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MIDWEST INFORMATION OFFICE: Chicago, Ill.

Technical information: (312) 353-1880 BLSInfoChicago@bls.gov www.bls.gov/regions/midwest

Media contact: (312) 353-1138

Occupational Employment and Wages in Detroit-Warren-Dearborn — May 2019

Workers in the Detroit-Warren-Dearborn, MI Metropolitan Statistical Area had an average (mean) hourly wage of \$26.41 in May 2019, about 3 percent above the nationwide average of \$25.72, the U.S. Bureau of Labor Statistics reported today. 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 5 of the 22 major occupational groups, including construction and extraction, production, and management. Eight groups had significantly lower wages than their respective national averages, including legal; life, physical, and social science; and computer and mathematical.

When compared to the nationwide distribution, Detroit area employment was more highly concentrated in 5 of the 22 occupational groups, including production, architecture and engineering, and business and financial operations. Conversely, fourteen groups had employment shares significantly below their national representation, including educational instruction and library, 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-Warren-Dearborn, MI Metropolitan Statistical Area, and measures of statistical significance, May 2019

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	\$25.72	\$26.41*	3
Management	5.5	5.2*	58.88	60.03*	2
Business and financial operations	5.6	6.1*	37.56	37.36	-1
Computer and mathematical	3.1	3.5*	45.08	40.81*	-9
Architecture and engineering	1.8	4.6*	42.69	43.27	1
Life, physical, and social science	0.9	0.5*	37.28	32.90*	-12
Community and social service	1.5	1.2*	24.27	23.67	-2
Legal	0.8	0.8	52.71	45.66*	-13
Educational instruction and library	6.1	4.1*	27.75	28.53	3
Arts, design, entertainment, sports, and media	1.4	1.2*	29.79	28.01*	-6
Healthcare practitioners and technical	5.9	6.3*	40.21	39.65	-1
Healthcare support	4.4	4.1*	14.91	14.81	-1
Protective service	2.4	1.8*	23.98	22.04*	-8
Food preparation and serving related	9.2	8.7*	12.82	12.42*	-3
Building and grounds cleaning and maintenance	3.0	2.7*	15.03	14.22*	-5
Personal care and service	2.2	2.2	15.03	14.24*	-5
Sales and related	9.8	9.6	20.70	21.77*	5
Office and administrative support	13.3	12.4*	19.73	19.80	0
Farming, fishing, and forestry	0.3	(2)	15.07	16.55*	10
Construction and extraction	4.2	3.2*	25.28	27.74*	10
Installation, maintenance, and repair	3.9	3.7*	24.10	24.38	1

Note: See footnotes at end of table.

Table A. Occupational employment and wages by major occupational group, United States and the Detroit-Warren-Dearborn, MI Metropolitan Statistical Area, and measures of statistical significance, May 2019 - Continued

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Detroit	United States	Detroit	Percent difference ⁽¹⁾
Production	6.2	10.1*	19.30	20.75*	8
Transportation and material moving	8.5	8.0*	18.23	19.44	7

Footnotes:

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

(2) Indicates a value of less than 0.05 percent.

* The mean hourly wage or percent share of employment 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 had 200,890 jobs in production, accounting for 10.1 percent of local area employment, significantly higher than the 6.2-percent share nationally. The average hourly wage for this occupational group locally was \$20.75, significantly above the national wage of \$19.30.

Some of the larger detailed occupations within the production group included miscellaneous assemblers and fabricators (54,630); inspectors, testers, sorters, samplers, and weighers (15,740); and first-line supervisors of production and operating workers (13,450). Among the higher-paying jobs in this group were power distributors and dispatchers and power plant operators, with mean hourly wages of \$49.11 and \$42.11, respectively. At the lower end of the wage scale were sewers, hand (\$11.51) and pressers, textile, garment, and related materials (\$11.57). (Detailed data for the production occupations are presented in [table 1](#); for a complete listing of detailed occupations available go to www.bls.gov/oes/current/oes_19820.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 area, above-average concentrations of employment were found in some of the occupations within the production group. For instance, engine and other machine assemblers were employed at 12.3 times the national rate in Detroit, and tool and die makers, at 6.3 times the U.S. average. 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 & Budget.

Changes to the Occupational Employment Statistics (OES) Data

With the May 2019 estimates, the OES program has begun implementing the 2018 Standard Occupational Classification (SOC) system. Each set of OES estimates is calculated from six panels of survey data collected over three years. Because the May 2019 estimates are based on a combination of survey data collected using the 2010 SOC and survey data collected using the 2018 SOC, these estimates use a hybrid of the two classification systems that contains some combinations of occupations that are not found in either the 2010 or 2018 SOC. These combinations may include occupations from more than one 2018 SOC minor group or broad occupation. Therefore, OES will not publish data for some 2018 SOC minor groups and broad occupations in the May 2019 estimates. The May 2021 estimates, to be published in Spring 2022, will be the first OES estimates based entirely on survey data collected using the 2018 SOC.

In addition, the OES program has replaced some 2018 SOC detailed occupations with SOC broad occupations or OES-specific aggregations. These include home health aides and personal care aides, for which OES will publish only the 2018 SOC broad occupation 31-1120 Home Health and Personal Care Aides.

For more information on the occupational classification system used in the May 2019 OES estimates, please see www.bls.gov/oes/soc_2018.htm and www.bls.gov/oes/oes_ques.htm#qf10.

The May 2019 OES estimates use the metropolitan area definitions delineated in Office of Management and Budget (OMB) Bulletin 17-01, which add a new Metropolitan Statistical Area (MSA) for Twin Falls, Idaho. For more information on the area definitions used in the May 2019 estimates, please see www.bls.gov/oes/current/msa_def.htm.

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 580 areas, including states and the District of Columbia, metropolitan statistical areas (MSAs), nonmetropolitan areas, and territories; national industry-specific estimates at the NAICS sector, 3-digit, most 4-digit, 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.

The OES survey is a cooperative effort between BLS and the State Workforce Agencies (SWAs). BLS funds the survey and provides the procedures and technical support, while the State Workforce Agencies collect most of the data. OES estimates are constructed from a sample of about 1.1 million establishments. Each year, two semiannual panels of approximately 180,000 to 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 2019 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2019, November 2018, May 2018, November 2017, May 2017, and November 2016. The unweighted sample employment of 83 million across all six semiannual panels represents approximately 57 percent of total national employment. The overall national response rate for the six panels, based on the 50 states and the District of Columbia, is 71 percent based on establishments and 68

percent based on weighted sampled employment. The sample in the Detroit-Warren-Dearborn, MI Metropolitan Statistical Area included 7,968 establishments with a response rate of 72 percent. For more information about OES concepts and methodology, go to www.bls.gov/oes/current/oes_tec.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.

The May 2019 OES estimates are the first set of OES estimates to be based in part on survey data collected using the 2018 SOC. These estimates use a hybrid of the 2010 and 2018 SOC systems. More information on the hybrid classification system is available at www.bls.gov/oes/soc_2018.htm.

The May 2019 OES estimates are based on the 2017 North American Industry Classification System (NAICS). More 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-Warren-Dearborn, MI Metropolitan Statistical Area** includes Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne Counties.

For more information

Answers to frequently asked questions about the OES data are available at www.bls.gov/oes/oes_ques.htm. Detailed information about the OES program is available at www.bls.gov/oes/oes_doc.htm.

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 for production occupations, Detroit-Warren-Dearborn, MI Metropolitan Statistical Area, May 2019

Occupation ⁽¹⁾	Employment		Mean wages	
	Level ⁽²⁾	Location quotient ⁽³⁾	Hourly	Annual ⁽⁴⁾
Production occupations	200,890	1.6	\$20.75	\$43,160
First-line supervisors of production and operating workers	13,450	1.6	34.10	70,930
Coil winders, tapers, and finishers	(5)	(5)	18.88	39,280
Electrical, electronic, and electromechanical assemblers, except coil winders, tapers, and finishers	3,720	1.0	16.55	34,420
Engine and other machine assemblers	7,600	12.3	25.31	52,640
Structural metal fabricators and fitters	980	1.0	19.76	41,100
Fiberglass laminators and fabricators	140	0.5	16.09	33,470
Miscellaneous assemblers and fabricators	54,630	3.0	20.00	41,600
Bakers	2,400	1.0	13.83	28,770
Butchers and meat cutters	1,870	1.0	15.87	33,020
Meat, poultry, and fish cutters and trimmers	490	0.2	14.24	29,620
Slaughterers and meat packers	320	0.3	14.51	30,180
Food and tobacco roasting, baking, and drying machine operators and tenders	40	0.2	16.36	34,020
Food batchmakers	1,410	0.7	14.69	30,540
Food cooking machine operators and tenders	90	0.2	14.65	30,470
Food processing workers, all other	220	0.4	14.45	30,050
Extruding and drawing machine setters, operators, and tenders, metal and plastic	950	0.9	15.16	31,540
Forging machine setters, operators, and tenders, metal and plastic	660	3.0	20.65	42,960
Rolling machine setters, operators, and tenders, metal and plastic	620	1.4	22.19	46,160
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	10,500	4.0	21.45	44,620
Drilling and boring machine tool setters, operators, and tenders, metal and plastic	310	2.1	20.03	41,670
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic	(5)	(5)	20.09	41,780
Lathe and turning machine tool setters, operators, and tenders, metal and plastic	1,130	3.0	19.92	41,420
Milling and planing machine setters, operators, and tenders, metal and plastic	(5)	(5)	24.58	51,120
Machinists	11,400	2.2	21.84	45,430
Model makers, metal and plastic	700	12.1	30.88	64,220
Patternmakers, metal and plastic	140	3.5	24.88	51,760
Foundry mold and coremakers	310	1.3	18.43	38,330
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic	9,100	3.9	14.60	30,360
Multiple machine tool setters, operators, and tenders, metal and plastic	4,030	2.0	19.59	40,750
Tool and die makers	5,980	6.3	27.32	56,820
Welders, cutters, solderers, and brazers	4,890	0.9	20.89	43,450
Welding, soldering, and brazing machine setters, operators, and tenders	1,320	2.8	21.23	44,150
Heat treating equipment setters, operators, and tenders, metal and plastic	860	3.3	17.90	37,240
Plating machine setters, operators, and tenders, metal and plastic	1,480	2.6	17.40	36,190
Tool grinders, filers, and sharpeners	50	0.5	28.94	60,200
Metal workers and plastic workers, all other	320	1.0	17.68	36,770
Prepress technicians and workers	220	0.5	21.98	45,720
Printing press operators	2,420	1.0	18.43	38,330
Print binding and finishing workers	650	1.1	17.22	35,810
Laundry and dry-cleaning workers	2,880	1.0	12.42	25,830
Pressers, textile, garment, and related materials	270	0.5	11.57	24,070
Sewing machine operators	1,170	0.7	14.01	29,140

Note: See footnotes at end of table.

Table 1. Employment and wage data for production occupations, Detroit-Warren-Dearborn, MI Metropolitan Statistical Area, May 2019 - Continued

Occupation ⁽¹⁾	Employment		Mean wages	
	Level ⁽²⁾	Location quotient ⁽³⁾	Hourly	Annual ⁽⁴⁾
Shoe and leather workers and repairers	110	0.9	14.64	30,450
Sewers, hand	(5)	(5)	11.51	23,930
Tailors, dressmakers, and custom sewers	(5)	(5)	18.89	39,280
Textile cutting machine setters, operators, and tenders..	300	1.7	16.32	33,950
Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers	460	1.9	17.54	36,490
Upholsterers	(5)	(5)	13.13	27,300
Textile, apparel, and furnishings workers, all other	70	0.3	13.87	28,850
Cabinetmakers and bench carpenters	510	0.4	22.66	47,140
Furniture finishers.....	(5)	(5)	17.89	37,210
Sawing machine setters, operators, and tenders, wood ..	90	0.1	18.31	38,090
Woodworking machine setters, operators, and tenders, except sawing.....	420	0.4	15.92	33,100
Power distributors and dispatchers	130	0.9	49.11	102,150
Power plant operators	810	1.8	42.11	87,580
Stationary engineers and boiler operators	250	0.6	31.09	64,670
Water and wastewater treatment plant and system operators	1,020	0.6	23.76	49,420
Gas plant operators.....	310	1.6	36.70	76,340
Chemical equipment operators and tenders	1,180	1.0	26.25	54,600
Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders.....	420	0.6	18.69	38,870
Crushing, grinding, and polishing machine setters, operators, and tenders	140	0.3	19.51	40,580
Grinding and polishing workers, hand	210	0.5	14.94	31,070
Mixing and blending machine setters, operators, and tenders	1,510	0.9	18.63	38,750
Cutters and trimmers, hand.....	150	1.1	15.64	32,540
Cutting and slicing machine setters, operators, and tenders	310	0.4	17.17	35,710
Extruding, forming, pressing, and compacting machine setters, operators, and tenders	910	0.9	16.41	34,120
Furnace, kiln, oven, drier, and kettle operators and tenders	(5)	(5)	23.30	48,460
Inspectors, testers, sorters, samplers, and weighers.....	15,740	2.0	18.36	38,200
Jewelers and precious stone and metal workers	380	1.2	25.48	53,000
Dental laboratory technicians	910	2.0	22.61	47,020
Medical appliance technicians.....	470	2.5	24.81	51,590
Ophthalmic laboratory technicians	510	1.3	17.47	36,330
Packaging and filling machine operators and tenders	3,390	0.6	15.49	32,210
Painting, coating, and decorating workers	30	0.2	(5)	(5)
Coating, painting, and spraying machine setters, operators, and tenders	2,460	1.3	17.97	37,370
Photographic process workers and processing machine operators	(5)	(5)	14.73	30,650
Computer numerically controlled tool operators.....	3,470	1.7	20.45	42,530
Computer numerically controlled tool programmers	1,150	3.3	26.52	55,160
Adhesive bonding machine operators and tenders	(5)	(5)	18.75	39,010
Cleaning, washing, and metal pickling equipment operators and tenders	230	1.0	15.50	32,240
Molders, shapers, and casters, except metal and plastic	730	1.2	18.14	37,730
Paper goods machine setters, operators, and tenders ...	810	0.6	17.45	36,290
Helpers--production workers	3,000	0.7	14.69	30,560
Production workers, all other.....	2,370	0.8	15.68	32,600

Footnotes:

(1) For a complete listing of all detailed occupations in the Detroit-Warren-Dearborn, MI Metropolitan Statistical Area, see www.bls.gov/oes/current/oes_19820.htm

(2) Estimates for detailed occupations may not sum to the totals due to rounding, and because the totals may include occupations that are not shown

Note: See footnotes at end of table.

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.