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Occupational Employment and Wages in Boston-Cambridge-Newton — May 2015

Workers in the Boston-Cambridge-Newton New England City and Town Area Division had an average (mean) hourly wage of \$31.66 in May 2015, about 36 percent above the nationwide average of \$23.23, according to the U.S. Bureau of Labor Statistics. Regional Commissioner Deborah A. Brown noted that, 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 legal; management; and construction and extraction.

When compared to the nationwide distribution, local employment was more highly concentrated in 9 of the 22 occupational groups, including management; computer and mathematical; and business and financial operations. Conversely, nine groups had employment shares significantly below their national representation, including production; transportation and material moving; 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 Boston-Cambridge-Newton New England City and Town Area Division, and measures of statistical significance, May 2015

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Boston	United States	Boston	Percent difference ⁽¹⁾
Total, all occupations.....	100.0%	100.0%	\$23.23	\$31.66*	36
Management.....	5.0	8.7*	55.30	65.04*	18
Business and Financial Operations.....	5.1	7.4*	35.48	41.97*	18
Computer and Mathematical.....	2.9	5.2*	41.43	46.64*	13
Architecture and Engineering.....	1.8	2.5*	39.89	43.72*	10
Life, Physical, and Social Science.....	0.8	2.0*	34.24	36.85*	8
Community and Social Service.....	1.4	1.9*	22.19	22.84	3
Legal.....	0.8	1.2*	49.74	61.41*	23
Education, Training, and Library.....	6.2	6.2	25.48	33.88*	33
Arts, Design, Entertainment, Sports, and Media.....	1.3	1.7*	27.39	31.73*	16
Healthcare Practitioners and Technical.....	5.8	6.9*	37.40	45.61*	22
Healthcare Support.....	2.9	2.7*	14.19	16.88*	19
Protective Service.....	2.4	2.5	21.45	25.90*	21
Food Preparation and Serving Related.....	9.1	8.0*	10.98	13.31*	21
Building and Grounds Cleaning and Maintenance.....	3.2	3.2	13.02	16.99*	30
Personal Care and Service.....	3.1	3.1	12.33	15.10*	22
Sales and Related.....	10.5	9.1*	18.90	25.23*	33
Office and Administrative Support.....	15.8	14.6*	17.47	21.61*	24
Farming, Fishing, and Forestry.....	0.3	(2)*	12.67	15.81*	25

Table A. Occupational employment and wages by major occupational group, United States and the Boston-Cambridge-Newton New England City and Town Area Division, and measures of statistical significance, May 2015 - Continued

Major occupational group	Percent of total employment		Mean hourly wage		
	United States	Boston	United States	Boston	Percent difference ⁽¹⁾
Construction and Extraction.....	4.0	2.9*	22.88	31.72*	39
Installation, Maintenance, and Repair.....	3.9	2.6*	22.11	27.12*	23
Production.....	6.6	3.3*	17.41	19.73*	13
Transportation and Material Moving.....	6.9	4.4*	16.90	18.65*	10

⁽¹⁾ A positive percent difference measures how much the mean wage in Boston 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 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—computer and mathematical—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Boston-Cambridge-Newton had 92,050 jobs in computer and mathematical, accounting for 5.2 percent of local area employment, significantly higher than the 2.9-percent share nationally. The average hourly wage for this occupational group locally was \$46.64, significantly above the national wage of \$41.43.

Some of the largest detailed occupations within the computer and mathematical group included software developers, applications (19,490), software developers, systems software (17,970), and computer user support specialists (11,770). Among the higher paying jobs were computer and information research scientists and computer network architects, with mean hourly wages of \$59.10 and \$57.51, respectively. At the lower end of the wage scale were computer user support specialists (\$31.22) and operations research analysts (\$36.64). (Detailed occupational data for computer and mathematical are presented in [table 1](#); for a complete listing of detailed occupations available go to www.bls.gov/oes/2015/may/oes_71654.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 Boston-Cambridge-Newton New England City and Town Area Division, above-average concentrations of employment were found in many of the occupations within the computer and mathematical group. For instance, software developers, systems software were employed at 3.6 times the national rate in Boston, and software developers, applications, at 2.0 times the U.S. average. On the other hand, computer programmers had a location quotient of 1.3 in Boston, 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 Massachusetts Division of Unemployment Assistance.

Notes on Occupational Employment Statistics Data

With the issuance of data for May 2015, the OES program has incorporated redefined metropolitan area definitions as designated by the Office of Management and Budget. OES data are available for 394 metropolitan areas, 38 metropolitan divisions, and 167 OES-defined nonmetropolitan areas. A listing of the areas and their definitions can be found at http://www.bls.gov/oes/current/msa_def.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 mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. The OES program produces employment and wage estimates for over 800 occupations for all industries combined in the nation; the 50 states and the District of Columbia; 432 metropolitan areas and divisions; 167 nonmetropolitan areas; and Guam, Puerto Rico, and the U.S. Virgin Islands. National estimates are also available by industry for NAICS sectors, 3-, 4-, and selected 5- and 6-digit industries, and 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. Forms are mailed to approximately 200,000 sampled establishments in May and November each year. May 2015 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2015, November 2014, May 2014, November 2013, May 2013, and November 2012. The overall national response rate for the six panels is 73.5 percent based on establishments and 69.6 percent based on weighted sampled employment. The unweighted employment of sampled establishments across all six semiannual panels represents approximately 57.9 percent of total national employment. (Response rates are slightly lower for these estimates due to the federal shutdown in October 2013.) The sample in the Boston-Cambridge-Newton New England City and Town Area Division included 7,395 establishments with a response rate of 71 percent. For more information about OES concepts and methodology, go to www.bls.gov/news.release/ocwage.tn.htm.

The May 2015 OES estimates are based on the 2010 Standard Occupational Classification (SOC) system and the 2012 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 2012 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 **Boston-Cambridge-Newton, Mass. New England City and Town Area** Division includes Mansfield

town, Andover town, Boxford town, Essex town, Gloucester city, Hamilton town, Ipswich town, Lynnfield town, Manchester-by-the-sea town, Middleton town, Newbury town, Rockport town, Rowley town, Topsfield town, Wenham town, Acton town, Arlington town, Bedford town, Belmont town, Boxborough town, Burlington town, Cambridge city, Carlisle town, Concord town, Everett City, Lexington town, Lincoln town, Malden city, Maynard town, Medford city, Melrose city, Newton city, North Reading town, Reading town, Sherborn town, Somerville city, Stoneham town, Stow town, Wakefield town, Waltham city, Watertown city, Wayland town, Weston town, Wilmington town, Winchester town, Woburn city, Braintree Town, Brookline town, Canton town, Cohasset town, Dedham town, Dover town, Foxborough town, Franklin city, Holbrook town, Medfield town, Medway town, Millis town, Milton town, Needham town, Norfolk town, Norwood town, Quincy city, Randolph town, Sharon town, Stoughton town, Walpole town, Wellesley town, Westwood town, Weymouth Town, Wrentham town, Abington town, Carver town, Duxbury town, Hailfax town, Hanover town, Hingham town, Hull town, Kingston town, Marshfield town, Norwell town, Pembroke town, Plymouth town, Plympton town, Rockland town, Scituate town, Boston city, Chelsea city, Revere city, Winthrop Town, Berlin town, and Bolton town.

Additional information

OES data are available on our regional web page at www.bls.gov/regions/new-england. 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/2015/may/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, Boston-Cambridge-Newton New England City and Town Area Division, May 2015

Occupation ⁽¹⁾	Employment		Mean wages	
	Level ⁽²⁾	Location quotient ⁽³⁾	Hourly	Annual ⁽⁴⁾
Computer and Mathematical Occupations.....	92,050	1.8	\$46.64	\$97,010
Computer and Information Research Scientists.....	970	3.0	59.10	122,920
Computer Systems Analysts.....	9,740	1.4	44.94	93,480
Information Security Analysts.....	2,320	2.1	45.23	94,080
Computer Programmers.....	4,620	1.3	48.37	100,610
Software Developers, Applications.....	19,490	2.0	51.80	107,740
Software Developers, Systems Software.....	17,970	3.6	55.19	114,780
Web Developers.....	2,590	1.6	38.83	80,760
Database Administrators.....	2,390	1.7	40.68	84,600
Network and Computer Systems Administrators.....	6,010	1.3	43.89	91,300
Computer Network Architects.....	3,090	1.7	57.51	119,620
Computer User Support Specialists.....	11,770	1.6	31.22	64,940
Computer Network Support Specialists.....	1,790	0.8	40.57	84,390
Computer Occupations, All Other.....	3,560	1.3	44.78	93,150
Actuaries.....	640	2.5	56.04	116,560
Mathematicians.....	⁽⁵⁾	⁽⁵⁾	53.32	110,910
Operations Research Analysts.....	2,970	2.4	36.64	76,210
Statisticians.....	2,030	5.3	39.51	82,170

- ⁽¹⁾ For a complete listing of all detailed occupations in the Boston-Cambridge-Newton, MA NECTA Division, see www.bls.gov/oes/current/oes_71654.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.