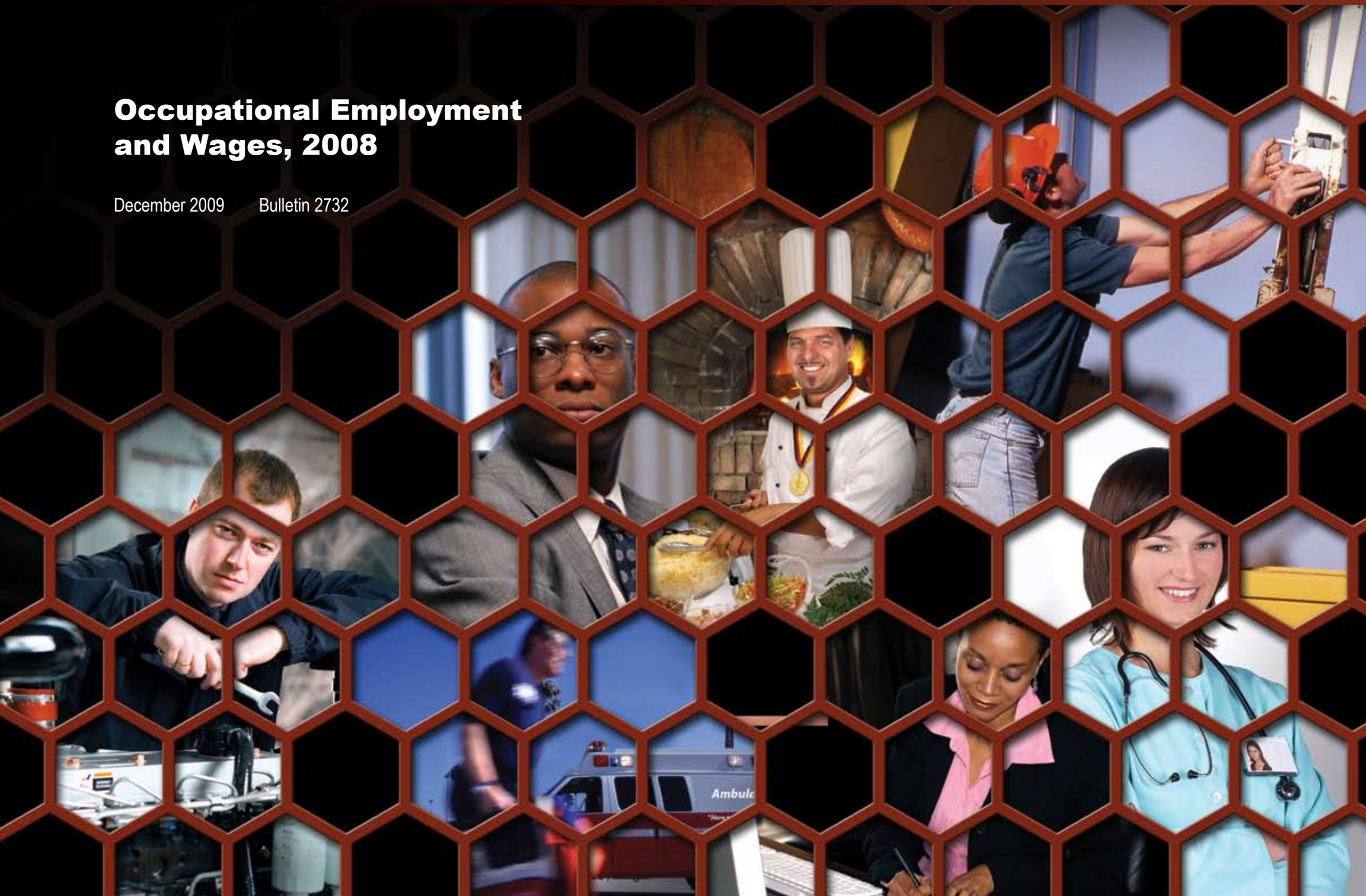


# Occupational Employment and Wages, 2008

December 2009    Bulletin 2732





U.S. Bureau of Labor Statistics  
U.S. Department of Labor



## **Occupational Employment and Wages, 2008**

U.S. Department of Labor  
Hilda L. Solis, *Secretary*

U.S. Bureau of Labor Statistics  
Keith Hall, *Commissioner*

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**Preface**



*This chartbook, **Occupational Employment and Wages, 2008**, is a product of the Occupational Employment Statistics (OES) program of the U.S. Bureau of Labor Statistics (BLS). The OES program produces employment and wage estimates for more than 800 occupations by geographic area and industry.*

For every occupation, the OES program has data on the total U.S. employment and the distribution of wages, including the mean wage and the 10th, 25th, 50th (median), 75th, and 90th percentiles. Occupational data for geographic areas include employment and wages for each of the 50 States, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands. Local area data are available for 377 Metropolitan Statistical Areas (MSAs), 34 metropolitan divisions within 11 of the largest MSAs, and 174 nonmetropolitan areas. National industry-specific estimates are available by industry sector and for 290 industries.

The OES survey is a cooperative effort between BLS and the State workforce agencies. Employment and wage data for more than 800 occupations were collected from a sample of 1.2 million business establishments, employing more than 80 million workers, in 6 semiannual panels between November 2005 and May 2008. Wage data for all establishments were updated to the May 2008 reference period, and employment data were updated to the average of the November 2007 and the May 2008 reference periods. Information on OES sampling and estimation methods is provided in the survey methods and reliability statement on the enclosed compact disk (CD) and at [http://www.bls.gov/oes/current/methods\\_statement.pdf](http://www.bls.gov/oes/current/methods_statement.pdf).

The enclosed CD and the OES Web site, <http://www.bls.gov/oes/>, include electronic copies of all charts in this book.

Additional data tables include cross-industry occupational employment and wage data for the Nation, States, metropolitan areas, metropolitan divisions, and nonmetropolitan areas; national occupational employment and wage data by industry; and profiles for all occupations. Data users also can create customized tables using the OES database search tool, or download complete OES data in zipped Excel format from [http://www.bls.gov/oes/oes\\_dl.htm](http://www.bls.gov/oes/oes_dl.htm). Material in this publication is in the public domain and, with appropriate citation, may be reproduced without permission. Questions about OES data can be directed to the information phone line at (202) 691-6569 or sent to [OESinfo@bls.gov](mailto:OESinfo@bls.gov).

## Acknowledgments



The information in this chartbook could not have been produced without the cooperation of more than a million business establishments that provide information on their workers to their State workforce agencies and the U.S. Bureau of Labor Statistics (BLS). State workforce agencies within each State collect and verify almost all data provided. BLS selects the sample, produces the estimates, and provides technical procedures and financial support to the States. BLS also collects a small portion of the data from employers.

BLS produced this chartbook under the general guidance and direction of Dixie Sommers, Assistant Commissioner for Occupational Statistics and Employment Projections, and George D. Stamas, Chief of the Division of Occupational Employment Statistics. Laurie Salmon, manager of publications and analysis in the Occupational Employment Statistics division, provided planning and day-to-day direction. Dina Itkin and Rebecca Keller coordinated the production of the chartbook. The tables, charts, and maps were prepared by Benjamin Cover, Jeffrey Holt, Dina Itkin, John Jones, Rebecca Keller, Clayton Lindsay, Michael Soloy, Zachary Warren, and Audrey Watson. Cover art, typesetting, and layout were furnished by Keith Tapscott, and editorial services were provided by Casey Homan in the Division of Publishing, of which William Parks II is the Chief.

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## **Organization of charts and applications of OES data**

*The presentation of figures in this chartbook is intended to demonstrate a variety of applications of OES data. Figures are organized into five categories: the first focuses on detailed occupations, the second focuses on occupational variability by industry, the third highlights patterns of specific industries, and the fourth and fifth focus on labor markets of States and local areas.*

*The following are some examples of useful applications of OES data:*

Detailed occupational data can be used by jobseekers or employers to study wages for workers in certain occupations and to assess wage variation within and across occupations. Wage variation within an occupation can result from several factors, including industry, geographic location, and workers' individual experiences or qualifications. Useful data for jobseekers include information on the industries or geographic areas that have the highest levels of employment or the highest average wages for an occupation. Career and guidance counselors can use OES data to examine information on the occupational choices available to their clients.

Industry-specific occupational data can be used by human resources professionals in salary negotiations or to ensure that their wages are competitive with those of other businesses in their area or industry. Information on the types of jobs that exist within an industry can be used to compare average staffing patterns with those of one's own company. Occupational employment statistics by industry may be useful in assessing the impact of shifts in technology and other macroeconomic trends on the types of jobs available. BLS and State government employment projections programs use OES data as an input to their employment projections; these projections can be used to predict training and education demands.

Information on specific geographic areas can be used to assess the labor market of a particular area. OES State-level data can be used to make assessments about the diversity of a State's economy or to make comparisons among States. Occupational composition—that is, the mix of employment by occupation in a particular geographic area or industry—can provide clues to how a State or regional economy can hold up in adverse conditions that primarily affect a certain sector of the economy. Differences in both occupational composition and occupational wage rates also help explain differences in average wages across States. For example, States with high average wages may have larger shares of their employment in high-paying occupations, higher wages within each occupation, or some combination of both factors.

Like State data, metropolitan and nonmetropolitan area data can be used to study the diversity of local area economies. Businesses can use data to see whether it may be beneficial to relocate to a particular area. OES wage data can be used to compare wages among geographic areas as part of an analysis of labor costs. OES occupational employment data may indicate whether workers are available in occupations for which a business will need to hire. For example, businesses that require computer specialists or skilled production workers may want to identify areas that have high levels of employment in these occupations.

## OES survey coverage and scope, and definitions of concepts

*The OES survey covers all full- and part-time wage and salary workers in nonfarm industries. The survey does not include the self-employed, owners and partners in unincorporated firms, workers in private households, or unpaid family workers.*

An occupation is a set of activities or tasks that employees are paid to perform. Employees who perform essentially the same tasks are in the same occupation, whether or not they are in the same industry. Workers who may be classified in more than one occupation are classified in the occupation that requires the highest level of skill. If there is no measurable difference in skill requirements, workers are included in the occupation in which they spend the most time. All occupations are classified by the 2000 Standard Occupational Classification (SOC) system. Within the SOC system, similar detailed occupations are combined into major groups.

An industry is a group of establishments that have similar production processes or provide similar services. For example, all establishments that manufacture automobiles are in the same industry. A given industry, or even a particular establishment in that industry, might have employees in many different occupations. The North American Industry Classification System (NAICS) groups similar establishments into industries.

The level of employment shown in the charts is the average employment for May 2008 and November of 2007. Employment is defined as the number of jobs held by workers who can be classified as full- or part-time employees, including workers on paid vacations or other types of paid leave; workers on unpaid short-term absences; salaried officers, executives, and staff members of incorporated firms; employees temporarily assigned to other units; and employees for whom the reporting unit is their permanent duty station, regardless of whether that unit prepares their paychecks. A large

occupation is one that has a high level of employment, and a small occupation is one that has a low level of employment.

Wages for the OES survey are straight-time, gross pay, exclusive of premium pay. Included are the base rate; cost-of-living allowances; guaranteed pay; hazardous-duty pay; incentive pay, including commissions and production bonuses; tips; and on-call pay. Excluded are back pay, jury duty pay, overtime pay, severance pay, shift differentials, nonproduction bonuses, employer cost for supplementary benefits, and tuition reimbursements.

Respondents are asked to report the number of employees paid within specific wage intervals, regardless of whether the employees work part time or full time. The responding establishments can reference either the hourly or the annual rate for full-time workers but are instructed to report the hourly rate for part-time workers. Intervals are defined both as hourly rates and the corresponding annual rates, where the annual rate for an occupation is calculated by multiplying the hourly wage rate by a typical work year of 2,080 hours.

Geographic areas are defined by the Office of Management and Budget. Guam, Puerto Rico, and the U.S. Virgin Islands also are surveyed; their data are not included in this publication but are published on the OES Web site. The nationwide response rate for the May 2008 survey was 78.25 percent of establishments, representing 74.28 percent of employment. More information on sampling and estimation methods can be found in the survey methods and reliability statement on the enclosed CD and on our Web site at [http://www.bls.gov/oes/current/methods\\_statement.pdf](http://www.bls.gov/oes/current/methods_statement.pdf).

## **Occupation Focus**

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The 15 smallest occupations combined made up less than one-tenth of 1 percent of total U.S. employment.

## FIGURE 1

- Employment in many of these occupations is concentrated in specific industries.
- Nine of the smallest occupations paid more than the U.S. median annual wage of \$32,390.

### Employment and median wages for the smallest occupations in the United States, May 2008

Occupation	Employment	Median wage	
		Hourly	Annual
Prosthodontists	370	≥\$80.00*	≥\$166,400*
Radio operators	820	17.85	37,120
Fabric menders, except garment	960	13.69	28,470
Locomotive firers	970	23.17	48,190
Mathematical technicians	1,100	18.46	38,400
Geographers	1,120	32.02	66,600
Segmental pavers	1,170	13.17	27,400
Astronomers	1,280	48.70	101,300
Industrial-organizational psychologists	1,460	37.03	77,010
Forest fire inspectors and prevention specialists	1,580	15.09	31,380
Models	1,660	13.18	27,410
Model makers, wood	1,740	15.06	31,320
Dredge operators	1,910	16.70	34,740
Makeup artists, theatrical and performance	1,930	12.63	26,270
Patternmakers, wood	1,930	16.35	34,010

\*The median wage is greater than or equal to \$80 per hour or \$166,400 per year.



## FIGURE 2

- One-quarter of U.S. employment was found in the 14 occupations listed.
- Ten of these occupations paid below the U.S. median annual wage of \$32,390.
- Many of the largest occupations are found in a wide variety of industries.

Employment and median wages for the largest occupations in the United States, May 2008

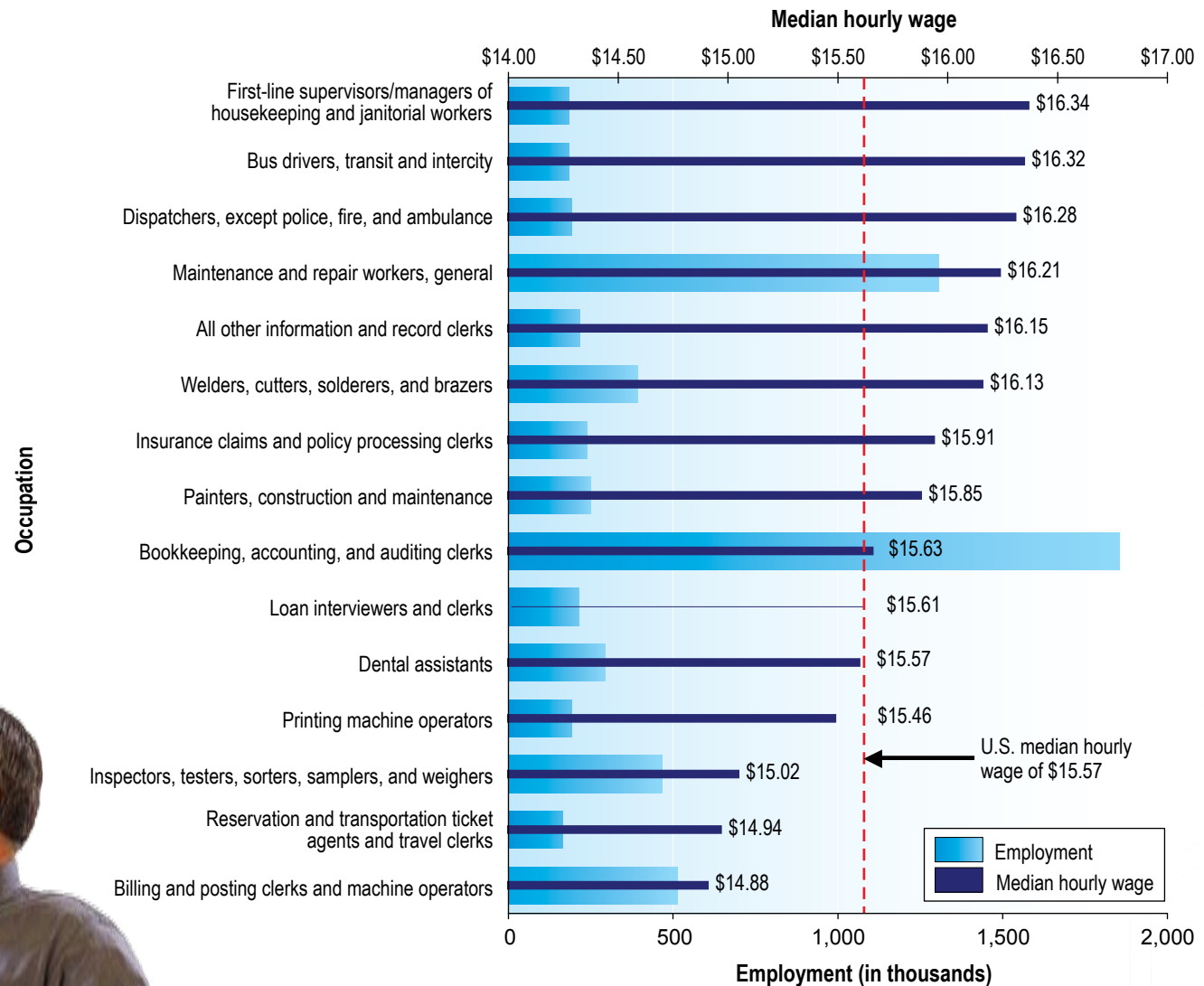
Occupation	Employment	Percent of U.S. employment	Median wage	
			Hourly	Annual
Retail salespersons	4,426,280	3.27	\$9.86	\$20,510
Cashiers	3,545,610	2.62	8.49	17,660
Office clerks, general	2,906,600	2.15	12.17	25,320
Combined food preparation and serving workers, including fast food	2,708,840	2.00	7.90	16,430
Registered nurses	2,542,760	1.88	30.03	62,450
Waiters and waitresses	2,371,750	1.75	8.01	16,660
Laborers and freight, stock, and material movers, hand	2,335,510	1.73	10.89	22,660
Customer service representatives	2,233,270	1.65	14.36	29,860
Janitors and cleaners, except maids and housekeeping cleaners	2,145,320	1.59	10.31	21,450
Stock clerks and order fillers	1,873,390	1.39	10.00	20,800
Secretaries, except legal, medical, and executive	1,872,070	1.38	13.96	29,050
Bookkeeping, accounting, and auditing clerks	1,855,010	1.37	15.63	32,510
General and operations managers	1,697,690	1.26	44.02	91,570
Truck drivers, heavy and tractor-trailer	1,672,580	1.24	17.92	37,270

Many of the largest occupations with wages near the U.S. median were office and administrative support occupations.

### FIGURE 3

- Bookkeeping, accounting, and auditing clerks and general maintenance and repair workers were the two largest occupations with median wages within 5 percent of the U.S. all-occupations median of \$15.57 per hour. Both also were among the 20 largest occupations overall.
- Several other office and administrative support occupations with wages near the U.S. median also had employment of 150,000 or more, including billing and posting clerks and machine operators, all other information and record clerks, welders, cutters, solderers, and brazers, insurance claims and policy processing clerks, painters, construction and maintenance, dental assistants, printing machine operators, inspectors, testers, sorters, samplers, and weighers, reservation and transportation ticket agents and travel clerks, and billing and posting clerks and machine operators.

Employment and median hourly wages of occupations with wages near the U.S. median, May 2008

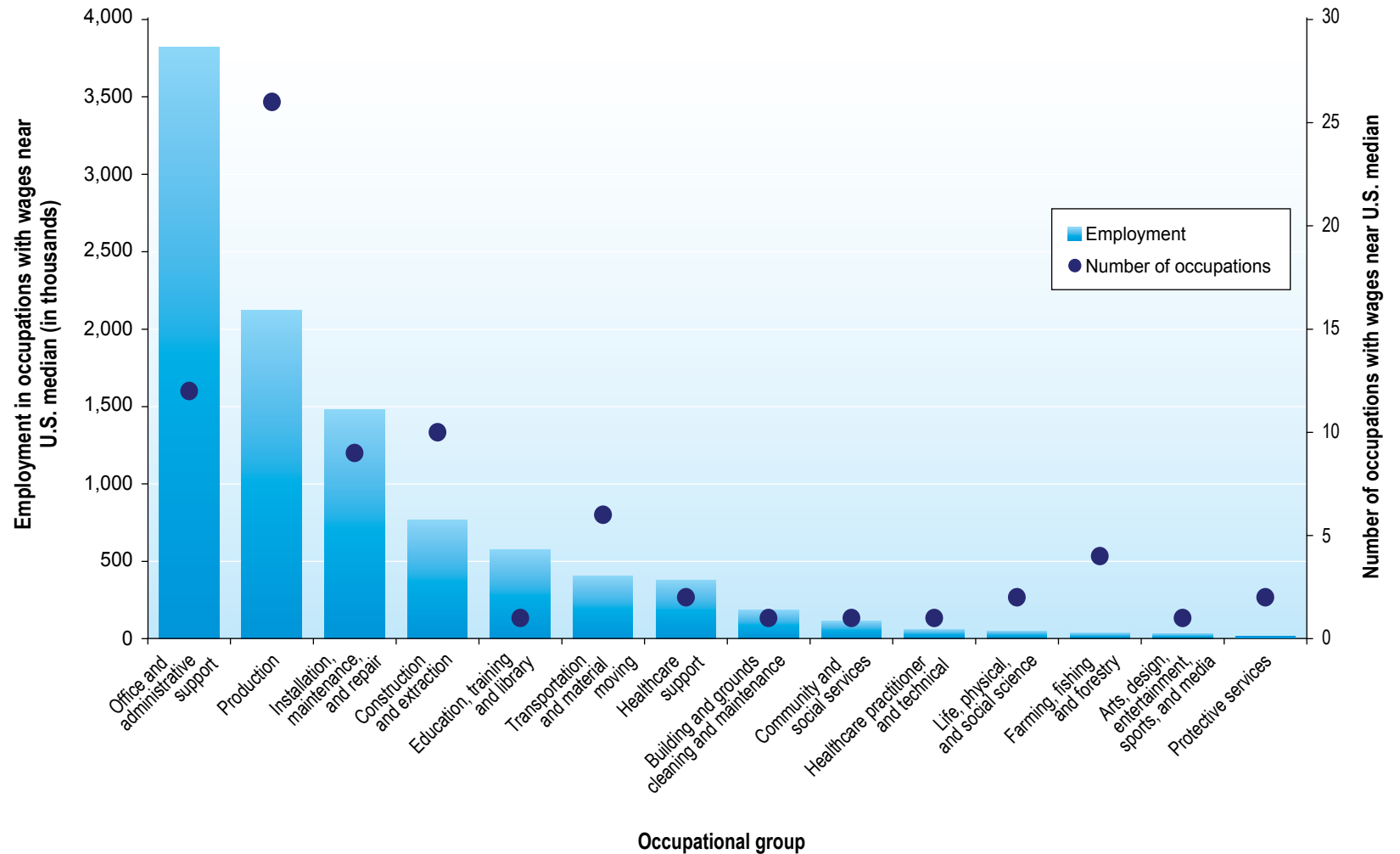




## FIGURE 4

- Most occupations with median wages near the middle of the earnings distribution were production; office and administrative support; construction and extraction; installation, maintenance, and repair; or transportation and material moving occupations.
- Twelve office and administrative support occupations, with total employment of 3.8 million, had median wages within 5 percent of the U.S. median wage of \$15.57 per hour. Although 26 production occupations had wages in this range, because of their smaller average size, total employment in these 26 occupations was only 2.1 million.

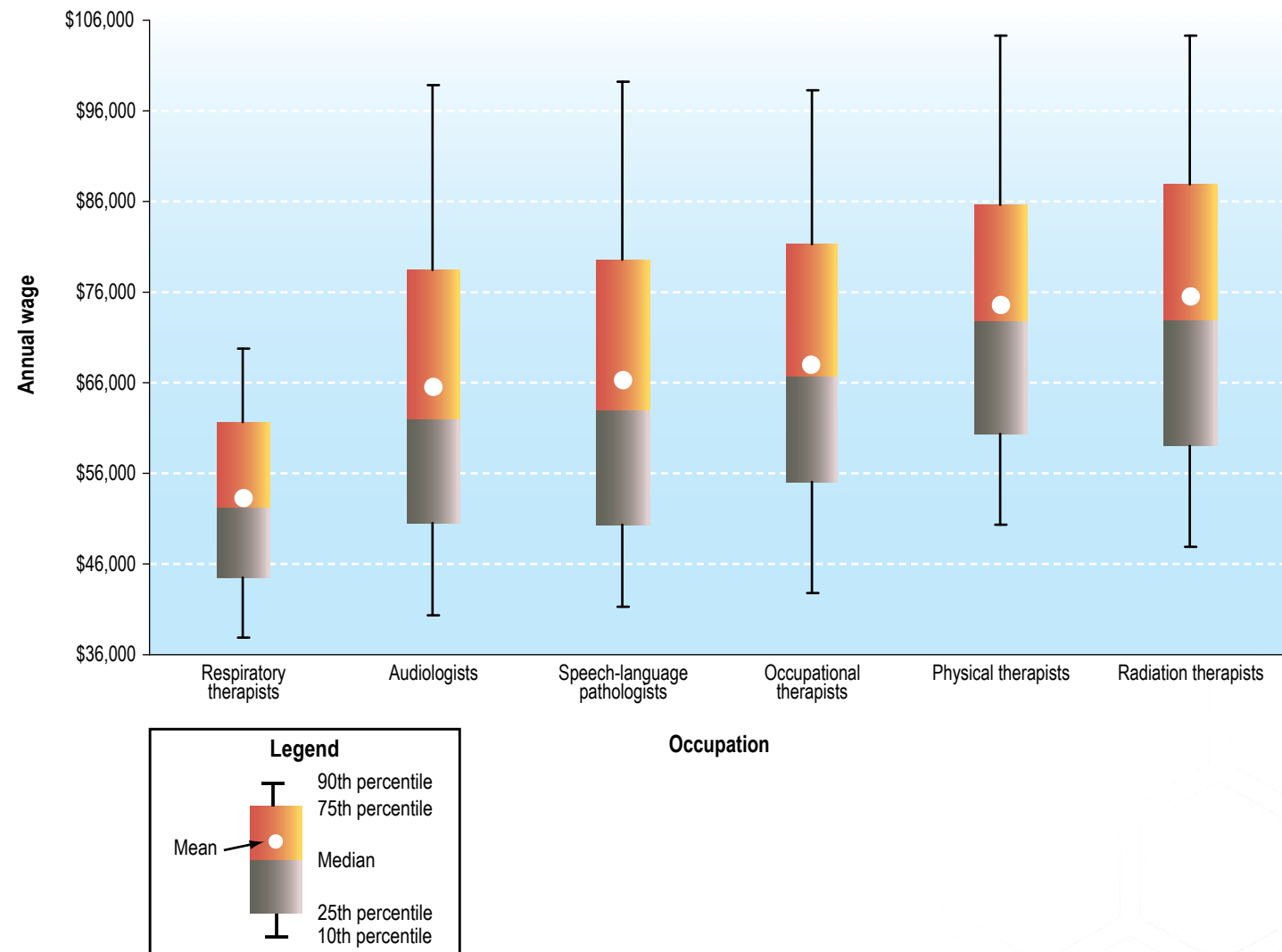
Number of occupations with wages near the U.S. median, and employment in these occupations, by occupational group, May 2008

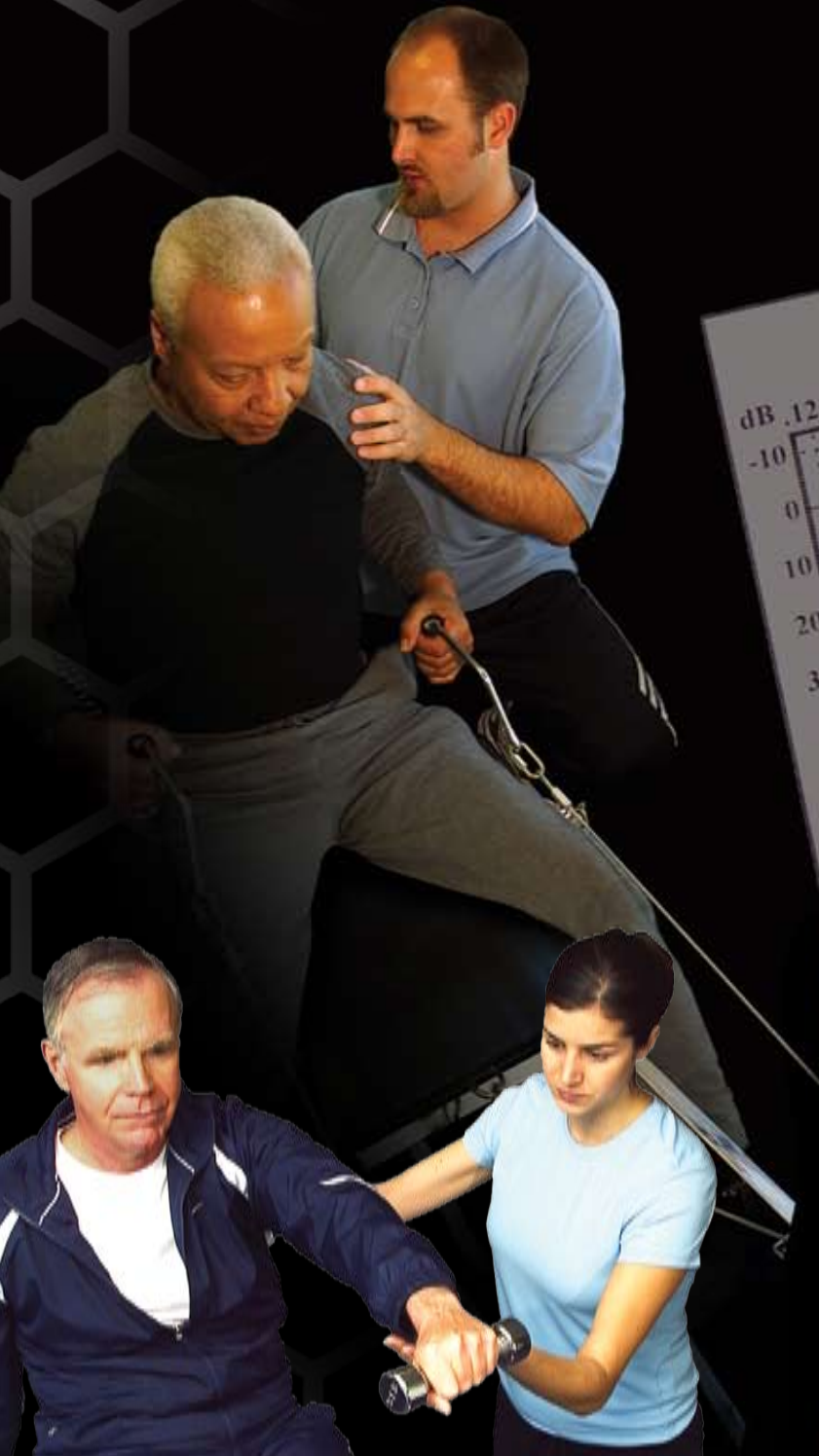


## FIGURE 5

- Health care and social assistance is the industry with the fastest projected employment growth from 2006 to 2016.
- Of the therapists listed, audiologists had the widest range between the 10th and 90th percentile wages, with 10 percent earning \$40,360 or less per year and 10 percent earning \$98,880 or more. Respiratory therapists had the narrowest wage range. Despite their differing wage distributions, these two occupations had the lowest mean wages of the therapists shown.
- Among the therapist occupations in the chart, respiratory therapists had the lowest mean wage and radiation therapists had the highest mean wage. For both of these occupations, an associate's degree was the most common level of education, according to *BLS Occupational Projections and Training Data, 2008–09* edition.
- A master's degree was the most common level of education for people entering careers as physical therapists, occupational therapists, or speech-language pathologists.

Wages of selected health therapists, May 2008





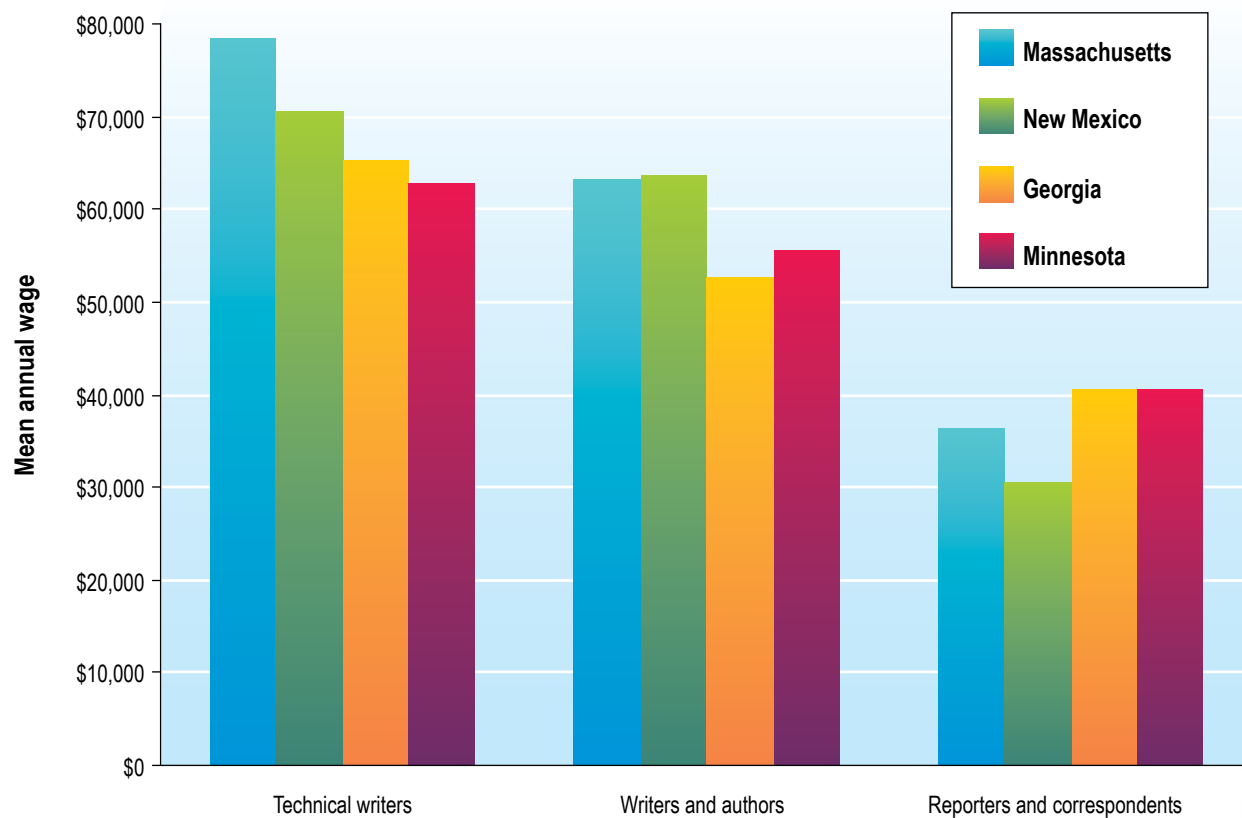
Reporters and correspondents accounted for the largest share of total nationwide employment of the three writing occupations, employing 50,690 workers.

## FIGURES 6-7

- In each of the four States for which data are presented (each State representing a different region of the country), technical writers had the highest average wage, followed by writers and authors, and lastly reporters and correspondents.
- Of the selected States, New Mexico had the highest mean annual wage for writers and authors, yet the lowest wage for reporters and correspondents.
- In Georgia, the top 10 percent of reporters and correspondents earned more than \$77,800, while the lowest decile earned less than \$17,810.



Profile of writing occupations, May 2008

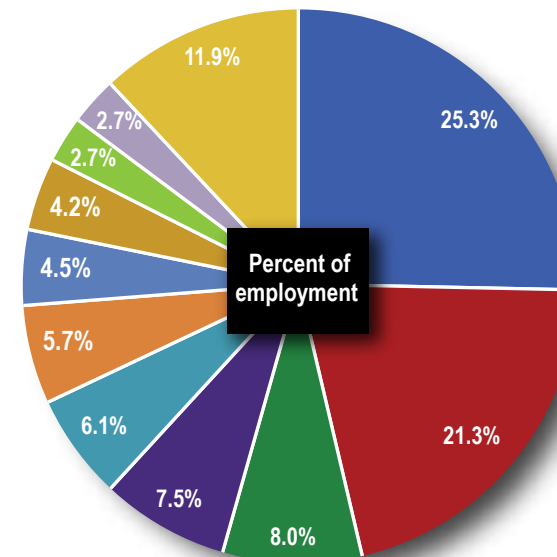


## FIGURES 6-7

continued

- The top three industries for writers and authors—professional, scientific, and technical services; publishing industries, except Internet; and religious, grantmaking, civic, professional, and similar organizations—made up more than half of the employment of writers and authors.
- Professional, scientific, and technical services employed 11,050 writers and authors, more than any other industry.
- Motion picture and sound recording industries paid the highest wages to writers and authors among the industries listed, an average of \$98,370 annually.

Employment of writers and authors, by industry, May 2008



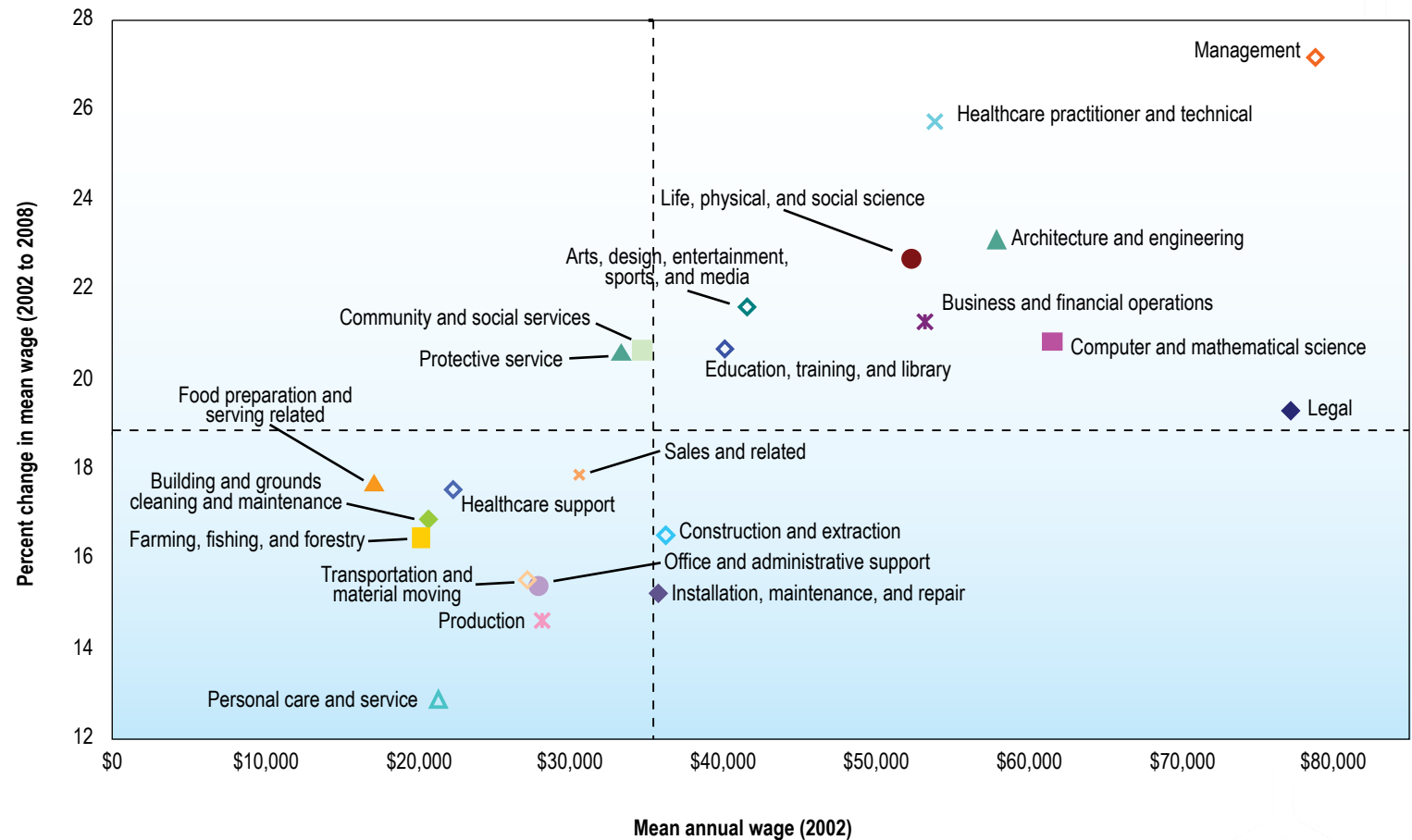
Industry	Employment	Mean annual wage
Professional, scientific, and technical services	11,050	\$71,940
Publishing industries, except Internet	9,310	\$52,220
Religious, grantmaking, civic, professional, and similar organizations	3,490	\$57,230
Broadcasting, except Internet	3,280	\$63,040
Performing arts, spectator sports, and related industries	2,690	\$93,600
Motion picture and sound recording industries	2,500	\$98,370
Educational services	1,990	\$52,610
Federal, State, and local government (OES designation)	1,850	\$67,710
Management of companies and enterprises	1,190	\$56,020
Administrative and support services	1,190	\$57,330
Other industries	5,220	\$53,750

While the U.S. average annual wage grew 18.9 percent from 2002 to 2008, from \$35,560 to \$42,270, wage growth of occupational groups varied and was correlated with the groups' 2002 wages.

## FIGURE 8

- The upper-right quadrant of the chart shows occupations with above-average wages in 2002 and above-average wage growth from 2002 to 2008, while the lower-left quadrant shows occupations with below-average wages in 2002 and below-average wage growth from 2002 to 2008.
- In general, the lower the initial wage of an occupational group, the lower the wage growth of that occupational group was. For example, personal care and service occupations had a below-average wage of \$21,370 in 2002 and below-average wage growth of 12.9 percent from 2002 to 2008. The two occupational groups of architecture and engineering and business and financial operations occupations both had average wages of more than \$53,000 in 2002, and their wages grew more than average, by 23 percent and 21 percent, respectively.

Growth in the nominal mean annual wage, by occupational group, 2002–08



## FIGURE 8

continued

- Exceptions to the general trend are those occupational groups in the upper-left and lower-right quadrants. These include construction and extraction occupations, which had slightly above average wages in 2002 but below-average wage growth from 2002 to 2008, and protective service occupations, which had slightly below average wages in 2002 but higher than average wage growth from 2002 to 2008.
- The general trend of high wage growth among high-paying occupational groups and low wage growth among low-paying occupations leads to a wider dispersion of wages between higher and lower paying occupational groups over time.



# **Occupations in Industries**

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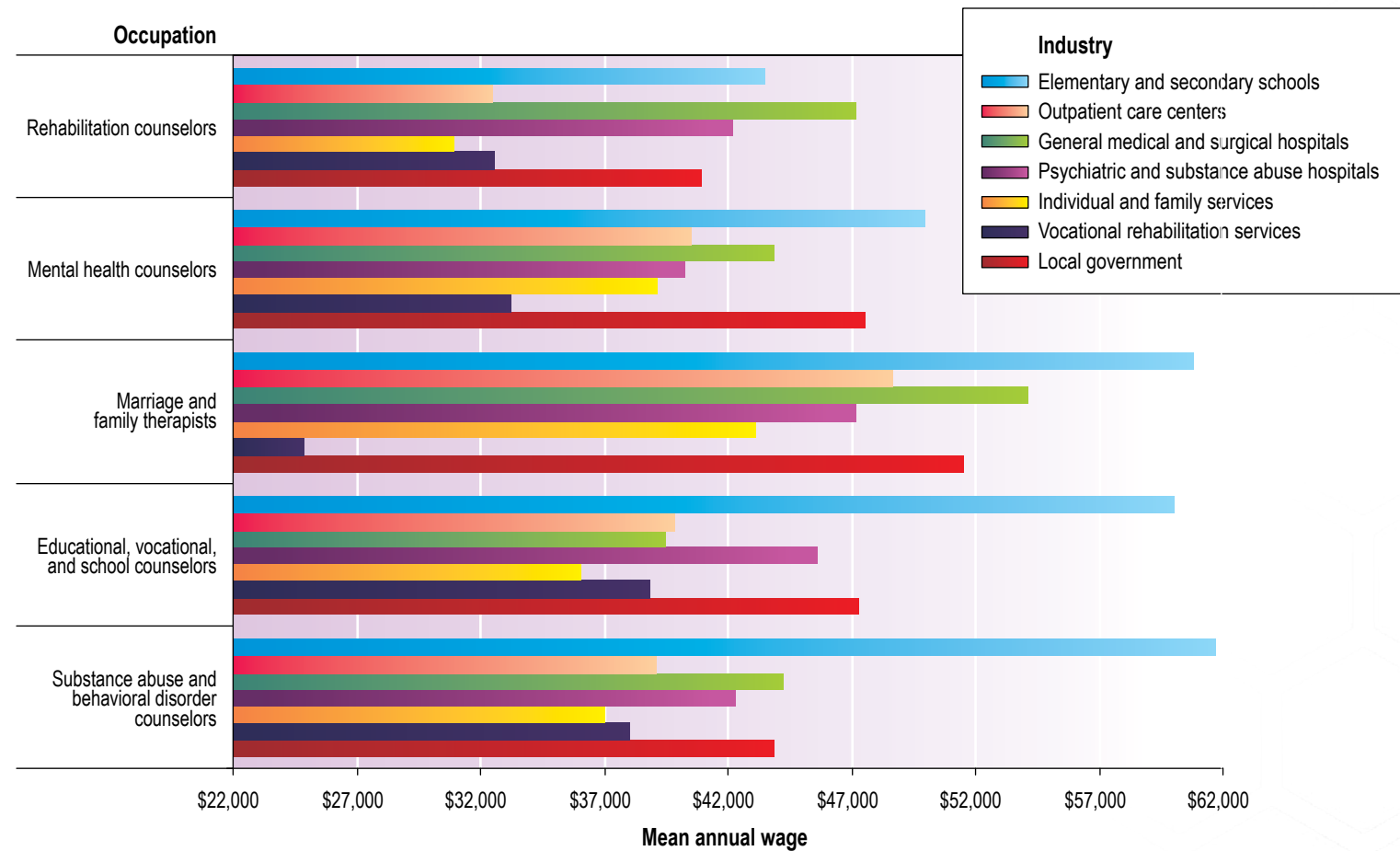


Overall, counselors earned relatively high wages in elementary and secondary schools and relatively low wages in individual and family services and vocational rehabilitation services.

**FIGURE 9**

- Rehabilitation counselors had the lowest overall mean wage of these occupations. Their largest employer, vocational rehabilitation services, was low paying across occupations.
- Educational, vocational, and school counselors was the highest paying of these occupations. This occupation was concentrated in elementary and secondary schools, an industry that paid relatively high wages to counselors.
- Elementary and secondary schools paid the highest wages for four of the five types of counselors. Vocational rehabilitation services and individual and family services had the lowest wages of counselors from the industries shown.
- The selected industries all employed relatively large numbers of counselors. Individual and family services employed a particularly high number of each type of counselor.
- Other industries employing counselors include State government; residential mental retardation, mental health and substance abuse facilities; and colleges, universities, and professional schools.

Wages of counselors in selected industries, May 2008

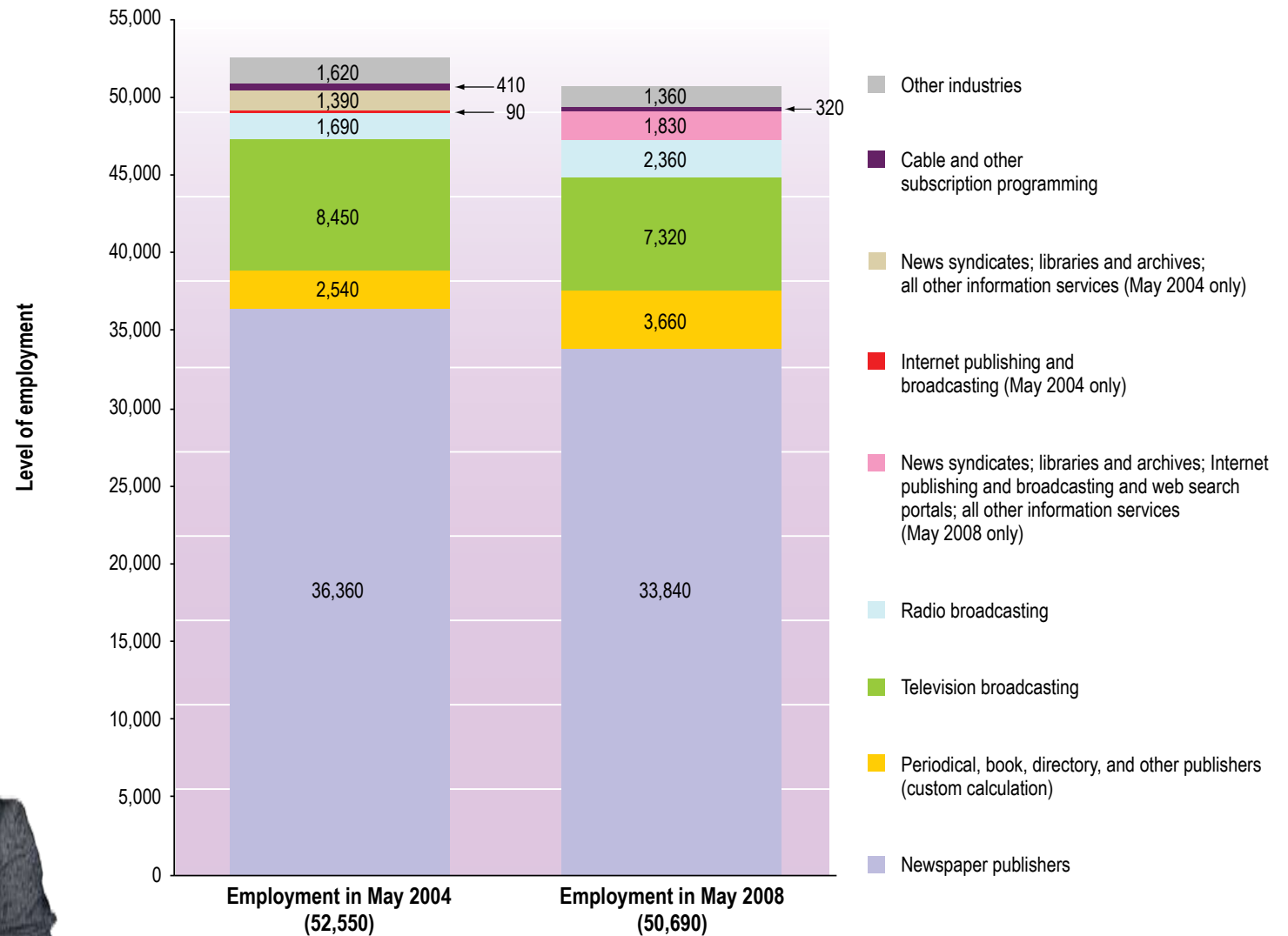


## FIGURE 10

- From May 2004 to May 2008, employment of reporters and correspondents decreased among newspaper publishers and television broadcasters and in cable and other subscription programming. Employment of these professionals increased in radio broadcasting and among periodical, book, directory, and other publishers.
- Between May 2004 and May 2008, wages of reporters and correspondents showed a large increase in the radio broadcasting industry, from a mean of \$31,830 to a mean of \$46,690.
- Reporters and correspondents experienced less wage growth in newspaper publishing than in other media, from \$35,760 in May 2004 to \$39,720 in May 2008.



Employment of reporters and correspondents by medium, May 2004 and May 2008



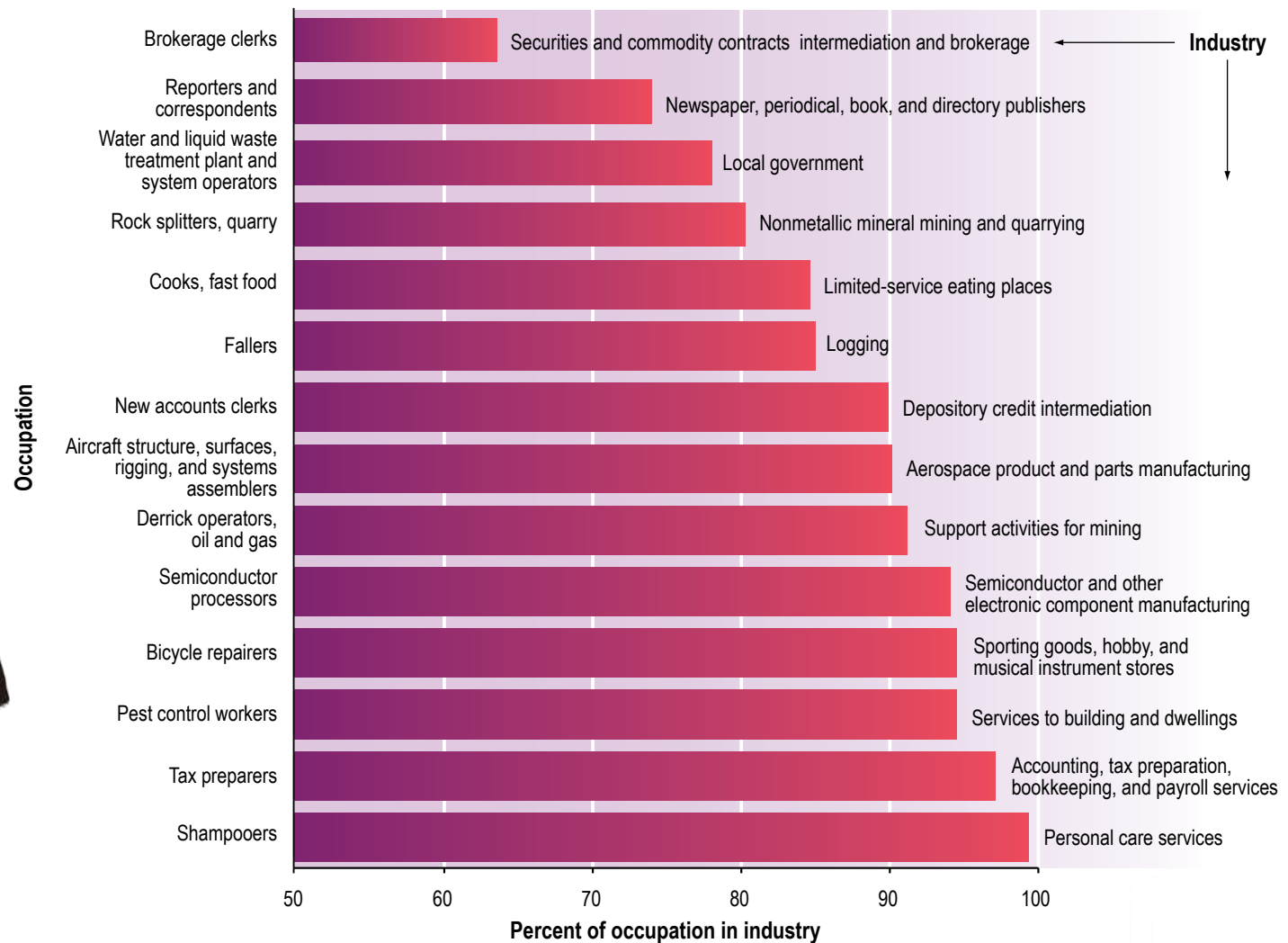
Many occupations in the U.S. were concentrated in a single industry: 286 occupations had a majority of their employment in one industry, and 59 of these occupations had over 90 percent of their employment in one industry.

**FIGURE 11**

- Sporting goods stores employed over 90 percent of bicycle repairers, and aerospace product and part manufacturing employed over 90 percent of aircraft structure, surfaces, rigging, and systems assemblers.
- Occupations that were specific to one industry include postsecondary education teachers, who were specific to colleges, universities, and professional schools; and postal service mail carriers, who all worked for the Government (neither occupation shown here).



Occupations with employment concentrated primarily in a single industry, May 2008



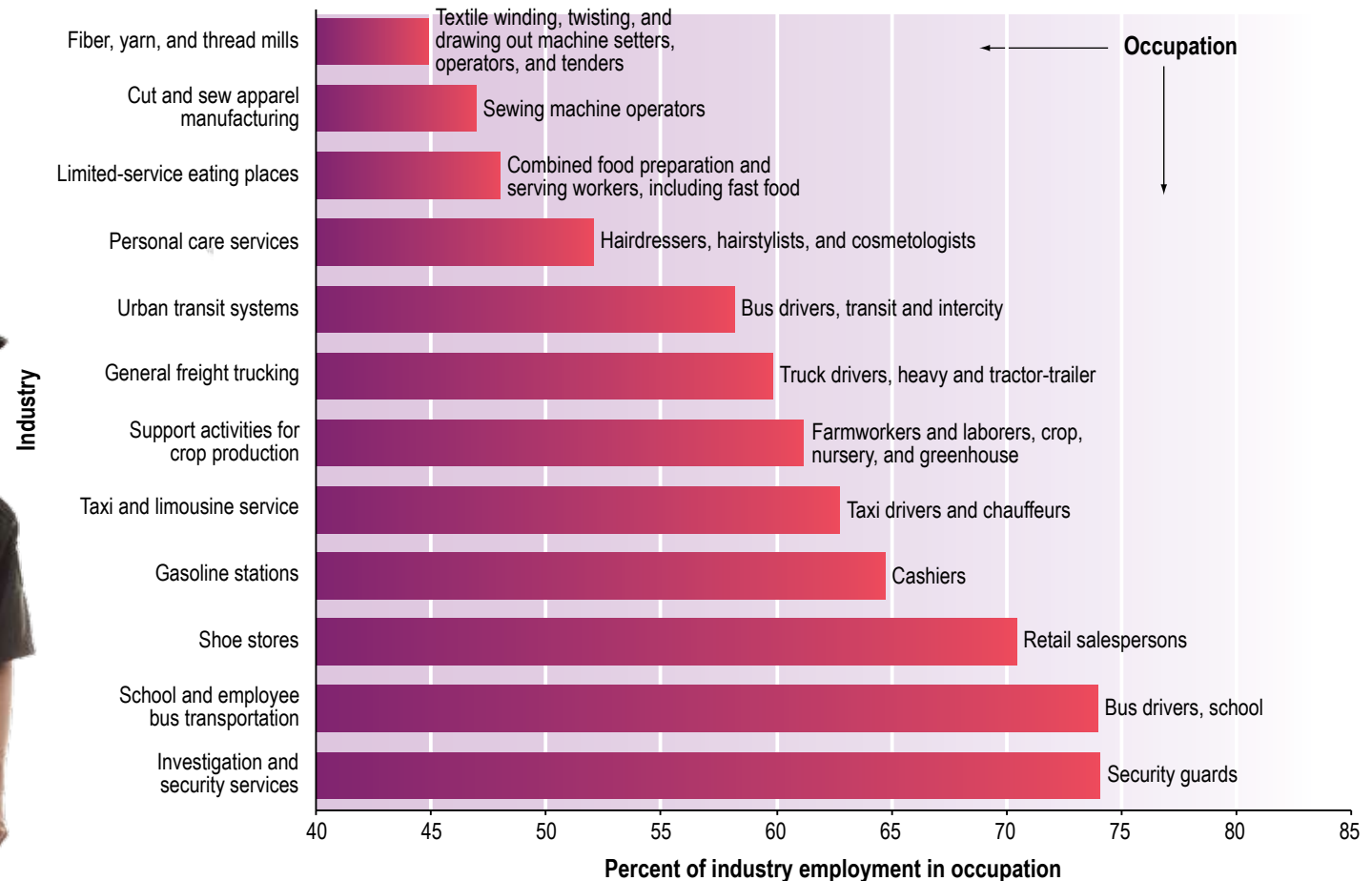
A variety of industries had their employment concentrated in a single occupation.

## FIGURE 12

- Retail salespersons or cashiers accounted for the majority of employment in six retail industries, including shoe stores and gasoline stations.
- Transit and intercity bus drivers made up over half of employment in urban transit systems, while sewing machine operators made up just under half of employment in cut and sew apparel manufacturing.
- Investigation and security services was the industry with the highest percentage of employment in a single occupation: security guards made up almost 75 percent of employment in the industry.
- All of the occupations shown had average hourly wages below the U.S. average of \$20.32.



Industries with employment concentrated primarily in a single occupation, May 2008

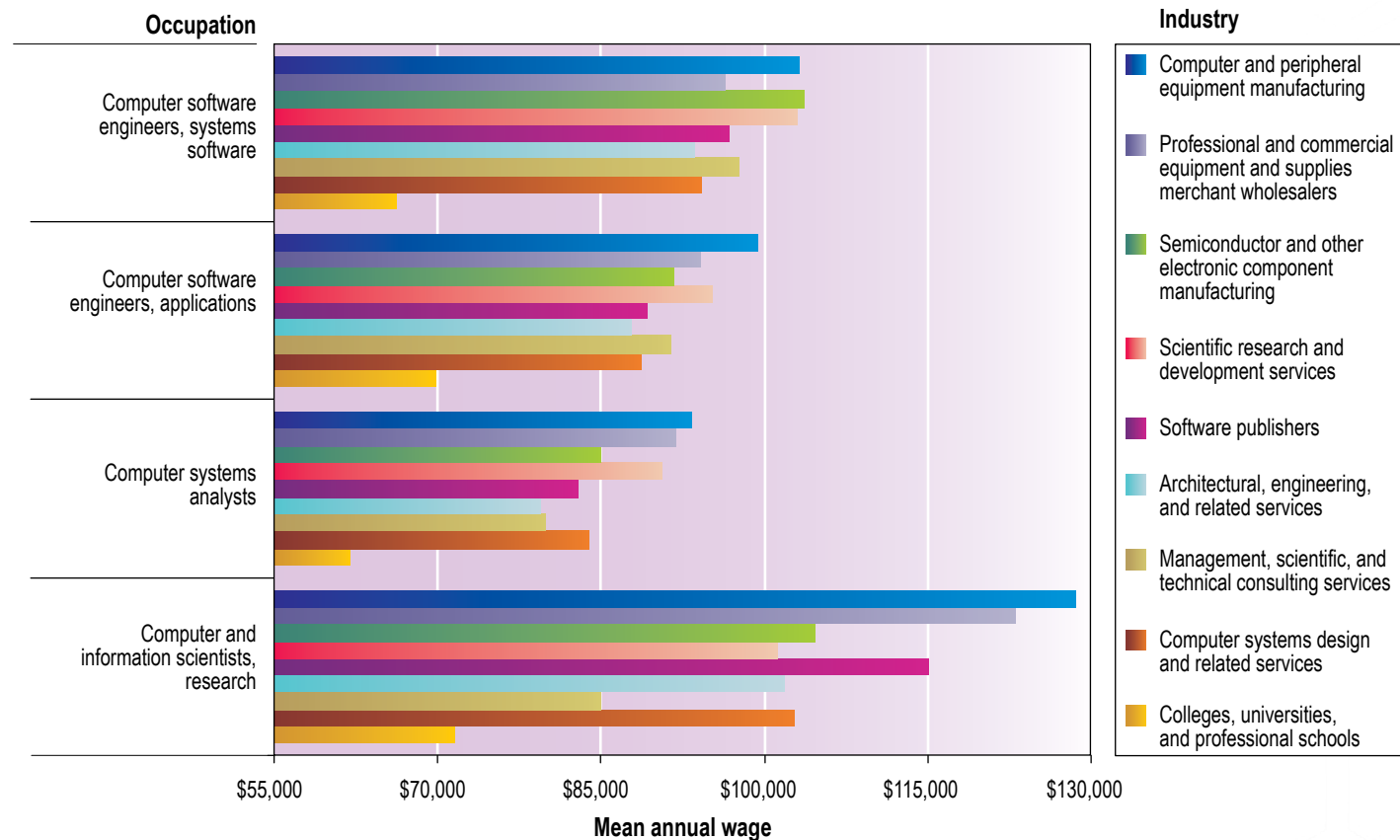


On average, wages of workers who design and develop software and systems were higher than wages of workers who support and maintain existing systems, but wages varied by industry.

**FIGURES 13-14**

- Cross-industry mean wages of software engineers and of computer systems analysts and researchers were above \$75,000 per year, while wages for network and database administrators and analysts and computer programmers were below \$75,000 per year.
- Colleges, universities, and professional schools was one of the lowest paying industries for all of these occupations.
- Software publishers and computer systems design and related services were among the highest paying industries for most IT occupations in which workers support and maintain existing systems, but were not among the highest paying industries for development-related occupations.

Mean wages of computer scientists, systems analysts, and software engineers in selected industries, May 2008

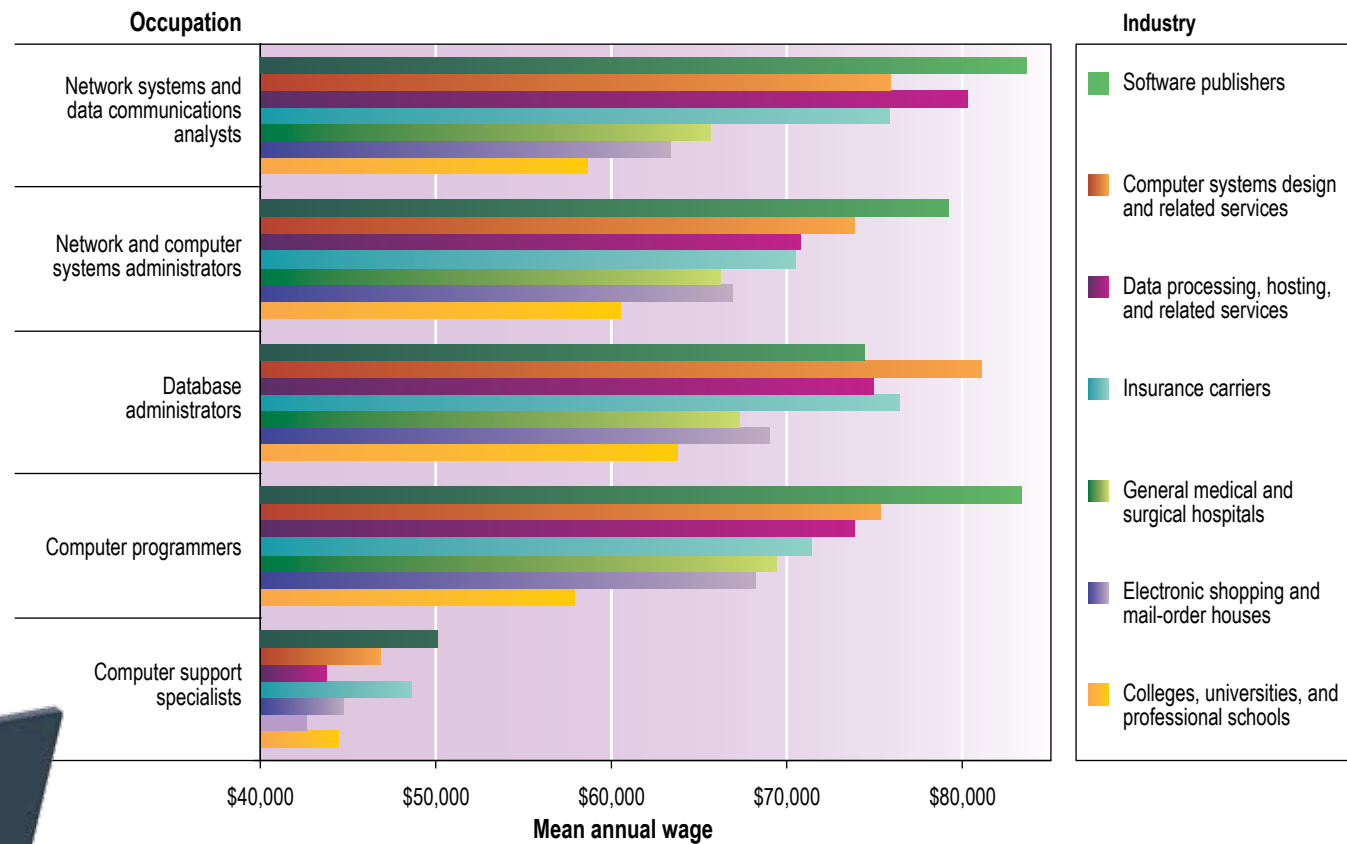


**FIGURES 13-14**

continued

- The mean wages of computer support specialists ranged between \$40,000 and \$55,000 in the industries shown, and the mean wages of computer and information research scientists ranged between \$70,000 and \$130,000 in the industries shown.

Mean wages of network and database occupations and of programming occupations in selected industries, May 2008



## **Industry Focus**

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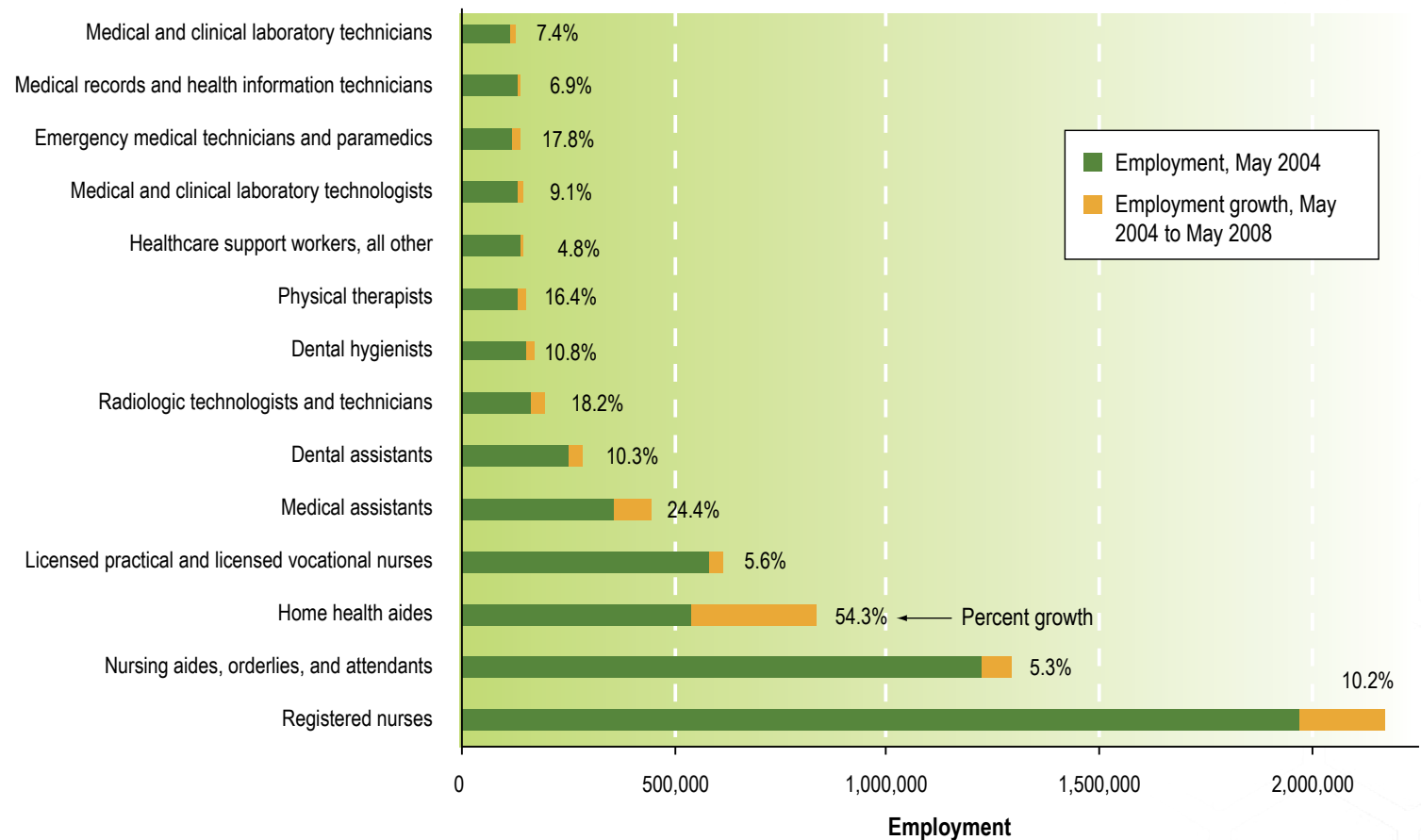
Home health aides was one of the fastest growing healthcare occupations between May 2004 and May 2008.

## FIGURE 15

- Home health aides had the greatest absolute and percentage employment increase from May 2004 to May 2008, increasing by 293,650, or 54.3 percent.
- Medical assistants had faster percentage growth, at 24.4 percent, than registered nurses, which grew 10.2 percent.
- The two relatively small occupations of radiologic technologists and technicians and emergency medical technicians and paramedics both grew at a faster pace than most occupations shown, by 18.2 percent and 17.8 percent, respectively.



Employment in selected healthcare occupations in the health care and social assistance sector in May 2004, and the occupations' employment growth from May 2004 to May 2008

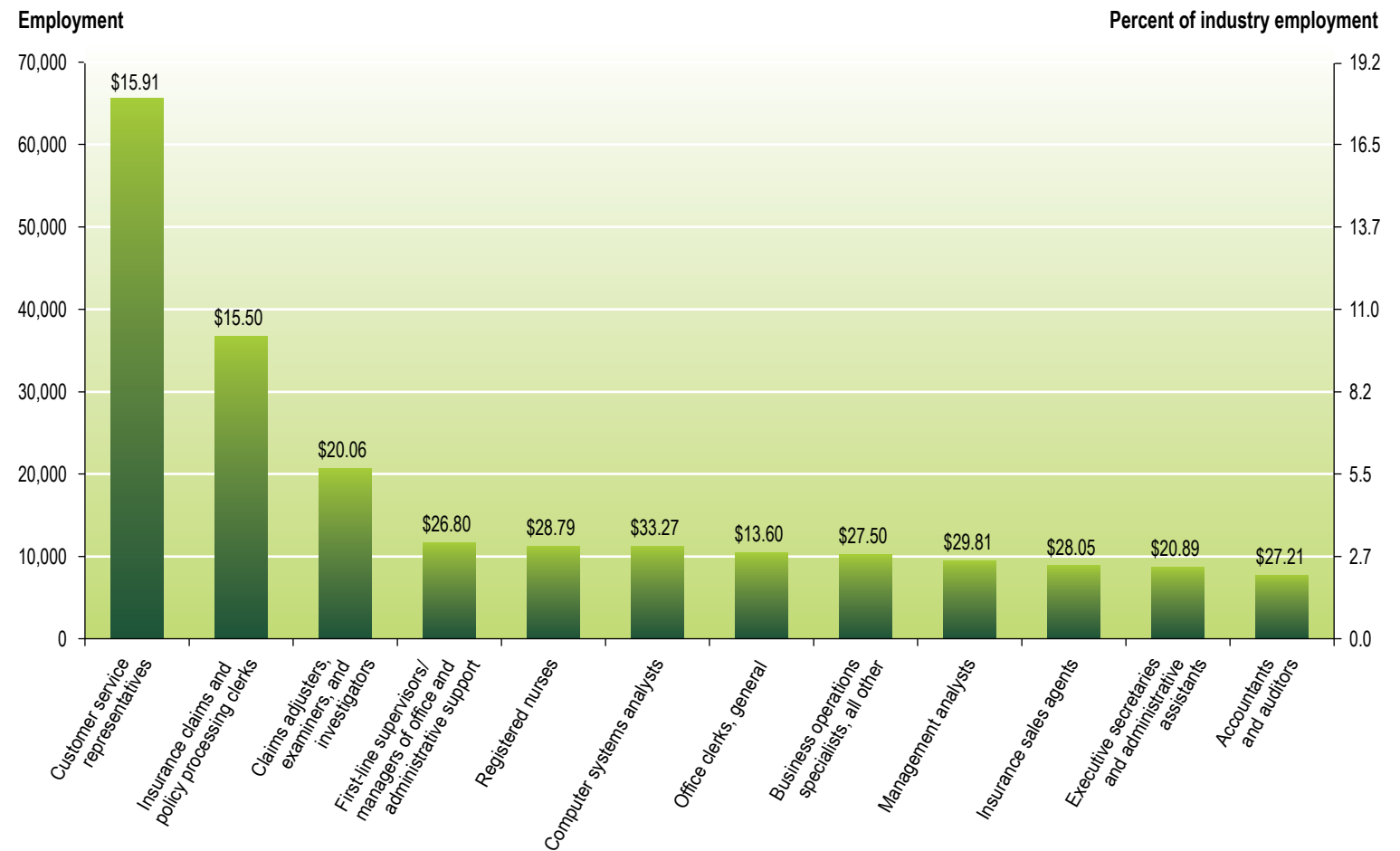


Many of the largest occupations in the health insurance industry were office and administrative support occupations, with customer service representatives alone making up about 18 percent of employment in the industry.

## FIGURE 16

- Of the 12 largest occupations in the health insurance industry, 8 had average hourly wages above the U.S. average hourly wage of \$20.32.
- Three of the four occupations shown in the chart with average hourly wages below the U.S. average are office and administrative support occupations.
- Three of the largest occupations in the industry are specific to this and other insurance industries, including insurance sales agents; claims adjusters, examiners, and investigators; and insurance claims and policy processing clerks.

Employment and mean wages of the largest occupations in the health insurance industry, May 2008

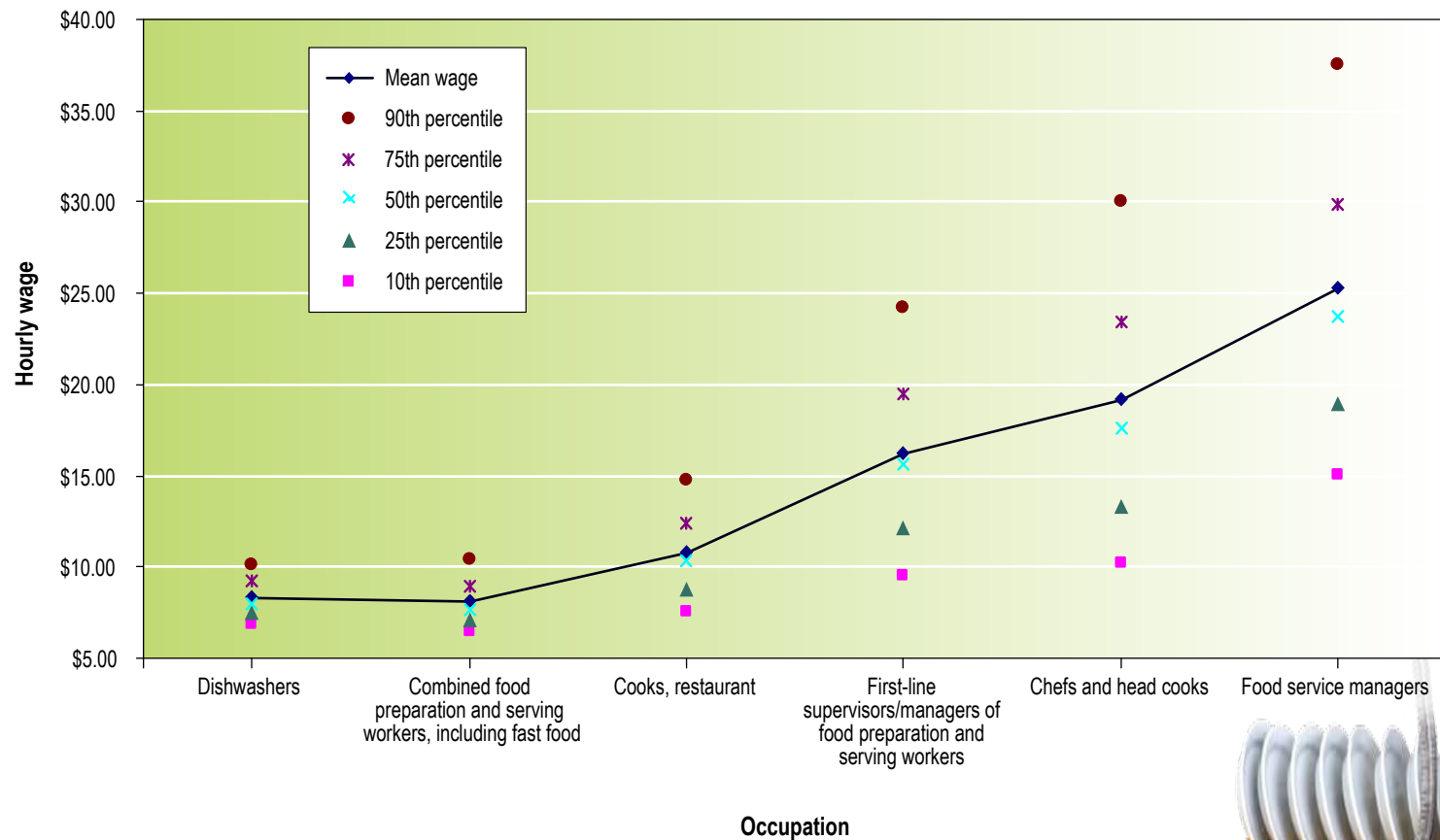


Many food service workers start as untrained food preparation workers and advance to cook positions as they acquire kitchen skills and demonstrate greater responsibility.

## FIGURE 17

- Dishwashers and combined food preparation and serving workers were among the lowest paid workers in the full-service restaurant industry. There was little variation in their wages: 80 percent of dishwashers were paid between \$6.90 and \$10.17.
- In contrast, chefs and head cooks as well as food service managers had the highest wages and greatest wage variation. Eighty percent of chefs and head cooks earned between \$10.20 and \$30.01 per hour, and 80 percent of food service managers earned between \$15.05 and \$37.52.
- Wages were lower than average in full-service restaurants for dishwashers, combined food preparation and serving workers, restaurant cooks, and chefs and head cooks.
- Many workers earn progressively higher wages as they gain experience or switch to jobs in establishments offering more advancement opportunities or higher pay, according to the BLS *Career Guide to Industries*. For example, waiters and waitresses may transfer to jobs in more expensive or busier restaurants where they tend to receive more money from tips.

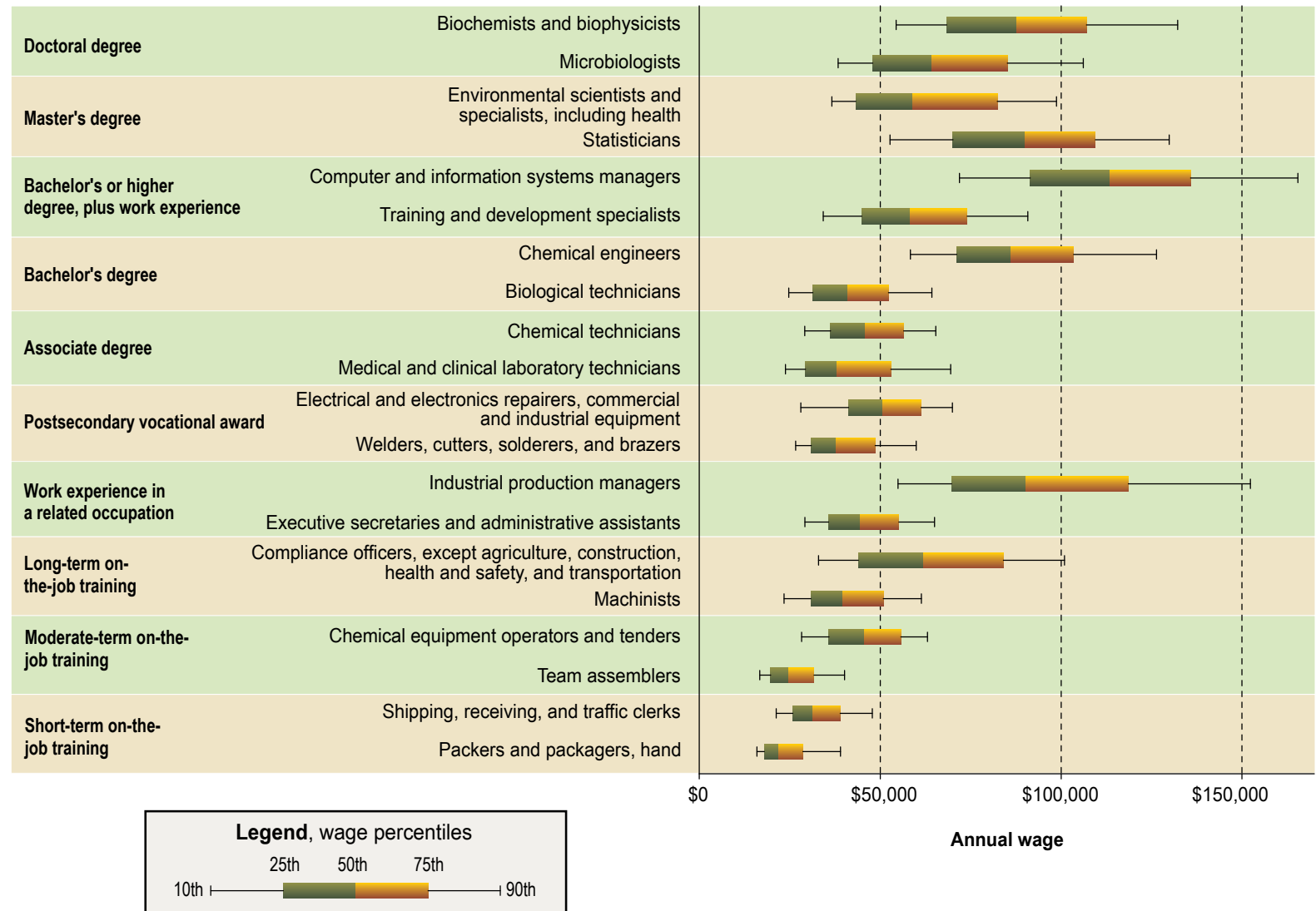
Wage distributions for selected occupations in full-service restaurants, May 2008



## FIGURE 18

- Chemical technicians, for whom the most common level of education and training was an associate degree, had almost the same wage range as chemical equipment operators and tenders, for whom the most common level of education and training was moderate-term on-the-job training.
- Some occupations shown in the chart for which a master's degree or a doctoral degree was the most common level of education—such as microbiologists—had lower 90th-percentile wages than a few occupations in which most workers did not have either of these degrees—such as industrial production managers.

Wage ranges for selected occupations in the chemical manufacturing industry, by education and training category, May 2008



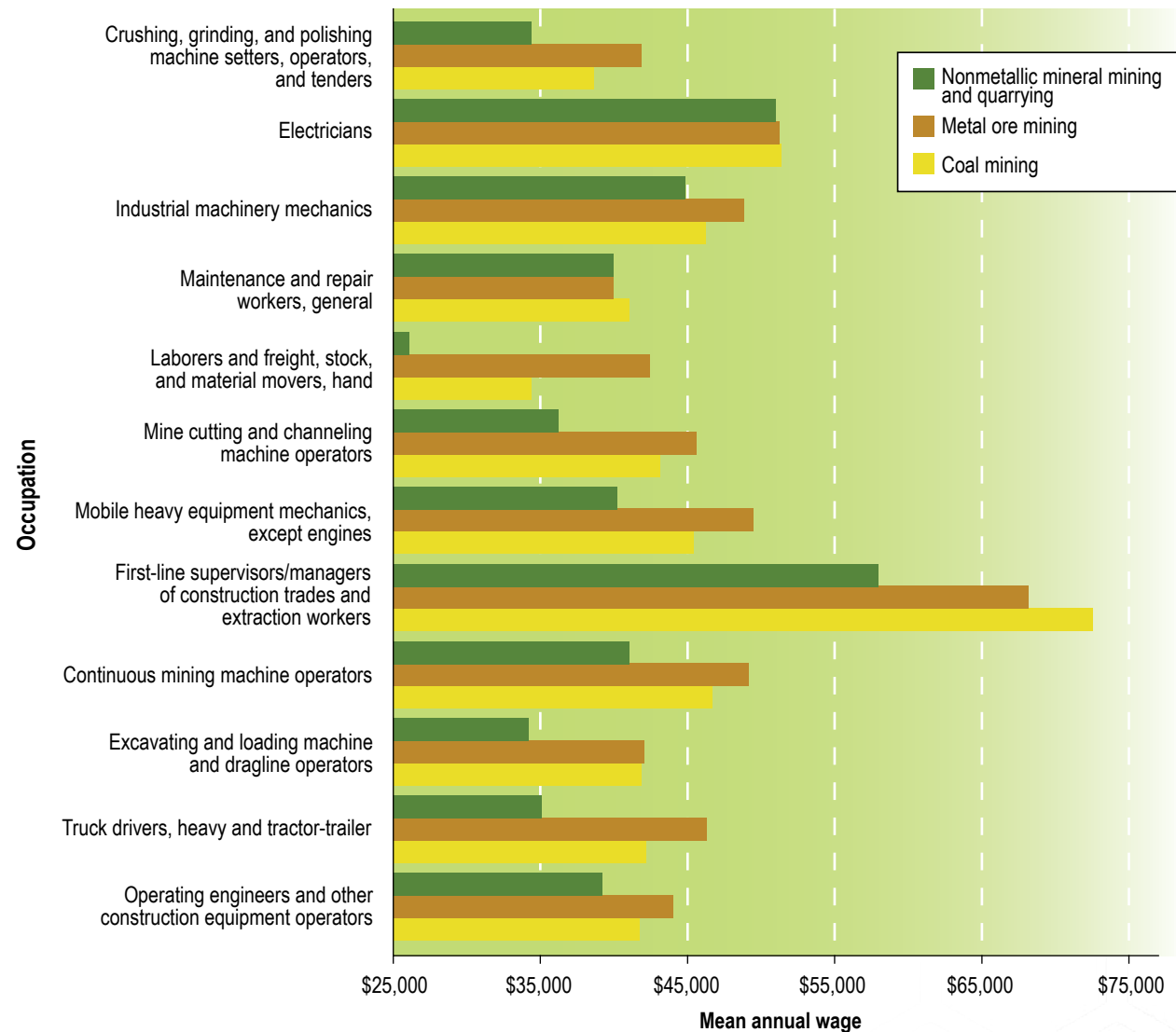
The largest of the mining industry groups presented in the chart, nonmetallic mineral mining and quarrying, had the lowest average wages for each of the occupations shown.

## FIGURE 19

- Metal ore mining, the smallest mining industry, had the highest average wages for 9 of the 12 largest occupations.
- First-line supervisors/managers of construction trades and extraction workers had the highest average wage of the occupations shown for all three mining (except oil and gas) industries.
- Laborers and hand freight, stock, and material movers had the greatest average annual wage differentials across the three industries: they made \$42,420 in metal ore mining, \$34,380 in coal mining, and \$26,100 in nonmetallic mineral mining.



Mean annual wages of the largest occupations in selected mining industries, May 2008

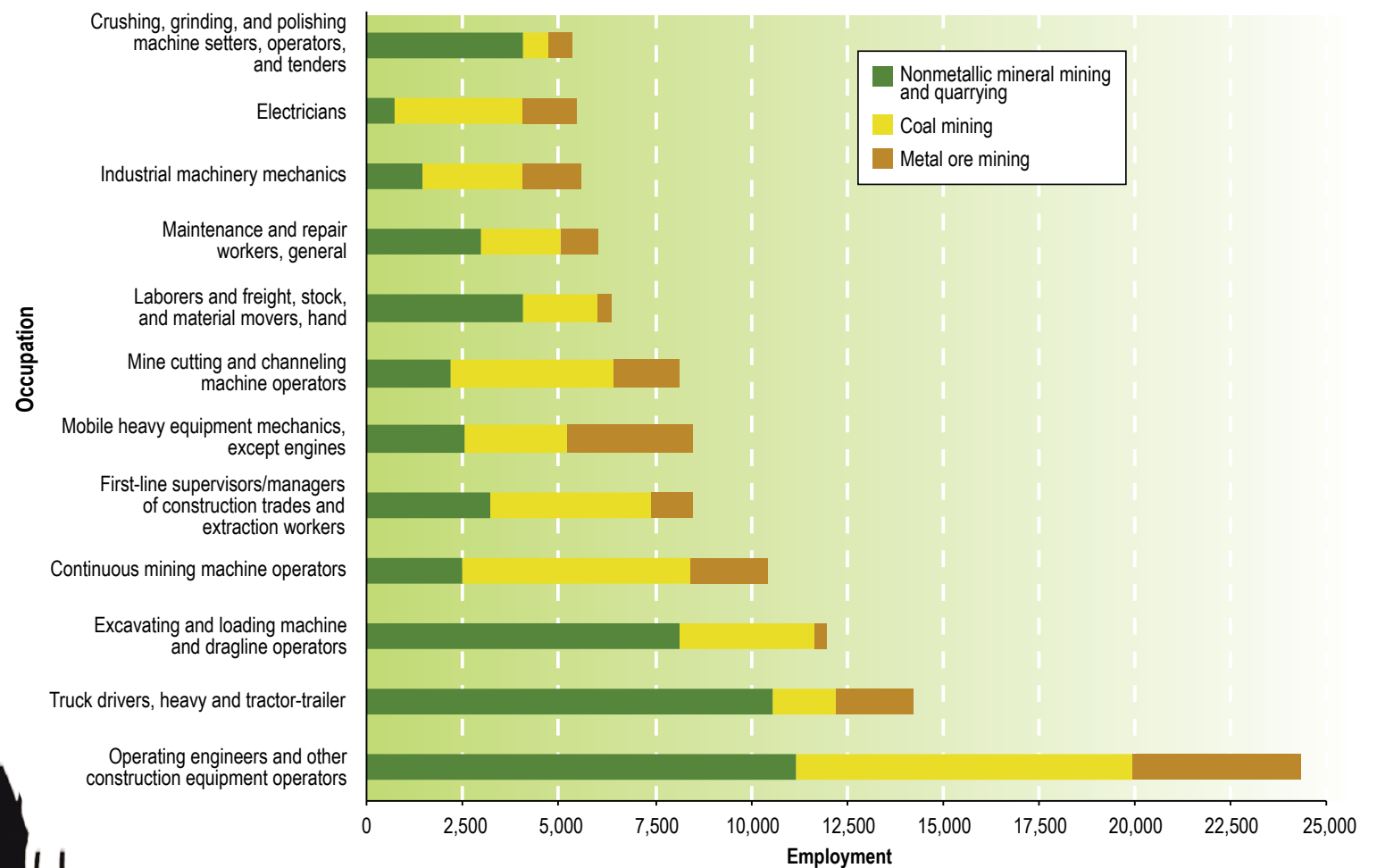


Operating engineers and other construction equipment operators was the largest occupation in each of the three industries, with total employment of 24,300 across all three industries.

## FIGURE 20

- The smallest of the three industries, metal ore mining, employed the greatest number workers from the occupation of mobile heavy equipment mechanics, except engines.
- Coal mining employed the greatest number of electricians, industrial machinery mechanics, maintenance and repair workers, general laborers and freight, stock, and material movers, hand mine cutting and channeling machine operators, first-line supervisors/managers of construction trades and extraction workers, and continuous mining machine operators.

Employment in the largest occupations of selected mining industries, May 2008

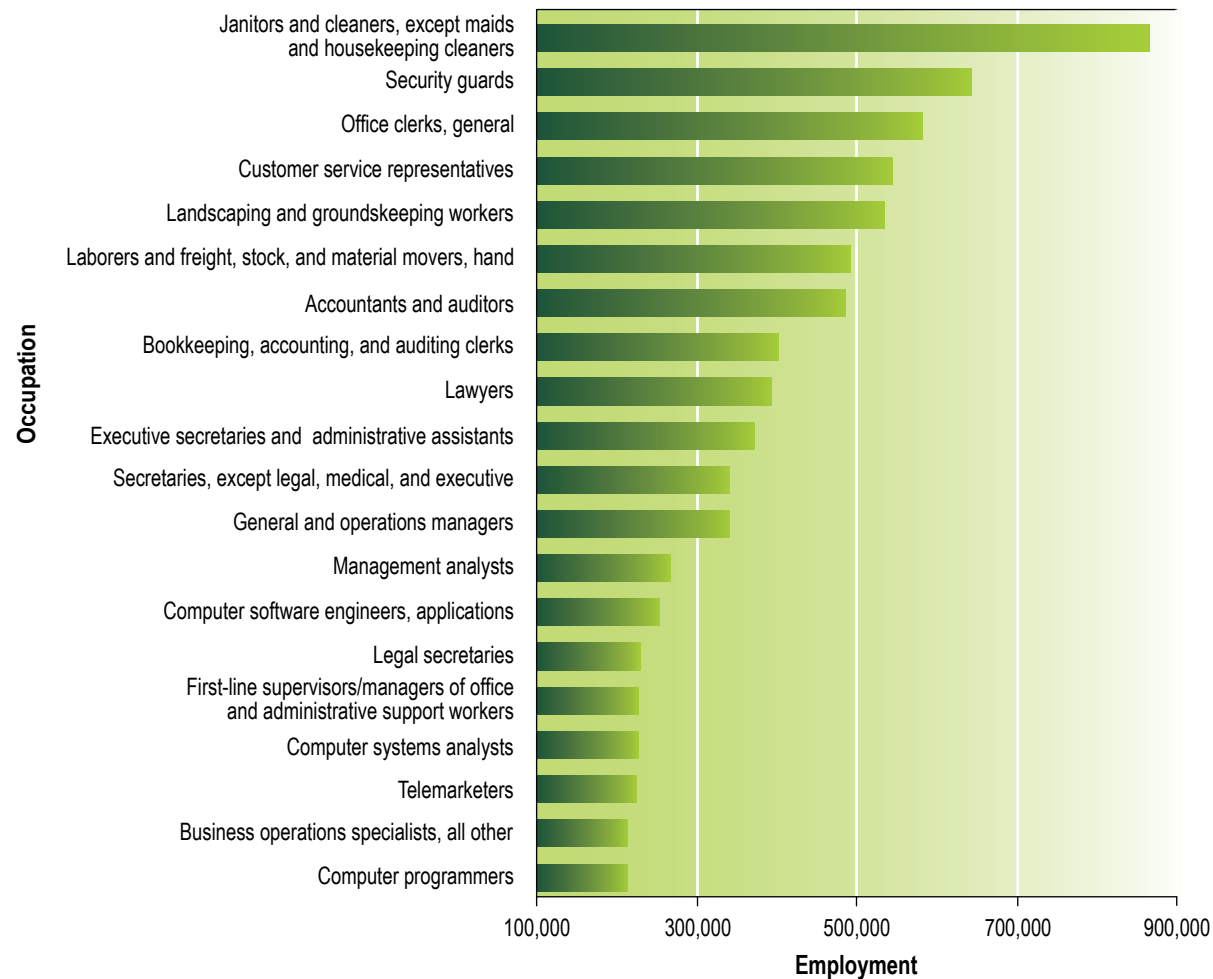


The supersector with the second-highest number of job openings in May 2008, professional and business services, had employment in a wide variety of occupations.

## FIGURE 21

- Janitors and cleaners, except maids and housekeeping cleaners, was the largest occupation in the professional and business services supersector. Almost all of the workers in this occupation were employed in services to buildings and dwellings, in which they had a mean wage of \$10.01.
- The professional and business services supersector consists of the following three industry sectors: professional, scientific, and technical services (NAICS 54); management of companies and enterprises (NAICS 55); and administrative and support and waste management and remediation services (NAICS 56).
- In May 2008, the education and health services supersector (NAICS 61 and 62) had the highest number of job openings, 728,000 (seasonally adjusted). Professional and business services had 681,000 job openings in May 2008 (seasonally adjusted), according to the BLS Job Openings and Labor Turnover program.

Largest occupations in the industry supersector with the second-highest number of job openings: professional and business services, May 2008







## **State Focus**

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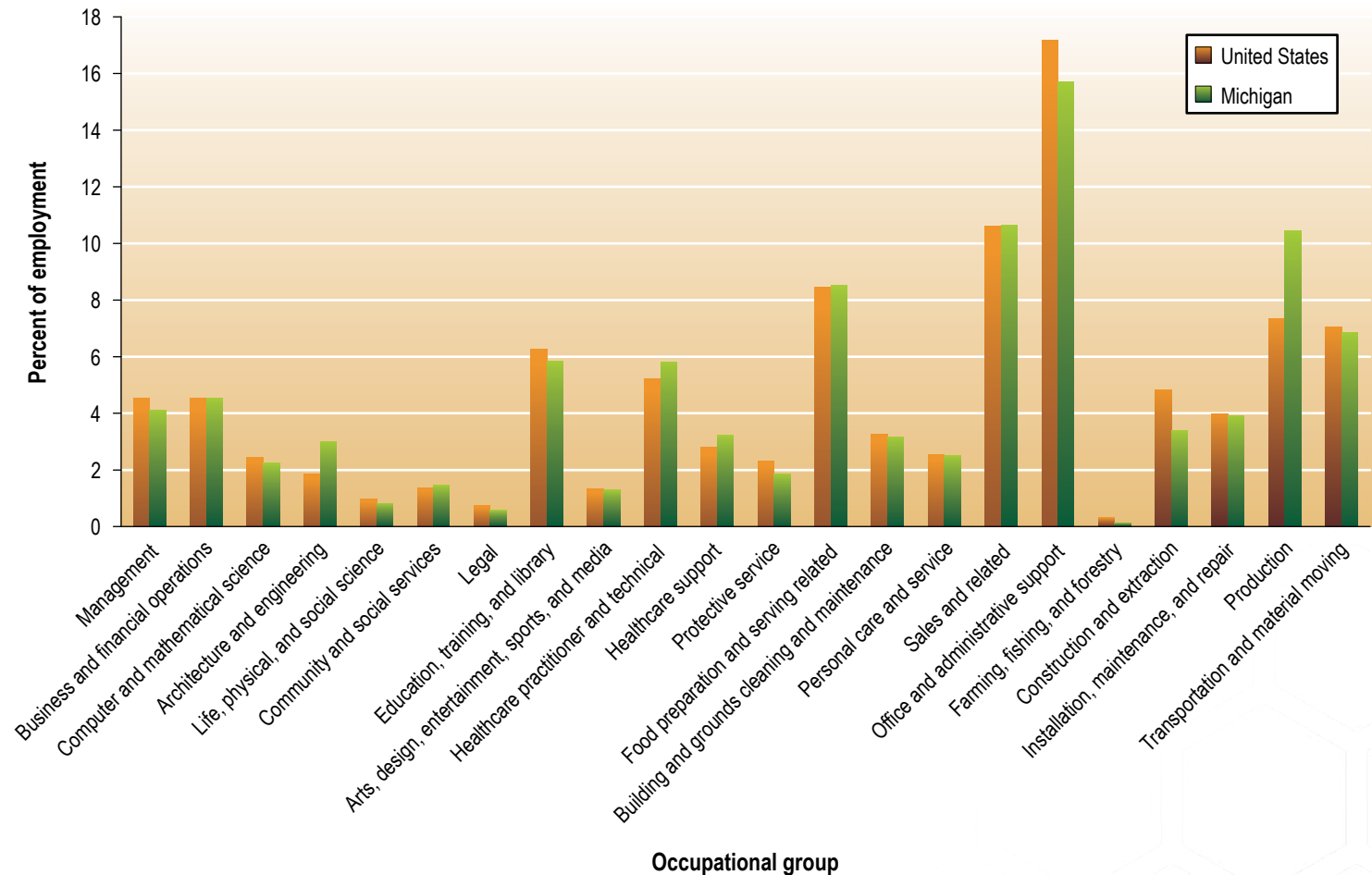
Michigan had higher-than-average employment concentrations of architecture and engineering occupations and production occupations, and lower-than-average concentrations of office and administrative support occupations and construction and extraction occupations.

## FIGURES 22-23

- Production occupations made up 10.4 percent of Michigan's employment but only 7.3 percent of total U.S. employment.
- Office and administrative support occupations made up 17.2 percent of U.S. employment and 15.7 percent of Michigan employment.
- The largest production occupation in Michigan was team assemblers, with employment of 45,690. The mean hourly wage for this occupation was \$13.66 in Michigan and \$13.28 in the United States.



Distribution of employment in the United States and in Michigan, by occupational group, May 2008



**FIGURES 22-23**

continued

- General office clerks had a mean hourly wage of \$13.08 in Michigan, slightly above the U.S. mean hourly wage of \$12.90. The lowest paid 25 percent of general office clerks in Michigan earned \$9.68 or less, while the highest paid 25 percent earned \$15.27 or more.

## Wages and employment of selected occupations in Michigan, May 2008

Office and administrative support occupations	Employment	Mean wage	25th-percentile wage	75th-percentile wage
Office clerks, general	104,650	\$13.08	\$9.68	\$15.27
Customer service representatives	61,510	16.18	11.89	19.39
Stock clerks and order fillers	59,140	11.94	8.42	14.32
Sales and related occupations	Employment	Mean wage	25th-percentile wage	75th-percentile wage
Retail salespersons	148,770	\$11.87	\$7.92	\$13.39
Cashiers	110,430	9.12	7.54	9.78
Sales representatives, wholesale and manufacturing, except technical and scientific products	47,070	29.63	17.35	36.93
Production occupations	Employment	Mean wage	25th-percentile wage	75th-percentile wage
Team assemblers	45,690	\$13.66	\$10.47	\$16.23
Inspectors, testers, sorters, samplers, and weighers	23,920	17.85	11.69	24.02
Machinists	23,430	19.03	14.46	23.39
Food preparation and serving related occupations	Employment	Mean wage	25th-percentile wage	75th-percentile wage
Waiters and waitresses	76,650	\$8.65	\$7.45	\$8.60
Combined food preparation and serving workers, including fast food	73,450	8.66	7.55	9.17
Food preparation workers	30,720	9.70	7.73	11.12
Transportation and material moving occupations	Employment	Mean wage	25th-percentile wage	75th-percentile wage
Laborers and freight, stock, and material movers, hand	69,220	\$13.12	\$9.02	\$15.25
Truck drivers, heavy and tractor-trailer	50,070	18.71	14.64	22.17
Truck drivers, light or delivery services	31,870	15.29	10.23	18.93
Education, training, and library occupations	Employment	Mean wage	25th-percentile wage	75th-percentile wage
Elementary school teachers, except special education	41,810	\$57,180	\$41,990	\$70,460
Teacher assistants	36,230	24,380	18,390	28,900
Secondary school teachers, except special and vocational education	22,930	54,970	40,040	67,390
Management occupations	Employment	Mean wage	25th-percentile wage	75th-percentile wage
General and operations managers	35,760	\$47.98	\$29.58	\$59.83
Chief executives	13,040	72.48	45.10	*
Financial managers	11,190	47.12	32.62	56.99
Business and financial operations occupations	Employment	Mean wage	25th-percentile wage	75th-percentile wage
Accountants and auditors	33,650	\$30.79	\$22.14	\$36.07
Management analysts	11,480	39.89	26.83	48.03
Purchasing agents, except wholesale, retail, and farm products	11,110	30.18	21.16	37.86

\* This wage is equal to or greater than \$80.00 per hour or \$166,400 per year.

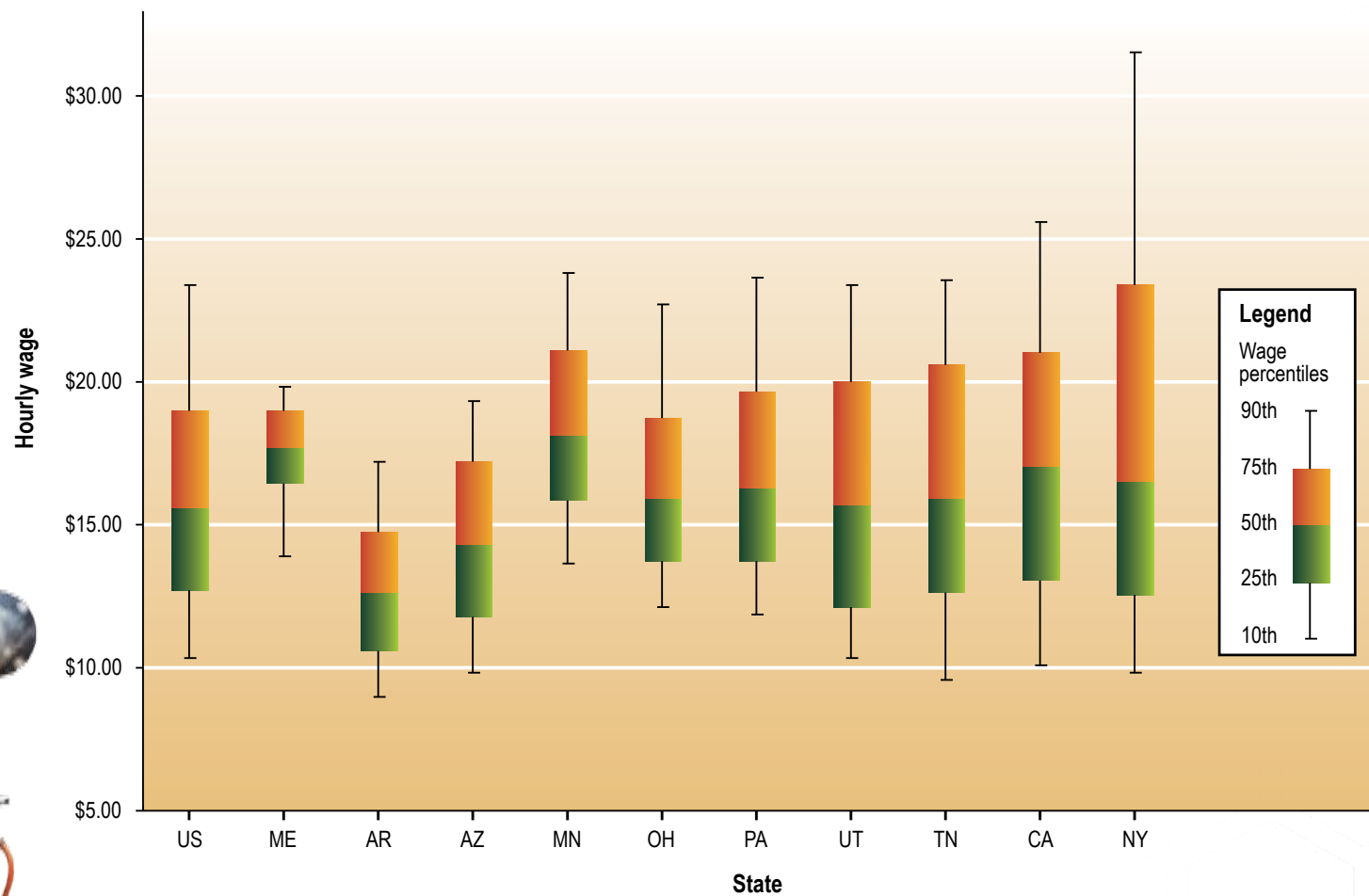
Structural metal fabricators and fitters had a median hourly wage of \$15.58, about the same as the U.S. median wage.

## FIGURE 24

- The State with the smallest wage range for structural metal fabricators and fitters was Maine, with a difference between the 90th and 10th percentiles of only \$5.90. New York had the widest wage range for this occupation, with a difference of \$21.71 between the 90th- and 10th-percentile wages.
- New York and Arizona had similar 10th percentile wages, but New York's 90th-percentile wage was \$12.24 higher than Arizona's for this occupation.
- Minnesota had the third-highest median wage of all States for this occupation, \$18.18.



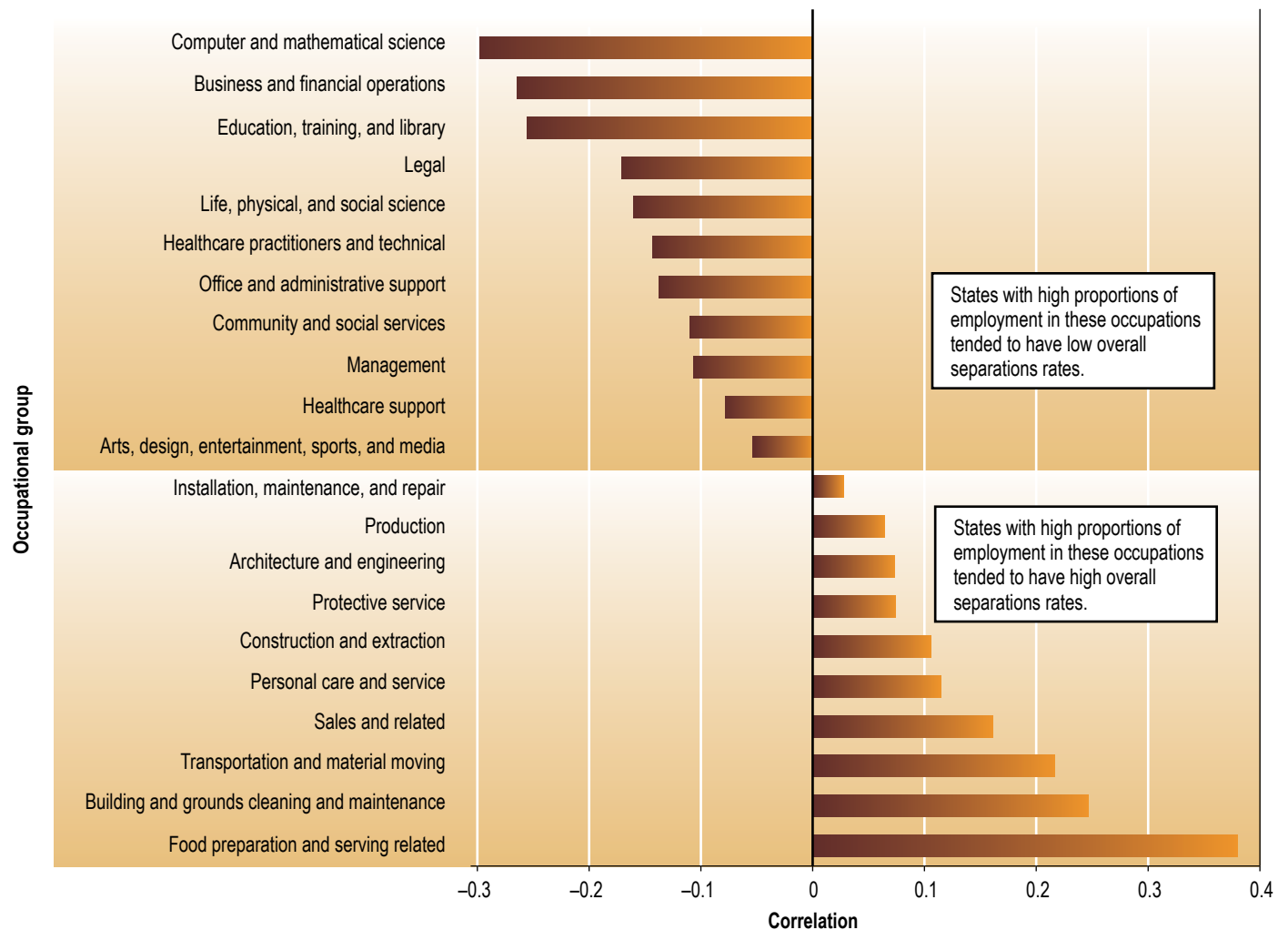
### Wages of structural metal fabricators and fitters, for selected States, May 2008



## FIGURE 25

- States with high concentrations of employment in computer and mathematical science; business and financial operations; and education, training, and library occupations tended to have low rates of separations due to layoffs. Other occupations in which mass layoffs did not cause many separations also were generally analytical and administrative in nature.
- States with high concentrations of employment in food preparation and serving related, building and grounds cleaning and maintenance, and transportation and material moving occupations tended to have high overall separations rates due to layoffs. Occupations in these groups involved physical labor or were related to personal service and sales, with the exception of some architecture and engineering occupations.
- The rate of mass-layoff-induced separation in each State represents the State's private nonfarm, non-seasonal, and nonvacation separations in 2008 as a percentage of total private, nonfarm employment among establishments with more than 50 employees in the State in March 2008. Separations data are from the BLS Mass Layoff Statistics program, and total State employment data are from the Quarterly Census of Employment and Wages.

### Correlation between States' rates of separations due to mass layoffs and each occupational group's proportion of employment, May 2008

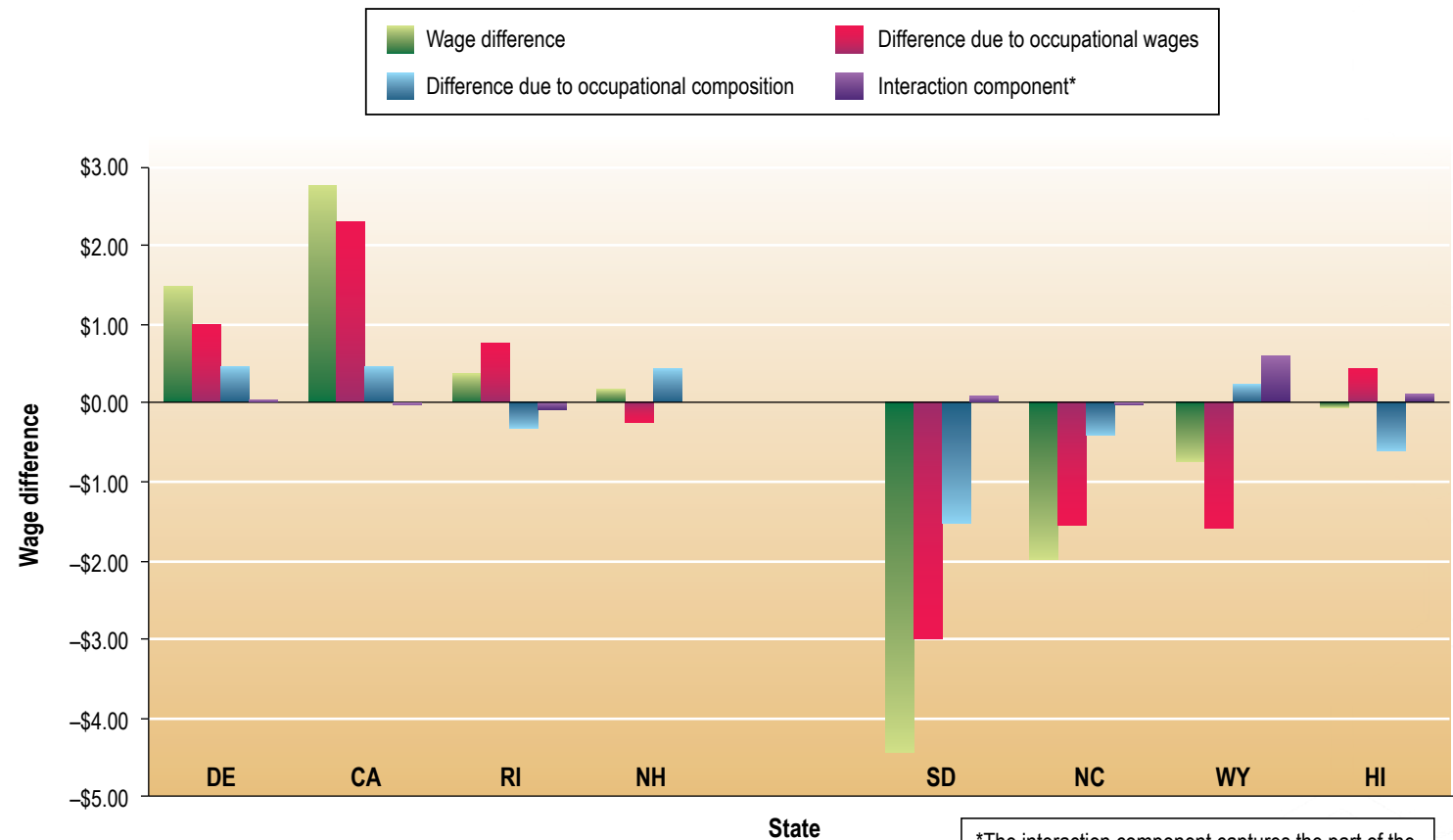


Delaware and California had average wages above the national average in part because they had above-average wages for their occupations, and in part because more of their employment was in higher paying occupations.

## FIGURE 26

- A State's overall average wage is influenced by two factors—the wages of occupations in the State, and the way in which employment is distributed among higher and lower paying occupations.
- The chart shows the difference between the average wage in the Nation and the average wage in the State (represented by the green bar), how much of that difference is due to different occupational wages (represented by the pink bar), and how much is due to greater employment concentrations in higher or lower paying occupations as compared with the Nation's occupational composition (represented by the blue bar).
- South Dakota and North Carolina had average wages below the national average because they had below-average occupational wages and more employment concentrated in lower paying occupations.

### Differences between States' mean wages and the U.S. mean wage, May 2008



\*The interaction component captures the part of the average wage that is not attributable solely to either occupational composition or occupational wages.



## FIGURE 26

continued

- Rhode Island's overall average wage was above average despite more employment in lower paying occupations because occupational wages in Rhode Island were above average. In contrast, the average wage in New Hampshire was above average because the State's employment was concentrated in higher paying occupations. The average wage of occupations in New Hampshire was below the U.S. average.
- Wyoming and Hawaii both had an average wage below the U.S. average. Hawaii's below-average wage was due to high concentrations of employment in low-paying occupations. Wyoming's mean wage was below average because of low occupational wages, even though the State had more employment in higher paying occupations.

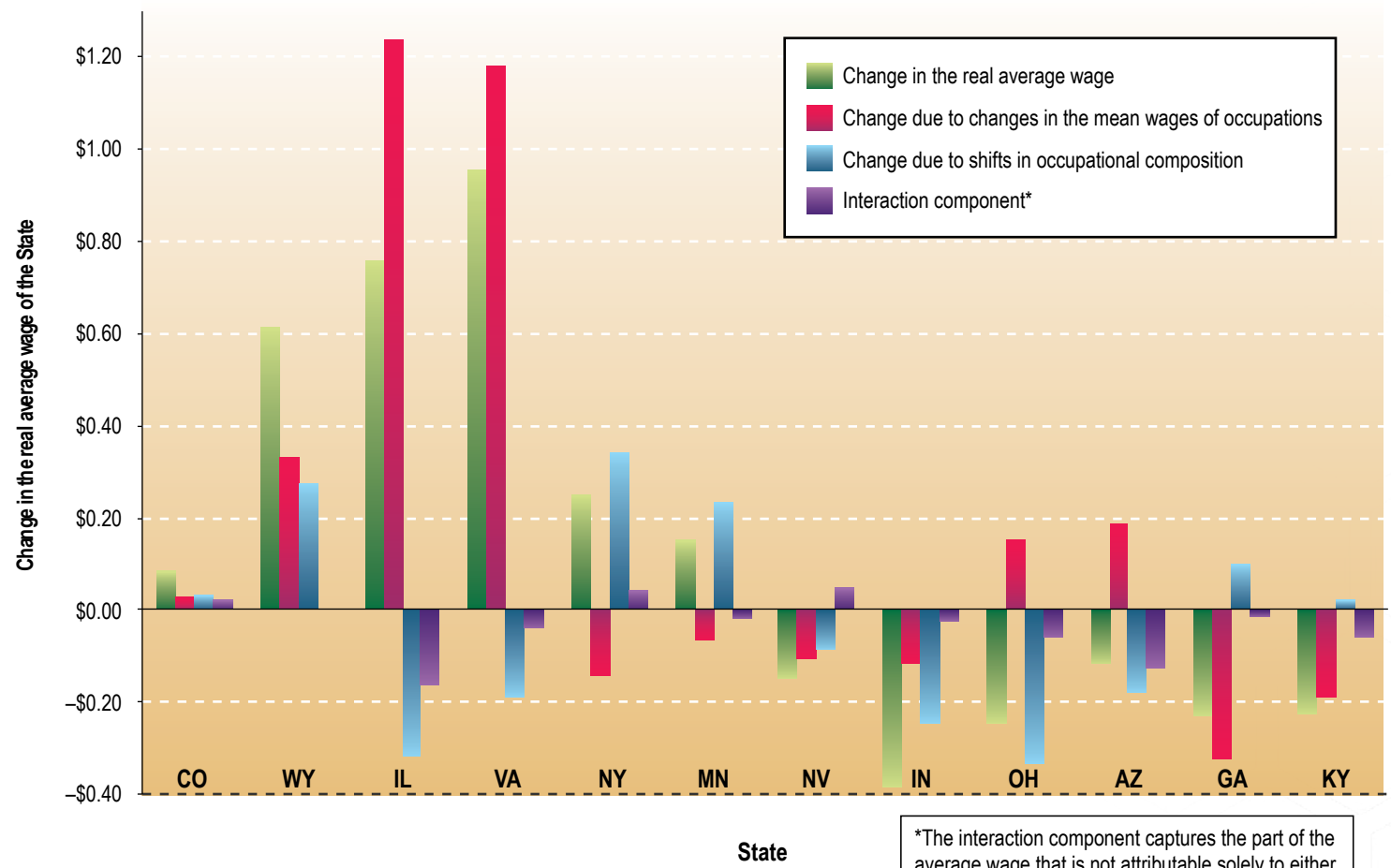


Real average wages declined in Nevada and Indiana because of shifts in employment towards lower paying occupations as well as declines in the average wages of individual occupations.

## FIGURE 27

- A change in a State's real average wage can be divided into two factors: changes in the average wages of workers in specific occupations and changes in the occupational structure of employment—that is, whether on the whole employment is moving from higher to lower paying occupations or from lower to higher paying occupations.
- Each green bar in the chart shows the change in the real average wage of the State in question. The pink bar shows the amount of the change in the average wage that is due to changes in the wages of individual occupations, whereas the blue bar shows the amount of the change in the average wage that is due to shifts in employment towards higher or lower paying occupations.
- Real average wages in Colorado and Wyoming rose because of increases in the average wages of occupations and shifts in employment towards higher paying occupations.

Decomposition of changes in States' real average wages from November 2002 to May 2007



\*The interaction component captures the part of the average wage that is not attributable solely to either occupational composition or occupational wages.

## FIGURE 27

continued

- Ohio had a decrease in its real average wage of over \$0.20, despite an average increase in occupational wages of almost \$0.20, because employment in this State shifted towards lower paying occupations—a pattern also seen in Arizona.
- Wage increases in Illinois and Virginia caused increases in the average wage despite a shift towards lower paying occupations in both States.
- Shifts towards higher paying occupations in New York and Minnesota accounted for the increase in the average wage in each of those States.
- A shift towards higher paying occupations in Georgia and Kentucky slowed the declines in the average wages in these States; in each state, the decrease in the average wage was due to declines in the wages of individual occupations.

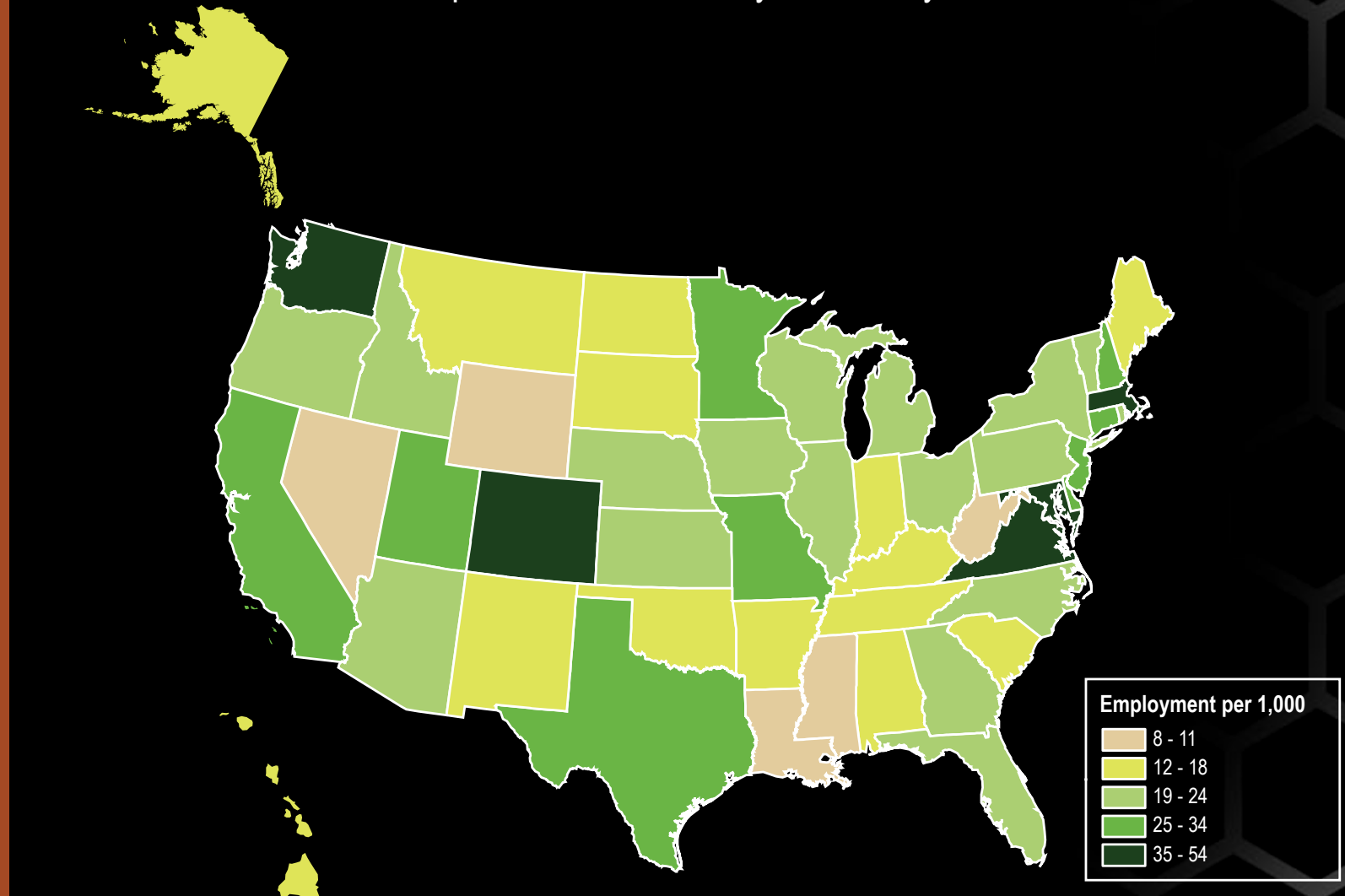


States with higher concentrations of employment in computer and mathematical occupations generally had high wages for these occupations.

## FIGURE 28

- Virginia, Massachusetts, Maryland, Colorado, and Washington had the highest concentrations of computer and mathematical occupations, with 4 to 5 percent of their employment in these occupations.
- Wyoming, Louisiana, Mississippi, West Virginia, and Nevada each had about 1 percent of total employment in these occupations.
- Virginia had a high level of employment in the following computer and mathematical occupations: computer systems analysts (employment of 33,590); computer software engineers, applications (employment of 31,830); computer software engineers, systems software (26,060); and computer support specialists (18,750).
- The largest computer and mathematical occupations in Wyoming were computer support specialists (employment of 460), computer system analysts (350), network and computer system administrators (300), and computer specialists, all other (280).

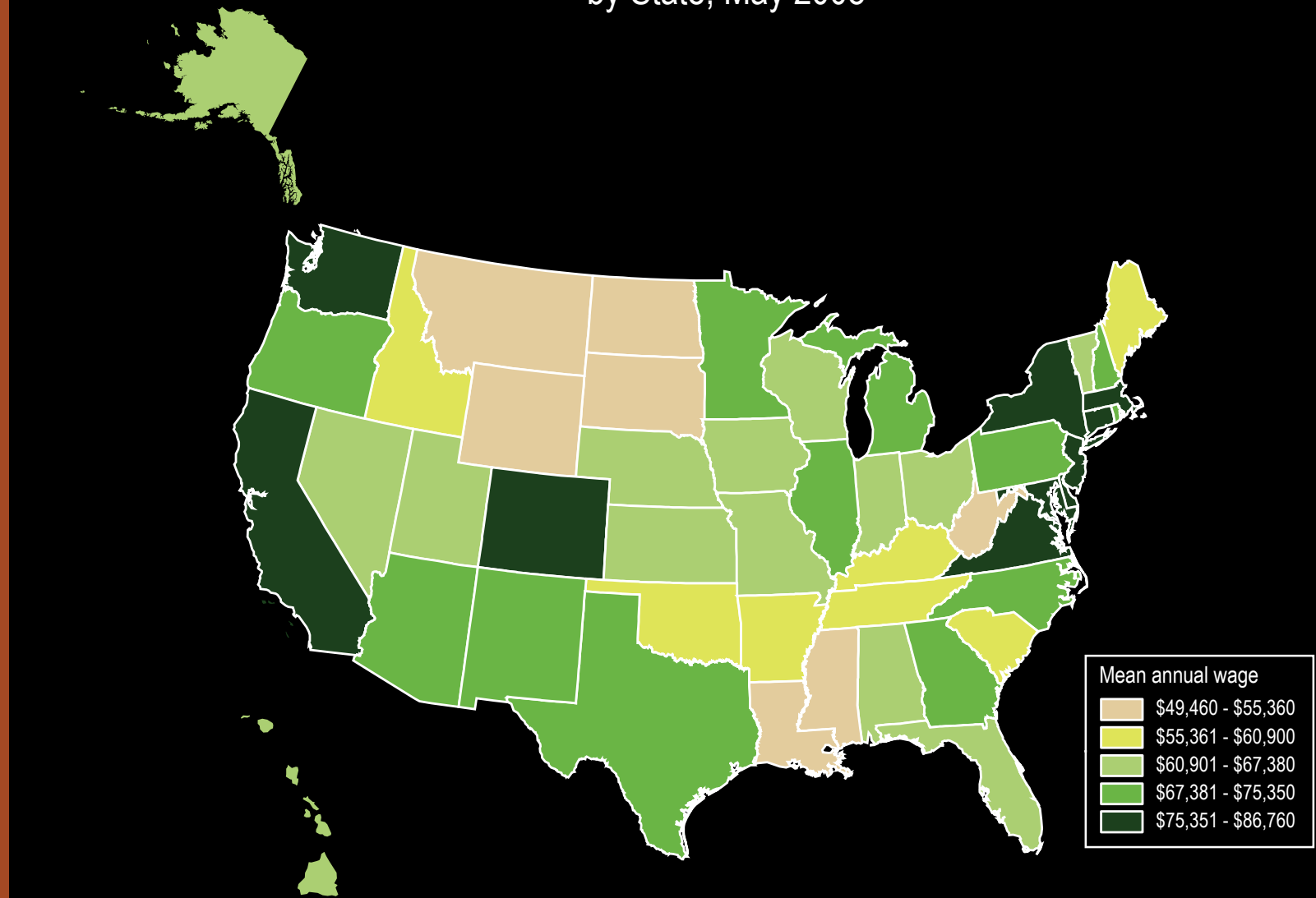
Employment in computer and mathematical occupations, per 1,000 workers, by State, May 2008



## FIGURE 29

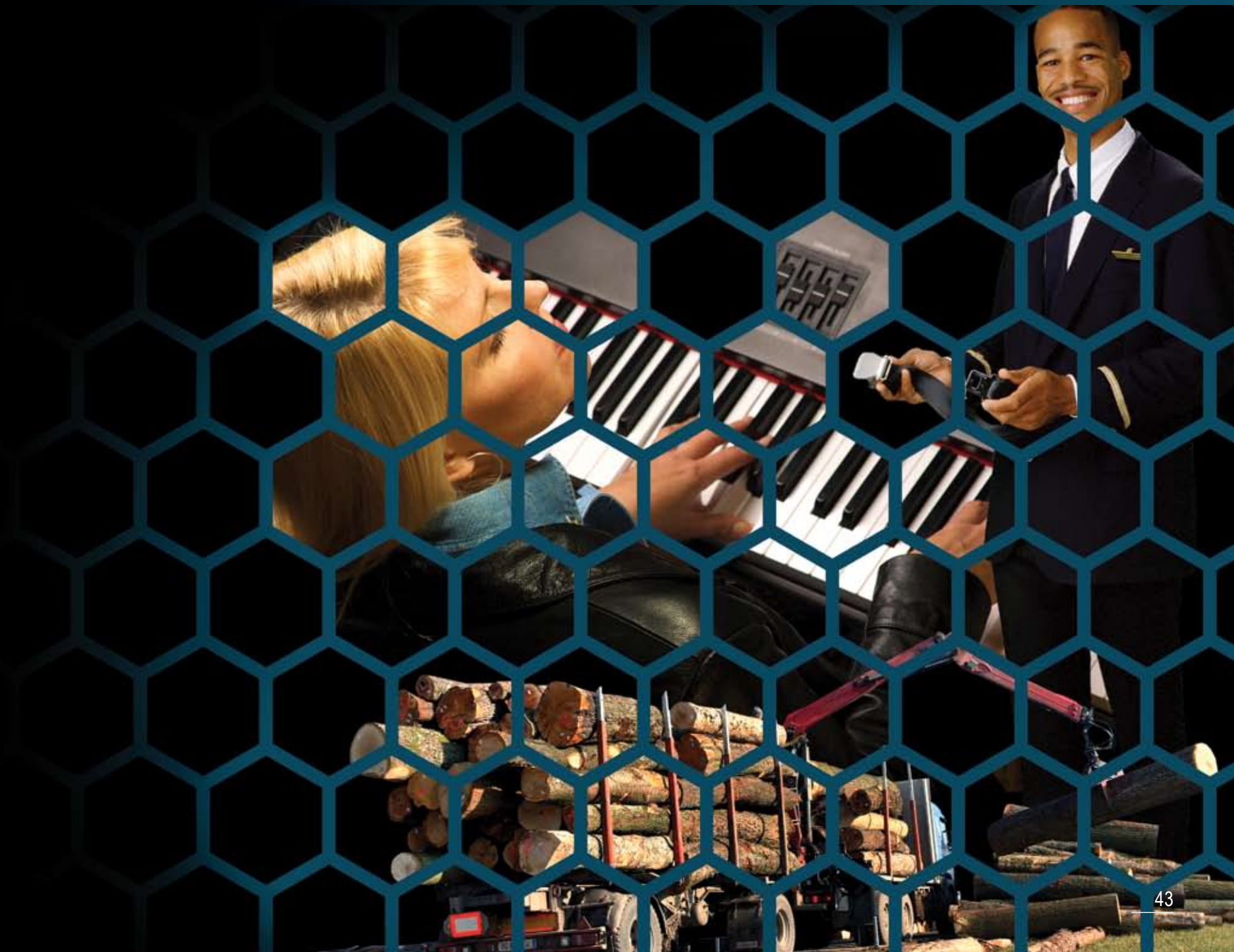
- The States with the highest average wages for computer and mathematical occupations were Massachusetts (\$86,760), Virginia (\$85,650), California (\$83,790), New Jersey (\$83,120), and Maryland (\$82,740).
- The States with the lowest average wages for these occupations were North Dakota (\$49,460), Wyoming (\$53,270), South Dakota (\$53,430), Mississippi (\$54,030), and Louisiana (\$54,690).
- States with high concentrations of employment in computer and mathematical occupations tended to have more of this employment concentrated in the higher paying computer occupations, including computer systems analysts; computer software engineers, applications; and computer software engineers, systems software. Computer support specialists, the lowest paid of the computer occupations, made up a higher percentage of computer and mathematical employment in States with lower concentrations of employment in the computer and mathematical occupational group.

Mean annual wage of computer and mathematical occupations, by State, May 2008



## **Area Focus**

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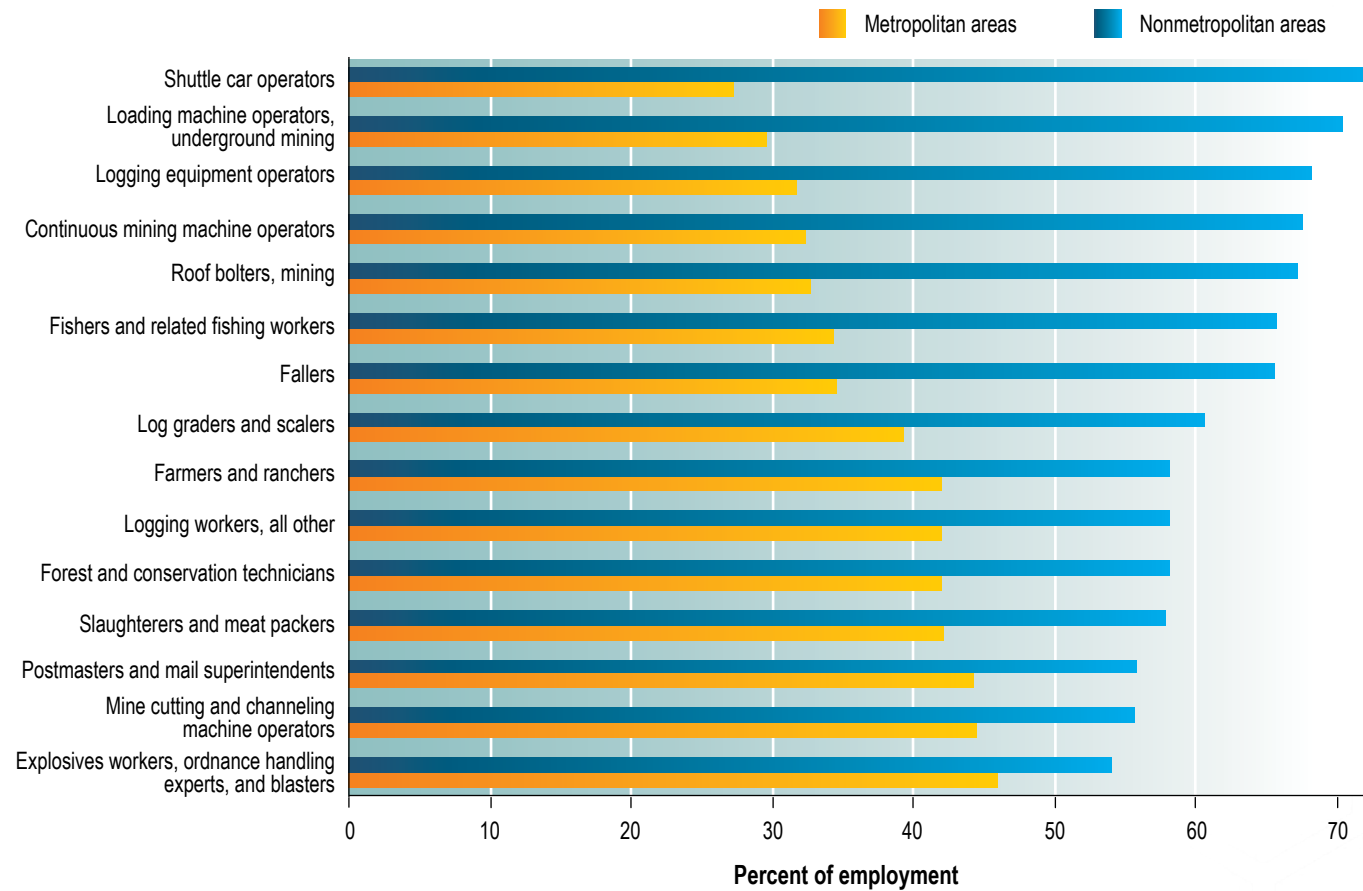
Eighty-six percent of U.S. employment was found in metropolitan areas, but some occupations were concentrated in nonmetropolitan areas.

**FIGURE 30**

- Fourteen percent of all U.S. jobs were in nonmetropolitan areas. Most of the occupations with employment concentrated in nonmetropolitan areas were related to mining, extraction, and logging.
- Postmasters and mail superintendents, and slaughterers and meat packers, are the only occupations listed that do not directly involve mining, logging, or agriculture.



Occupations found primarily in nonmetropolitan areas, May 2008



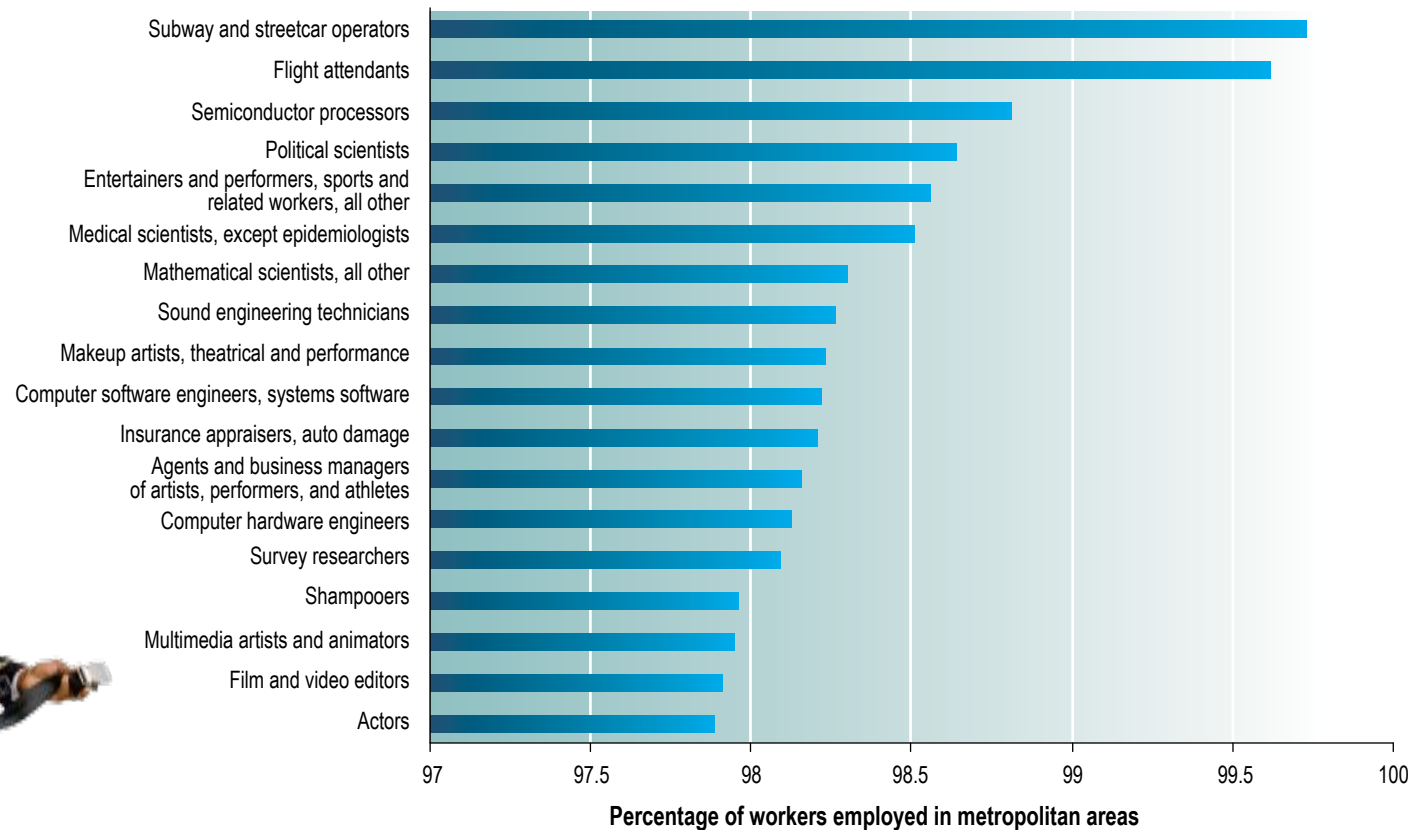


## FIGURE 31

- When the great majority of an occupation's employment is in metropolitan areas, it may be the result of economies of agglomeration: certain types of employers tend to form clusters of economic activity.
- Seven of the occupations concentrated almost exclusively in metropolitan areas are related to the performing arts, media, or sports: theatrical and performance makeup artists; sound engineering technicians; agents and business managers of artists, performers, and athletes; all other entertainers and performers, sports and related workers; multimedia artists and animators; film and video editors; and actors.
- Other occupations concentrated in metropolitan areas include many IT-related occupations, such as computers systems software engineers, an occupation which is most highly concentrated in the San Jose-Sunnyvale-Santa Clara, CA, metropolitan area.



### Occupations with the highest concentration of employment in metropolitan areas, May 2008

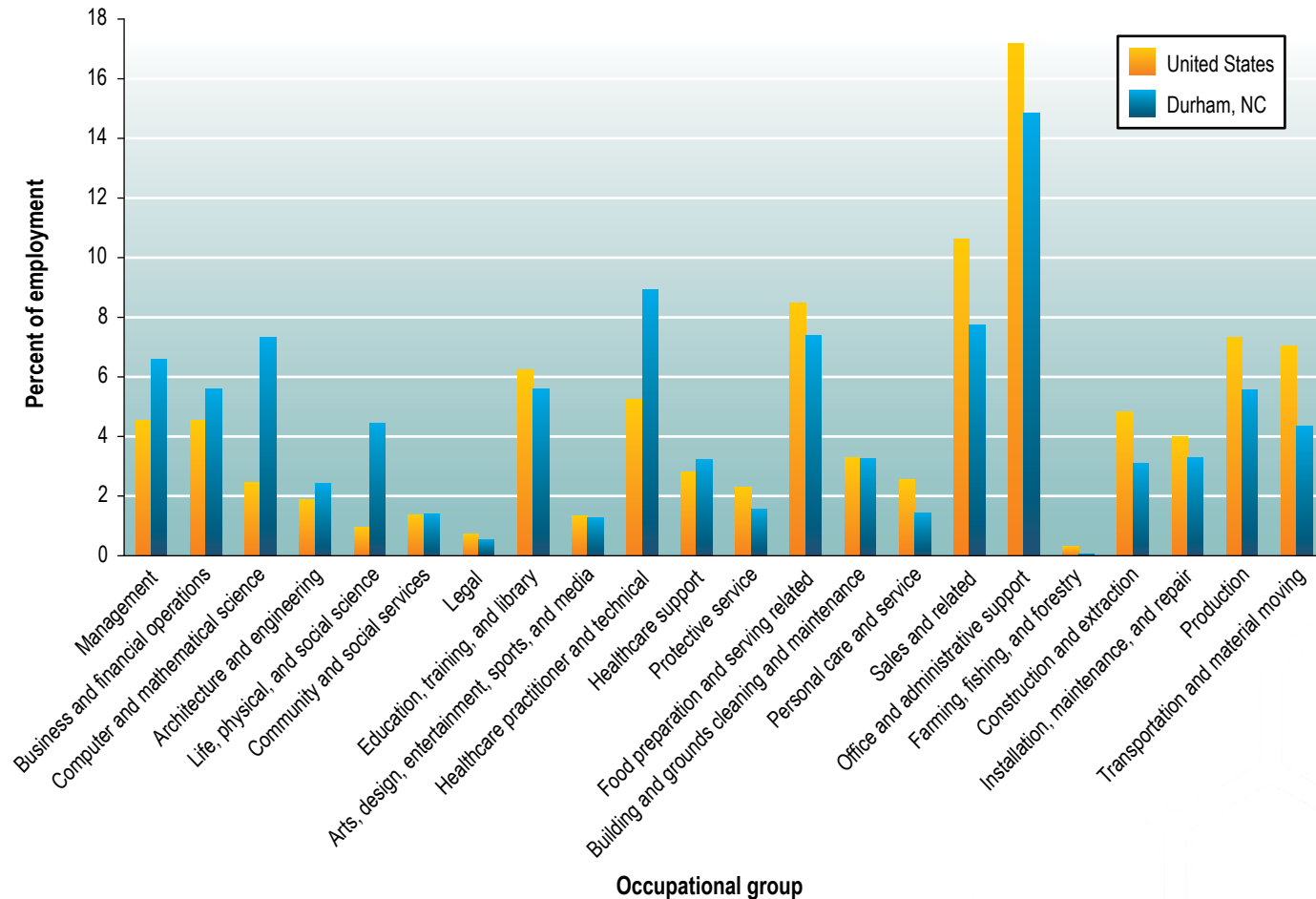


The main factor that caused the average wage in Durham, North Carolina, to exceed the U.S. average by 16 percent was the higher-than-average shares of employment in occupations that paid above-average wages.

## FIGURE 32

- Durham, NC, had higher-than-average employment concentrations in six of the seven highest paying occupational groups and lower-than-average employment shares in many of the lower paying occupational groups, such as the food preparation and serving related group and the personal care and service group.
- The employment share of life, physical, and social science occupations was 4.65 times higher in Durham, NC, than in the Nation as a whole. Only about 1 out of every 100 U.S. jobs was in this occupational group, compared with more than 4 out of every 100 jobs in Durham.
- Computer and mathematical science occupations had an employment concentration 3 times higher in Durham, NC, than at the national level, as this group accounted for about 7 in 100 Durham jobs and about 2 in 100 U.S. jobs.
- Transportation and material moving occupations, which has below-average wages, accounted for 7 percent of jobs in the United States but only 4 percent of jobs in Durham.
- Only 4 out of 22 occupational groups had average wages significantly higher in Durham, NC, than at the national level.

Distribution of employment in the United States and in Durham, NC, by occupational group, May 2008



## FIGURE 33

- The “concentration factor” column in the table shows how individual occupations’ shares of employment in Durham, NC, related to the same occupations’ shares of employment at the national level. For example, loan counselors’ employment concentration in Durham, NC, was 11.5 times higher than loan counselors’ employment concentration at the national level.
- Of the 21 detailed occupations with the highest employment concentrations in Durham, NC, relative to the United States, over half were life, physical, and social science occupations and 4 were computer and mathematical science occupations.
- The employment share of clinical, counseling, and school psychologists in Durham was about one-third of the U.S. employment share for this occupation, making this the only life, physical, and social science occupation with a lower employment share in Durham, NC, than in the United States as a whole.

Detailed occupations with the highest concentrations of employment in Durham, NC, relative to the occupations’ corresponding employment concentrations in the United States, May 2008

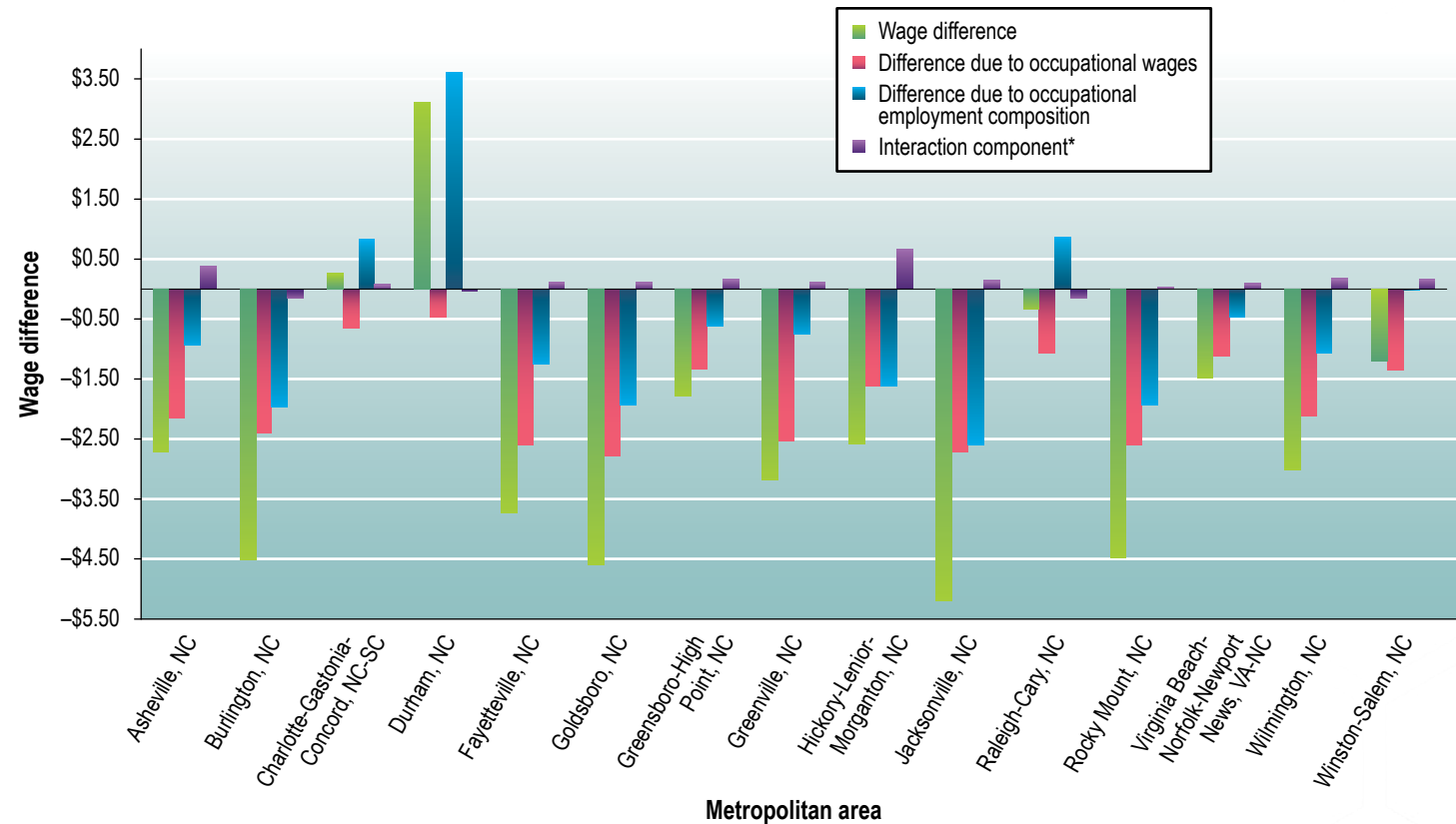
Occupation title	Durham, NC employment	Percent of Durham, NC employment	Percent of total U.S. employment	Concentration factor
Social scientists and related workers, all other	1,350	0.483	0.021	22.8
Natural sciences managers	1,250	.449	.032	14.0
Microbiologists	450	.160	.012	13.8
Health diagnosing and treating practitioners, all other	980	.352	.026	13.6
Biochemists and biophysicists	570	.204	.016	12.5
Statisticians	510	.183	.015	11.9
Biological technicians	1,750	.626	.053	11.7
Loan counselors	700	.252	.022	11.5
Medical scientists, except epidemiologists	2,210	.791	.074	10.7
Biological scientists, all other	560	.201	.021	9.6
Life scientists, all other	230	.081	.009	9.3
Life, physical, and social science technicians, all other	1,010	.362	.043	8.4
Survey researchers	360	.131	.016	8.3
Sociologists	60	.020	.003	6.7
Operations research analysts	830	.296	.045	6.6
Computer software engineers, systems software	4,860	1.743	.282	6.2
Chemists	1,040	.372	.062	6.1
Social science research assistants	210	.076	.013	5.6
Epidemiologists	50	.017	.003	5.6
Mathematicians	30	.012	.002	5.4
Medical and clinical laboratory technologists	1,730	.620	.123	5.0

Occupational mean wages in all metropolitan areas in North Carolina were below national occupational mean wages, but employment was concentrated in higher paying occupations in three metropolitan areas.

## FIGURE 34

- In the chart, the green bar shows the difference between average wages in the metropolitan areas in North Carolina and average wage in the United States. The pink bar shows the difference in total wages that is due to differences in occupational wages. The blue bar shows the difference that is due to employment being concentrated in higher or lower paying occupations. The purple bar shows the difference that is due to the interaction component.
- Although the wages of individual occupations in Durham, NC, and Charlotte-Gastonia-Concord, NC-SC, were lower overall than the U.S. average wages for the respective occupations, these metropolitan areas had average wages above the U.S. average because they had a greater concentration of employment in higher paying occupations, as indicated by the blue bars in the chart.
- Durham, NC, had the highest average wage of all metropolitan areas in North Carolina because of Durham's high concentration of employment in higher paying occupations.

Differences between North Carolina metropolitan area wages and the U.S. mean wage, May 2008



\*The interaction component captures the part of the average wage that is not attributable solely to either occupational composition or occupational wages.

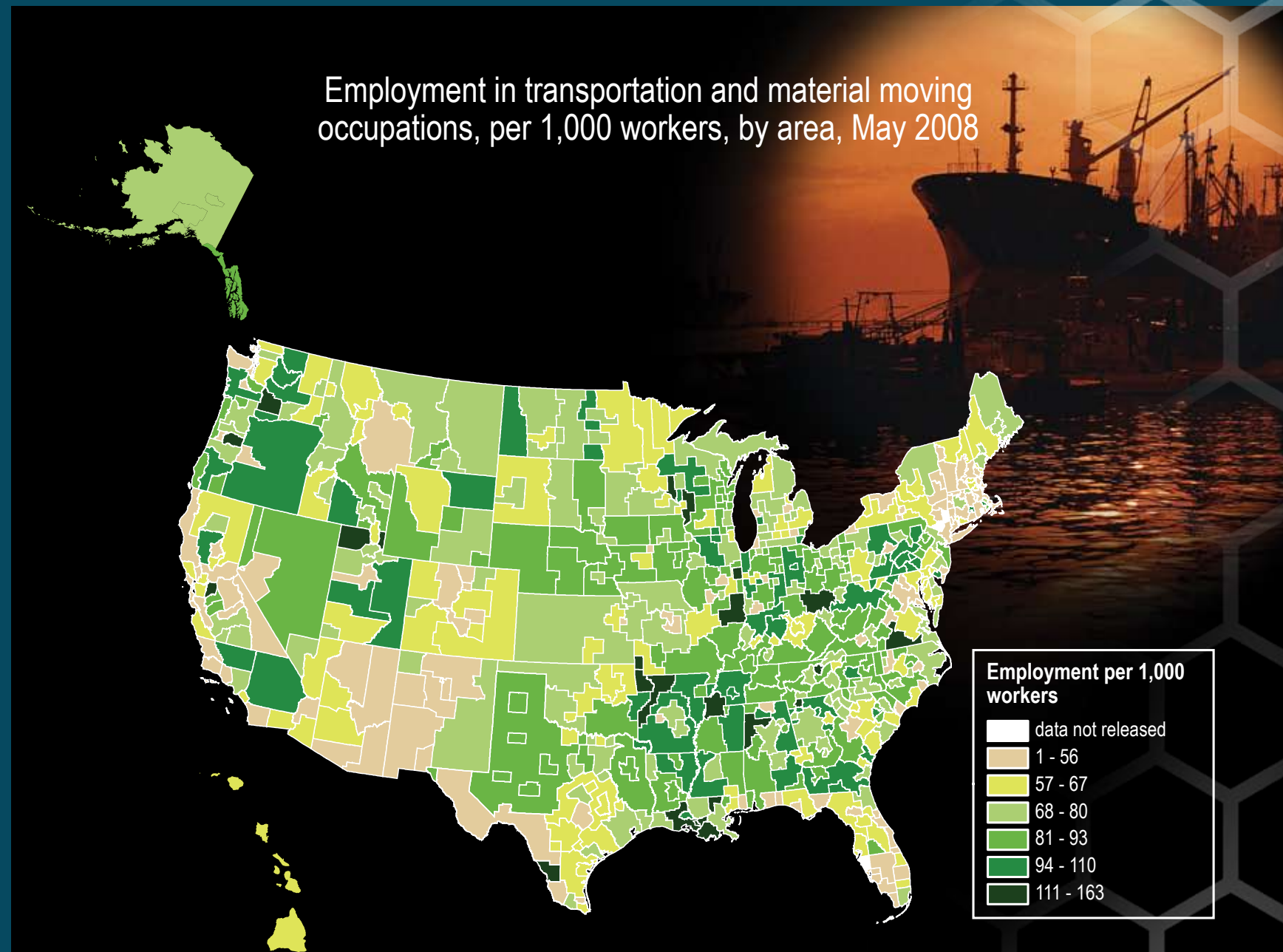


Transportation and material moving occupations accounted for 16 percent of employment in the Houma-Bayou Cane-Thibodaux, LA, metropolitan area, but only 2 percent of employment in the Los Alamos, NM, nonmetropolitan area.

## FIGURE 35

- The areas with the highest concentrations of employment in transportation and material moving occupations were the Houma-Bayou Cane-Thibodaux, LA, metropolitan area (163 per 1,000 workers); south-western Wisconsin nonmetropolitan area (144 per 1,000 workers); Joplin, MO, metropolitan area (129 per 1,000 workers); Dalton, GA, metropolitan area (124 per 1,000 workers); and Linn County, OR, nonmetropolitan area (120 per 1,000 workers).
- Houma-Bayou Cane-Thibodaux, LA, had a total of 15,440 transportation and material moving jobs. Two of the largest transportation and material moving occupations were related to water transportation: captains, mates, and pilots of water vessels (with employment of 3,350); and sailors and marine oilers (with employment of 2,700).
- The two largest transportation and material moving occupations in the other four areas listed above were heavy and tractor-trailer truck drivers and the occupation of laborers and freight, stock, and material movers, hand.

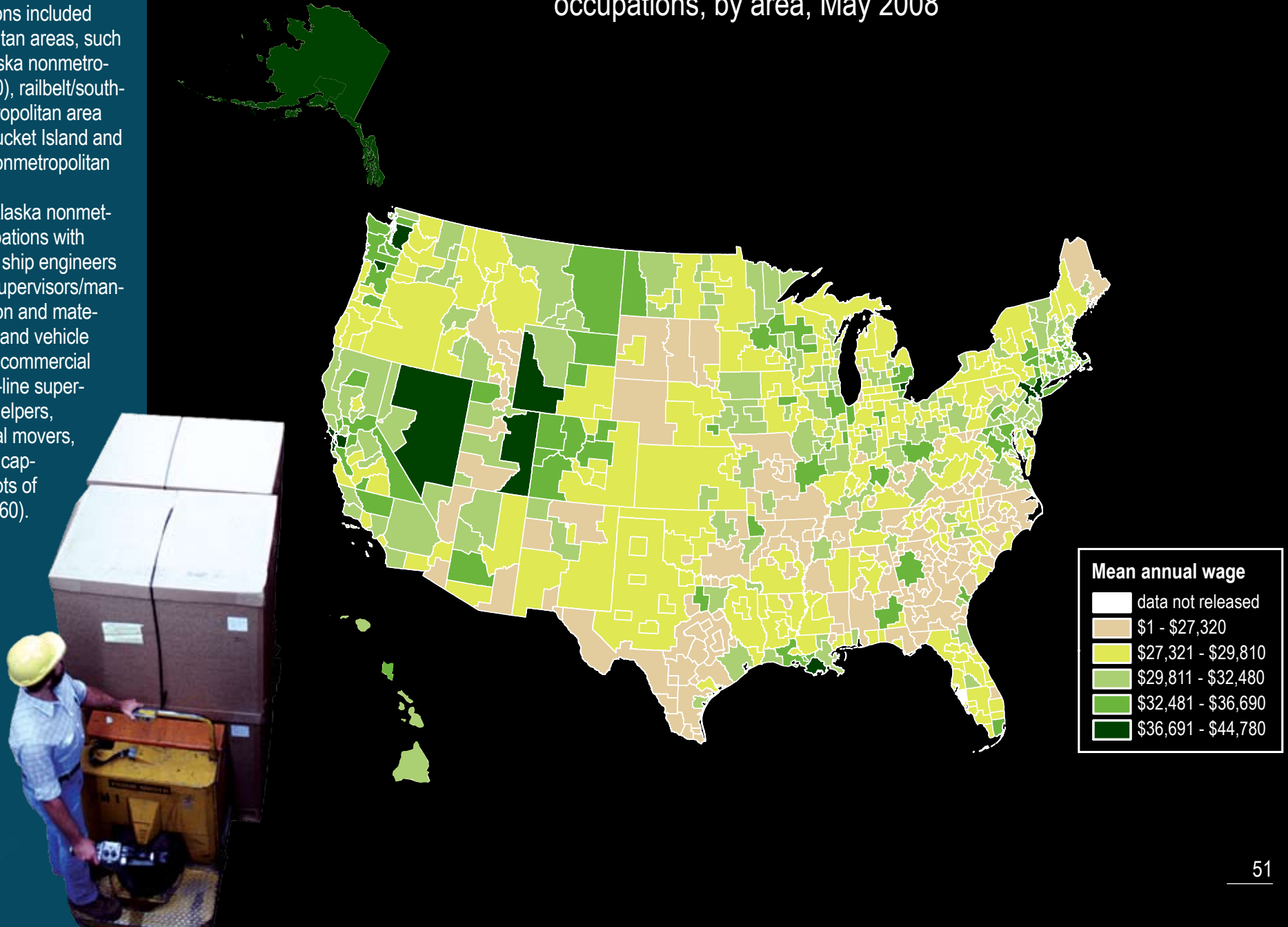
Employment in transportation and material moving occupations, per 1,000 workers, by area, May 2008



## FIGURE 36

- The areas with the highest wages for the transportation and material moving occupations included several nonmetropolitan areas, such as the southeast Alaska nonmetropolitan area (\$44,780), railbelt/southwest Alaska nonmetropolitan area (\$44,530), and Nantucket Island and Martha's Vineyard nonmetropolitan area (\$43,250).
- In the southeast Alaska nonmetropolitan area, occupations with high wages included ship engineers (\$66,860); first-line supervisors/managers of transportation and material-moving machine and vehicle operators (\$65,110); commercial pilots (\$56,780); first-line supervisors/managers of helpers, laborers, and material movers, hand (\$56,670); and captains, mates, and pilots of water vessels (\$53,660).

Mean annual wage of transportation and material moving occupations, by area, May 2008



## **Contents of the compact disk**

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The enclosed compact disk (CD) contains electronic copies of all figures in this book; files with May 2008 OES data for all occupations in all industries, States, and metropolitan and nonmetropolitan areas; and technical notes regarding the estimates. The CD includes electronic versions—with updated data—of the tables that were published in printed form in previous years. These tables comprise national cross-industry employment and wage data for all occupations, industry-specific data on the largest occupations in over 300 industries, and profiles for all occupations. Current and archived data are available on the Web site <http://www.bls.gov/oes>.

The charts are in Portable Document Format (PDF). The PDF files are created by Adobe Acrobat software and can be viewed with Adobe Acrobat Reader. If you do not already have this viewer configured on a local drive, you may download it at no cost from Adobe's Web site: <http://get.adobe.com/reader/>.

To open the CD on a Windows PC, do the following:

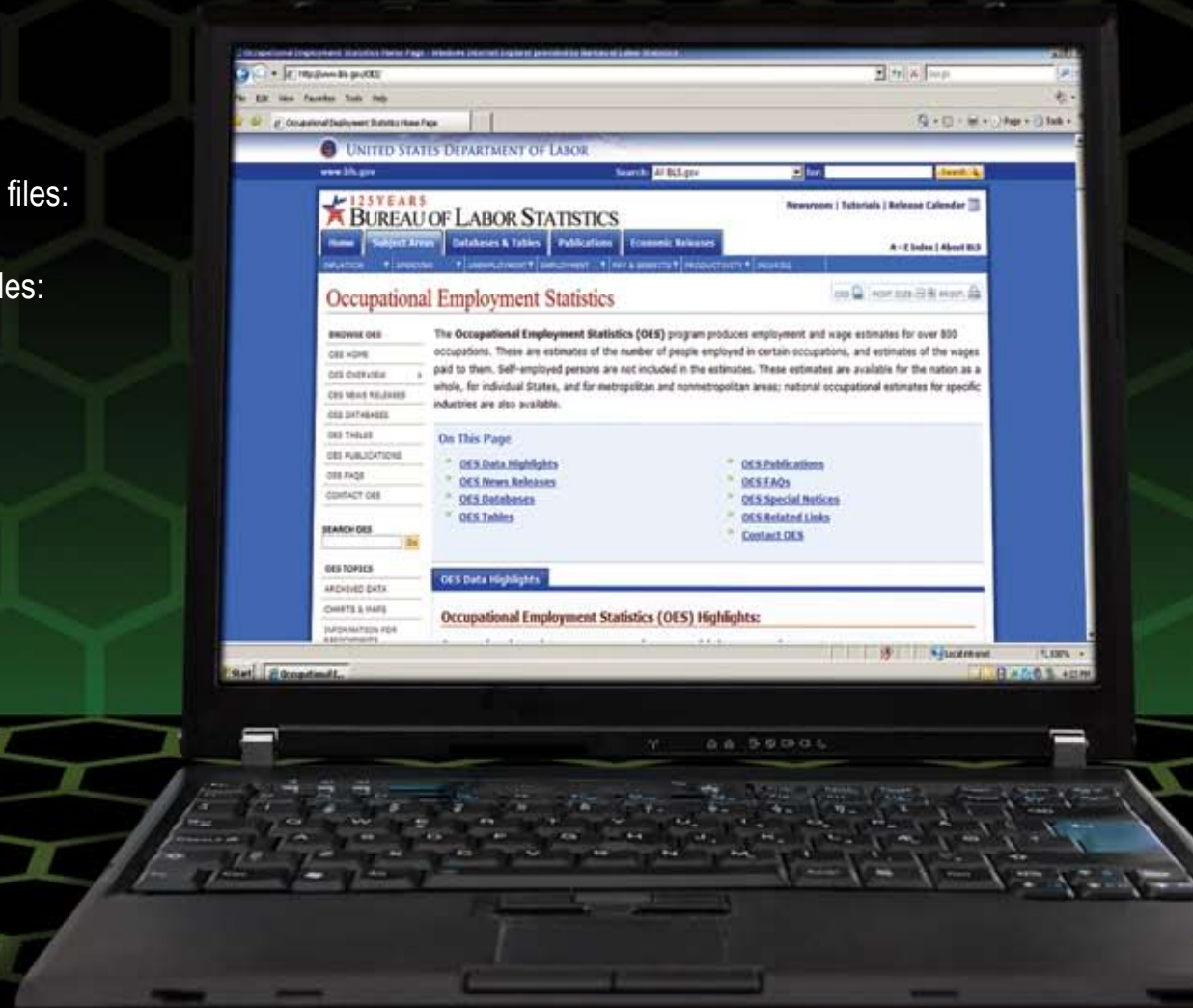
1. Insert the CD into your CD-ROM drive.
2. Open "My Computer" from either the Start menu or the desktop.
3. Double-click on the CD-ROM drive to view its contents.



**Find OES data on our Web site: <http://www.bls.gov/oes>**

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- Create customized data tables using our data query tool:  
<http://data.bls.gov/oes/search.jsp>
- Download data from current and previous years as Excel files:  
[http://www.bls.gov/oes/oes\\_dl.htm](http://www.bls.gov/oes/oes_dl.htm)
- Download data from current and previous years as text files:  
<http://www.ftp://ftp.bls.gov/pub/time.series/oe/>
- View OES data highlights:  
[http://www.bls.gov/oes/previous\\_highlights.htm](http://www.bls.gov/oes/previous_highlights.htm)
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<http://www.bls.gov/oes/2008/may/chartbook.pdf>





125 YEARS  
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