A. Employment and Wages by Major Occupational Group and Industry

Fatemeh Hajiha

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates of workers in all U.S. industries. The survey is based on a sample of 1.2 million business establishments. The data are collected in six semiannual panels over a 3-year period. This survey design permits estimation and analysis of wage distributions by occupation across all industries, as well as within individual industries and by detailed geographic areas. More information about the survey is found in the Technical Note to this document.

The following analysis examines employment and wages by major occupational group across all industries, as well as wages for detailed occupations in selected industries.

Fatemeh Hajiha is an economist in the Division of Occupational Employment Statistics, Bureau of Labor Statistics.

Employment and wages by major occupational group

The OES survey uses the Office of Management and Budget's (OMB's) occupational classification system, the Standard Occupational Classification system (SOC). SOC is the first OMB-required occupational classification system for Federal agencies. The OES survey categorizes workers into 801 detailed occupations and categorizes these detailed occupations into 22 of the 23 SOC major occupational groups. Military-specific occupations are not included in the OES survey. Chart A1 displays total employment in millions of workers, the percentage of total employment, and the mean wage for each group. The chart is arrayed by employment, with the largest occupational group on the top and the smallest group on the bottom.

Chart A1. **Mean hourly wage and percent of total employment by major occupational group, May 2004**

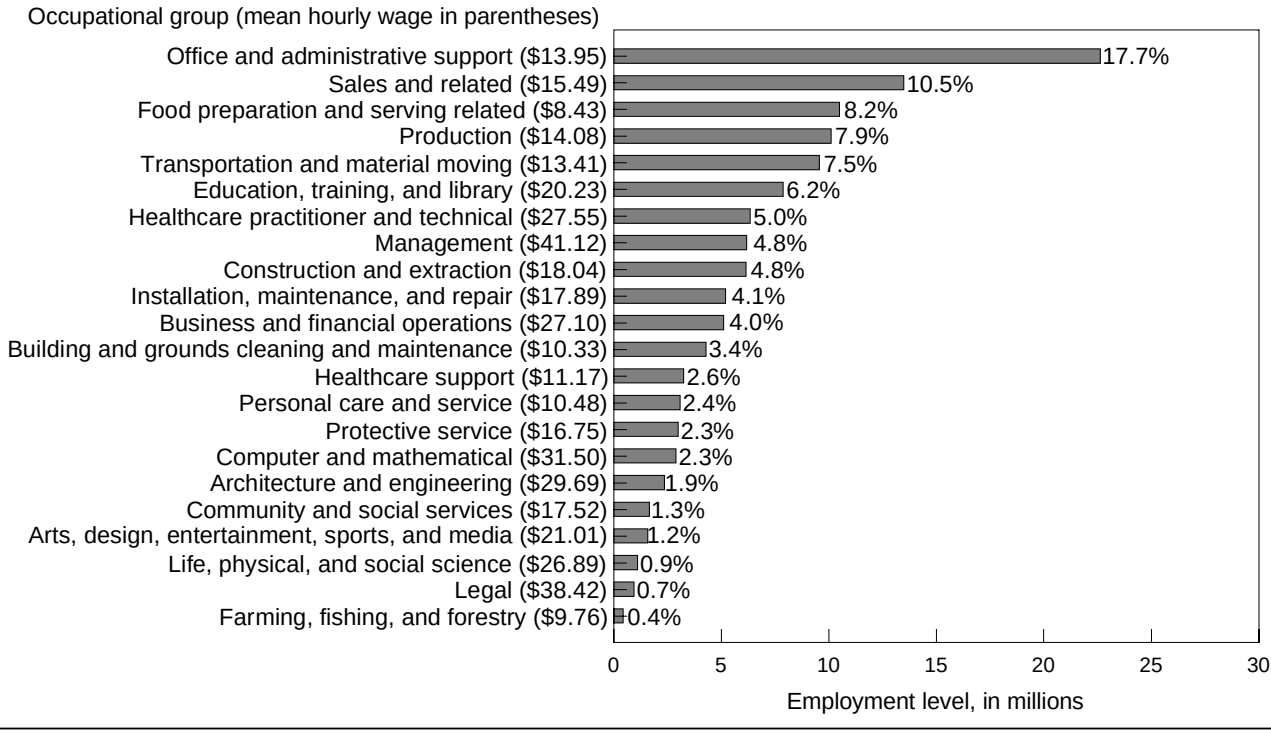


Table A1: **Percentile wages by major occupational group, May 2004**

Major occupational group	Employment	Hourly earnings					
		10th percentile	25th percentile	50th percentile	75th percentile	90th percentile	Mean wage
Total	128,127,360	$7.16	$9.28	$13.83	$21.66	$32.94	$17.80
Management	6,200,940	17.19	24.47	35.77	51.87	(1)	41.12
Legal	958,520	14.12	19.01	29.24	51.29	(1)	38.42
Computer and mathematical	2,915,300	16.24	22.03	30.11	39.68	49.49	31.50
Architecture and engineering	2,372,770	15.43	20.74	27.94	37.24	46.14	29.69
Healthcare practitioner and technical	6,359,380	11.95	16.60	22.71	31.24	45.78	27.55
Business and financial operations	5,131,840	13.94	18.09	24.21	32.77	43.32	27.10
Life, physical, and social science	1,131,390	12.63	17.01	23.88	33.73	45.27	26.89
Arts, design, entertainment, sports, and media	1,595,710	7.98	11.47	17.39	25.88	37.24	21.01
Education, training, and library	7,891,810	8.33	12.36	18.57	25.74	33.90	20.23
Construction and extraction	6,170,410	9.31	11.93	16.38	22.74	29.78	18.04
Installation, maintenance, and repair	5,215,390	9.36	12.37	16.91	22.34	27.72	17.89
Community and social services	1,673,740	9.36	12.08	16.09	21.56	27.79	17.52
Protective service	3,006,100	7.64	9.91	14.57	21.96	29.51	16.75
Sales and related	13,507,840	6.51	7.77	10.51	17.97	30.29	15.49
Production	10,128,200	7.67	9.51	12.65	17.15	23.00	14.08
Office and administrative support	22,649,080	7.88	9.89	12.84	16.92	21.52	13.95
Transportation and material moving	9,581,320	6.89	8.47	11.48	16.24	21.61	13.41
Healthcare support	3,271,350	7.29	8.66	10.45	13.07	16.28	11.17
Personal care and service	3,099,550	6.06	7.08	8.68	11.55	17.00	10.48
Building and grounds cleaning and maintenance	4,300,440	6.39	7.52	9.28	12.17	16.13	10.33
Farming, fishing, and forestry	458,850	6.38	7.17	8.23	10.88	15.63	9.76
Food preparation and serving related	10,507,390	5.75	6.41	7.58	9.51	12.51	8.43

[1] Represents a wage above $70 per hour.

In terms of employment, the 22 occupational groups can be placed into three broad categories. The first consists of five groups with the largest employment. They are office and administrative support; sales and related; food preparation and serving related; production; and transportation and material moving. These groups together account for more than half of total employment, or more than 66 million workers. Of the 5, the office and administrative support group, with more than 22.6 million workers, is the largest, and the transportation and material-moving group, with about 9.6 million workers, is the smallest. The mean wage in each of these five major groups is less than the mean wage for all workers across occupational groups ($17.80). The food preparation and serving related group has a mean wage of $8.43 per hour, the lowest among all occupational groups.

The second category consists of five occupational groups with midsize employment. Accounting for about one-quarter of total employment, or about 32 million workers, these groups are education, training, and library; healthcare practitioner and technical; management; construction and extraction; and installation, maintenance, and repair. The mean wage estimates in these groups range from more than twice the mean wage for all workers to wages that are about the same as the mean for all workers. The management group, with about 6.2 million workers, has the third-largest employment among the midsize occupational groups and the highest mean wage among occupational groups. The installation, maintenance, and repair group, with 5.2 million workers, has the smallest employment and the lowest mean wage among midsize occupational groups.

The remaining 12 occupational groups account for 23.3 percent of total employment, or 29.9 million workers. Among these, the business and financial operations group, with around 5.1 million workers, has the largest employment, and farming, fishing, and forestry, with fewer than 0.5 million workers, the smallest. Three of the 12 smallest occupational groups—legal; computer and mathematical; and architecture and engineering—have the second-, third-, and fourth-highest mean wage, respectively, among occupational groups. Another three—farming, fishing, and forestry; building and grounds cleaning and maintenance; and personal care and service—have the second-, third-, and fourth-lowest mean wage, respectively, among occupational groups.

Percentile wages by occupational group

In addition to total employment and mean wage by major occupational group, table A1 displays the 10th-, 25th-, 50th-, 75th-, and 90th-percentile wages for each of the 22 major occupational groups. A percentile wage shows the percentage of workers in an occupation who earn less than a given wage and the percentage who earn more. For example, the 50th-percentile wage, or median wage, is the pay level at which 50 percent of workers earn more and 50 percent earn less. Likewise, 10 percent of workers earn less than the 10th-percentile wage, and 90 percent of workers earn less than the 90th-percentile wage. The middle 80 percent of workers in an occupational group earn wages between these two endpoints.

As indicated earlier, the lowest paid occupational group is the one for food preparation and serving related occupations. This is clearly indicated by the fact that, for each percentile wage shown in the table, the food preparation and serving related group wage is lower than that for any of the other groups. In addition to being the lowest paid, the food preparation and serving related group has the narrowest distribution of wages of all occupational groups. Ten percent of the workers in this group, approximately 1 million, earn less than $5.75 per hour, while 90 percent of the workers earn less than $12.51 per hour, a difference of only $6.76 per hour.

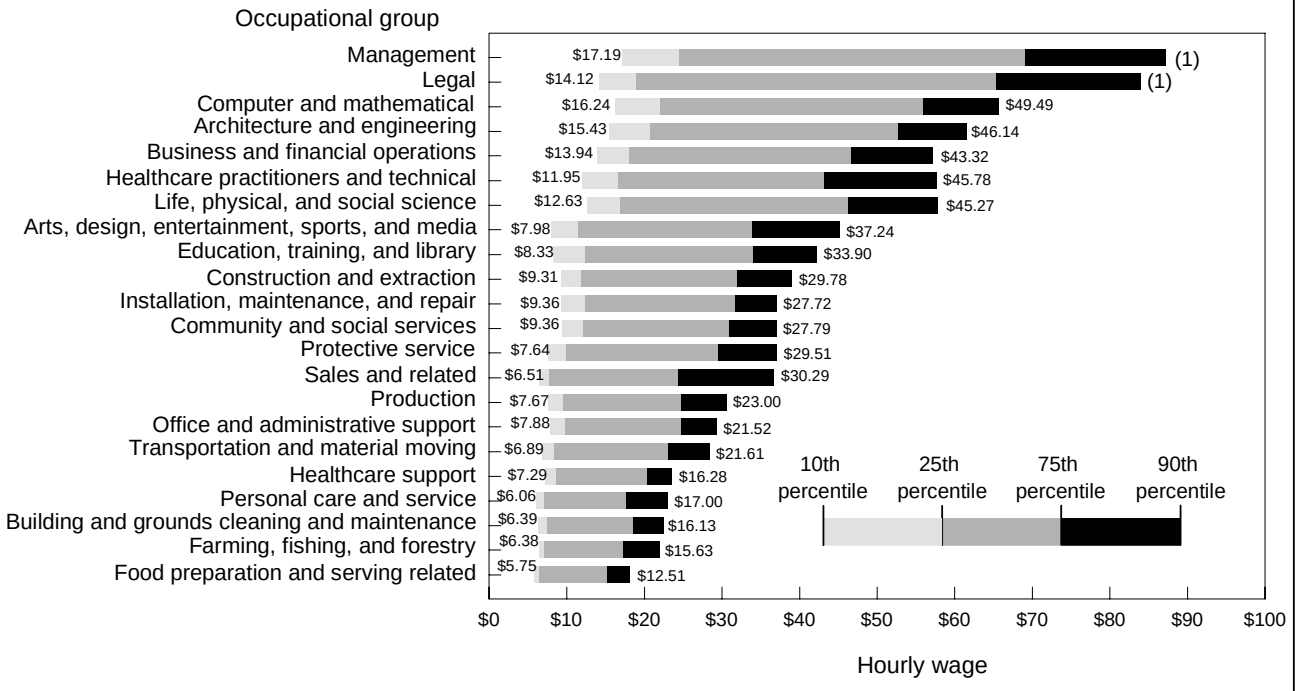
In addition to having the highest mean wage, management occupations have the highest wages in all percentile wage categories. Also, the group has the second-widest distribution of wages between the 10th- and the 90th-percentile wage: 10 percent of workers in this group earn less than $17.19 per hour, while at least 10 percent earn more than $70.00 per hour, a difference of at least $52.81 per hour. The widest distribution of wages is among legal occupations, with a difference of at least $55.88 between the 10th- and 90th-percentile wages.

As shown in table A1, the mean wage in every occupational group is higher than the 50th-percentile, or median, wage for that group, suggesting that workers in the top half have a wider wage distribution than those in the lower half. In other words, the distribution of wages in each occupational group is skewed toward the higher end of the wage range.

Chart A2 uses the percentile wages from table A1 to depict the wage distribution for each major occupational group. Combined, the portions of the bars represent the middle 80 percent of the distribution for each group. The left endpoint of the bar indicates the 10th-percentile wage, and the right endpoint of the bar indicates the 90th-percentile wage. Similarly, the inner bar segment between the 25th and 75th percentiles shows the middle 50 percent of the distribution for each of the occupational groups.

As can be seen from chart A2, the width of the wage distribution for both the middle 80 percent and the middle 50 percent of workers in an occupational group declines with the mean wage of that group. Wages for the middle 50 percent of workers are skewed to varying degrees toward the lower end of the pay distribution for all occupational groups. Most noticeable in this regard are the farming, fishing, and forestry; personal care and service; and sales and related groups, with only 79 cents, $1.02, and $1.26, respectively, separating the 10th-percentile wage from the 25th-percentile wage; the amounts separating the 75th-percentile wage from the 90th-percentile wage in those three occupational groups are, respectively, $4.75, $5.45, and $12.32—at least five times the amounts separating the 10th-percentile wage from the 25th-percentile wage. By contrast, wages for the middle 50 percent of workers in the computer and mathematical; architecture and engineering; education, training, and library; and installation, maintenance, and repair groups are comparatively less skewed toward the lower end of the pay distribution. In these occupational groups, the amounts separating the 75th- percentile wage from the 90th-percentile wage are at most twice the amounts separating the 10th-percentile wage from the 25th-percentile wage.

Chart A2. **Wage distribution by occupational group, May 2004**



[1] Represents a wage above $70.00 per hour

Table A2. **Mean wages for selected OES occupations and three-digit NAICS industries, May 2004**

Occupation	Industry							
	Support activities for agriculture and forestry	Utilities	Petroleum and coal products manufacturing	Food and beverage stores	Credit intermediation and related activities	Social assistance	Food services and drinking places	Personal and laundry services
Chief executive	$57.51	$75.84	$84.38	$55.80	$69.76	$47.73	$47.97	$58.54
Computer support specialists	19.57	25.50	24.95	15.90	21.31	17.00	19.11	18.42
Accountants and auditors	27.60	28.95	28.63	22.26	25.51	21.57	21.58	25.22
Sales representatives, wholesale and manufacturing, except technical and scientific products	23.33	32.43	30.51	22.02	27.27	16.36	20.49	19.78
Secretaries, except legal, medical, and executive	10.71	15.13	15.24	11.04	13.81	11.58	11.17	11.12
Janitors and cleaners, except maids and housekeeping cleaners	8.57	12.93	11.59	8.95	9.12	8.57	8.47	8.45
Security guards	9.39	17.84	15.53	13.68	14.03	10.28	10.18	14.76
Receptionists and information clerks	10.01	13.03	11.50	9.92	10.88	9.81	10.49	8.69

In addition to cross-industry estimates for the 22 major occupational groups, the OES program produces detailed occupational wages across all industries. These estimates show that wages for detailed occupations can vary substantially within major occupational groups. This is because major occupational groups incorporate data from as many as 75 specific occupations in their mean hourly wages. For example, the legal occupations group includes occupations such as lawyers and legal secretaries. The wages and employment levels for both are included in the overall wage and employment estimates for legal occupations, even though the mean hourly wage of lawyers is almost three times the wage of legal secretaries. The shares of employment accounted for by these occupations affect the wages for the entire legal occupations group. Because of these variations, comparative wages for detailed occupations in different major occupational groups might not follow the overall pattern of wage difference noted between their respective major groups. Table 1 of this publication shows these variations.

Occupational wages by three-digit NAICS industry

The OES program also produces detailed occupational wages by industry sector and at the three-digit, four-digit, and selected five-digit industry level within the North American Industry Classification System (NAICS). Table A2 shows the mean wage for eight selected OES occupations in eight selected three-digit industries. Wages for detailed occupations vary according to industry, as illustrated in the table. For example, while chief executives have high overall wages compared with those in other occupations, the mean wage for chief executives itself varies depending on the industry in which they are employed.

In fact, among the occupations for which data are given in table A2, chief executives show the largest variation in wages, with $36.65 separating the highest paying industry from the lowest. The mean wage for chief executives ranges from $47.73 per hour in the social assistance industry to $84.38 per hour in the petroleum and coal products manufacturing industry. Another large difference between industries, $16.07, occurs for the occupation of wholesale and manufacturing sales representatives, except technical and scientific products workers. The hourly mean wage for these workers ranges from $16.36 per hour in the social assistance industry to $32.43 per hour in the utilities industry. The occupation of receptionists and information clerks exhibits a smaller variation among the selected industries, with $4.34 separating the lowest wage from the highest. The mean wage of this occupation across the eight selected industries ranges from $8.69 per hour in personal and laundry services to $13.03 per hour in utilities.

Similarly, mean wages vary across occupations in an industry. The utilities industry has the highest wages among industries shown for all occupations other than chief executives and secretaries, except legal, medical, and executive, for which it has the second-highest wage. Because table A2 shows only a sample of industries and occupations, it may not reflect the overall wage pattern for a given industry.

Detailed information about occupational employment and wage estimates at the sector, three-digit, and four-digit industry levels, as well as for States and metropolitan areas, is available on the OES Web site at **www.bls.gov/oes/**. ■