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Occupational Employment and Wages in Cincinnati — May 2019

Workers in the Cincinnati, OH-KY-IN Metropolitan Statistical Area had an average (mean) hourly wage of $24.72 in May 2019, about 4 percent below 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 3 of the 22 major occupational groups: sales and related, production, and healthcare support. Fifteen groups had significantly lower wages than their respective national averages, including arts, design, entertainment, sports, and media; computer and mathematical; and life, physical, and social science.

When compared to the nationwide distribution, Cincinnati area employment was more highly concentrated in 6 of the 22 occupational groups, including production, transportation and material moving, and business and financial operations. Conversely, eleven groups had employment shares significantly below their national representation, including healthcare support, construction and extraction, and sales and related. (See table A and box note at end of release.)

Table A. Occupational employment and wages by major occupational group, United States and the Cincinnati, OH-KY-IN Metropolitan Statistical Area, and measures of statistical significance, May 2019

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Cincinnati	United States	Cincinnati	Percent difference [1]
Total, all occupations	100.0	100.0	$25.72	$24.72*	-4
Management	5.5	5.0*	58.88	56.25*	-4
Business and financial operations	5.6	6.0*	37.56	35.37*	-6
Computer and mathematical	3.1	3.1	45.08	41.70*	-7
Architecture and engineering	1.8	2.0*	42.69	40.42*	-5
Life, physical, and social science	0.9	0.8	37.28	34.34*	-8
Community and social service	1.5	1.2*	24.27	24.15	0
Legal	0.8	0.6*	52.71	50.20	-5
Educational instruction and library	6.1	5.6*	27.75	29.15	5
Arts, design, entertainment, sports, and media	1.4	1.2*	29.79	26.16*	-12
Healthcare practitioners and technical	5.9	6.3*	40.21	37.76*	-6
Healthcare support	4.4	3.6*	14.91	15.31*	3
Protective service	2.4	2.1*	23.98	21.57*	-10
Food preparation and serving related	9.2	9.6*	12.82	11.57*	-10
Building and grounds cleaning and maintenance	3.0	2.5*	15.03	14.50*	-4
Personal care and service	2.2	2.4	15.03	13.31*	-11
Sales and related	9.8	9.1*	20.70	21.87*	6
Office and administrative support	13.3	13.4	19.73	19.41*	-2
Farming, fishing, and forestry	0.3	0.1*	15.07	15.63	4
Construction and extraction	4.2	3.4*	25.28	24.19*	-4
Installation, maintenance, and repair	3.9	4.0	24.10	23.60*	-2

Note: See footnotes at end of table.

Table A. Occupational employment and wages by major occupational group, United States and the Cincinnati, OH-KY-IN Metropolitan Statistical Area, and measures of statistical significance, May 2019 - Continued

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Cincinnati	United States	Cincinnati	Percent difference (1)
Production	6.2	8.1*	19.30	20.20*	5
Transportation and material moving	8.5	10.0*	18.23	16.84*	-8

Footnotes:
(1) A positive percent difference measures how much the mean wage in the Cincinnati, OH-KY-IN 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. Cincinnati had 87,590 jobs in production, accounting for 8.1 percent of local area employment, significantly higher than the 6.2-percent share nationally. The average hourly wage for this occupational group locally was $20.20, significantly above the national wage of $19.30.

Some of the larger detailed occupations within the production group included miscellaneous assemblers and fabricators (10,070); packaging and filling machine operators and tenders (6,590); and inspectors, testers, sorters, samplers, and weighers (6,170). Among the higher-paying jobs in this group were power plant operators at $41.56 per hour, and petroleum pump system operators, refinery operators, and gaugers with mean hourly wages of $34.93. At the lower end of the wage scale were meat, poultry, and fish cutters and trimmers ($11.84) and pressers, textile, garment, and related materials ($11.85). (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_17140.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 Cincinnati 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 3.4 times the national rate in Cincinnati, and prepress technicians and workers, at 3.2 times the U.S. average. Miscellaneous assemblers and fabricators had a location quotient of 1.0 in Cincinnati, 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 Ohio Department of Job & Family Services, Kentucky Center for Statistics, and Indiana Department of Workforce Development.

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 Cincinnati, OH-KY-IN Metropolitan Statistical Area included 7,034 establishments with a response rate of 74 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 **Cincinnati, OH-KY-IN Metropolitan Statistical Area** includes Dearborn, Ohio, and Union Counties of Indiana, Boone, Bracken, Campbell, Gallatin, Grant, Kenton, and Pendleton Counties of Kentucky, and Brown, Butler, Clermont, Hamilton, and Warren Counties of Ohio.

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, Cincinnati, OH-KY-IN Metropolitan Statistical Area, May 2019

Occupation [1]	Employment		Mean wages	
	Level [2]	Location quotient [3]	Hourly	Annual [4]
Production occupations	87,590	1.3	$20.20	$42,020
First-line supervisors of production and operating workers	5,620	1.2	32.77	68,150
Coil winders, tapers, and finishers	40	0.4	17.61	36,630
Electrical, electronic, and electromechanical assemblers, except coil winders, tapers, and finishers	2,300	1.1	18.15	37,760
Engine and other machine assemblers	1,150	3.4	28.26	58,790
Structural metal fabricators and fitters	380	0.7	17.88	37,190
Fiberglass laminators and fabricators	[5]	[5]	15.43	32,100
Miscellaneous assemblers and fabricators	10,070	1.0	16.79	34,920
Bakers	1,150	0.8	14.86	30,900
Butchers and meat cutters	980	1.0	16.27	33,850
Meat, poultry, and fish cutters and trimmers	[5]	[5]	11.84	24,630
Slaughterers and meat packers	1,080	2.0	13.14	27,340
Food and tobacco roasting, baking, and drying machine operators and tenders	[5]	[5]	14.97	31,130
Food batchmakers	1,400	1.2	17.54	36,490
Food cooking machine operators and tenders	610	2.7	15.99	33,260
Food processing workers, all other	130	0.4	14.24	29,620
Extruding and drawing machine setters, operators, and tenders, metal and plastic	1,260	2.2	18.64	38,770
Forging machine setters, operators, and tenders, metal and plastic	30	0.3	18.57	38,630
Rolling machine setters, operators, and tenders, metal and plastic	[5]	[5]	21.25	44,200
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	1,900	1.3	17.92	37,270
Drilling and boring machine tool setters, operators, and tenders, metal and plastic	190	2.3	21.73	45,190
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic	750	1.3	18.50	38,490
Lathe and turning machine tool setters, operators, and tenders, metal and plastic	330	1.6	21.37	44,440
Milling and planing machine setters, operators, and tenders, metal and plastic	80	0.6	20.62	42,900
Machinists	5,630	2.0	25.21	52,440
Metal-refining furnace operators and tenders	[5]	[5]	21.31	44,320
Foundry mold and coremakers	110	0.9	19.54	40,640
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic	1,760	1.4	17.53	36,450
Multiple machine tool setters, operators, and tenders, metal and plastic	2,620	2.4	18.84	39,190
Tool and die makers	940	1.8	27.15	56,460
Welders, cutters, solderers, and brazers	3,590	1.2	20.09	41,780
Welding, soldering, and brazing machine setters, operators, and tenders	170	0.7	17.15	35,670
Heat treating equipment setters, operators, and tenders, metal and plastic	330	2.3	22.45	46,700
Layout workers, metal and plastic	50	0.9	21.92	45,590
Plating machine setters, operators, and tenders, metal and plastic	270	0.9	20.62	42,890
Tool grinders, filers, and sharpeners	40	0.9	25.89	53,850
Metal workers and plastic workers, all other	150	0.8	17.80	37,020
Prepress technicians and workers	720	3.2	20.78	43,210
Printing press operators	2,110	1.7	19.29	40,120
Print binding and finishing workers	710	2.1	16.09	33,460
Laundry and dry-cleaning workers	1,730	1.1	11.92	24,780
Pressers, textile, garment, and related materials	340	1.2	11.85	24,660
Sewing machine operators	760	0.8	13.24	27,540

Note: See footnotes at end of table.

Table 1. Employment and wage data for production occupations, Cincinnati, OH-KY-IN Metropolitan Statistical Area, May 2019 - Continued

Occupation [1]	Employment		Mean wages	
	Level [2]	Location quotient [3]	Hourly	Annual [4]
Sewers, hand	30	1.0	13.75	28,610
Tailors, dressmakers, and custom sewers	[5]	[5]	16.93	35,210
Textile winding, twisting, and drawing out machine setters, operators, and tenders	[5]	[5]	16.96	35,280
Upholsterers	150	0.7	15.88	33,040
Textile, apparel, and furnishings workers, all other	[5]	[5]	19.81	41,210
Cabinetmakers and bench carpenters	480	0.7	18.51	38,500
Furniture finishers	[5]	[5]	16.37	34,050
Sawing machine setters, operators, and tenders, wood	40	0.1	16.98	35,310
Woodworking machine setters, operators, and tenders, except sawing	530	0.9	15.12	31,440
Power plant operators	280	1.1	41.56	86,440
Stationary engineers and boiler operators	150	0.6	29.52	61,400
Water and wastewater treatment plant and system operators	770	0.9	23.33	48,540
Chemical plant and system operators	270	1.3	33.52	69,720
Gas plant operators	60	0.6	[5]	[5]
Petroleum pump system operators, refinery operators, and gaugers	50	0.2	34.93	72,660
Plant and system operators, all other	[5]	[5]	24.17	50,270
Chemical equipment operators and tenders	1,400	2.2	23.84	49,590
Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders	500	1.3	27.08	56,330
Crushing, grinding, and polishing machine setters, operators, and tenders	210	0.8	18.58	38,660
Grinding and polishing workers, hand	320	1.5	17.09	35,540
Mixing and blending machine setters, operators, and tenders	1,500	1.6	20.73	43,120
Cutting and slicing machine setters, operators, and tenders	590	1.4	18.15	37,760
Extruding, forming, pressing, and compacting machine setters, operators, and tenders	690	1.3	20.01	41,620
Furnace, kiln, oven, drier, and kettle operators and tenders	180	1.3	18.82	39,150
Inspectors, testers, sorters, samplers, and weighers	6,170	1.5	21.69	45,100
Jewelers and precious stone and metal workers	[5]	[5]	16.74	34,830
Dental laboratory technicians	160	0.6	24.27	50,480
Medical appliance technicians	40	0.4	19.77	41,130
Ophthalmic laboratory technicians	340	1.6	17.57	36,540
Packaging and filling machine operators and tenders	6,590	2.3	17.78	36,980
Painting, coating, and decorating workers	[5]	[5]	16.92	35,200
Coating, painting, and spraying machine setters, operators, and tenders	970	0.9	18.42	38,320
Photographic process workers and processing machine operators	50	0.5	20.64	42,920
Computer numerically controlled tool operators	2,340	2.1	20.35	42,330
Computer numerically controlled tool programmers	280	1.5	28.58	59,450
Adhesive bonding machine operators and tenders	420	4.1	16.76	34,870
Cleaning, washing, and metal pickling equipment operators and tenders	180	1.5	17.89	37,220
Cooling and freezing equipment operators and tenders	70	1.1	17.67	36,750
Etchers and engravers	40	0.6	16.24	33,780
Molders, shapers, and casters, except metal and plastic	430	1.3	16.89	35,120
Paper goods machine setters, operators, and tenders	1,310	1.8	19.38	40,320
Helpers--production workers	2,720	1.2	16.69	34,720
Production workers, all other	1,940	1.2	19.15	39,830

Note: See footnotes at end of table.

Footnotes:
(1) For a complete listing of all detailed occupations in the Cincinnati, OH-KY-IN Metropolitan Statistical Area, see www.bls.gov/oes/current/oes_17140.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.