

News

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(This news release was reissued on Wednesday, May 26, 2010, to remove table asterisks that have incorrectly indicated statistically significant differences between some estimates. News release text references to statistical significance have also been removed. Pay relative estimates have not changed. For more information, see <http://www.bls.gov/ncs>.)

OCCUPATIONAL PAY COMPARISONS AMONG METROPOLITAN AREAS, 2008

Average pay for civilian workers in the San Jose-San Francisco-Oakland, CA metropolitan area was 19 percent above the national average in 2008, 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 77, meaning workers earned an average of 77 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 have an effect on pay relatives.

Table A below lists selected metropolitan area pay relatives compared to average pay nationally among those studied in the NCS. Table B 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 pay relatives (of 77 metropolitan areas surveyed)

Metropolitan Area	Pay Relative (Average pay nationally = 100)
San Jose-San Francisco-Oakland, CA	119
New York-Newark-Bridgeport, NY-NJ-CT-PA	114
Boston-Worcester-Manchester, MA-NH	111
Los Angeles-Long Beach-Riverside, CA	109
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV	109
Chicago-Naperville-Michigan City, IL-IN-WI	108

Table A (Continued). Selected metropolitan area pay relatives (of 77 metropolitan areas surveyed)

Metropolitan Area	Pay Relative (Average pay nationally = 100)
Philadelphia-Camden-Vineland, PA-NJ-DE-MD	105
Atlanta-Sandy Springs-Gainesville, GA-AL	100
Houston-Baytown-Huntsville, TX	98
Dallas-Fort Worth, TX	97

Table B. Selected metropolitan area-to-national pay relatives for nine major occupational groups, 2008 (of 77 metropolitan areas surveyed)

Major Occupational Group	Metropolitan Area	Pay Relative
Management, business, and financial	New York-Newark-Bridgeport, NY-NJ-CT-PA	115
	Salinas, CA	113
Professional and related	Salinas, CA	120
	San Jose-San Francisco-Oakland, CA	119
Service	San Jose-San Francisco-Oakland, CA	126
	Salinas, CA	123
Sales and related	Salinas, CA	129
	San Jose-San Francisco-Oakland, CA	122
Office and administrative support	San Jose-San Francisco-Oakland, CA	120
	New York-Newark-Bridgeport, NY-NJ-CT-PA	116
Construction and extraction	New York-Newark-Bridgeport, NY-NJ-CT-PA	132
	Chicago-Naperville-Michigan City, IL-IN-WI	131
Installation, maintenance, and repair	Salinas, CA	124
	San Jose-San Francisco-Oakland, CA	117
Production	Sacramento-Arden-Arcade-Truckee, CA-NV	121
	Bloomington-Normal, IL	116
	Detroit-Warren-Flint, MI	116
	Seattle-Tacoma-Olympia, WA	116
Transportation and material moving	Springfield, MA	114
	Fort Collins-Loveland, CO	113

The pay relative for construction and extraction occupations in the New York-Newark-Bridgeport, NY-NJ-CT-PA area was 132, meaning the pay in the New York 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 66, meaning pay for workers in those occupations averaged 34 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.

Table 1. Pay relatives for major occupational groups in metropolitan areas, National Compensation Survey, July 2008

(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	89	98	83	91	91	89	86	91	94	92
Atlanta-Sandy Springs-Gainesville, GA-AL	100	102	102	96	96	105	88	101	103	101
Austin-Round Rock, TX	93	92	92	91	95	94	82	103	91	92
Birmingham-Hoover, AL	96	103	100	96	93	97	85	102	91	102
Bloomington, IN	90	91	91	86	83	92	77	81	99	104
Bloomington-Normal, IL	101	100	102	106	102	95	103	94	116	99
Boston-Worcester-Manchester, MA-NH	111	105	108	114	109	115	120	113	106	110
Brownsville-Harlingen, TX	77	90	87	80	70	76	66	90	75	72
Buffalo-Niagara-Cattaraugus, NY	99	89	92	107	93	95	113	101	108	98
Charleston-North Charleston-Summerville, SC	92	92	95	87	96	95	78	86	102	99
Charlotte-Gastonia-Concord, NC-SC	99	105	94	97	100	99	91	99	103	98
Chicago-Naperville-Michigan City, IL-IN-WI	108	104	107	107	107	110	131	110	103	105
Cincinnati-Middletown-Wilmington, OH-KY-IN	99	95	102	101	94	99	91	100	100	103
Cleveland-Akron-Elyria, OH	99	100	97	100	94	100	103	105	102	102
Columbus-Marion-Chillicothe, OH	99	96	96	102	100	98	99	99	101	100
Corpus Christi, TX	89	85	88	85	89	86	99	101	92	87
Dallas-Fort Worth, TX	97	99	99	92	105	100	90	97	91	102
Dayton-Springfield-Greenville, OH	96	100	92	95	95	91	94	93	105	102
Denver-Aurora-Boulder, CO	104	100	103	106	104	104	98	116	104	104
Detroit-Warren-Flint, MI	104	95	103	100	99	103	100	99	116	108
Elkhart-Goshen, IN	96	96	92	94	91	93	110	87	98	102
Fort Collins-Loveland, CO	102	93	96	99	103	104	103	108	103	113
Grand Rapids-Wyoming, MI	99	90	95	105	106	99	108	94	101	98
Great Falls, MT	88	86	77	96	87	80	114	98	93	97
Greensboro-High Point, NC	95	100	94	92	99	98	88	87	99	103
Greenville-Mauldin-Easley, SC	93	105	88	94	88	97	78	85	106	93
Hartford-West Hartford-Willimantic, CT	111	105	108	120	109	113	113	107	112	109
Hickory-Lenoir-Morganton, NC	94	95	84	89	94	93	97	93	101	101
Honolulu, HI	105	105	101	116	109	96	118	112	109	96
Houston-Baytown-Huntsville, TX	98	103	101	85	102	99	91	96	100	94
Huntsville-Decatur, AL	96	95	96	94	99	95	89	92	99	101
Indianapolis-Anderson-Columbus, IN	95	81	97	93	84	97	92	96	109	100
Iowa City, IA	97	98	93	101	96	99	104	100	99	94
Johnstown, PA	86	83	84	91	85	87	91	88	85	83
Kansas City, MO-KS	99	92	98	98	102	98	98	98	102	97
Kennewick-Pasco-Richland, WA	102	102	95	111	103	96	107	100	100	105
Knoxville, TN	91	105	99	82	98	90	78	82	86	96
Lincoln, NE	88	83	83	91	85	88	85	89	88	99
Los Angeles-Long Beach-Riverside, CA	109	110	110	112	111	107	111	110	99	102

See footnotes at end of table.

Table 1. Pay relatives for major occupational groups in metropolitan areas, National Compensation Survey, July 2008 — 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	89	91	97	102	97	93	91	102	91
Memphis, TN-MS-AR	94	93	92	86	102	97	95	99	94	94
Miami-Fort Lauderdale-Pompano Beach, FL ...	98	105	96	101	97	100	91	96	92	97
Milwaukee-Racine-Waukesha, WI	99	97	95	97	106	101	105	98	105	104
Minneapolis-St. Paul-St. Cloud, MN-WI	108	108	103	116	107	104	114	102	111	107
Mobile, AL	92	94	91	90	93	93	93	88	96	98
New Orleans-Metairie-Kenner, LA	97	93	102	95	97	97	94	95	104	101
New York-Newark-Bridgeport, NY-NJ-CT-PA ..	114	115	115	114	113	116	132	113	107	108
Ocala, FL	89	77	84	93	91	90	76	101	94	101
Oklahoma City, OK	92	87	90	91	95	89	114	96	85	86
Orlando-Kissimmee, FL	91	89	87	90	96	90	94	96	99	108
Palm Bay-Melbourne-Titusville, FL	92	86	86	96	93	88	93	99	107	112
Philadelphia-Camden-Vineland, PA-NJ-DE-MD	105	104	107	104	97	106	104	110	99	104
Phoenix-Mesa-Scottsdale, AZ	99	102	101	99	108	99	91	102	96	100
Pittsburgh-New Castle, PA	95	88	94	95	92	97	93	95	97	95
Portland-Vancouver-Beaverton, OR-WA	105	98	100	112	109	107	114	116	103	102
Providence-New Bedford-Fall River, RI-MA	108	102	111	113	102	106	110	111	110	108
Reading, PA	101	106	92	99	107	100	102	99	102	99
Reno-Sparks, NV	99	96	98	99	106	100	88	102	98	101
Richmond, VA	97	97	96	97	94	101	88	99	105	99
Rochester, NY	99	91	98	109	98	99	95	88	103	98
Rockford, IL	98	89	97	101	97	96	110	96	100	103
Sacramento-Arden-Arcade-Truckee, CA-NV ...	109	106	114	112	108	106	113	110	121	109
Salinas, CA	113	113	120	123	129	108	126	124	93	104
San Antonio, TX	91	95	93	89	86	90	100	99	93	91
San Diego-Carlsbad-San Marcos, CA	109	106	107	118	103	105	109	109	106	101
San Jose-San Francisco-Oakland, CA	119	111	119	126	122	120	123	117	108	109
Seattle-Tacoma-Olympia, WA	110	103	106	117	113	105	110	106	116	110
Springfield, MA	110	100	110	109	111	108	109	99	110	114
Springfield, MO	89	84	85	88	93	87	79	86	94	98
St. Louis, MO-IL	104	100	100	98	98	101	116	112	108	110
Tallahassee, FL	89	83	82	95	91	89	91	84	92	94
Tampa-St. Petersburg-Clearwater, FL	93	93	90	94	100	96	100	91	91	97
Virginia Beach-Norfolk-Newport News, VA-NC	92	85	91	95	95	91	85	93	89	92
Visalia-Porterville, CA	100	89	103	104	102	96	87	96	103	107
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV	109	105	110	106	108	112	101	114	105	108
York-Hanover, PA	95	110	98	96	90	93	98	92	96	98
Youngstown-Warren-Boardman, OH-PA	93	99	90	93	87	94	90	89	94	110

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.

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.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 New York-Newark-Bridgeport, NY-NJ-CT-PA metropolitan area is \$33.14 and the average pay for construction and extraction workers in the United States is \$20.91.² 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:

$$(\$33.14 \div \$20.91) * 100 \cong 158$$

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 132.

Survey methodology

The National Compensation Survey (NCS) collects earnings and other data on employee compensation covering over 800 detailed occupations. Average occupational earnings from the NCS are published annually for 77 metropolitan areas and for the United States as a whole. This release provides data for the civilian economy, which includes the total private nonfarm economy excluding private households, and the public sector excluding the federal government. Beginning in 2006, the NCS implemented a number of significant survey changes including imputing for temporary non-response situations and benchmarking estimated employment. For more details on these changes, see James E. Smith and Robert W. Van Giezen, "Change Comes to the National Compensation Survey Locality Wage Bulletins," *Compensation and Working Conditions Online*, January 24, 2007 at <http://www.bls.gov/opub/cwc/cm20070122ar01p1.htm>.

The NCS program collects data in U.S. Office of Management and Budget (OMB) defined geographic areas. With the collection of the 2008 data, the NCS is in its second year of a six-year transition from the June 1993 OMB area definitions to the December 2003 OMB area definitions. The area titles have been updated to reflect the new area definitions. For more information on the area definitions, see Jason Technica, "New Area Sample Selected for the National Compensation Survey," *Compensation and Working Conditions Online*, March, 30 2005 at <http://www.bls.gov/opub/cwc/cm20050318ar01p1.htm>.

Historical pay relatives data are available for the survey years 1992-1996, 1998, 2002, 2004-2007. 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 were 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.

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.

The pay relatives in this release, as with estimates from any sample survey, are subject to sampling and non-sampling errors. Sampling errors are differences that occur between the pay relatives estimated from the sample and the true pay relatives derived from the population. Pay relatives are also subject to a variety of non-sampling errors that can influence the estimates. The NCS may be unable to obtain information for some establishments; there may be difficulties with survey definitions; respondents may be unable to provide correct information, or mistakes in recording or coding the data may occur. Non-sampling errors of these kinds were not specifically measured. However, they are expected to be minimal due to the extensive training of the field economists who gathered the survey data, computer edits of the data, and detailed data review.

For more details, see Maury B. Gittleman, "Pay Relatives for Metropolitan Areas in the NCS" *Monthly Labor Review*, March 2005, pp. 46-53, and Parastou Karen Shahpoori, "Pay Relatives for Major Metropolitan Areas," *Compensation and Working Conditions Online*, April 28, 2003.

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 2008 Occupational Employment and Wage Estimates, <http://www.bls.gov/oes/current/oesrcma.htm>.

² Average pay for construction and extraction workers in New York and for the United States are based on wage estimates published in the New York-Newark-Bridgeport, NY-NJ-CT-PA National Compensation Survey, May 2008 and the forthcoming National Compensation Survey: Occupational Wages in the United States, 2008, <http://www.bls.gov/ncs/ocs/compub.htm>.