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Occupational Employment and Wages in Washington-Arlington-Alexandria – May 2020

Workers in the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area had an average (mean) hourly wage of $37.12 in May 2020, about 37 percent above the nationwide average of $27.07, the U.S. Bureau of Labor Statistics reported today. After testing for statistical significance, wages in the local area were higher than their respective national averages in 21 of the 22 major occupational groups, including life, physical, and social science; legal; and management. No group had an hourly wage significantly lower than its respective national average.

When compared to the nationwide distribution, Washington area employment was more highly concentrated in 10 of the 22 occupational groups, including business and financial operations, computer and mathematical, and management. Eleven groups had employment shares significantly below their national representation, including production, transportation and material moving, and office and administrative support. (See table A.)

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

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Washington	United States	Washington	Percent difference [1]
Total, all occupations	100.0	100.0	$27.07	$37.12*	37
Management	5.7	8.4*	60.81	74.70*	23
Business and financial operations	6.0	11.1*	38.79	47.34*	22
Computer and mathematical	3.3	8.0*	46.53	53.98*	16
Architecture and engineering	1.8	2.1*	43.41	52.22*	20
Life, physical, and social science	0.9	2.1*	38.15	52.76*	38
Community and social service	1.6	1.5*	25.09	30.71*	22
Legal	0.8	2.3*	54.00	72.48*	34
Educational instruction and library	6.1	6.3	28.75	34.33*	19
Arts, design, entertainment, sports, and media	1.3	2.4*	30.96	42.36*	37
Healthcare practitioners and technical	6.2	4.8*	41.30	48.77*	18
Healthcare support	4.6	3.0*	15.50	16.87*	9
Protective service	2.4	2.8*	25.11	30.45*	21
Food preparation and serving related	8.1	6.6*	13.30	15.18*	14
Building and grounds cleaning and maintenance	2.9	3.2*	15.75	17.29*	10
Personal care and service	1.9	2.1*	15.68	17.05*	9
Sales and related	9.4	8.0*	22.00	25.02*	14
Office and administrative support	13.3	11.5*	20.38	23.96*	18
Farming, fishing, and forestry	0.3	0.1*	16.02	20.28*	27
Construction and extraction	4.3	3.8*	25.93	26.30	1
Installation, maintenance, and repair	3.9	3.0*	25.17	28.63*	14
Production	6.1	1.7*	20.08	21.83*	9

Note: See footnotes at end of table.

Table A. Occupational employment and wages by major occupational group, United States and the Washington area, and measures of statistical significance, May 2020 - Continued

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Washington	United States	Washington	Percent difference (1)
Transportation and material moving	8.7	5.4*	19.08	21.08*	10

Footnotes:
(1) A positive percent difference measures how much the mean wage in the Washington-Arlington-Alexandria, DC-VA-MD-WV 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—computer and mathematical—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Washington had 242,350 jobs in computer and mathematical, accounting for 8.0 percent of local area employment, significantly higher than the 3.3-percent share nationally. The average hourly wage for this occupational group locally was $53.98, significantly above the national wage of $46.53.

Some of the larger detailed occupations within the computer and mathematical group included software developers and software quality assurance analysts and testers (75,910), computer systems analysts (22,930), and network and computer systems administrators (18,890). Among the higher-paying jobs in this group were computer and information research scientists and computer network architects, with mean hourly wages of $70.40 and $65.57, respectively. At the lower end of the wage scale were computer user support specialists ($32.03) and computer network support specialists ($37.58). (Detailed data for the computer and mathematical occupations are presented in table 1; for a complete listing of detailed occupations available go to www.bls.gov/oes/current/oes_47900.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 Washington area, above-average concentrations of employment were found in many of the occupations within the computer and mathematical group. For instance, information security analysts were employed at 5.3 times the national rate in Washington, and computer network architects, at 2.7 times the U.S. average. Computer user support specialists had a location quotient of 1.4 in Washington, 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 District of Columbia Department of Employment Services, the Virginia Employment Commission, the Maryland Department of Labor, and Workforce West Virginia.

Notes on Occupational Employment and Wage Statistics (OEWS) Data

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.

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 and 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. 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.

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.

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 Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area included 14,051 establishments with a response rate of 63 percent. For more information about OEWS 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.

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 **Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area** includes the District in Columbia; Calvert, Charles, and Prince George's Counties in Maryland; Arlington, Clarke, Culpeper, Fairfax, Fauquier, Loudoun, Prince William, Rappahannock, Spotsylvania, Stafford, and Warren Counties, and Alexandria, Fairfax, Falls Church, Fredericksburg, Manssas, and Manssas Park cities in Virginia; and Jefferson County in West Virginia.

For more information

Answers to frequently asked questions about the OEWS data are available at www.bls.gov/oes/oes_ques.htm. Detailed information about the OEWS program is available at 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 computer and mathematical occupations, Washington area, May 2020

Occupation [1]	Employment		Mean wages	
	Level [2]	Location quotient [3]	Hourly	Annual [4]
Computer and mathematical occupations	242,350	2.4	$53.98	$112,280
Computer systems analysts	22,930	1.8	56.09	116,670
Information security analysts	15,750	5.3	56.69	117,920
Computer and information research scientists	3,470	5.3	70.40	146,440
Computer network support specialists	7,400	1.9	37.58	78,170
Computer user support specialists	18,830	1.4	32.03	66,620
Computer network architects	9,270	2.7	65.57	136,390
Network and computer systems administrators	18,890	2.6	49.25	102,450
Database administrators and architects	7,000	2.4	55.84	116,150
Computer programmers	6,920	1.8	50.51	105,060
Software developers and software quality assurance analysts and testers	75,910	2.4	57.65	119,920
Web developers and digital interface designers	6,450	1.9	43.41	90,280
Computer occupations, all other	34,730	4.4	58.53	121,730
Actuaries	430	0.9	[5]	[5]
Mathematicians	230	4.3	66.43	138,160
Operations research analysts	6,910	3.3	54.67	113,710
Statisticians	4,820	5.7	54.59	113,540
Data scientists and mathematical science occupations, all other	2,410	1.9	51.95	108,060

Footnotes:
(1) For a complete listing of all detailed occupations in the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area, see www.bls.gov/oes/current/oes_47900.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.