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**OCCUPATIONAL EMPLOYMENT AND WAGES IN  
DETROIT-LIVONIA-DEARBORN, MICH. METROPOLITAN DIVISION — MAY 2011**

Workers in the Detroit-Livonia-Dearborn Metropolitan Division had an average (mean) hourly wage of \$23.24 in May 2011, about 7 percent above the nationwide average of \$21.74, the U.S. Bureau of Labor Statistics reported today. Regional Commissioner Charlene Peiffer noted that, after testing for statistical significance, wages in the local area were significantly higher than their respective national averages in 6 of the 22 major occupational groups, including construction and extraction; production; and transportation and material moving. Three groups had significantly lower wages than their respective national averages: arts, design, entertainment, sports, and media; computer and mathematical; and healthcare support occupations.

When compared to the nationwide distribution, local employment was more highly concentrated in 8 of the 22 occupational groups, including architecture and engineering; production; and healthcare practitioners and technical occupations. Conversely, 11 groups had employment shares significantly below their national representation, including sales and related; 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-Livonia-Dearborn Metropolitan Division, and measures of statistical significance, May 2011**

| Major occupational group                       | Percent of total employment |         | Mean hourly wage |           |                                   |
|--|-----------------------------|---------|------------------|-----------|-----------------------------------|
|  | United States               | Detroit | United States    | Detroit   | Percent difference <sup>[1]</sup> |
| <b>Total, all occupations</b>                  | 100.0%                      | 100.0%  | \$21.74          | \$23.24 * | 7                                 |
| Management                                     | 4.8                         | 4.9     | 51.64            | 52.61     | 2                                 |
| Business and financial operations              | 4.8                         | 5.2 *   | 33.05            | 33.12     | [3]                               |
| Computer and mathematical                      | 2.7                         | 2.4 *   | 37.85            | 36.67 *   | -3                                |
| Architecture and engineering                   | 1.8                         | 3.7 *   | 37.08            | 37.38     | 1                                 |
| Life, physical, and social science             | 0.8                         | 0.6 *   | 32.44            | 34.76     | 7                                 |
| Community and social service                   | 1.5                         | 1.8 *   | 21.07            | 21.02     | [3]                               |
| Legal  | 0.8                         | 0.7     | 47.30            | 46.53     | -2                                |
| Education, training, and library               | 6.6                         | 5.8 *   | 24.46            | 24.71     | 1                                 |
| Arts, design, entertainment, sports, and media | 1.3                         | 1.1 *   | 25.89            | 23.32 *   | -10                               |
| Healthcare practitioners and technical         | 5.9                         | 7.2 *   | 34.97            | 35.79     | 2                                 |
| Healthcare support                             | 3.1                         | 3.7 *   | 13.16            | 12.54 *   | -5                                |
| Protective service                             | 2.5                         | 2.7 *   | 20.54            | 21.36     | 4                                 |
| Food preparation and serving related           | 8.7                         | 8.6     | 10.30            | 10.23     | -1                                |
| Building and grounds cleaning and maintenance  | 3.3                         | 2.9 *   | 12.29            | 12.76 *   | 4                                 |
| Personal care and service                      | 2.8                         | 2.4 *   | 11.84            | 12.76 *   | 8                                 |
| Sales and related                              | 10.6                        | 9.2 *   | 18.04            | 17.97     | [3]                               |
| Office and administrative support              | 16.7                        | 15.3 *  | 16.40            | 16.92     | 3                                 |
| Farming, fishing, and forestry                 | 0.3                         | [2] *   | 11.68            | 12.24     | 5                                 |
| Construction and extraction                    | 3.9                         | 2.5 *   | 21.46            | 26.59 *   | 24                                |
| Installation, maintenance, and repair          | 3.9                         | 3.6 *   | 20.86            | 22.51 *   | 8                                 |
| Production                                     | 6.5                         | 8.0 *   | 16.45            | 21.13 *   | 28                                |
| Transportation and material moving             | 6.7                         | 7.7 *   | 15.96            | 19.53 *   | 22                                |

\* 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.

[1] A positive percent difference measures how much the mean wage in Detroit is above the national mean wage, while a negative difference reflects a lower wage.

[2] Indicates a value of less than 0.05 percent. [3] Indicates a value of less than 1.0 percent.

One occupational group—architecture and engineering—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Detroit-Livonia-Dearborn had 24,750 jobs in architecture and engineering, accounting for 3.7 percent of local area employment, significantly higher than the 1.8-percent share nationally. The average hourly wage for this occupational group locally was \$37.38, compared to the national wage of \$37.08.

With employment of 5,590, industrial engineers was the largest occupation within the architecture and engineering group, followed by mechanical engineering technicians (1,410) and civil engineers (1,230). Among the higher paying jobs were computer hardware engineers and environmental engineers, with mean hourly wages of \$48.77 and \$41.16, respectively. At the lower end of the wage scale were surveying and mapping technicians (\$19.74) and surveyors (\$20.49). (Detailed occupational data for architecture and engineering are presented in table 1; for a complete listing of detailed occupations available go to [www.bls.gov/oes/current/oes\\_19804.htm](http://www.bls.gov/oes/current/oes_19804.htm))

Location quotients allow for the exploration of an area’s occupational make-up 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-Livonia-Dearborn Metropolitan Division, above average concentrations of employment were found in some of the occupations within the architecture and engineering group. For instance, mechanical engineering technicians were employed at 6.0 times the national rate in Detroit, and industrial engineers, at 5.0 times the U.S. average. On the other hand, civil engineers had a location quotient of 0.9 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, and Budget. The OES survey provides estimates of employment and hourly and annual wages for wage and salary workers in 22 major occupational groups and nearly 800 detailed occupations for the nation, states, metropolitan statistical areas, metropolitan divisions, and nonmetropolitan areas.

OES wage and employment data for the 22 major occupational groups in the Detroit Metropolitan Division were compared to their respective national averages based on statistical significance testing. Only those occupations with wages or employment shares above or below the national wage or share after testing for significance at the 90-percent confidence level meet the criteria.

NOTE: 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. Guam, Puerto Rico, and the Virgin Islands also are surveyed, but their data are not included in the national estimates. OES estimates are constructed from a sample of about 1.2 million establishments. Forms are mailed to approximately 200,000 establishments in May and November of each year for a 3-year period. The nationwide response rate for the May 2011 survey was 77.3 percent based on establishments and 73.3 percent based on employment. May 2011 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2011, November 2010, May 2010, November 2009, May 2009, and November 2008. The sample in the Detroit-Livonia-Dearborn Metropolitan Division included 3,936 establishments with a response rate of 68 percent. For more information about OES concepts and methodology, go to [www.bls.gov/news.release/ocwage.tn.htm](http://www.bls.gov/news.release/ocwage.tn.htm).

The May 2011 OES estimates mark the first set of estimates based in part on data collected using the 2010 Standard Occupational Classification (SOC) system. Nearly all the occupations in this release are 2010 SOC occupations; however, some are not. The May 2012 OES data will reflect the full set of detailed occupations in the 2010 SOC. For a list of all occupations, including 2010 SOC occupations, and how data collected on two structures were combined, see the OES Frequently Asked Questions online at [www.bls.gov/oes/oes\\_ques.htm#Ques41](http://www.bls.gov/oes/oes_ques.htm#Ques41).

### 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-Livonia-Dearborn, Mich. Metropolitan Division** includes Wayne County.

### Additional information

OES data are available on our regional web page at [www.bls.gov/ro5/home.htm](http://www.bls.gov/ro5/home.htm). If you have additional questions, contact the Chicago Economic Analysis and Information Unit at (312) 353-1880. Information in this release will be made available to sensory impaired individuals upon request. Voice phone: (202) 691-5200; TDD message referral phone number: 1 (800) 877-8339.

**Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Detroit-Livonia-Dearborn Metropolitan Division, May 2011**

| Occupation <sup>[1]</sup>  | Employment           |                                  | Mean Wages |                       |
|--|----------------------|----------------------------------|------------|-----------------------|
|  | Level <sup>[2]</sup> | Location quotient <sup>[3]</sup> | Hourly     | Annual <sup>[4]</sup> |
| Architecture and engineering occupations                                   | 24,750               | 2.0                              | \$37.38    | \$77,750              |
| Architects, except landscape and naval                                     | 270                  | 0.6                              | 34.29      | 71,310                |
| Landscape architects   | 50                   | 0.6                              | 34.28      | 71,300                |
| Surveyors  | 110                  | 0.5                              | 20.49      | 42,630                |
| Chemical engineers   | 130                  | 0.9                              | 38.55      | 80,180                |
| Civil engineers  | 1,230                | 0.9                              | 33.55      | 69,780                |
| Computer hardware engineers  | 110                  | 0.3                              | 48.77      | 101,430               |
| Electrical engineers   | 930                  | 1.1                              | 41.14      | 85,580                |
| Electronics engineers, except computer                                     | 340                  | 0.5                              | 38.42      | 79,910                |
| Environmental engineers  | 420                  | 1.6                              | 41.16      | 85,610                |
| Health and safety engineers, except mining safety engineers and inspectors | 160                  | 1.3                              | [5]        | [5]                   |
| Industrial engineers   | 5,590                | 5.0                              | 39.15      | 81,440                |
| Materials engineers  | 190                  | 1.6                              | 37.10      | 77,160                |
| Engineers, all other   | 2,120                | 3.2                              | [5]        | [5]                   |
| Architectural and civil drafters   | 300                  | 0.7                              | 25.96      | 54,000                |
| Electrical and electronics drafters  | 110                  | 0.8                              | 24.11      | 50,150                |
| Mechanical drafters  | 460                  | 1.4                              | 25.60      | 53,240                |
| Civil engineering technicians  | 330                  | 0.9                              | 22.88      | 47,580                |
| Electrical and electronics engineering technicians                         | 1,050                | 1.3                              | 24.43      | 50,810                |
| Environmental engineering technicians                                      | 100                  | 1.0                              | 21.30      | 44,310                |
| Industrial engineering technicians   | 1,190                | 3.6                              | 22.88      | 47,600                |
| Mechanical engineering technicians   | 1,410                | 6.0                              | 28.73      | 59,760                |
| Engineering technicians, except drafters, all other                        | 350                  | 1.0                              | 24.88      | 51,740                |
| Surveying and mapping technicians  | 60                   | 0.3                              | 19.74      | 41,070                |

[1] For a complete listing of all detailed occupations in Detroit-Livonia-Dearborn, see [www.bls.gov/oes/current/oes\\_19804.htm](http://www.bls.gov/oes/current/oes_19804.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.