

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, 2006

Average pay in the San Francisco metropolitan area was 19 percent above the national average in 2006, the highest among the 78 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, Texas metropolitan area with a pay relative of 78, meaning Brownsville workers earned an average of 78 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 78 metropolitan areas, as well as averaged across all occupations for each area. (See table 1.) Table A below lists the five highest and five lowest paying metropolitan areas among those studied in the NCS. In addition, similar area-to-area comparisons have been calculated for all 78 areas and will soon be available on the BLS website at <http://www.bls.gov/ncs/ocs/payrel.htm>.

Table A. Highest and lowest metropolitan area pay relative rankings (of 78 metropolitan areas surveyed)

Rank	Metropolitan Area	Pay Relative
1.	San Francisco-Oakland-San Jose, CA	119
2.	New York-Northern New Jersey-Long Island, NY-NJ-CT-PA	114
3.	Salinas, CA	113
4.	Boston-Worcester-Lawrence, MA-NH-ME-CT	112
	Hartford, CT	112
74.	Corpus Christi, TX	87
	Great Falls, MT	87
	Johnstown, PA	87
	Springfield, MO	87
78.	Brownsville-Harlingen-San Benito, TX	78

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 are available in the Technical Note.

The pay relative in 2006 for workers in construction and extraction occupations in the San Francisco area was 122, meaning the pay in San Francisco for that occupational group averaged 22 percent more than the national average pay for that occupational group. By contrast, the pay relative for workers in construction and extraction occupations in the Brownsville, Texas area was 67, meaning pay for workers in those occupations averaged 33 percent less than the national average.

The National Compensation Survey (NCS), introduced in 1997, collects earnings and other data on employee compensation covering over 800 detailed occupations in 152 metropolitan and nonmetropolitan areas. Average occupational earnings from the NCS are published annually for 78 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>.

Data users are cautioned not to use yearly differences in area and occupational pay group differences in pay relatives to infer changes in underlying economic conditions.

Table 1. Pay relatives for major occupational groups in metropolitan areas, National Compensation Survey, June 2006

(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	88	93	85	87	90	87	83	81	89	92
Anchorage, AK	109	104	100	121	108	106	125	111	115	110
Atlanta, GA	102	102	102	97	104	104	93	102	103	107
Augusta-Aiken, GA-SC	94	89	100	89	83	96	95	97	98	96
Austin-San Marcos, TX	95	91	95	93	100	97	88	100	94	91
Birmingham, AL	94	92	95	101	94	96	84	99	87	98
Bloomington, IN	90	89	97	90	78	88	78	85	97	104
Boston-Worcester-Lawrence, MA-NH-ME-CT	112	110	108	113	106	113	124	115	108	111
Brownsville-Harlingen-San Benito, TX	78	73	95	76	75	77	67	78	76	76
Buffalo-Niagara Falls, NY	100	91	106	105	105	99	111	100	111	101
Charleston-North Charleston, SC	93	98	94	86	101	93	80	82	101	104
Charlotte-Gastonia-Rock Hill, NC-SC	101	99	93	98	109	102	92	98	104	99
Chicago-Gary-Kenosha, IL-IN-WI	108	104	107	107	106	109	125	114	104	106
Cincinnati-Hamilton, OH-KY-IN	98	93	99	103	94	98	90	98	100	99
Cleveland-Akron, OH	100	96	101	98	95	101	101	102	105	106
Columbus, OH	100	100	92	100	105	99	98	100	96	101
Corpus Christi, TX	87	92	83	83	88	84	92	81	89	86
Dallas-Fort Worth, TX	98	100	101	96	103	99	90	95	91	99
Dayton-Springfield, OH	98	99	92	96	97	92	100	106	107	105
Denver-Boulder-Greeley, CO	102	99	102	99	104	102	91	105	103	98
Detroit-Ann Arbor-Flint, MI	106	97	104	101	101	105	110	97	118	108
Elkhart-Goshen, IN	96	96	94	96	95	92	109	92	98	101
Fort Collins-Loveland, CO	100	94	95	94	106	101	99	104	95	111
Grand Rapids-Muskegon-Holland, MI	101	93	97	104	109	100	106	96	102	101
Great Falls, MT	87	85	76	94	88	80	118	100	96	92
Greensboro-Winston Salem-High Point, NC	95	91	94	95	86	97	91	98	101	104
Greenville-Spartanburg-Anderson, SC	94	95	90	97	91	93	82	84	105	95
Hartford, CT	112	108	108	119	108	112	114	108	111	107
Hickory-Morganton-Lenoir, NC	95	89	89	90	91	95	98	91	100	102
Honolulu, HI	105	105	104	110	105	99	113	115	106	104
Houston-Galveston-Brazoria, TX	96	100	98	87	95	98	91	95	100	95
Huntsville, AL	96	94	96	95	100	96	91	90	100	93
Indianapolis, IN	97	82	97	97	95	98	93	95	108	99
Iowa City, IA	98	95	95	102	92	101	101	102	101	96
Johnstown, PA	87	86	91	89	86	84	96	88	84	82
Kansas City, MO-KS	99	93	95	95	96	100	108	104	104	97
Knoxville, TN	92	103	98	84	98	95	85	87	89	96
Lincoln, NE	89	85	88	91	85	87	85	93	91	91
Los Angeles-Riverside-Orange County, CA	107	106	109	109	115	106	110	106	99	102
Louisville, KY-IN	96	91	96	103	99	98	110	94	99	94
Melbourne-Titusville-Palm Bay, FL	93	85	81	101	96	89	92	101	105	103
Memphis, TN-AR-MS	95	96	92	91	104	98	94	98	97	96

See footnotes at end of table.

Table 1. Pay relatives for major occupational groups in metropolitan areas, National Compensation Survey, June 2006 — 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
Miami-Fort Lauderdale, FL	96	107	95	96	95	96	91	93	97	98
Milwaukee-Racine, WI	102	100	97	100	102	104	110	101	106	107
Minneapolis-St. Paul, MN-WI	108	101	104	118	109	103	113	107	117	107
Mobile, AL	88	81	85	84	95	90	94	98	96	91
New Orleans, LA	95	90	96	91	101	96	90	91	95	100
New York-Northern New Jersey-Long Island, NY-NJ-CT-PA	114	114	116	114	112	114	128	114	105	110
Norfolk-VA Beach-Newport News, VA-NC	91	87	90	95	94	91	87	94	93	89
Ocala, FL	90	88	88	92	93	88	83	106	95	103
Oklahoma City, OK	91	87	85	91	93	89	101	108	89	87
Orlando, FL	93	94	88	94	101	90	91	93	85	106
Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD	105	106	107	105	100	106	106	112	100	108
Phoenix-Mesa, AZ	97	99	101	96	107	101	82	100	96	100
Pittsburgh, PA	96	91	97	98	89	97	96	96	99	96
Portland-Salem, OR-WA	104	104	95	112	110	105	114	110	101	100
Providence-Fall River-Warwick, RI-MA	108	109	111	112	103	106	104	108	112	105
Reading, PA	102	105	94	101	106	102	102	100	99	102
Reno, NV	98	97	95	99	101	99	96	111	98	101
Richland-Kennewick-Pasco, WA	103	96	95	113	105	100	111	93	98	100
Richmond-Petersburg, VA	98	98	95	98	99	99	92	99	102	100
Rochester, NY	97	89	97	104	96	98	94	89	100	100
Rockford, IL	100	90	97	99	100	97	111	104	103	104
Sacramento-Yolo, CA	106	102	107	111	102	104	103	118	111	108
Salinas, CA	113	115	121	115	129	111	132	110	95	104
San Antonio, TX	89	93	91	87	84	91	97	97	96	86
San Diego, CA	108	106	110	112	106	105	107	107	104	101
San Francisco-Oakland-San Jose, CA	119	114	117	123	124	122	122	117	108	108
Seattle-Tacoma-Bremerton, WA	109	103	99	119	111	108	111	106	117	113
Springfield, MA	109	104	109	105	113	110	105	110	108	115
Springfield, MO	87	82	88	84	91	86	77	91	94	89
St. Louis, MO-IL	101	97	99	94	100	99	117	107	104	108
Tallahassee, FL	91	81	90	96	92	91	88	87	95	93
Tampa-St. Petersburg-Clearwater, FL	95	89	91	95	98	100	97	94	93	103
Visalia-Tulare-Porterville, CA	99	101	98	101	102	97	92	93	105	97
Washington-Baltimore, DC-MD-VA-WV	107	103	107	106	106	111	100	116	108	106
York, PA	97	102	98	98	91	95	102	99	96	103
Youngstown-Warren, OH	96	96	93	91	92	92	99	95	102	110

¹ A metropolitan area can be a Metropolitan Statistical Area (MSA) or Consolidated Metropolitan Statistical Area (CMSA) as defined by the Office of Management and Budget, 1994.

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, 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 8 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 wage determination. To illustrate the importance of controlling for these effects, consider the following example. The average pay for professional and related workers in San Francisco is \$37.57 and the average pay for professional and related workers in the entire United States is \$29.76.² 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:

$$(\$37.57 \div \$29.76) * 100 \cong 126$$

This comparison does not control for differences between San Francisco and the nation in the mix of occupations, industries, and other factors. A more accurate estimate of the geographic effect of wages in San Francisco 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 San Francisco relative to the nation as the whole, the pay relative for professional and related occupations in San Francisco is equal to 117.

Historical data

Historical pay relative data are available for 1992-1996, 1998, 2002, 2004, and 2005. 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, 2005, and 2006 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.

Survey methodology

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.

¹ Data for this example are based on the May 2006 Occupational Employment and Wage Estimates, <http://www.bls.gov/oes/current/oessrcma.htm>.

² Average pay for professional workers in San Francisco and for the United States are based on wage estimates published in the San Francisco–Oakland–San Jose, CA National Compensation Survey, March 2006 and the National Compensation Survey: Occupational Wages in the United States, June 2006, <http://www.bls.gov/ncs/ocs/compub.htm>.