

# 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, 2007

Average pay in the San Jose-San Francisco-Oakland, CA metropolitan area was 19 percent above the national average in 2007, the highest among metropolitan areas studied by the National Compensation Survey (NCS), the Bureau of Labor Statistics of the U.S. Department of Labor reported today. In contrast, pay was lowest in the Brownsville-Harlingen, TX metropolitan area with a pay relative of 76, meaning Brownsville workers earned an average of 76 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 9 major occupational groups within 77 metropolitan areas, as well as averaged across all occupations for each area. (See table 1.)

Table A below lists higher and lower paying metropolitan areas among those studied in the NCS. Table B provides higher paying metropolitan area for each of nine major occupational groups. In addition, area-to-area comparisons have been calculated for all 77 metropolitan areas and will soon be available on the BLS website at <http://www.bls.gov/ncs/ocs/payrel.htm>.

**Table A.** Metropolitan area pay relative rankings (of 77 metropolitan areas surveyed)

Rank	Metropolitan Area	Pay Relative
1.	San Jose-San Francisco-Oakland, CA	119
2.	New York-Newark-Bridgeport, NY-NJ-CT-PA	115
3.	Salinas, CA	114
4.	Hartford-West Hartford-Willimantic, CT	113
5.	Boston-Worcester-Manchester, MA-NH	112
75.	Corpus Christi, TX	87
76.	Johnstown, PA	85
77.	Brownsville-Harlingen, TX	76

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 versus 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. More information on pay relative controls and calculations is available in the Technical Note.

**Table B.** Metropolitan area pay relative rankings for nine major occupational groups (of 77 metropolitan areas surveyed)

Major Occupational Group	Rank and Metropolitan Area	Pay Relative
Management, business, and financial	1. New York-Newark-Bridgeport, NY-NJ-CT-PA	115
	2. Salinas, CA	114
Professional and related	1. Salinas, CA	120
	2. San Jose-San Francisco-Oakland, CA	118
Service	1. San Jose-San Francisco-Oakland, CA	124
	2. Hartford-West Hartford-Willimantic, CT	121
Sales and related	1. Salinas, CA	128
	2. San Jose-San Francisco-Oakland, CA	124
Office and administrative support	1. San Jose-San Francisco-Oakland, CA	121
	2. Boston-Worcester-Manchester, MA-NH	115
	2. New York-Newark-Bridgeport, NY-NJ-CT-PA	115
Construction and extraction	1. New York-Newark-Bridgeport, NY-NJ-CT-PA	133
	2. Chicago-Naperville-Michigan City, IL-IN-WI	131
Installation, maintenance, and repair	1. Boston-Worcester-Manchester, MA-NH	115
	1. Sacramento-Arden-Arcade-Truckee, CA-NV	115
Production	1. Detroit-Warren-Flint, MI	117
	1. Seattle-Tacoma-Olympia, WA	117
Transportation and material moving	1. Springfield, MA	113
	2. Seattle-Tacoma-Olympia, WA	112

The pay relative for construction and extraction occupations in the New York-Newark-Bridgeport area was 133, meaning the pay in the New York metropolitan area for that occupational group averaged 33 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.

Yearly differences in area and occupational group differences in 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 2007**

(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	88	83	86	91	88	81	85	91	92
Atlanta-Sandy Springs-Gainesville, GA-AL .....	101	103	102	96	96	106	91	100	104	106
Austin-Round Rock, TX .....	96	95	94	90	104	96	87	104	96	92
Birmingham-Hoover, AL .....	94	94	96	99	95	97	86	88	94	95
Bloomington, IN .....	90	87	92	87	83	91	76	81	88	105
Bloomington-Normal, IL .....	101	103	102	103	99	96	106	93	109	104
Boston-Worcester-Manchester, MA-NH .....	112	108	109	114	106	115	125	115	108	111
Brownsville-Harlingen, TX .....	76	77	88	76	68	77	66	86	76	74
Buffalo-Niagara-Cattaraugus, NY .....	101	90	94	108	102	98	114	105	107	103
Charleston-North Charleston-Summerville, SC .....	91	94	92	85	97	93	78	82	101	102
Charlotte-Gastonia-Concord, NC-SC .....	102	102	92	101	112	102	89	99	102	99
Chicago-Naperville-Michigan City, IL-IN-WI .....	108	102	108	107	109	110	131	112	105	105
Cincinnati-Middletown-Wilmington, OH-KY-IN .....	97	93	99	102	92	97	90	99	100	99
Cleveland-Akron-Elyria, OH .....	101	96	100	101	98	101	102	102	104	105
Columbus-Marion-Chillicothe, OH .....	99	103	95	101	105	98	99	101	96	98
Corpus Christi, TX .....	87	88	90	83	87	86	94	79	92	86
Dallas-Fort Worth, TX .....	97	99	99	93	101	99	89	96	91	97
Dayton-Springfield-Greenville, OH .....	97	100	94	96	97	92	102	100	106	102
Denver-Aurora-Boulder, CO .....	103	100	100	106	105	102	92	107	100	103
Detroit-Warren-Flint, MI .....	105	98	104	103	98	105	101	97	117	109
Elkhart-Goshen, IN .....	95	99	91	97	94	92	114	89	96	99
Fort Collins-Loveland, CO .....	101	94	97	96	105	102	104	104	100	109
Grand Rapids-Wyoming, MI .....	100	89	94	104	105	98	119	99	101	98
Great Falls, MT .....	88	82	77	96	90	83	110	93	100	96
Greensboro-High Point, NC .....	94	91	94	94	86	96	88	92	102	102
Greenville-Mauldin-Easley, SC .....	93	97	89	97	87	93	79	84	106	93
Hartford-West Hartford-Willimantic, CT .....	113	111	109	121	107	112	115	111	112	108
Hickory-Lenoir-Morganton, NC .....	95	94	85	92	91	95	102	89	100	101
Honolulu, HI .....	104	107	100	113	108	96	115	107	110	100
Houston-Baytown-Huntsville, TX .....	95	99	97	86	95	98	90	92	102	94
Huntsville-Decatur, AL .....	96	92	95	98	102	93	89	90	101	95
Indianapolis-Anderson-Columbus, IN .....	96	79	97	94	94	96	96	95	106	97
Iowa City, IA .....	97	102	92	100	93	98	104	102	100	98
Johnstown, PA .....	85	79	85	87	86	84	96	89	84	86
Kansas City, MO-KS .....	98	91	98	97	100	98	102	99	106	97
Kennewick-Pasco-Richland, WA .....	103	96	96	114	102	100	109	96	97	104
Knoxville, TN .....	92	103	99	83	99	95	82	85	88	96
Lincoln, NE .....	88	84	85	92	84	88	84	94	89	93
Los Angeles-Long Beach-Riverside, CA .....	107	107	107	109	114	107	111	110	100	104

See footnotes at end of table.

**Table 1. Pay relatives for major occupational groups in metropolitan areas, National Compensation Survey, July 2007 — 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
Louisville/Jefferson County-Elizabethtown-Scottsburg, KY-IN .....	95	90	91	103	99	96	106	92	99	91
Memphis, TN-MS-AR .....	95	96	88	87	100	98	93	99	97	96
Miami-Fort Lauderdale-Pompano Beach, FL .....	98	104	97	100	95	97	93	96	95	101
Milwaukee-Racine-Waukesha, WI .....	101	99	96	100	105	103	109	102	104	105
Minneapolis-St. Paul-St. Cloud, MN-WI .....	109	111	104	116	110	104	111	104	115	108
Mobile, AL .....	89	78	83	86	95	92	92	98	93	101
New Orleans-Metairie-Kenner, LA .....	98	90	100	94	102	99	93	93	101	104
New York-Newark-Bridgeport, NY-NJ-CT-PA .....	115	115	116	115	115	115	133	114	106	110
Ocala, FL .....	90	80	83	93	93	91	81	106	92	103
Oklahoma City, OK .....	90	86	88	91	89	88	103	107	85	84
Orlando-Kissimmee, FL .....	91	91	85	94	101	88	90	91	85	107
Palm Bay-Melbourne-Titusville, FL .....	94	85	87	101	96	88	92	103	107	106
Philadelphia-Camden-Vineland, PA-NJ-DE-MD .....	105	106	108	105	98	106	106	112	99	104
Phoenix-Mesa-Scottsdale, AZ .....	98	102	101	99	106	99	82	103	97	100
Pittsburgh-New Castle, PA .....	96	94	95	96	90	97	98	97	98	95
Portland-Vancouver-Beaverton, OR-WA .....	104	100	97	111	114	106	115	111	100	99
Providence-New Bedford-Fall River, RI-MA .....	109	106	113	116	102	107	113	111	111	106
Reading, PA .....	102	110	120	100	106	101	102	108	101	104
Reno-Sparks, NV .....	97	95	95	98	104	97	94	109	97	98
Richmond, VA .....	98	98	95	97	95	101	92	101	102	100
Rochester, NY .....	97	89	96	106	97	98	98	88	99	99
Rockford, IL .....	98	88	97	98	98	96	107	99	102	102
Sacramento-Arden-Arcade-Truckee, CA-NV .....	108	103	110	112	104	106	101	115	114	109
Salinas, CA .....	114	114	120	118	128	113	126	107	101	104
San Antonio, TX .....	91	93	92	87	96	91	97	102	98	89
San Diego-Carlsbad-San Marcos, CA .....	109	108	110	115	105	106	111	109	105	101
San Jose-San Francisco-Oakland, CA .....	119	112	118	124	124	121	123	114	108	109
Seattle-Tacoma-Olympia, WA .....	110	103	102	119	113	106	110	107	117	112
Springfield, MA .....	110	101	112	107	110	110	109	103	109	113
Springfield, MO .....	88	84	87	87	92	87	77	87	93	97
St. Louis, MO-IL .....	102	96	100	97	96	100	121	110	106	110
Tallahassee, FL .....	92	83	86	96	91	91	81	88	93	93
Tampa-St. Petersburg-Clearwater, FL .....	94	90	91	94	97	97	98	94	93	102
Virginia Beach-Norfolk-Newport News, VA-NC .....	91	86	90	94	92	92	84	94	92	90
Visalia-Porterville, CA .....	98	106	103	101	98	98	89	90	103	93
Washington-Baltimore-Northern Virginia, DC-MD-VA-WV .....	108	104	111	106	106	112	100	114	107	106
York-Hanover, PA .....	97	105	99	98	90	96	99	98	97	104
Youngstown-Warren-Boardman, OH-PA .....	96	99	93	93	86	92	95	94	101	110

<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.

## 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 typically high-paying management, business, and financial occupations group to the number of workers in all occupations is under 6 percent, whereas nationally this ratio is nearly 9 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 wage determination. 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 area is \$30.42 and the average pay for construction and extraction workers in the entire United States is \$20.14.<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:

$$(\$30.42 \div \$20.14) * 100 \cong 151$$

This comparison does not control for differences between the New York-Newark-Bridgeport, NY-NJ-CT-PA metropolitan area and the nation in the mix of occupations, industries, and other factors. A more accurate estimate of the geographic effect of wages can be obtained by taking these differences into account. Controlling for differences in occupational composition, establishment and occupational characteristics, and the payroll reference date relative to the nation as the whole, the pay relative for construction and extraction occupations in New York-Newark-Bridgeport, NY-NJ-CT-PA is equal to 133.

### 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. 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 the article 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. The NCS is in its first 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; however, the private industry sample is based on the 1993 area definitions. Area titles are subject to annual OMB revision. For more information on the area definitions, see Jason Tehonica, "New Area Sample Selected for the National Compensation Survey," *Compensation and Working Conditions Online*, April 25, 2005, on the Internet at: <http://www.bls.gov/opub/cwc/cm20050318ar01p1.htm>.

Historical pay relative data are available for 1992-1996, 1998, 2002, and 2004-2006. 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 for 2004 through 2007 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 a high degree of caution.

Pay relatives were estimated using a multivariate regression technique methodology 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 U.S." *Monthly Labor Review*, March 2005, pp. 46-53, and Parastou Karen Shahpoori, "Pay Relatives for Major Metropolitan Areas," *Compensation and Working Conditions*, Spring 2003.

### **Obtaining information**

Articles, bulletins, and other information 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 2007 Metropolitan and Nonmetropolitan Area Occupational Employment and Wage Estimates, <http://www.bls.gov/oes/current/oesrcma.htm>.

<sup>2</sup> Average pay for construction and extraction workers in the New York - Newark - Bridgeport, NY-NJ-CT-PA metropolitan area 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 2007 and the upcoming National Compensation Survey: Occupational Wages in the United States, July 2007, <http://www.bls.gov/ncs/ocs/ncswage.htm>.