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Occupational Employment and Wages in Detroit-Dearborn-Livonia — May 2017

Workers in the Detroit-Dearborn-Livonia Metropolitan Division had an average (mean) hourly wage of \$25.22 in May 2017, about 4 percent above the nationwide average of \$24.34, according to the U.S. Bureau of Labor Statistics. Assistant Commissioner for Regional Operations Charlene Peiffer noted that, after testing for statistical significance, wages in the local area were higher than their respective national averages in 4 of the 22 major occupational groups, including production; construction and extraction; and management. Five groups had significantly lower wages than their respective national averages, including legal; arts, design, entertainment, sports, and media; and computer and mathematical.

When compared to the nationwide distribution, local employment was more highly concentrated in 6 of the 22 occupational groups, including production; architecture and engineering; and healthcare practitioners and technical. Conversely, 11 groups had employment shares significantly below their national representation, including sales and related; construction and extraction; and office and administrative support. (See [table A](#) and [box note](#) at end of release.)

Table A. Occupational employment and wages by major occupational group, United States and the Detroit-Dearborn-Livonia Metropolitan Division, and measures of statistical significance, May 2017

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Detroit	United States	Detroit	Percent difference ⁽¹⁾
Total, all occupations	100.0	100.0	\$24.34	\$25.22*	4
Management	5.1	4.7*	57.65	59.80*	4
Business and financial operations.....	5.2	5.4	36.70	37.32	2
Computer and mathematical	3.0	3.1	43.18	40.06*	-7
Architecture and engineering	1.8	3.9*	41.44	42.32	2
Life, physical, and social science	0.8	0.6*	35.76	33.91	-5
Community and social service.....	1.5	1.6*	23.10	21.69*	-6
Legal.....	0.8	0.6*	51.62	47.61*	-8
Education, training, and library.....	6.1	4.9*	26.67	26.01	-2
Arts, design, entertainment, sports, and media.....	1.4	1.3	28.34	24.79*	-13
Healthcare practitioners and technical	6.0	7.6*	38.83	37.88	-2
Healthcare support	2.9	3.1*	15.05	14.30*	-5
Protective service	2.4	2.5	22.69	21.24	-6
Food preparation and serving related	9.3	8.6*	11.88	11.80	-1
Building and grounds cleaning and maintenance ...	3.1	2.4*	13.91	13.43	-3
Personal care and service.....	3.6	3.0*	13.11	12.74	-3
Sales and related	10.2	8.7*	19.56	19.32	-1
Office and administrative support.....	15.4	14.1*	18.24	18.47	1
Farming, fishing, and forestry	0.3	0.1*	13.87	13.72	-1
Construction and extraction.....	4.0	2.7*	24.01	26.85*	12
Installation, maintenance, and repair	3.9	4.0	23.02	24.32*	6

Note: See footnotes at end of table.

Table A. Occupational employment and wages by major occupational group, United States and the Detroit-Dearborn-Livonia Metropolitan Division, and measures of statistical significance, May 2017 - Continued

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Detroit	United States	Detroit	Percent difference ⁽¹⁾
Production	6.3	9.5*	18.30	21.26*	16
Transportation and material moving	7.0	7.6*	17.82	19.54	10

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Detroit-Dearborn-Livonia Metropolitan Division is above the national mean wage, while a negative difference reflects a lower wage.

* The percent share of employment or mean hourly wage for this area is significantly different from the national average of all areas at the 90-percent confidence level.

One occupational group—production—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Detroit-Dearborn-Livonia had 69,590 jobs in production, accounting for 9.5 percent of local area employment, significantly higher than the 6.3-percent share nationally. The average hourly wage for this occupational group locally was \$21.26, significantly above the national wage of \$18.30.

Some of the larger detailed occupations within the production group included assemblers and fabricators, all other, including team assemblers (24,380); first-line supervisors of production and operating workers (5,150); and cutting, punching, and press machine setters, operators, and tenders, metal and plastic (3,670). Among the higher paying jobs in this group were power plant operators with mean hourly wages of \$43.63 and first-line supervisors of production and operating workers, \$35.13. At the lower end of the wage scale were laundry and dry-cleaning workers (\$11.38) and pressers, textile, garment, and related materials (\$11.75). (Detailed data for production occupations are presented in [table 1](#); for a complete listing of detailed occupations available go to www.bls.gov/oes/current/oes_19804.htm.)

Location quotients allow us to explore the occupational make-up of a metropolitan area by comparing the composition of jobs in an area relative to the national average. (See [table 1](#).) For example, a location quotient of 2.0 indicates that an occupation accounts for twice the share of employment in the area than it does nationally. In the Detroit-Dearborn-Livonia Metropolitan Division, above-average concentrations of employment were found in some of the occupations within the production group. For instance, tool and die makers were employed at 4.5 times the national rate in Detroit, and cutting, punching, and press machine setters, operators, and tenders, metal and plastic, at 3.8 times the U.S. average. On the other hand, chemical equipment operators and tenders had a location quotient of 1.0 in Detroit, indicating that this particular occupation’s local and national employment shares were similar.

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case, the Michigan Department of Technology, Management, and Budget.

Notes on Occupational Employment Statistics Data

With the release of the May 2017 estimates, the OES program has replaced 21 detailed occupations found in the 2010 Standard Occupational Classification (SOC) with 10 new aggregations of those occupations. In addition, selected 4- and 5-digit North American Industry Classification System (NAICS) industries previously published by OES will no longer be published separately. Some of the 4-digit NAICS industries that are no longer being published separately will instead be published as OES-specific industry aggregations. More information about the new occupational and industry aggregations is available at www.bls.gov/oes/changes_2017.htm.

A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

Technical Note

The Occupational Employment Statistics (OES) survey is a semiannual survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OES data available from BLS include cross-industry occupational employment and wage estimates for the nation; over 650 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), metropolitan divisions, nonmetropolitan areas, and territories; national industry-specific estimates at the NAICS sector, 3-, 4-, and selected 5- and 6-digit industry levels, and national estimates by ownership across all industries and for schools and hospitals. OES data are available at www.bls.gov/oes/tables.htm.

OES estimates are constructed from a sample of about 1.2 million establishments. Each year, two semiannual panels of approximately 200,000 sampled establishments are contacted, one panel in May and the other in November. Responses are obtained by mail, Internet or other electronic means, email, telephone, or personal visit. The May 2017 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2017, November 2016, May 2016, November 2015, May 2015, and November 2014. The overall national response rate for the six panels, based on the 50 states and the District of Columbia, is 72 percent based on establishments and 68 percent based on weighted sampled employment. The unweighted sample employment of 82 million across all six semiannual panels represents approximately 58 percent of total national employment. The sample in the Detroit-Dearborn-Livonia Metropolitan Division included 3,943 establishments with a response rate of 68 percent. For more information about OES concepts and methodology, go to www.bls.gov/oes/current/oes_tec.htm.

The May 2017 OES estimates are based on the 2010 Standard Occupational Classification (SOC) system and the 2017 North American Industry Classification System (NAICS). Information about the 2010 SOC is available on the BLS website at www.bls.gov/soc and information about the 2017 NAICS is available at www.bls.gov/bls/naics.htm.

Metropolitan area definitions

The substate area data published in this release reflect the standards and definitions established by the U.S. Office of Management and Budget.

The **Detroit-Dearborn-Livonia, Mich. Metropolitan Division** includes Wayne County.

Additional information

OES data are available on our regional web page at www.bls.gov/regions/midwest. Answers to frequently asked questions about the OES data are available at www.bls.gov/oes/oes_ques.htm. Detailed technical information about the OES survey is available in our Survey Methods and Reliability Statement on the BLS website at www.bls.gov/oes/current/methods_statement.pdf.

Information in this release will be made available to sensory impaired individuals upon request . Voice phone: (202) 691-5200; Federal Relay Service: (800) 877-8339.

Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Detroit-Dearborn-Livonia Metropolitan Division, May 2017

Occupation (1)	Employment		Mean wages	
	Level (2)	Location quotient (3)	Hourly	Annual (4)
Production occupations	69,590	1.5	\$21.26	\$44,230
First-line supervisors of production and operating workers	5,150	1.6	35.13	73,070
Electrical, electronic, and electromechanical assemblers, except coil winders, tapers, and finishers ...	(5)	(5)	13.25	27,570
Structural metal fabricators and fitters	360	0.9	19.38	40,310
Assemblers and fabricators, all other, including team assemblers	24,380	3.6	21.69	45,110
Bakers	1,010	1.1	12.58	26,170
Butchers and meat cutters	460	0.7	14.26	29,660
Meat, poultry, and fish cutters and trimmers	(5)	(5)	13.27	27,610
Slaughterers and meat packers	230	0.6	12.60	26,200
Food batchmakers	930	1.2	14.40	29,950
Food cooking machine operators and tenders	110	0.6	14.08	29,290
Computer-controlled machine tool operators, metal and plastic	960	1.3	17.26	35,890
Computer numerically controlled machine tool programmers, metal and plastic	120	1.0	30.05	62,510
Extruding and drawing machine setters, operators, and tenders, metal and plastic	150	0.4	17.57	36,540
Forging machine setters, operators, and tenders, metal and plastic	220	2.3	18.87	39,260
Rolling machine setters, operators, and tenders, metal and plastic	(5)	(5)	25.25	52,520
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	3,670	3.8	21.19	44,080
Drilling and boring machine tool setters, operators, and tenders, metal and plastic	(5)	(5)	19.52	40,600
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic	320	0.8	20.24	42,090
Lathe and turning machine tool setters, operators, and tenders, metal and plastic	170	1.1	19.30	40,150
Milling and planing machine setters, operators, and tenders, metal and plastic	(5)	(5)	23.48	48,830
Machinists	3,310	1.7	19.12	39,770
Metal-refining furnace operators and tenders	(5)	(5)	21.53	44,780
Model makers, metal and plastic	260	8.8	29.10	60,530
Foundry mold and coremakers	50	0.7	14.89	30,960
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic	660	0.8	19.30	40,140
Multiple machine tool setters, operators, and tenders, metal and plastic	(5)	(5)	22.02	45,790
Tool and die makers	1,700	4.5	29.17	60,680
Welders, cutters, solderers, and brazers	1,140	0.6	20.78	43,230
Welding, soldering, and brazing machine setters, operators, and tenders	410	2.1	22.96	47,760
Heat treating equipment setters, operators, and tenders, metal and plastic	(5)	(5)	18.70	38,890
Plating and coating machine setters, operators, and tenders, metal and plastic	(5)	(5)	18.18	37,820
Prepress technicians and workers	(5)	(5)	15.89	33,050
Printing press operators	350	0.4	16.42	34,160
Print binding and finishing workers	80	0.3	15.28	31,770
Laundry and dry-cleaning workers	1,490	1.4	11.38	23,670
Pressers, textile, garment, and related materials	(5)	(5)	11.75	24,440
Sewing machine operators	250	0.4	14.13	29,390
Upholsterers	30	0.2	18.02	37,480
Cabinetmakers and bench carpenters	190	0.4	16.09	33,460
Furniture finishers	(5)	(5)	16.24	33,790
Sawing machine setters, operators, and tenders, wood ..	40	0.1	17.03	35,420

Note: See footnotes at end of table.

Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Detroit-Dearborn-Livonia Metropolitan Division, May 2017 - Continued

Occupation ⁽¹⁾	Employment		Mean wages	
	Level ⁽²⁾	Location quotient ⁽³⁾	Hourly	Annual ⁽⁴⁾
Woodworking machine setters, operators, and tenders, except sawing.....	70	0.2	15.62	32,490
Power plant operators	320	1.8	43.63	90,750
Stationary engineers and boiler operators	160	0.9	31.47	65,450
Water and wastewater treatment plant and system operators	250	0.4	23.85	49,600
Gas plant operators.....	(5)	(5)	34.80	72,380
Chemical equipment operators and tenders	390	1.0	24.28	50,490
Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders.....	(5)	(5)	17.64	36,690
Crushing, grinding, and polishing machine setters, operators, and tenders	50	0.3	16.30	33,910
Mixing and blending machine setters, operators, and tenders	690	1.0	20.04	41,680
Cutting and slicing machine setters, operators, and tenders	260	0.8	13.72	28,530
Extruding, forming, pressing, and compacting machine setters, operators, and tenders	(5)	(5)	13.28	27,610
Furnace, kiln, oven, drier, and kettle operators and tenders	120	1.3	21.89	45,540
Inspectors, testers, sorters, samplers, and weighers.....	3,600	1.3	18.12	37,700
Jewelers and precious stone and metal workers	(5)	(5)	20.24	42,090
Dental laboratory technicians	170	0.9	20.37	42,370
Medical appliance technicians.....	(5)	(5)	21.57	44,860
Ophthalmic laboratory technicians	(5)	(5)	19.74	41,060
Packaging and filling machine operators and tenders	1,720	0.9	12.82	26,670
Coating, painting, and spraying machine setters, operators, and tenders	330	0.8	15.81	32,890
Painters, transportation equipment	170	0.6	28.67	59,640
Paper goods machine setters, operators, and tenders ...	610	1.3	13.80	28,690
Helpers--production workers	1,770	0.9	13.32	27,710
Production workers, all other.....	1,340	1.0	18.11	37,670

Footnotes:

(1) For a complete listing of all detailed occupations in Detroit-Dearborn-Livonia, MI Metropolitan Division, see www.bls.gov/oes/current/oes_19804.htm

(2) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.

(3) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.

(4) Annual wages have been calculated by multiplying the hourly mean wage by a "year-round, full-time" hours figure of 2,080 hours; for those occupations where there is not an hourly mean wage published, the annual wage has been directly calculated from the reported survey data.

(5) Estimate not released.