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Technical information: (202) 691-6199 • NCSinfo@bls.gov • www.bls.gov/ncs
Media contact: (202) 691-5902 • PressOffice@bls.gov

OCCUPATIONAL PAY COMPARISONS AMONG METROPOLITAN AREAS, 2009

Average pay for civilian workers in the San Jose-San Francisco-Oakland, CA metropolitan area was 20 percent above the national average in 2009, one of 77 metropolitan areas studied by the National Compensation Survey (NCS), the Bureau of Labor Statistics of the U.S. Department of Labor reported today. The Brownsville-Harlingen, TX metropolitan area had a pay relative of 79, meaning workers earned an average of 79 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 2009

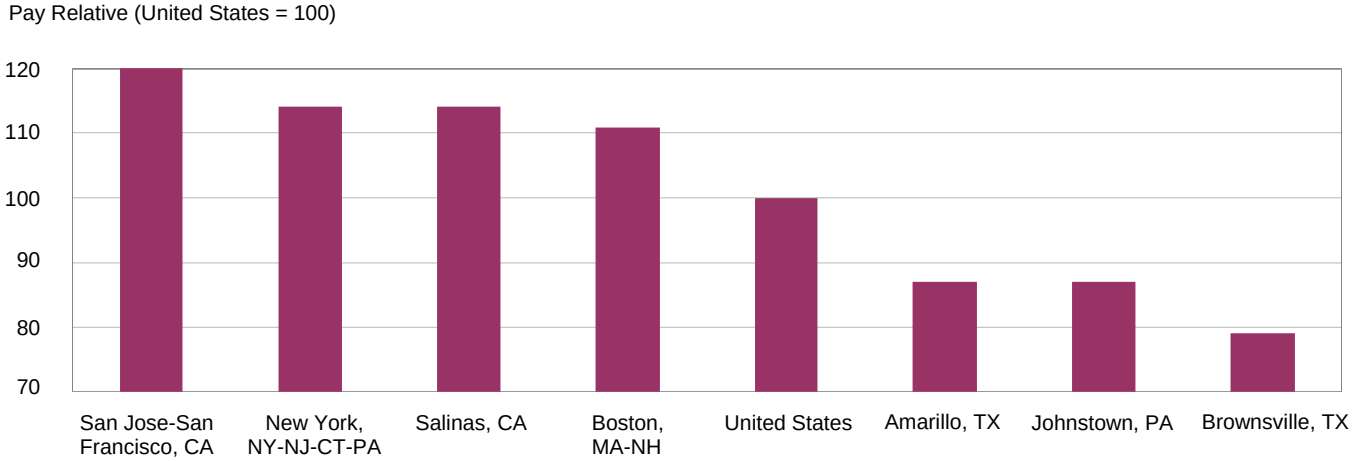

Chart 1 above lists selected metropolitan area pay relatives compared to average pay nationally among those studied in the NCS. Table A provides selected metropolitan area pay relatives for each of nine major occupational groups. In addition, area-to-area comparisons have been calculated for all 77 metropolitan 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 for nine major occupational groups, July 2009 (of 77 metropolitan areas surveyed)

Major Occupational Group	Metropolitan Area	Pay Relative
Management, business, and financial	New York-Newark-Bridgeport, NY-NJ-CT-PA	117
	San Jose-San Francisco-Oakland, CA	113
Professional and related	Salinas, CA	120
	San Jose-San Francisco-Oakland, CA	120
Service	San Jose-San Francisco-Oakland, CA	125
	Salinas, CA	124
Sales and related	Salinas, CA	124
	San Jose-San Francisco-Oakland, CA	124
Office and administrative support	San Jose-San Francisco-Oakland, CA	120
	New York-Newark-Bridgeport, NY-NJ-CT-PA	116
Construction and extraction	Chicago-Naperville-Michigan City, IL-IN-WI	132
	New York-Newark-Bridgeport, NY-NJ-CT-PA	130
Installation, maintenance, and repair	Salinas, CA	122
	Denver-Aurora-Boulder, CO	116
	San Jose-San Francisco-Oakland, CA	116
Production	Sacramento-Arden-Arcade-Truckee, CA-NV	117
	Seattle-Tacoma-Olympia, WA	117
Transportation and material moving	Minneapolis-St. Paul-St. Cloud, MN-WI	115
	Providence-New Bedford-Fall River, RI-MA	113

The pay relative for construction and extraction occupations in the Chicago-Naperville-Michigan City, IL-IN-WI area was 132, meaning the pay in the Chicago metropolitan area for that occupational group averaged 32 percent more than the national average pay for that occupational group. By contrast, the pay relative for workers in construction and extraction in the Brownsville-Harlingen, Texas area was 67, meaning pay for workers in those occupations averaged 33 percent less than the national average. (See table 1.)

Yearly differences in area and occupational group pay relatives do not infer changes in underlying economic conditions.

NOTE

Occupational Pay Relative news releases and supplemental area-to-area comparison tables for 2004-08 data were found to contain errors in identifying statistical significance. News releases and tables were reissued on May 26, 2010, with all notations for statistical significance removed. Pay relative estimates were not affected. Reissued news releases can be found at http://www.bls.gov/ncs. Reissued area-to-area pay comparisons tables can be found at http://www.bls.gov/ncs/ocs/payrel.htm. Statistical significance notations and measures are not included in the 2009 news release and area-to-area comparison tables.

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 over 9 percent.[1] 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 Chicago-Naperville-Michigan City, IL-IN-WI metropolitan area in 2009 was $32.15 and in the United States, $20.98.[2] 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:

$(\$32.15 \div \$20.98) * 100 \cong 153$

This comparison does not control for differences between Chicago and the nation in the mix of occupations, industries, and other factors. A more accurate estimate of the geographic effect of wages in Chicago 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 Chicago relative to the nation as a whole, the pay relative for construction and extraction occupations in Chicago is 132.

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, 2004-2008. 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 use 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, 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, 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.

[1]Data for this example are based on the May 2009 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, on the Internet at http://www.bls.gov/oes/current/oessrcma.htm.

[2] Average pay for construction and extraction workers in Chicago and for the United States are based on wage estimates published in the Chicago-Naperville-Michigan City, IL-IN-WI National Compensation Survey, October 2009 and the National Compensation Survey: Occupational Wages in the United States, 2009, 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 2009**

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

Metropolitan Area[1]	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	87	93	84	91	82	91	86	91	88	89
Atlanta-Sandy Springs-Gainesville, GA-AL	100	102	103	95	97	102	87	97	98	105
Austin-Round Rock, TX	93	92	91	89	101	94	85	102	90	98
Birmingham-Hoover, AL	95	91	101	96	96	98	84	100	92	101
Bloomington, IN	91	91	91	88	85	91	81	83	100	100
Bloomington-Normal, IL	100	95	105	103	100	97	115	95	107	101
Boston-Worcester-Manchester, MA-NH	111	104	110	113	107	113	120	114	106	110
Brownsville-Harlingen, TX	79	89	89	85	73	77	67	88	75	74
Buffalo-Niagara-Cattaraugus, NY	97	91	90	104	96	93	111	100	106	97
Charleston-North Charleston-Summerville, SC	93	92	94	88	97	95	85	88	103	98
Charlotte-Gastonia-Concord, NC-SC	98	103	94	95	100	99	90	102	101	96
Chicago-Naperville-Michigan City, IL-IN-WI	107	106	107	107	103	108	132	109	103	105
Cincinnati-Middletown-Wilmington, OH-KY-IN	100	99	103	100	102	100	87	102	101	104
Cleveland-Akron-Elyria, OH	100	103	99	101	95	101	107	107	102	99
Columbus-Marion-Chillicothe, OH	100	95	96	103	102	99	100	108	102	102
Corpus Christi, TX	89	86	90	88	93	86	90	99	91	87
Dallas-Fort Worth, TX	99	101	101	94	107	99	92	96	93	101
Dayton-Springfield-Greenville, OH	96	100	94	97	94	92	93	99	101	102
Denver-Aurora-Boulder, CO	104	101	100	109	105	105	96	116	109	102
Detroit-Warren-Flint, MI	103	95	104	98	102	101	102	96	116	106
Elkhart-Goshen, IN	96	99	91	95	91	94	113	87	97	104
Fort Collins-Loveland, CO	101	98	95	99	101	103	109	115	104	108
Grand Rapids-Wyoming, MI	100	93	98	104	113	100	105	94	101	95
Great Falls, MT	89	86	79	97	90	81	102	102	91	100
Greensboro-High Point, NC	96	101	96	91	98	96	89	90	101	102
Greenville-Mauldin-Easley, SC	95	99	90	98	90	95	75	87	106	100
Hartford-West Hartford-Willimantic, CT	110	106	108	119	108	112	111	107	110	107
Hickory-Lenoir-Morganton, NC	94	92	85	90	93	91	97	93	104	98
Honolulu, HI	106	107	105	116	109	96	113	107	112	95
Houston-Baytown-Huntsville, TX	98	101	103	87	102	100	91	95	98	95
Huntsville-Decatur, AL	98	104	99	93	100	93	93	91	101	96
Indianapolis-Anderson-Columbus, IN	94	82	96	94	83	96	94	97	105	95
Iowa City, IA	97	97	94	102	96	101	106	92	97	99
Johnstown, PA	87	82	83	92	86	89	90	90	88	85
Kansas City, MO-KS	99	94	99	96	104	99	101	95	103	102
Kennewick-Pasco-Richland, WA	104	104	98	111	108	99	107	104	101	108
Knoxville, TN	88	103	93	80	95	90	81	88	87	91
Lincoln, NE	88	81	83	92	82	89	80	90	91	100
Los Angeles-Long Beach-Riverside, CA	109	109	109	113	112	107	110	113	100	105

See footnotes at end of table.

Table 1. **Pay relatives for major occupational groups in metropolitan areas, National Compensation Survey, July 2009 — Continued**

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

Metropolitan Area[1]	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
Louisville/Jefferson County-Elizabethtown-Scottsburg, KY-IN	94	88	94	96	98	97	93	95	104	88
Memphis, TN-MS-AR	94	95	94	86	103	96	91	98	92	93
Miami-Fort Lauderdale-Pompano Beach, FL	97	100	92	100	99	100	95	95	95	98
Milwaukee-Racine-Waukesha, WI	100	97	94	98	108	100	107	94	107	107
Minneapolis-St. Paul-St. Cloud, MN-WI	108	101	103	117	109	105	111	106	110	115
Mobile, AL	90	93	92	90	85	91	92	90	99	104
New Orleans-Metairie-Kenner, LA	100	95	103	93	102	98	90	104	111	102
New York-Newark-Bridgeport, NY-NJ-CT-PA	114	117	115	114	112	116	130	110	106	105
Ocala, FL	89	75	84	90	91	95	80	95	93	99
Oklahoma City, OK	92	93	90	92	97	89	104	91	82	89
Orlando-Kissimmee, FL	91	92	85	92	95	89	93	93	102	105
Palm Bay-Melbourne-Titusville, FL	92	84	86	96	96	89	96	96	103	105
Philadelphia-Camden-Vineland, PA-NJ-DE-MD	105	105	106	103	98	108	105	110	98	106
Phoenix-Mesa-Scottsdale, AZ	98	100	103	99	102	99	84	99	96	99
Pittsburgh-New Castle, PA	95	91	95	94	89	96	92	97	101	96
Portland-Vancouver-Beaverton, OR-WA	105	103	100	112	106	106	105	108	102	100
Providence-New Bedford-Fall River, RI-MA	107	102	108	106	106	106	110	114	110	113
Reading, PA	100	102	96	97	104	102	98	96	103	101
Reno-Sparks, NV	100	100	99	98	103	102	93	108	104	100
Richmond, VA	98	95	97	97	94	101	85	102	100	102
Rochester, NY	100	94	100	105	100	99	99	102	103	100
Rockford, IL	97	89	93	99	101	95	115	96	99	104
Sacramento-Arden-Arcade-Truckee, CA-NV	108	106	110	111	106	103	117	111	117	110
Salinas, CA	114	109	120	124	124	110	124	122	94	107
San Antonio, TX	92	93	96	89	89	93	96	98	96	93
San Diego-Carlsbad-San Marcos, CA	108	105	108	115	102	104	111	107	101	103
San Jose-San Francisco-Oakland, CA	120	113	120	125	124	120	127	116	111	109
Seattle-Tacoma-Olympia, WA	110	105	106	119	112	106	111	101	117	111
Springfield, MA	110	97	112	108	106	111	116	101	108	111
Springfield, MO	90	92	86	90	92	88	82	88	96	96
St. Louis, MO-IL	102	96	102	96	100	103	113	112	101	105
Tallahassee, FL	88	79	82	93	91	89	92	88	88	96
Tampa-St. Petersburg-Clearwater, FL	93	94	88	97	98	98	92	86	88	92
Virginia Beach-Norfolk-Newport News, VA-NC	92	83	91	94	94	94	88	95	90	91
Visalia-Porterville, CA	99	87	105	101	101	92	90	95	105	104
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV	108	104	111	106	109	112	101	109	105	106
York-Hanover, PA	95	100	98	95	92	95	98	97	98	99
Youngstown-Warren-Boardman, OH-PA	91	97	88	93	92	92	90	89	93	86

[1] 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.