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## OCCUPATIONAL PAY COMPARISONS AMONG METROPOLITAN AREAS, 2010

Average pay for civilian workers in the San Jose-San Francisco-Oakland, CA metropolitan area was 20 percent above the national average in 2010, one of 77 metropolitan areas studied by the National Compensation Survey (NCS), the U.S. Bureau of Labor Statistics reported today. The Brownsville-Harlingen, TX metropolitan area had a pay relative of 80, meaning workers earned an average of 80 cents for every dollar earned by workers nationwide. Using data from the NCS, pay relatives—a means of assessing pay differences—are available for each of the nine major occupational groups within surveyed metropolitan areas, as well as averaged across all occupations for each area. The average pay relative nationally for all occupations and for each occupational group equals 100. (See table 1.)

A pay relative is a calculation of pay—wages, salaries, commissions, and production bonuses—for a given metropolitan area relative to the nation as a whole. The calculation controls for differences among areas in occupational composition, establishment and occupational characteristics, and the fact that data are collected for areas at different times during the year. Simple pay comparisons calculating the ratio of the average pay for an area to the entire United States in percentage terms would not control for interarea differences in occupational composition and other factors, which may impact pay relatives.

**Chart 1. Pay relatives in selected metropolitan areas, National Compensation Survey, July 2010**

Pay Relative (United States = 100)



Chart 1 above lists selected metropolitan area pay relatives compared to average pay nationally among those studied in the NCS. Table A provides selected metropolitan area pay relatives for each of five major occupational groups. In addition, area-to-area comparisons have been calculated for all 77 metropolitan areas and are available on the BLS website at <http://www.bls.gov/ncs/ocs/payrel.htm>.

**Table A. Selected metropolitan area-to-national pay relatives and major occupational groups, July 2010 (of 77 metropolitan areas surveyed)**

Major Occupational Group	Metropolitan Area	Pay Relative
Management, business, and financial	New York-Newark-Bridgeport, NY-NJ-CT-PA	120
	Los Angeles-Long Beach-Riverside, CA	108
	Reno-Sparks, NV	108
	Salinas, CA	108
	San Jose-San Francisco-Oakland, CA	108
Office and administrative support	San Jose-San Francisco-Oakland, CA	120
	New York-Newark-Bridgeport, NY-NJ-CT-PA	115
	Boston-Worcester-Manchester, MA-NH	114
	Hartford-West Hartford-Willimantic, CT	114
	Washington-Baltimore-Northern Virginia, DC-MD-VA-WV	112
Service	San Jose-San Francisco-Oakland, CA	126
	Salinas, CA	123
	Seattle-Tacoma-Olympia, WA	123
	Hartford-West Hartford-Willimantic, CT	119
	Minneapolis-St. Paul-St. Cloud, MN-WI	115
	San Diego-Carlsbad-San Marcos, CA	115
Production	Detroit-Warren-Flint, MI	117
	Sacramento-Arden-Arcade-Truckee, CA-NV	117
	Bloomington-Normal, IL	116
	Seattle-Tacoma-Olympia, WA	115
	Providence-New Bedford-Fall River, RI-MA	113
Transportation and material moving	Seattle-Tacoma-Olympia, WA	117
	Minneapolis-St. Paul-St. Cloud, MN-WI	114
	Boston-Worcester-Manchester, MA-NH	111
	Kansas City, MO-KS	110
	Salinas, CA	109
	San Jose-San Francisco-Oakland, CA	109

The pay relative for production occupations in the Detroit-Warren-Flint, MI and Sacramento-Arden-Arcade-Truckee, CA-NV areas was 117, meaning the pay in these two metropolitan areas averaged 17 percent more than the national average pay for that occupational group. By contrast, the pay relative for production workers in the Brownsville-Harlingen, Texas area was 80, meaning pay for workers in those occupations averaged 20 percent less than the national average. (See table 1.)

Statistical significance measures are not available for news release and area-to-area comparison tables.

**NOTICE OF FINAL NEWS RELEASE**

This is the final Occupational Pay Comparisons Among Metropolitan Areas news release. Funding for the Locality Pay Survey program is ending. However, the other programs of the National Compensation Survey, such as the Employment Cost Index, Employer Costs for Employee Compensation, and benefit publications will continue to be produced.

## TECHNICAL NOTE

### Pay relative controls and calculations

Pay relatives control for differences among areas in occupational composition as well as establishment and occupational characteristics. Metropolitan areas often differ greatly in the composition of establishments and occupations that are available to the local workforce. For example, in Brownsville-Harlingen, Texas, the ratio of workers in the high-paying management, business, and financial occupational group to the number of workers in all occupations is under 6 percent, whereas nationally this ratio is nearly 10 percent.<sup>1</sup> In addition to these factors, the NCS collects compensation data for metropolitan areas at different times during the year. Payroll reference dates differ between areas, which makes direct comparisons between areas difficult.

The pay relative approach controls for these differences to isolate the geographic effect on wages. To illustrate the importance of controlling for these effects, consider the following example. The average pay for construction and extraction workers in the New York-Newark-Bridgeport, NY-NJ-CT-PA metropolitan area in 2010 was \$32.54 and in the United States, \$21.18.<sup>2</sup> A simple pay comparison can be calculated from the ratio of the two average pay levels, multiplied by 100 to express the comparison as a percentage. The pay comparison in the example is calculated as:

$$(\$32.54 \div \$21.18) * 100 \cong 154$$

This comparison does not control for differences between New York and the nation in the mix of occupations, industries, and other factors. A more accurate estimate of the geographic effect of wages in New York can be obtained by taking these differences into account. Controlling for differences in occupational composition, establishment and occupational characteristics, and the payroll reference date in New York relative to the nation as a whole, the pay relative for construction and extraction occupations in New York is 129.

### Survey methodology

Pay relatives were estimated using a multivariate regression technique designed to control for interarea differences. This technique controls for the following ten characteristics:

- Occupational type
- Industry type
- Work level
- Full-time / part-time status
- Time / incentive status
- Union / nonunion status
- Ownership type
- Profit / non-profit status
- Establishment employment
- Payroll reference date

Even accounting for the characteristics used in the current regression analysis, there is still wage variation across the areas. The variation is due to differences in wage determinants that were not included in the model. Examples of these determinants include price levels, environmental amenities such as a pleasant climate, and cultural amenities.

Historical pay relatives data are available for the survey years 1992-1996, 1998, 2002, 2004-2009. There are several differences between the recent pay relatives and the pay relatives for earlier years, including different industry and occupation classification systems, varying methodology, and different survey designs. These differences limit comparability. The pay relatives since 2004 have been calculated using the same industry and occupation classification systems, methodology, and survey design. Nonetheless, comparisons between the estimates for these years should be made only with caution.

For more details on survey design, methodology, classification systems, recent changes in the survey, and appropriate uses and limitations of the data, see *BLS Handbook of Methods*, Chapter 8, “National Compensation Measures,” available on the Internet at [http://www.bls.gov/opub/hom/homch8\\_a.htm](http://www.bls.gov/opub/hom/homch8_a.htm), especially the major section “Area-to-Nation and Area-to-Area Pay Comparisons.”

### Obtaining information

Articles, bulletins, and other information from the National Compensation Survey may be obtained by calling (202) 691-6199, sending email to [NCSinfo@bls.gov](mailto:NCSinfo@bls.gov), or visiting the Internet site <http://www.bls.gov/ncs>. Information in this release will be made available to sensory impaired individuals upon request. Voice phone: (202) 691-5200; Federal Relay Service Number: 1-800-877-8339.

<sup>1</sup>Data for this example are based on the May 2010 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, on the Internet at <http://www.bls.gov/oes/current/oessrcma.htm>.

<sup>2</sup> Average pay for construction and extraction workers in New York and for the United States are based on wage estimates published in *New York-Newark-Bridgeport, NY-NJ-CT-PA National Compensation Survey, May 2010* and *National Compensation Survey: Occupational Earnings in the United States, 2010*, on the Internet at <http://www.bls.gov/ncs/ocs/compub.htm>.

Table 1. Pay relatives for major occupational groups in metropolitan areas, National Compensation Survey, July 2010

(Average pay nationally for all occupations and for each occupational group shown = 100.)

Metropolitan Area <sup>1</sup>	All occupations	Management, business, and financial	Professional and related	Service	Sales and related	Office and administrative support	Construction and extraction	Installation, maintenance, and repair	Production	Transportation and material moving
United States .....	100	100	100	100	100	100	100	100	100	100
Amarillo, TX .....	88	94	79	90	96	90	88	97	88	92
Atlanta-Sandy Springs-Gainesville, GA-AL .....	98	101	101	94	95	101	86	94	97	105
Austin-Round Rock-San Marcos, TX .....	94	92	92	91	102	95	84	108	90	97
Birmingham-Hoover, AL .....	94	93	98	98	89	97	80	97	94	99
Bloomington, IN .....	91	94	88	86	86	92	83	93	104	100
Bloomington-Normal, IL .....	100	91	103	99	103	97	118	86	116	100
Boston-Worcester-Manchester, MA-NH .....	111	102	111	112	107	114	115	113	108	111
Brownsville-Harlingen, TX .....	80	84	88	88	71	80	68	79	80	77
Buffalo-Niagara-Cattaraugus, NY .....	97	95	90	101	92	94	107	97	110	101
Charleston-North Charleston-Summerville, SC .....	94	91	98	88	105	92	83	95	108	98
Charlotte-Gastonia-Rock Hill, NC-SC .....	99	101	97	98	103	101	87	104	100	95
Chicago-Naperville-Michigan City, IL-IN-WI .....	106	105	107	106	103	107	129	109	103	104
Cincinnati-Middletown-Wilmington, OH-KY-IN .....	100	103	97	99	110	100	80	100	102	105
Cleveland-Akron-Elyria, OH .....	100	102	98	99	98	102	109	112	101	101
Columbus-Marion-Chillicothe, OH .....	100	96	96	102	104	102	108	102	104	99
Corpus Christi, TX .....	90	80	91	88	90	87	96	108	96	91
Dallas-Fort Worth, TX .....	98	98	100	93	102	99	89	98	93	100
Dayton-Springfield-Greenville, OH .....	96	99	92	101	95	92	92	98	99	99
Denver-Aurora-Boulder, CO .....	102	97	101	106	106	104	94	111	100	101
Detroit-Warren-Flint, MI .....	102	98	105	95	99	100	103	98	117	104
Elkhart-Goshen, IN .....	93	97	90	100	95	94	103	86	93	100
Fort Collins-Loveland, CO .....	101	96	98	102	98	97	100	133	107	107
Grand Rapids-Wyoming, MI .....	100	90	98	101	114	101	104	91	102	96
Great Falls, MT .....	91	96	77	103	92	83	96	95	83	100
Greensboro-High Point, NC .....	95	100	98	92	93	96	87	91	99	103
Greenville-Mauldin-Easley, SC .....	95	99	93	96	93	95	77	82	110	98
Hartford-West Hartford-Willimantic, CT .....	111	107	109	119	107	114	112	112	109	107
Hickory-Lenoir-Morganton, NC .....	95	93	84	94	91	91	95	93	104	102
Honolulu, HI .....	105	104	101	114	104	98	115	109	112	95
Houston-Baytown-Huntsville, TX .....	99	101	105	91	102	101	90	97	98	95
Huntsville-Decatur, AL .....	98	104	102	93	99	95	91	94	99	96
Indianapolis-Anderson-Columbus, IN .....	95	86	96	94	82	97	98	103	104	97
Iowa City, IA .....	98	98	94	99	98	103	118	93	98	105
Johnstown, PA .....	88	86	85	94	91	90	95	78	88	86
Kansas City, MO-KS .....	99	93	100	96	101	97	95	101	106	110
Kennewick-Pasco-Richland, WA .....	105	103	99	109	107	104	107	102	96	108
Knoxville, TN .....	90	97	98	78	94	90	86	92	91	94
Lincoln, NE .....	87	78	84	91	82	90	82	88	92	94
Los Angeles-Long Beach-Riverside, CA .....	108	108	107	111	108	107	108	109	100	105
Louisville/Jefferson County-Elizabethtown-Scottsburg, KY-IN .....	96	89	96	99	101	98	100	92	103	89

See footnotes at end of table.

Table 1. Pay relatives for major occupational groups in metropolitan areas, National Compensation Survey, July 2010 — Continued

(Average pay nationally for all occupations and for each occupational group shown = 100.)

Metropolitan Area <sup>1</sup>	All occupations	Management, business, and financial	Professional and related	Service	Sales and related	Office and administrative support	Construction and extraction	Installation, maintenance, and repair	Production	Transportation and material moving
Memphis, TN-MS-AR .....	95	96	95	88	99	97	92	96	93	92
Miami-Fort Lauderdale-Pompano Beach, FL ...	97	104	89	98	99	99	96	98	96	100
Milwaukee-Racine-Waukesha, WI .....	102	99	96	99	109	100	115	100	108	104
Minneapolis-St. Paul-St. Cloud, MN-WI .....	107	102	102	115	107	105	111	108	109	114
Mobile, AL .....	90	98	91	90	87	92	102	82	96	103
New Orleans-Metairie-Kenner, LA .....	98	94	103	90	102	99	90	106	111	104
New York-Newark-Bridgeport, NY-NJ-CT-PA ..	114	120	114	114	108	115	129	110	106	103
Ocala, FL .....	87	84	85	88	89	95	81	91	85	93
Oklahoma City, OK .....	92	97	90	95	99	87	115	84	81	104
Orlando-Kissimmee-Sanford, FL .....	91	89	84	93	94	92	95	95	100	105
Palm Bay-Melbourne-Titusville, FL .....	92	81	87	94	96	89	97	95	98	102
Philadelphia-Camden-Vineland, PA-NJ-DE-MD .....	104	103	104	101	98	109	108	107	99	105
Phoenix-Mesa-Glendale, AZ .....	99	105	103	98	101	99	86	98	95	99
Pittsburgh-New Castle, PA .....	95	88	95	93	94	95	95	96	101	97
Portland-Vancouver-Hillsboro, OR-WA .....	105	101	103	110	106	106	106	114	104	101
Providence-New Bedford-Fall River, RI-MA .....	104	95	105	105	103	107	114	110	113	104
Reading, PA .....	101	104	106	97	102	102	101	96	102	100
Reno-Sparks, NV .....	101	108	98	99	103	102	98	104	102	101
Richmond, VA .....	98	96	96	94	97	102	90	102	100	98
Rochester, NY .....	101	103	101	103	105	100	101	96	106	107
Rockford, IL .....	98	88	93	101	100	97	116	95	99	104
Sacramento-Arden-Arcade-Truckee, CA-NV ...	108	104	110	111	109	103	117	110	117	108
Salinas, CA .....	113	108	115	123	124	107	116	119	93	109
San Antonio-New Braunfels, TX .....	92	91	96	92	90	94	97	97	90	91
San Diego-Carlsbad-San Marcos, CA .....	107	105	106	115	108	104	106	107	101	102
San Jose-San Francisco-Oakland, CA .....	120	108	120	126	124	120	128	124	109	109
Seattle-Tacoma-Olympia, WA .....	112	105	109	123	109	108	115	103	115	117
Springfield, MA .....	107	97	110	111	99	106	114	97	105	106
Springfield, MO .....	89	93	85	89	92	88	83	86	97	92
St. Louis, MO-IL .....	100	96	101	97	99	102	107	111	98	97
Tallahassee, FL .....	88	78	82	92	92	90	97	90	85	92
Tampa-St. Petersburg-Clearwater, FL .....	93	95	88	96	92	96	93	90	89	93
Virginia Beach-Norfolk-Newport News, VA-NC .....	92	88	92	90	93	95	87	97	91	89
Visalia-Porterville, CA .....	99	87	105	107	102	93	95	99	103	99
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV .....	109	105	111	106	109	112	106	112	107	105
York-Hanover, PA .....	97	101	100	96	98	95	101	93	103	102
Youngstown-Warren-Boardman, OH-PA .....	91	98	89	90	92	92	90	96	100	87

<sup>1</sup> A metropolitan area can be a Metropolitan Statistical Area (MSA) or Combined Statistical Area (CSA) as defined by the Office of Management and Budget, December 2003.