher earnings. A reasonable conclusion is that the supervisor's position in the company hierarchy is a significant pay factor, in addition to the other nine generic leveling factors. However, the average earnings of the highest level supervisors in one work level are rarely greater than the average earnings of the lowest level supervisors in the next higher work level. For example, third-line supervisors at work level 13 earn \$51.52 per hour, while first-line supervisors at work level 14 earn \$51.92 per hour.

### Conclusion

The current generic leveling model used in the NCS to associate supervisory levels with matched occupations produces meaningful wage differences, holding all other factors constant. The supervisory duties factor can measure wages independently of the other generic leveling factors.<sup>24</sup> Additional pay given to those classified as supervisors helps to explain the observed cross-sectional variances in wages.

Because the NCS samples workers and occupations within an establishment, the earnings differentials between supervisors and the employees they supervise cannot be reliably measured using the current methodology. Probability sampling selects only some occupations for study within each establishment and may pass over either a supervisor or those workers supervised.

Adding a tenth factor, supervisory duties, to work levels already determined using the nine generic leveling factors produces reasonable earnings differences. This is particularly true for managerial occupations, in which all occupations are at least first-line supervisory. In other occupational groups, significant differences are noticed only when supervisors are in the majority within a work level. The earnings differences between supervisors and nonsupervisory workers within the same work level, in general, are not as great as the earnings differences between work levels. ■

<sup>1</sup> The NCS will be adopting the 1998 Standard Occupational Classification (SOC) System over the next few years. The first publication reflecting the SOC is expected in 2004.

<sup>2</sup> Under the Federal Employee Pay Comparability Act of 1990, BLS surveys pay rates of nonfederal employees for use by the President's Pay Agent in determining local pay adjustments for Federal white-collar workers. The President's Pay Agent includes the Secretary of Labor and Directors of the U.S. Office of Personnel Management and the U.S. Office of Management and Budget.

<sup>3</sup> For a detailed description of the generic leveling factors, see Appendix C, "Generic Leveling Criteria," in any BLS *National Compensation Survey* bulletin.

<sup>4</sup> This tenth generic leveling factor was added to attempt to replace the separate classification elements used for supervisory positions in the Federal Government. In the Federal Government, positions are classified under the General Schedule (GS) to grade levels ranging from GS-1 to GS-15. The numerical designation identifies the range of difficulty and responsibility, and level of qualification requirements for the position. Team leader positions are usually classified one GS grade level above the highest grade level work that is carried out by team members 25 percent or more of the time. Supervisory positions are most often classified under another OPM point factor system known as the General Schedule Supervisory Guide. This system uses six factors: Program scope and effect—the general complexity, breadth, and impact of the program areas and work directed; organizational setting—the organizational situation of the supervisory position in relation to higher levels of management; supervisory and managerial authority exercised—the authorities that are exercised on a recurring basis; personal contacts—a two-part factor that assesses the nature and the purpose of personal contacts; difficulty of typical work directed—the "base grade," or the highest grade that best characterizes the nature of the basic nonsupervisory work performed or overseen by the organization directed, and that constitutes 25 percent or more of the workload of the organization; and other conditions—the extent to which various conditions contribute to the difficulty and complexity of carrying out supervisory duties, authorities, and responsibilities. Points are totaled for all six factors and converted to a grade using a conversion chart. Additional information is available on the OPM Internet site at: <http://www.opm.gov>.

<sup>5</sup> Team leaders, group leaders, or lead workers are considered nonsupervisory positions. The incumbent sets the pace of work for the group and shows other workers in the group how to perform assigned tasks. He or she commonly performs the same work as the group, in addition to lead duties.

<sup>6</sup> A first-line supervisor directs staff through face to face meetings. Organizational structure is not complex and internal and administrative procedures are simple.

Performing the same work as subordinates is not the principal duty.

<sup>7</sup> A second-line supervisor directs staff through intermediate supervisors. Internal procedures and administrative controls are formal. Organizational structure is complex and is divided into subordinate groups that may differ from each other as to subject matter and function.

<sup>8</sup> A third-line supervisor directs staff through two or more subordinate supervisory levels with several subdivisions at each level. Programs are usually inter-locked on a direct and continuing basis with other organizational segments, requiring constant attention to extensive formal coordination, clearances, and procedural controls.

<sup>9</sup> The supervisory duties level could not be determined.

<sup>10</sup> The table below designates applicable supervisory duties levels by major occupational group or occupation. These restrictions did not significantly affect the findings for this article.

Occupational group or occupation	Supervisory duties levels				
	None	Team leader	First line	Second line	Third line
Professional specialty .....	X	X	X	X	X
Technical .....	X	X	X		
Executives, administrators, and managers .....			X	X	X
Management related .....			X	X	X
Clerical supervisors ...			X	X	X
Other supervisors ...			X		
All other occupations ..	X	X			

<sup>11</sup> Taken from "Test Survey of Compensation Practices for Supervisors," unpublished paper (Bureau of Labor Statistics, December 1978).

<sup>12</sup> Data are from Kenneth J. Hoffmann, "Report on Supervisory Test," unpublished paper (Bureau of Labor Statistics, November 1996).

<sup>13</sup> Dr. Charles H. Fay, "Evaluation of National Compensation Survey Program," unpublished paper (Bureau of Labor Statistics, July 1998), p. 20.

<sup>14</sup> Fay, "Evaluation," p. 48.

<sup>15</sup> Albert E. Schwenk, an economist in the Bureau's Office of Compensation Levels and Trends, designed and produced the estimations used for this article. Numbers of workers and average hourly wage rates were estimated from the national database for full-time workers by supervisory duties factor and by industry, occupation, and work level.

<sup>16</sup> In this article, the following salary differences were considered not to be statistically significant: All full-time workers, 3 percent or less; private industry full-time workers, 6 percent or less; State and local government full-time workers, 6 percent or less; professional specialty full-time workers, 3 percent or less; technical occupations, full-time workers, 6 percent or less; and managerial occupations, full-time workers, 6 percent or less.

<sup>17</sup> For research into local pay adjustments, OPM divides the country into 31 "critical" metropolitan areas, and all other areas are aggregated into the "Rest of United States."

<sup>18</sup> Pay compression in State and local government is discussed in Michael A. Miller's "The public-private pay debate: what do the data show?" *Monthly Labor Review*, May 1996, pp. 18-29; and in John E. Buckley's "Pay in Private Industry and State and Local Governments, 1994," *Compensation and Working Conditions*, September 1996, pp. 22-26.

<sup>19</sup> A complete list of all surveyed occupations, and their major occupational groups, is available from BLS. For additional information, contact the Bureau of Labor Statistics, Division of Compensation Data Analysis and Planning, 2 Massachusetts Avenue, NE, Room 4175, Washington, DC 20212-0001, or call (202) 691-6199, or send e-mail to [oceltinfo@bls.gov](mailto:oceltinfo@bls.gov).

<sup>20</sup> A small number of those coded as "no supervisory responsibilities" early in the NCS process were excluded from this analysis.

<sup>21</sup> A small number of first-line supervisors coded early in the NCS were excluded from this analysis.

<sup>22</sup> A small number of team leaders coded early in the NCS were excluded from this analysis.

<sup>23</sup> While no supervisory duties points are used in the calculation of an occupation's work level for publication, there are experimental point values assigned to each supervisory duties factor level for analysis purposes. If these were applied to the total points determining work level, they would tend to increase the work level by one level for team leaders and first-line supervisors, two levels for second-line supervisors, or three levels for third-line supervisors. For the analysis in this article, additional points were not added for the supervisory duties factor.

<sup>24</sup> Brooks Pierce, in the Bureau's Office of Compensation Levels and Trends, reached the same conclusion in his analysis of the first 15 areas surveyed, "Generic Leveling Data in the National Compensation Survey," unpublished research paper (Bureau of Labor Statistics, 1998). For additional information on generic leveling see Brooks Pierce, "Using the National Compensation Survey to Predict Wage Rates," *Compensation and Working Conditions*, Winter 1999, pp. 8-16.

**TABLE 1. Number of full-time workers and average hourly wage rate by supervisory duties level, selected industries, 1997**

Industry and supervisory duties level	Full-time workers		Average hourly wage	
	Number	As a percent of the industry	Rate	Differential <sup>1</sup>
<b>All industries:</b>				
No supervisory responsibilities .....	43,345,760	78	\$13.64	-
Team leader .....	4,743,736	9	19.58	44
First line .....	5,593,722	10	22.16	13
Second line .....	1,086,304	2	35.15	59
Third line .....	140,525	( <sup>2</sup> )	60.76	73
<b>Private industry:</b>				
No supervisory responsibilities .....	33,306,972	78	12.77	-
Team leader .....	3,425,279	8	19.79	55
First line .....	4,260,274	10	22.13	12
Second line .....	877,894	2	35.86	62
Third line .....	115,817	( <sup>2</sup> )	65.25	82
<b>Manufacturing:</b>				
No supervisory responsibilities .....	11,712,429	82	13.22	-
Team leader .....	1,014,409	7	19.96	51
First line .....	1,045,429	7	24.47	23
Second line .....	301,954	2	36.63	50
Third line .....	34,255	( <sup>2</sup> )	65.93	80
<b>State and local government:</b>				
No supervisory responsibilities .....	10,038,788	76	16.91	-
Team leader .....	1,318,457	10	18.98	12
First line .....	1,333,448	10	22.27	17
Second line .....	208,410	2	32.01	44
Third line .....	24,708	( <sup>2</sup> )	38.42	20
<b>Services:<sup>3</sup></b>				
No supervisory responsibilities .....	16,835,459	78	13.84	-
Team leader .....	1,938,985	9	20.11	45
First line .....	2,072,983	10	21.83	9
Second line .....	353,599	2	35.62	63
Third line .....	43,628	( <sup>2</sup> )	52.20	47

<sup>1</sup> Percent difference between adjacent supervisory duties levels.

<sup>2</sup> Less than 0.5 percent.

<sup>3</sup> Data for the services industry includes both private industry and State and local government.

NOTE: Because workers whose supervisory duties are not available are excluded from this table, components will not equal totals. Dash indicates data not applicable.

**TABLE 2. Number of full-time workers and average hourly wage rate by supervisory duties level, selected occupations, 1997**

Executive, administrative, and managerial occupations and supervisory duties level	Full-time workers		Average hourly wage	
	Number	As a percent of the occupation	Rate	Differential <sup>1</sup>
<b>Executives, administrators, and managers:</b>				
No supervisory responsibilities .....	None			
Team leader .....	None			
First line .....	2,138,688	62	\$26.23	-
Second line .....	994,718	29	35.13	34
Third line .....	138,085	4	60.92	73
<b>Financial managers:</b>				
No supervisory responsibilities .....	None			
Team leader .....	None			
First line .....	295,238	64	27.13	-
Second line .....	126,283	27	37.49	38
Third line .....	20,060	4	75.55	202
<b>Administrators in education and related fields:</b>				
No supervisory responsibilities .....	None			
Team leader .....	None			
First line .....	279,612	77	27.29	-
Second line .....	64,599	18	36.36	33
Third line .....	7,723	2	46.36	28
<b>Managers and administrators not elsewhere classified:</b>				
No supervisory responsibilities .....	None			
Team leader .....	None			
First line .....	786,956	56	26.96	-
Second line .....	467,864	33	36.39	35
Third line .....	74,612	5	65.40	80
<b>Management related:</b>				
<b>Accountants and auditors:</b>				
No supervisory responsibilities .....	406,061	76	18.70	-
Team leader .....	127,770	24	22.87	22
First line .....	None			
Second line .....	None			
Third line .....	None			

<sup>1</sup> Percent difference between adjacent supervisory duties levels.

NOTE: Because workers whose supervisory duties

are not available are excluded from this table, components will not equal totals. Dash indicates data not applicable.



TABLE 3. Number of full-time workers and average hourly wage rate by supervisory duties level, selected occupations, 1997

Professional specialty and technical occupations and supervisory duties level	Full-time workers		Average hourly wage	
	Number	As a percent of the occupation	Rate	Differential <sup>1</sup>
<b>Professional specialty:</b>				
No supervisory responsibilities .....	6,597,997	70	\$24.20	-
Team leader .....	1,686,981	18	25.52	5
First line .....	764,849	8	28.21	11
Second line .....	84,826	1	36.65	30
Third line .....	2,440	( <sup>2</sup> )	51.89	42
<b>Electrical and electronic engineers:</b>				
No supervisory responsibilities .....	131,176	63	27.44	-
Team leader .....	48,860	23	32.38	18
First line .....	21,512	10	31.88	-2
Second line .....	2,078	1	36.96	16
Third line .....	518	( <sup>2</sup> )	52.66	42
<b>Computer systems analysts and scientists:</b>				
No supervisory responsibilities .....	492,292	62	24.76	-
Team leader .....	224,344	28	29.76	20
First line .....	61,953	8	31.26	5
Second line .....	6,822	1	33.13	6
Third line .....	257	( <sup>2</sup> )	38.43	16
<b>Registered nurses:</b>				
No supervisory responsibilities .....	576,559	49	19.96	-
Team leader .....	444,091	38	19.41	-3
First line .....	138,154	12	21.82	12
Second line .....	7,021	1	29.00	33
Third line .....	None			
<b>Technical:</b>				
No supervisory responsibilities .....	1,932,902	80	15.77	-
Team leader .....	347,472	14	20.86	32
First line .....	109,434	5	24.47	17
Second line .....	None			
Third line .....	None			
<b>Licensed practical nurses:</b>				
No supervisory responsibilities .....	272,536	71	12.51	-
Team leader .....	93,025	24	12.24	-2
First line .....	20,176	5	13.19	8
Second line .....	None			
Third line .....	None			
<b>Electrical and electronic technicians:</b>				
No supervisory responsibilities .....	213,257	81	17.07	-
Team leader .....	38,486	15	20.11	18
First line .....	9,452	4	23.56	17
Second line .....	None			
Third line .....	None			
<b>Computer programmers:</b>				
No supervisory responsibilities .....	159,072	87	20.01	-
Team leader .....	16,945	9	24.26	21
First line .....	5,363	3	23.07	-5
Second line .....	None			
Third line .....	None			

<sup>1</sup> Percent difference between adjacent supervisory duties levels.

<sup>2</sup> Less than 0.5 percent.

NOTE: Because workers whose supervisory duties are not available are excluded from this table, components will not equal totals. Dash indicates data not applicable.

**TABLE 4. Number of full-time workers and average hourly wage rate by supervisory duties level, selected occupations, 1997**

Administrative support occupations, including clerical, and supervisory duties level	Full-time workers		Average hourly wage	
	Number	As a percent of the occupation	Rate	Differential <sup>1</sup>
Supervisors, general office:				
No supervisory responsibilities .....	None			
Team leader .....	None			
First line .....	237,537	97	\$15.90	-
Second line .....	2,570	1	18.51	16
Third line .....	None			
Secretaries:				
No supervisory responsibilities .....	1,339,888	93	12.72	-
Team leader .....	86,105	6	13.55	7
First line .....	None			
Second line .....	None			
Third line .....	None			

<sup>1</sup> Percent difference between adjacent supervisory duties levels.

NOTE: Because workers whose supervisory duties

are not available are excluded from this table, components will not equal totals. Dash indicates data not applicable.

**TABLE 5. Number of full-time workers and average hourly wage rate by supervisory duties level, selected occupations with a direct supervisory relationship, 1997**

Occupation and supervisory duties level	Number of full-time workers	Average hourly wage	
		Rate	Differential <sup>1</sup>
Personnel, training, and labor relations specialists:			
No supervisory responsibilities .....	231,865	\$19.83	-
Team leader .....	45,730	20.79	5
Personnel and labor relations managers:			
First line .....	83,316	28.34	36
Second line .....	20,902	38.55	36
Third line .....	2,325	68.35	77
Firefighting:			
No supervisory responsibilities .....	157,979	14.40	-
Team leader .....	13,967	15.46	7
Supervisors, firefighting and fire prevention:			
First line .....	43,197	19.46	26
Second line .....	None		
Third line .....	None		
Police and detectives, public service:			
No supervisory responsibilities .....	379,922	18.54	-
Team leader .....	60,937	20.61	11
Supervisors, police and detectives:			
First line .....	123,230	22.99	12
Second line .....	None		
Third line .....	None		

<sup>1</sup> Percent difference between adjacent supervisory duties levels.

NOTE: Dash indicates data not applicable.

**TABLE 6. Percent of workers classified as team leader or higher and first-line supervisor or higher by work level, selected occupations, 1997**

Occupation and work level	Percent	
	Team leader or higher	First-line supervisor or higher
All occupations:		
Level 7 .....	27	15
Level 8 .....	36	21
Level 9 .....	39	24
Level 10 .....	54	40
Level 11 .....	63	45
Level 12 .....	73	58
Level 13 .....	68	53
Level 14 .....	82	72
Level 15 .....	68	62
Professional specialty occupations:		
Level 7 .....	15	3
Level 8 .....	24	5
Level 9 .....	24	6
Level 10 .....	35	16
Level 11 .....	45	19
Level 12 .....	50	21
Level 13 .....	46	23
Level 14 .....	58	34
Level 15 .....	54	46

**TABLE 7. Full-time workers' average hourly wage rate by supervisory duties level and work level, selected occupations, 1997**

Occupation and work level	Average hourly wage rate				
	Non-supervisory	Team leader	First-line supervisor	Second-line supervisor	Third-line supervisor
All occupations:					
Level 7 .....	\$18.15	\$17.98	\$16.85	\$17.92	-
Level 8 .....	20.59	19.92	18.76	18.96	\$20.85
Level 9 .....	24.58	22.72	22.61	23.12	23.88
Level 10 .....	24.86	25.66	26.69	27.53	30.56
Level 11 .....	28.94	30.94	29.08	30.16	31.78
Level 12 .....	35.16	35.16	34.61	35.64	40.11
Level 13 .....	39.26	42.53	42.96	43.87	51.48
Level 14 .....	46.66	50.96	50.93	51.88	67.87
Level 15 .....	41.76	56.20	52.91	49.63	95.78
Professional specialty occupations:					
Level 7 .....	19.82	18.43	16.92	13.73	-
Level 8 .....	22.13	20.40	19.31	26.71	-
Level 9 .....	25.77	22.68	22.11	18.39	-
Level 10 .....	24.78	25.75	25.14	30.15	-
Level 11 .....	28.08	28.87	28.12	31.34	-
Level 12 .....	34.23	34.57	34.21	37.69	-
Level 13 .....	36.32	39.80	44.25	42.23	49.15
Level 14 .....	47.09	52.04	47.04	52.01	55.28
Level 15 .....	41.72	56.20	53.25	37.75	41.70

NOTE: Dash indicates data not applicable.

**TABLE 8. Number of full-time executives, administrators, and managers and average hourly wage rate by work level and supervisory duties level, 1997**

Work level and supervisory duties level	Full-time workers		Average hourly wage	
	Number	As a percent of the work level	Rate	Differential <sup>1</sup>
Level 7:				
First line .....	176,938	97	\$16.29	-
Second line .....	4,728	3	18.13	11.0
Third line .....	None			
Level 8:				
First line .....	224,299	93	17.88	-
Second line .....	17,095	7	19.11	7.0
Third line .....	None			
Level 9:				
First line .....	537,361	84	22.76	-
Second line .....	105,412	16	23.48	3.0
Third line .....	386	( <sup>2</sup> )	23.88	2.0
Level 10:				
First line .....	181,087	75	26.53	-
Second line .....	59,248	25	27.45	3.0
Third line .....	936	( <sup>2</sup> )	30.56	11.0
Level 11:				
First line .....	462,510	68	28.85	-
Second line .....	207,426	31	30.02	4.0
Third line .....	9,395	1	31.78	6.0
Level 12:				
First line .....	308,978	45	34.52	-
Second line .....	354,447	52	35.55	3.0
Third line .....	22,728	3	40.11	13.0
Level 13:				
First line .....	107,442	40	41.84	-
Second line .....	137,924	51	44.02	5.0
Third line .....	26,100	10	51.52	17.0
Level 14:				
First line .....	47,383	23	51.92	-
Second line .....	94,364	46	51.87	-0.1
Third line .....	62,787	31	68.21	32.0
Level 15:				
First line .....	542	2	43.08	-
Second line .....	9,822	38	58.31	35.0
Third line .....	15,754	60	96.86	66.0

<sup>1</sup> Percent difference between adjacent supervisory duties levels.

<sup>2</sup> Less than 0.5 percent.

NOTE: Because workers whose supervisory duties are not available are excluded from this table, components will not equal totals. Dash indicates data not applicable.