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## Occupational Employment and Wages in Toledo — May 2020

Workers in the Toledo, OH Metropolitan Statistical Area had an average (mean) hourly wage of \$23.61 in May 2020, about 13 percent below the nationwide average of \$27.07, the U.S. Bureau of Labor Statistics reported today. Regional Commissioner Jason Palmer noted that, after testing for statistical significance, wages in the local area were higher than their respective national averages in 3 of the 22 major occupational groups. Fifteen groups had significantly lower wages than their respective national averages, including computer and mathematical, management, and business and financial operations.

When compared to the nationwide distribution, Toledo area employment was more highly concentrated in 5 of the 22 occupational groups, including production, healthcare practitioners and technical, and transportation and material moving. Eleven groups had employment shares significantly below their national representation, including computer and mathematical, business and financial operations, and management. (See [table A.](#))

**Table A. Occupational employment and wages by major occupational group, United States and the Toledo metropolitan area, and measures of statistical significance, May 2020**

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Toledo	United States	Toledo	Percent difference <sup>(1)</sup>
Total, all occupations .....	100.0	100.0	\$27.07	\$23.61*	-13
Management .....	5.7	4.0*	60.81	53.23*	-12
Business and financial operations .....	6.0	4.2*	38.79	32.17*	-17
Computer and mathematical .....	3.3	1.4*	46.53	33.41*	-28
Architecture and engineering .....	1.8	1.7	43.41	37.10*	-15
Life, physical, and social science .....	0.9	0.6*	38.15	33.98*	-11
Community and social service.....	1.6	1.7	25.09	22.85*	-9
Legal.....	0.8	0.6*	54.00	49.65	-8
Educational instruction and library .....	6.1	6.2	28.75	28.06	-2
Arts, design, entertainment, sports, and media.....	1.3	1.1	30.96	28.09	-9
Healthcare practitioners and technical .....	6.2	8.0*	41.30	38.08*	-8
Healthcare support .....	4.6	4.7	15.50	14.49*	-7
Protective service .....	2.4	2.1*	25.11	23.67	-6
Food preparation and serving related .....	8.1	9.0*	13.30	11.35*	-15
Building and grounds cleaning and maintenance ...	2.9	3.0	15.75	14.18*	-10
Personal care and service.....	1.9	1.7*	15.68	13.73*	-12
Sales and related .....	9.4	8.7*	22.00	19.46*	-12
Office and administrative support.....	13.3	12.0*	20.38	19.32*	-5
Farming, fishing, and forestry .....	0.3	0.1*	16.02	18.52*	16
Construction and extraction.....	4.3	3.9*	25.93	27.70*	7
Installation, maintenance, and repair .....	3.9	4.4*	25.17	24.35*	-3
Production .....	6.1	10.5*	20.08	21.01*	5
Transportation and material moving.....	8.7	10.4*	19.08	17.56*	-8

Note: See footnotes at end of table.

Footnotes:

(1) A positive percent difference measures how much the mean wage in the Toledo, OH Metropolitan Statistical Area is above the national mean wage, while a negative difference reflects a lower wage.

\* 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. Toledo had 28,830 jobs in production, accounting for 10.5 percent of local area employment, significantly higher than the 6.1-percent share nationally. The average hourly wage for this occupational group locally was \$21.01, significantly above the national wage of \$20.08.

Some of the larger detailed occupations within the production group included miscellaneous assemblers and fabricators (8,520); inspectors, testers, sorters, samplers, and weighers (1,940); and first-line supervisors of production and operating workers (1,610). Among the higher-paying jobs in this group were power plant operators and first-line supervisors of production and operating workers, with mean hourly wages of \$41.62 and \$33.96, respectively. At the lower end of the wage scale were laundry and dry-cleaning workers (\$10.74) and bakers (\$12.28). (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\\_45780.htm](http://www.bls.gov/oes/current/oes_45780.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 Toledo area, 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 4.3 times the national rate in Toledo, and molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic, at 4.0 times the U.S. average. Welders, cutters, solderers, and brazers had a location quotient of 1.0 in Toledo, indicating that this particular occupation's local and national employment shares were similar.

These statistics are from the Occupational Employment and Wage Statistics (OEWS) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case, the Ohio Department of Job & Family Services.

## **Occupational Employment and Wage Statistics (OEWS) Name Change**

The Occupational Employment Statistics (OES) program has changed its name to Occupational Employment and Wage Statistics (OEWS) to better reflect the range of data available from the program. Data released on or after March 31, 2021, will reflect the new program name. Webpages, publications, and other materials associated with previous data releases will retain the Occupational Employment Statistics name.

### **Coronavirus (COVID-19) Impact on May 2020 Occupational Employment and Wage Statistics**

Due to features of the OEWS methodology, the May 2020 OEWS estimates do not fully reflect the impact of the COVID-19 pandemic. The May 2020 OEWS estimates are based on survey panels collected for May 2020, November 2019, May 2019, November 2018, May 2018, and November 2017. Because 5 of the 6 survey panels used to produce the estimates date from before the COVID-19 pandemic, only the most recent (May 2020) survey panel reflects changes in occupational proportions related to the COVID-19 pandemic.

The May 2020 OEWS employment estimates are benchmarked to the average of May 2020 and November 2019 employment from the Quarterly Census of Employment and Wages (QCEW). Although the May 2020 QCEW data reflect the early employment effects of the COVID-19 pandemic, the November 2019 QCEW employment data precede the pandemic, and therefore do not reflect its impact.

In addition, as a result of the pandemic, response rates for the November 2019 and May 2020 panels were lower in some areas. Lower response rates may negatively affect data availability and data quality. More information is available at [www.bls.gov/covid19/effects-of-covid-19-pandemic-on-occupational-employment-and-wage-statistics.htm](http://www.bls.gov/covid19/effects-of-covid-19-pandemic-on-occupational-employment-and-wage-statistics.htm).

### **Implementing the 2018 Standard Occupational Classification (SOC) System**

With the May 2019 estimates, the OEWS program began implementing the 2018 Standard Occupational Classification (SOC) system. Because the May 2019 and May 2020 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. This is the second and final year that the hybrid occupational structure will be used. The May 2021 estimates, to be published in Spring 2022, will be the first OEWS estimates based entirely on survey data collected using the 2018 SOC. For more information on the occupational classification system used in the May 2019 and May 2020 estimates, please see [www.bls.gov/oes/soc\\_2018.htm](http://www.bls.gov/oes/soc_2018.htm) and [www.bls.gov/oes/oes\\_ques.htm#qf10](http://www.bls.gov/oes/oes_ques.htm#qf10).

### **Upcoming Changes to the Occupational Employment and Wage Statistics Methodology**

With the May 2021 estimates, to be released in Spring 2022, the OEWS program plans to begin using a new estimation methodology. The new model-based methodology, called MB3, has advantages over the existing methodology, as described in the Monthly Labor Review article at [www.bls.gov/opub/mlr/2019/article/model-based-estimates-for-the-occupational-employment-statistics-program.htm](http://www.bls.gov/opub/mlr/2019/article/model-based-estimates-for-the-occupational-employment-statistics-program.htm). OEWS estimates for the years 2015-2018 were recalculated using the new estimation methodology and are available as research estimates at [www.bls.gov/oes/oes-mb3-methods.htm](http://www.bls.gov/oes/oes-mb3-methods.htm).

## Technical Note

The Occupational Employment and Wage Statistics (OEWS) survey is a semiannual survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OEWS 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. OEWS data are available at [www.bls.gov/oes/tables.htm](http://www.bls.gov/oes/tables.htm).

The OEWS 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. OEWS estimates are constructed from a sample of about 1.1 million establishments. Each year, two semiannual panels of approximately 180,000 to 185,000 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 2020 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2020, November 2019, May 2019, November 2018, May 2018, and November 2017. The unweighted sample employment of 83 million across all six semiannual panels represents approximately 56 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 69 percent based on establishments and 66 percent based on weighted sampled employment. The sample in the Toledo, OH Metropolitan Statistical Area included 2,433 establishments with a response rate of 71 percent. For more information about OEWS concepts and methodology, go to [www.bls.gov/oes/current/oes\\_tec.htm](http://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.

### 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 **Toledo, OH Metropolitan Statistical Area** includes Fulton, Lucas, and Wood Counties.

### For more information

Answers to frequently asked questions about the OEWS data are available at [www.bls.gov/oes/oes\\_ques.htm](http://www.bls.gov/oes/oes_ques.htm). Detailed information about the OEWS program is available at [www.bls.gov/oes/oes\\_doc.htm](http://www.bls.gov/oes/oes_doc.htm).

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

**Table 1. Employment and wage data for production occupations, Toledo metropolitan area, May 2020**

Occupation (1)	Employment		Mean wages	
	Level (2)	Location quotient (3)	Hourly	Annual (4)
Production occupations .....	28,830	1.7	\$21.01	\$43,700
First-line supervisors of production and operating workers .....	1,610	1.4	33.96	70,630
Electrical, electronic, and electromechanical assemblers, except coil winders, tapers, and finishers ...	480	0.9	16.76	34,860
Structural metal fabricators and fitters .....	70	0.5	17.28	35,930
Miscellaneous assemblers and fabricators .....	8,520	3.4	19.73	41,030
Bakers .....	190	0.6	12.28	25,530
Butchers and meat cutters .....	180	0.6	16.67	34,670
Food batchmakers .....	460	1.5	14.56	30,280
Food processing workers, all other .....	50	0.6	13.93	28,980
Extruding and drawing machine setters, operators, and tenders, metal and plastic .....	150	1.1	16.47	34,250
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic .....	1,020	2.9	18.08	37,610
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic .....	290	2.1	17.03	35,430
Lathe and turning machine tool setters, operators, and tenders, metal and plastic .....	60	1.2	22.53	46,870
Milling and planing machine setters, operators, and tenders, metal and plastic .....	(5)	(5)	22.32	46,440
Machinists .....	1,170	1.7	24.11	50,150
Foundry mold and coremakers .....	(5)	(5)	15.12	31,450
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic .....	1,230	4.0	14.76	30,710
Tool and die makers .....	520	4.3	29.80	61,990
Welders, cutters, solderers, and brazers .....	790	1.0	20.98	43,630
Welding, soldering, and brazing machine setters, operators, and tenders .....	50	0.7	18.14	37,720
Heat treating equipment setters, operators, and tenders, metal and plastic .....	70	2.0	17.93	37,290
Plating machine setters, operators, and tenders, metal and plastic .....	120	1.6	16.84	35,030
Prepress technicians and workers .....	50	0.9	16.69	34,720
Printing press operators .....	420	1.3	16.74	34,820
Print binding and finishing workers .....	90	1.0	16.51	34,330
Laundry and dry-cleaning workers .....	440	1.2	10.74	22,340
Pressers, textile, garment, and related materials .....	(5)	(5)	12.37	25,730
Sewing machine operators .....	90	0.4	15.58	32,410
Power plant operators .....	(5)	(5)	41.62	86,570
Water and wastewater treatment plant and system operators .....	200	0.8	25.19	52,390
Chemical plant and system operators .....	(5)	(5)	32.93	68,490
Plant and system operators, all other .....	30	1.1	18.65	38,790
Chemical equipment operators and tenders .....	170	1.0	23.08	48,010
Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders .....	40	0.4	18.21	37,870
Crushing, grinding, and polishing machine setters, operators, and tenders .....	(5)	(5)	21.16	44,010
Grinding and polishing workers, hand .....	30	0.7	15.16	31,540
Mixing and blending machine setters, operators, and tenders .....	390	1.7	18.90	39,300
Cutting and slicing machine setters, operators, and tenders .....	140	1.3	18.33	38,140
Extruding, forming, pressing, and compacting machine setters, operators, and tenders .....	170	1.4	20.19	41,990
Furnace, kiln, oven, drier, and kettle operators and tenders .....	150	4.5	16.81	34,950
Inspectors, testers, sorters, samplers, and weighers .....	1,940	1.8	25.10	52,200
Dental laboratory technicians .....	70	1.2	20.75	43,170
Packaging and filling machine operators and tenders ...	750	1.0	18.70	38,890

Note: See footnotes at end of table.

**Table 1. Employment and wage data for production occupations, Toledo metropolitan area, May 2020 - Continued**

Occupation <sup>(1)</sup>	Employment		Mean wages	
	Level <sup>(2)</sup>	Location quotient <sup>(3)</sup>	Hourly	Annual <sup>(4)</sup>
Coating, painting, and spraying machine setters, operators, and tenders .....	190	0.7	18.60	38,680
Computer numerically controlled tool operators.....	720	2.5	19.58	40,720
Computer numerically controlled tool programmers .....	40	0.8	28.82	59,940
Cleaning, washing, and metal pickling equipment operators and tenders .....	40	1.5	16.04	33,360
Molders, shapers, and casters, except metal and plastic .....	210	2.6	19.01	39,540
Paper goods machine setters, operators, and tenders ...	380	1.9	20.53	42,710
Helpers--production workers .....	440	0.9	16.88	35,100
Production workers, all other.....	360	0.9	18.67	38,830

Footnotes:

- (1) For a complete listing of all detailed occupations in the Toledo, OH Metropolitan Statistical Area, see [www.bls.gov/oes/current/oes\\_45780.htm](http://www.bls.gov/oes/current/oes_45780.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 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.