

## Relative Pay Rates among Major Industry and Occupational Groups

by [John E. Buckley](#)

Bureau of Labor Statistics

*Originally Posted: March 26, 2003*

*Based on the results of the National Compensation Survey, hourly earnings of all workers in private industry and State and local governments averaged \$15.36 in 1999; average earnings varied considerably by industry and occupational group, ranging from \$33.26 per hour for executive, administrative, and managerial workers in mining to \$6.49 for service workers in retail trade.*

The results of the 1999 [National Compensation Survey \(NCS\)](#) represent the third annual findings of establishment-based surveys in a sample of 154 metropolitan and nonmetropolitan areas. The sample represents the Nation's 326 metropolitan statistical areas (as defined by the Office of Management and Budget, 1994) and the remaining portions of the 50 States. (The 1997 NCS survey was limited to 149 areas representing the contiguous United States.) The major difference between the 1999 survey and the two earlier surveys is that the 1999 data include private establishments with fewer than 50 employees. Agricultural, private household, and Federal government workers are not included in the NCS.

For ease of analysis, averages for industry and occupational groups were compared with the national average and converted to relative earnings. (See table 1.) The national average (\$15.36) was assigned a value of 100 and averages for subnational data were converted to a percent of the national estimate. For example, when the average hourly rate for State and local governments (\$19.34) was compared with the national rate, the value for governments converted to 126. ( $\$19.34/\$15.36 \times 100 = 126$ .)

### Pay Relative Comparisons

Among the higher paying industries, pay relatives for mining, State and local governments, and transportation and public utilities were 135, 126, and 120, respectively. The pay relative for the finance, insurance, and real estate industry (113) also exceeded the national average, as did the construction and manufacturing industries. Retail trade was the lowest paying industry sector, with a pay relative of 63.

At the "all occupations" level, workers in State and local governments earned considerably more than private industry workers grouped together. Part of the overall difference between the two sectors is explained by differences in their occupational and industrial mix. For example, professional specialty and technical occupations are proportionally more prevalent in government than in private industry. Service occupations in government are unique in that they primarily consist of police and firefighters who earn higher pay than most workers in service occupations found in private industry.

There were some notable exceptions to the pay advantage of government workers over private industry workers when individual industries and occupational groups were examined. Except for the construction and retail trade industries, the pay relative for executive, administrative, and managerial workers in government (169) was moderately to significantly lower than relatives for similar workers in the remaining industries shown in table 1. For example, the executive, administrative, and managerial pay relatives for mining (217), manufacturing (213), transportation and public utilities (199), and wholesale trade (191) were higher than the government relative. The relative earnings of the small number of sales workers in government were considerably lower than sales workers in most of the other industries, with retail trade workers being the main exception.

Service workers in the transportation and public utilities sector had considerably higher earnings than service workers in other industries. The pay advantage for these transportation and public utilities workers is largely due to the mix of service occupations found among the different industry sectors. The pay relative of service workers in the transportation and public utilities industry (125) is strongly influenced by the presence of high-paid public transportation attendants (such as flight

attendants and transportation conductors) in that industry. Lower paying food, health, and cleaning services occupations influence earnings of service workers in other industries.

Average earnings of workers in white-collar occupations generally exceeded earnings of workers in blue-collar and service occupations, often by wide margins. In private industry, for example, the pay relative for white-collar occupations was 118; for blue-collar and service occupations the values were 84 and 52, respectively. Within the white-collar group, wages also varied considerably, with the relative pay of executive, administrative, and managerial workers (182) far surpassing the relative pay of sales workers (84) and administrative support workers (79). Pay for the lower paying white-collar jobs was more in line with blue-collar rates than for other white-collar jobs.

The relatively low pay of sales workers is strongly influenced by the large numbers employed in the retail trade industry. Sales workers in most other industries receive pay rates well above the average. For example, sales workers in mining had relative earnings of 181; the pay relative for sales workers in manufacturing was 156. The pay relatives for sales workers in three other industry divisions--construction, wholesale trade, and finance, insurance, and real estate--ranged from 130 to 137. Sales workers in the services and State and local government sectors had, along with retail trade, pay relatives well below the average.

There also was wide pay dispersion among the four blue-collar major occupational groups. (Pay dispersion is a measure of variation in pay among occupational groups.) The relative earnings of private industry precision production, craft, and repair workers (107) were higher than the earnings for machine operators, assemblers, and inspectors (74), transportation and material moving occupations (83), and handlers, equipment cleaners, helpers, and laborers (63). Average earning differences among these same four major occupational groups were considerably narrower in State and local governments.

Average pay levels for the five service occupational groups in private industry were more closely clustered than the average levels for the white- and blue-collar groups. Service occupations are generally at the lower end of the earnings spectrum, especially in the retail trade and services industries. In general, service workers in the public sector earned more than their private industry counterparts. The major exception was the transportation and public utilities industry, where the high pay of public transportation attendants positively affected the average pay estimate of workers in service occupations.

### **Pay Spreads For Occupations Within Industries**

Among the nine major occupational groups, the smallest pay relative spread occurred in the State and local government sector. (See table 1 for a definition of the major occupational groups.) The average pay of professional specialty and technical workers in government (\$26.04) was about 114 percent higher than the average pay of sales workers (\$12.16) in that sector. (See table 2.) This relationship contrasted with the approximately 250-percent difference in average pay that executive, administrative, and managerial workers received over handlers, equipment cleaners, helpers, and laborers in the mining industry. The services, wholesale trade, retail trade, and manufacturing industries also had differences of more than 200 percent between high- and low-paying major occupational groups.

### **Occupational Pay Dispersion Across Industries**

Table 2 presents average hourly earnings for the nine major occupational groups and nine industry sectors, along with a measure of dispersion for occupations across industries. Service occupations had the widest spread across industries, reflecting the disparate mix of jobs in that major occupational group. Workers in service occupations in retail trade averaged \$6.49 per hour. On the other hand, service workers in the transportation and public utilities sector averaged \$19.16, or about 195 percent higher than the average for service workers in retail trade. Part of this large spread was caused by the low earnings rate for waiters and waitresses in retail trade. (Tips are not included as part of wages in the NCS because they are not paid for by the employers; thus, the rate for waiters and waitresses reflects the absence of this information.)

Sales occupations had the next widest spread among industries, also reflecting the differing jobs in that major occupational group. Sales workers in retail trade averaged \$9.82 per hour, influenced by the relatively low pay and high presence of cashiers and counter clerks in that industry. On the other hand, sales workers in the mining sector averaged \$27.80 per hour,

or about 183 percent higher than the average for sales workers in retail trade. Sales work in mining requires proportionally larger numbers of professional staff engaged in high-value transactions.

The occupation with the narrowest spread involved transportation and public utilities and retail trade. A 39-percent difference separated the average hourly rate of precision production, craft, and repair workers in transportation and public utilities (\$20.72) from the average of similar workers in retail trade (\$14.93). This relatively narrow spread reflects the fairly homogeneous nature of duties performed by precision production, craft, and repair workers in all industries, the long-term training required for these kinds of occupations, and the ability of these workers to transfer their skills among industries with minimal additional training.

John E. Buckley  
 Economist, Division of Compensation Data Analysis and Planning, Bureau of Labor Statistics.  
 Telephone: (202) 691-6299, E-mail: Buckley\_J@bls.gov

**Table 1. Relative pay levels by major occupational group and industry, all civilian workers, National Compensation Survey, 1999 (U.S. = \$15.36 = 100)**

Major occupational groups (1)	All workers	Private industry									State and local government
		Goods producing				Service producing					
		All private industry workers	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	
All occupations	100	96	135	108	104	120	97	63	113	97	126
White-collar occupations	122	118	174	130	152	134	125	72	118	124	142
White-collar, excluding sales	131	128	174	130	152	135	122	96	116	127	143
Professional specialty and technical	161	157	209	149	168	193	176	137	160	151	170
Executive, administrative, and managerial	180	182	217	159	213	199	191	133	180	177	169
Sales	84	84	181	132	156	120	130	64	137	81	79
Administrative support	79	79	99	86	86	92	76	68	82	75	81
Blue-collar occupations	85	84	113	103	84	106	77	69	82	72	98
Precision production,	107	107	130	115	103	135	-	97	99	99	111

Footnotes:

(1) The nine major occupational groups used in the National Compensation Survey are the white-collar professional, executive, sales, and administrative support groups; the blue-collar precision production, machine operators, transportation, and handlers groups; and the overall service group.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

Major occupational groups (1)	All workers	Private industry									State and local government
		Goods producing				Service producing					
		All private industry workers	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	
<b>craft, and repair</b>											
<b>Machine operators, assemblers, and inspectors</b>	74	74	95	94	78	89	-	56	71	52	94
<b>Transportation and material moving</b>	84	83	107	101	83	94	77	59	70	70	91
<b>Handlers, equipment cleaners, helpers, and laborers</b>	64	63	62	71	67	88	58	58	71	56	81
<b>Service occupations</b>	60	52	66	64	76	125	67	42	67	54	94
<b>Protective service</b>	97	59	-	-	95	99	-	67	74	56	118
<b>Food service</b>	44	43	-	-	-	65	47	41	47	47	61
<b>Health service</b>	61	59	-	-	-	-	-	51	54	59	72
<b>Cleaning and building service</b>	60	57	-	62	76	62	69	51	68	53	71
<b>Personal service</b>	58	57	-	-	-	152	58	51	71	53	64

Footnotes:

(1) The nine major occupational groups used in the National Compensation Survey are the white-collar professional, executive, sales, and administrative support groups; the blue-collar precision production, machine operators, transportation, and handlers groups; and the overall service group.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

**Table 2. Average hourly earnings and dispersion percents for nine major occupational groups, private industry and State and local government, National Compensation Survey, 1999 (U.S. = \$15.36)**

Major occupational groups	Private industry								State and local government	Dispersion percent (1)
	Goods producing			Service producing						
	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services		
White-collar occupations:										
Professional specialty and technical	\$32.15	\$22.81	\$25.78	\$29.66	\$27.07	\$21.05	\$24.60	\$23.27	\$26.04	53
Executive, administrative, and managerial	33.26	24.37	32.64	30.6	29.32	20.46	27.66	27.17	25.89	63
Sales	27.8	20.22	23.99	18.46	19.92	9.82	20.98	12.42	12.16	183
Administrative support	15.27	13.16	13.25	14.13	11.73	10.37	12.53	11.54	12.37	47
Blue-collar occupations:										
Precision production, craft, and repair	19.94	17.69	15.89	20.72	--	14.93	15.23	15.18	17.06	39
Machine operators, assemblers, and inspectors	14.52	14.44	11.99	13.66	--	8.6	10.97	8.03	14.38	81
Transportation and material moving	16.38	15.53	12.8	14.48	11.87	9.13	10.77	10.75	13.96	79
Handlers, equipment cleaners, helpers, and laborers	9.57	10.92	10.23	13.53	8.92	8.89	10.89	8.67	12.44	56
Service occupations	10.15	9.83	11.72	19.16	10.34	6.49	10.34	8.26	14.41	195
Footnotes: (1) The dispersion percent shows the percentage difference between average earnings in the highest paying and lowest paying industry.										
NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.										