

Real Per Capita Personal Income and Regional Price Parities for 2015

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IN JUNE 2017, the Bureau of Economic Analysis (BEA) released real, or price-adjusted, estimates of personal income for states and metropolitan statistical areas (MSAs).¹ The price adjustments are based in part on regional price parities (RPPs), which provide a measure of differences in price levels across each state and metropolitan area relative to the national price level for each year.² When RPPs are applied in conjunction with BEA's national personal consumption expenditures (PCE) price index, which measures price changes over time, the purchasing power of personal income can be compared across regions and over time.

1. The Office of Management and Budget defines MSAs as one or more counties with a high degree of social and economic integration, with a core urban population of 50,000 or more. In this article, we refer to MSAs simply as metropolitan areas.

2. RPPs are calculated for the 50 states and the District of Columbia, state metropolitan and nonmetropolitan portions, and metropolitan areas. Estimates for metropolitan areas include an estimate for the nonmetropolitan portion of the United States to provide complete coverage of all U.S. counties.

Acknowledgments

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1. The BEA Regional Price Parity statistics are based in part on restricted access Consumer Price Index data from the Bureau of Labor Statistics. The BEA statistics expressed herein are products of BEA and not BLS.

This article discusses the most recent RPPs and real personal income estimates for states and metropolitan areas. For an explanation of how the RPPs are used to estimate real personal income, see the box "Using Regional Price Parities (RPPs) to Estimate Real Personal Income."

Real per capita personal income

Real per capita personal income is available for both states and metropolitan areas. All results, including the RPPs, are available on BEA's Web site (see the box "Data Availability").³

States

State results are presented in table 1. The change in real per capita income in 2015 ranged from an increase of

3. For detailed information on the methodology used to estimate real personal income and regional price parities, see "Regional Economic Accounts: Methodologies" on BEA's Web site.

Data Availability

Real personal income data, regional price parities, and implicit regional price deflators are available on [BEA's Web site](#). Data are available for 2008 to 2015 for states, state metropolitan and nonmetropolitan portions, and metropolitan areas.

The regional price parities for 2013 and 2014, released in July 2016, were revised to incorporate updated price levels and expenditure weights. As a result, real personal income and implicit regional price deflators for 2013 and 2014, released for states in September 2016 and for local areas in November 2016, were also revised. In addition, real per capita personal income for states for 2010 to 2014, released in September 2016, was revised to incorporate revised population estimates.

For further information about these data, e-mail the Regional Prices Branch at rpp@bea.gov.

6.0 percent in Delaware to a decline of 4.5 percent in North Dakota. These rates reflect the year-over-year changes in a state's real personal income and population. After Delaware, the states with the largest increases were California (5.2 percent), Massachusetts (4.7 percent), Michigan (4.6 percent), and Oregon (4.6 percent). The growth rate in the District of Columbia was 4.8 percent. North Dakota was the only state with a decline in real per capita personal income. The states with the lowest growth rates were Nebraska (0.0 percent), Wyoming (0.0 percent), Oklahoma (0.5 percent), and Arkansas (1.0 percent).

Price adjustments using the RPPs and PCE price index narrowed the range of per capita personal income. In 2015, the unadjusted range was \$38,700, the difference between \$73,505 in the District of Columbia and \$34,805 in Mississippi. For real per capita personal income, the range narrowed to \$21,059, the difference between \$57,902 in Connecticut and \$36,843 in New Mexico.

In 2015, the states with the highest RPPs were Hawaii (118.8), New York (115.3), California (113.4), and New Jersey (113.4). The District of Columbia's RPP was 117.0. States with the lowest RPPs were Mississippi (86.2), Alabama (86.8), Arkansas (87.4), South Dakota (88.2), and Kentucky (88.6). These RPPs are for all items and cover all consumption goods and services, including rents. States with high (low) RPPs typically have relatively high (low) price levels for rents. Across the states, Hawaii had the highest rents RPP (163.4) and Alabama had the lowest (62.8).

Metropolitan areas

Across metropolitan areas, changes in real per capita personal income in 2015 ranged from an increase of 9.8 percent in Carson City, NV, to a decline of 13.0 percent in Midland, TX (table A). After Carson City, NV, the metropolitan areas with largest increases were Yuma, AZ (8.2 percent); Sebring, FL (7.6 percent); Farmington, NM (7.5 percent); Salinas, CA (6.9 percent); and Sioux Falls, SD (6.9 percent). After Midland, TX, the metropolitan areas with the largest declines were Odessa, TX (9.4 percent); Casper, WY (3.9 percent); Lafayette, LA (3.0 percent); and Enid, OK (2.6 percent).

RPP estimates for metropolitan areas had a larger range than those for states: 44.8 for metropolitan areas (table B), compared with 32.6 for the states (table 1). The RPP for the nonmetropolitan portion of the United States was 87.8. The RPP across all metropolitan areas and the nonmetropolitan portion of the United States is equal to 100 in each year.

The metropolitan areas with the highest RPPs were Urban Honolulu, HI (124.5); followed by San Jose-Sunnyvale-Santa Clara, CA (124.1); Santa Cruz-Watsonville, CA (122.0), New York-Newark-Jersey City, NY-NJ-PA (121.9); and San Francisco-Oakland-Hayward, CA (121.9). Metropolitan areas with the lowest RPPs were Beckley, WV (79.7); Rome, GA (80.2); Valdosta, GA (81.1); Danville, IL (81.2); and Morristown, TN (81.3). Their RPPs were 7 percent to 9 percent below the RPP of the nonmetropolitan portion of the United States.

Table A. Largest Percent Changes in Real Per Capita Personal Income Across Metropolitan Areas, 2015

| Area | Real per capita personal income | | Percent change |
|--|---------------------------------|--------|----------------|
| | 2014 | 2015 | |
| Areas with largest percent increases | | | |
| Carson City, NV..... | 38,079 | 41,804 | 9.8 |
| Yuma, AZ..... | 28,815 | 31,190 | 8.2 |
| Sebring, FL..... | 33,268 | 35,790 | 7.6 |
| Farmington, NM..... | 35,735 | 38,431 | 7.5 |
| Salinas, CA..... | 39,417 | 42,153 | 6.9 |
| Sioux Falls, SD..... | 49,899 | 53,360 | 6.9 |
| Areas with largest percent declines | | | |
| Midland, TX..... | 109,894 | 95,616 | -13.0 |
| Odessa, TX..... | 47,549 | 43,070 | -9.4 |
| Casper, WY..... | 66,836 | 64,223 | -3.9 |
| Lafayette, LA..... | 45,940 | 44,550 | -3.0 |
| Enid, OK..... | 47,048 | 45,838 | -2.6 |
| Range across all metropolitan areas..... | 84,334 | 69,114 | 22.8 |
| United States nonmetropolitan portion..... | 38,567 | 39,575 | 2.6 |
| All metropolitan areas and the U.S. nonmetropolitan portion..... | 42,523 | 43,925 | 3.3 |

NOTE: Real personal income data for all metropolitan areas are available on BEA's Web site.

Table B. Highest and Lowest Regional Price Parities (RPPs) Across Metropolitan Areas, 2015

| Area | RPPs for all items |
|--|--------------------|
| Highest RPPs | |
| Urban Honolulu, HI..... | 124.5 |
| San Jose-Sunnyvale-Santa Clara, CA..... | 124.1 |
| Santa Cruz-Watsonville, CA..... | 122.0 |
| New York-Newark-Jersey City, NY-NJ-PA..... | 121.9 |
| San Francisco-Oakland-Hayward, CA..... | 121.9 |
| Lowest RPPs | |
| Beckley, WV..... | 79.7 |
| Rome, GA..... | 80.2 |
| Valdosta, GA..... | 81.1 |
| Danville, IL..... | 81.2 |
| Morristown, TN..... | 81.3 |
| Range across all metropolitan areas..... | 44.8 |
| United States nonmetropolitan portion..... | 87.8 |
| All metropolitan areas and the U.S. nonmetropolitan portion..... | 100.0 |

NOTE: Regional price parities for all metropolitan areas are available on BEA's Web site.

Using Regional Price Parities (RPPs) to Estimate Real Personal Income

An important application of the RPPs is the adjustment of consumption-related data to control for price level differences across regions. In this article, the RPPs are used to adjust current-dollar personal income on a per capita basis. The adjustment begins by calculating personal income at regional price parities by dividing current-dollar personal income by the regional price parity for a given year and region.¹ Real personal income is the

income at regional price parities divided by the national personal consumption expenditures (PCE) price index.² Dividing by the population yields real per capita personal income. Real personal income estimates are calculated in chained dollars, with 2009 as the reference year.

The example in the table shows how regional price parities can be used in conjunction with the PCE price index to calculate real estimates of regional personal income.

1. The sum across all regions of the adjusted results should equal the sum of current-dollar estimates; however, small differences arise. To correct this, the adjusted data are divided by a balancing factor equal to the ratio of the adjusted personal income sum to the unadjusted personal income sum. These factors are specific to the regions, reference period, and data series being adjusted.

2. The order of adjustment does not matter; that is, one could first divide by the national price index and then divide the resulting constant dollars by the RPPs.

Real Per Capita Personal Income for Illinois, 2015

| Personal income (billions of dollars) | Regional price parities (RPPs) | Balancing factor | Personal income at RPPs (billions of dollars) | PCE price index (base year = 2009) | Real personal income (billions of chained (2009) dollars) | Population (persons) | Real per capita personal income (thousands of chained (2009) dollars) |
|---------------------------------------|--------------------------------|------------------|---|------------------------------------|---|----------------------|---|
| 646.8 | 0.997 | 0.9983 | 649.8 | 1.09532 | 593.3 | 12,839,047 | 46.2 |

NOTES. This article uses current-dollar state personal income estimates that were released by the Bureau of Economic Analysis on March 28, 2017, and local area personal income estimates that were released on November 17, 2016. Personal consumption expenditures price indexes were released on July 29, 2016.

Personal income is the income received by all persons from all sources. It is the sum of net earnings by place of residence, property income, and personal current transfer receipts. For more information, see *State Personal Income and Employment* and *Local Area Personal Income* on BEA's Web site.

Table 1 follows.

Table 1. Real Per Capita Personal Income for 2014 and 2015 and Regional Price Parities for 2015

| | Per capita personal income (dollars) | | | Real per capita personal income (chained (2009) dollars) | | | Regional price parities, 2015 | | | |
|---------------------------|---|--------|-------------------|---|--------|-------------------|-------------------------------|-------|----------|-------|
| | 2014 | 2015 | Percent change | 2014 | 2015 | Percent change | All items | Goods | Services | |
| | | | | | | | | | Rents | Other |
| Alabama..... | 36,954 | 38,070 | 3.0 | 38,892 | 40,092 | 3.1 | 86.8 | 95.9 | 62.8 | 93.8 |
| Alaska..... | 54,607 | 56,202 | 2.9 | 47,132 | 48,663 | 3.2 | 105.6 | 101.0 | 139.4 | 96.9 |
| Arizona..... | 38,055 | 39,217 | 3.1 | 36,288 | 37,268 | 2.7 | 96.2 | 98.1 | 91.4 | 97.4 |
| Arkansas..... | 37,581 | 38,257 | 1.8 | 39,613 | 40,025 | 1.0 | 87.4 | 94.7 | 63.9 | 93.9 |
| California..... | 51,134 | 53,949 | 5.5 | 41,374 | 43,527 | 5.2 | 113.4 | 103.6 | 147.3 | 106.1 |
| Colorado..... | 49,823 | 50,971 | 2.3 | 44,601 | 45,186 | 1.3 | 103.2 | 100.1 | 114.7 | 100.1 |
| Connecticut..... | 66,770 | 68,822 | 3.1 | 56,395 | 57,902 | 2.7 | 108.7 | 104.5 | 116.8 | 108.6 |
| Delaware..... | 45,333 | 47,727 | 5.3 | 41,024 | 43,490 | 6.0 | 100.4 | 99.7 | 97.6 | 103.1 |
| District of Columbia..... | 70,468 | 73,505 | 4.3 | 54,803 | 57,449 | 4.8 | 117.0 | 105.9 | 154.3 | 109.7 |
| Florida..... | 42,905 | 44,487 | 3.7 | 39,592 | 40,880 | 3.3 | 99.5 | 98.2 | 105.4 | 97.2 |
| Georgia..... | 38,873 | 40,367 | 3.8 | 38,760 | 39,872 | 2.9 | 92.6 | 96.8 | 81.1 | 95.2 |
| Hawaii..... | 46,594 | 48,506 | 4.1 | 36,152 | 37,337 | 3.3 | 118.8 | 109.2 | 163.4 | 104.3 |
| Idaho..... | 37,182 | 38,440 | 3.4 | 36,456 | 37,653 | 3.3 | 93.4 | 98.0 | 78.7 | 97.3 |
| Illinois..... | 48,563 | 50,377 | 3.7 | 44,679 | 46,209 | 3.4 | 99.7 | 100.1 | 99.4 | 99.4 |
| Indiana..... | 40,477 | 41,984 | 3.7 | 40,832 | 42,310 | 3.6 | 90.7 | 97.2 | 74.9 | 93.6 |
| Iowa..... | 44,442 | 45,930 | 3.3 | 45,182 | 46,517 | 3.0 | 90.3 | 95.4 | 75.3 | 91.7 |
| Kansas..... | 46,443 | 47,241 | 1.7 | 46,982 | 47,769 | 1.7 | 90.4 | 95.8 | 74.6 | 93.5 |
| Kentucky..... | 37,055 | 38,592 | 4.1 | 38,493 | 39,834 | 3.5 | 88.6 | 94.3 | 68.9 | 93.6 |
| Louisiana..... | 41,821 | 42,963 | 2.7 | 42,160 | 43,361 | 2.8 | 90.6 | 96.2 | 76.2 | 93.8 |
| Maine..... | 41,226 | 42,795 | 3.8 | 38,856 | 39,950 | 2.8 | 98.0 | 98.5 | 95.8 | 98.6 |
| Maryland..... | 54,109 | 56,078 | 3.6 | 45,090 | 46,799 | 3.8 | 109.6 | 103.4 | 123.9 | 106.7 |
| Massachusetts..... | 59,650 | 62,697 | 5.1 | 51,195 | 53,624 | 4.7 | 106.9 | 100.7 | 123.3 | 105.4 |
| Michigan..... | 40,942 | 42,833 | 4.6 | 40,084 | 41,913 | 4.6 | 93.5 | 97.7 | 81.1 | 96.5 |
| Minnesota..... | 49,169 | 50,938 | 3.6 | 46,264 | 47,828 | 3.4 | 97.4 | 100.8 | 95.0 | 94.7 |
| Mississippi..... | 34,151 | 34,805 | 1.9 | 36,309 | 36,918 | 1.7 | 86.2 | 93.9 | 63.1 | 93.9 |
| Missouri..... | 41,126 | 42,352 | 3.0 | 42,154 | 43,389 | 2.9 | 89.3 | 95.2 | 73.6 | 92.2 |
| Montana..... | 40,614 | 41,845 | 3.0 | 39,455 | 40,347 | 2.3 | 94.8 | 98.5 | 85.5 | 95.3 |
| Nebraska..... | 48,369 | 48,606 | 0.5 | 49,044 | 49,055 | 0.0 | 90.6 | 95.9 | 76.3 | 92.0 |
| Nevada..... | 40,565 | 41,992 | 3.5 | 37,979 | 39,169 | 3.1 | 98.0 | 96.8 | 95.3 | 101.8 |
| New Hampshire..... | 53,599 | 55,926 | 4.3 | 46,731 | 48,706 | 4.2 | 105.0 | 100.1 | 118.1 | 103.6 |
| New Jersey..... | 57,817 | 60,101 | 3.9 | 46,522 | 48,454 | 4.2 | 113.4 | 102.7 | 132.8 | 113.4 |
| New Mexico..... | 36,701 | 38,025 | 3.6 | 35,430 | 36,843 | 4.0 | 94.4 | 97.3 | 81.2 | 100.1 |
| New York..... | 56,771 | 58,814 | 3.6 | 45,027 | 46,638 | 3.6 | 115.3 | 108.6 | 133.9 | 111.5 |
| North Carolina..... | 39,388 | 40,790 | 3.6 | 39,516 | 40,919 | 3.6 | 91.2 | 96.0 | 78.7 | 93.8 |
| North Dakota..... | 57,911 | 55,956 | -3.4 | 58,030 | 55,419 | -4.5 | 92.3 | 95.2 | 86.4 | 91.5 |
| Ohio..... | 42,164 | 43,597 | 3.4 | 43,381 | 44,702 | 3.0 | 89.2 | 96.0 | 72.9 | 91.6 |
| Oklahoma..... | 45,142 | 45,619 | 1.1 | 46,191 | 46,414 | 0.5 | 89.9 | 95.4 | 72.0 | 93.9 |
| Oregon..... | 41,720 | 43,830 | 5.1 | 38,602 | 40,392 | 4.6 | 99.2 | 98.7 | 101.5 | 98.7 |
| Pennsylvania..... | 47,967 | 49,786 | 3.8 | 44,931 | 46,486 | 3.5 | 97.9 | 99.6 | 88.7 | 101.7 |
| Rhode Island..... | 48,043 | 50,050 | 4.2 | 44,495 | 46,362 | 4.2 | 98.7 | 98.3 | 100.2 | 98.3 |
| South Carolina..... | 36,865 | 38,312 | 3.9 | 37,550 | 38,808 | 3.4 | 90.3 | 96.3 | 76.3 | 93.8 |
| South Dakota..... | 46,006 | 47,912 | 4.1 | 48,039 | 49,690 | 3.4 | 88.2 | 95.0 | 68.5 | 91.3 |
| Tennessee..... | 40,252 | 42,127 | 4.7 | 41,104 | 42,876 | 4.3 | 89.9 | 95.9 | 73.7 | 93.8 |
| Texas..... | 45,814 | 47,015 | 2.6 | 43,575 | 44,419 | 1.9 | 96.8 | 96.8 | 92.9 | 99.1 |
| Utah..... | 37,678 | 39,378 | 4.5 | 35,573 | 37,110 | 4.3 | 97.0 | 97.1 | 91.2 | 100.8 |
| Vermont..... | 47,128 | 48,584 | 3.1 | 42,476 | 43,732 | 3.0 | 101.6 | 98.4 | 117.0 | 98.3 |
| Virginia..... | 50,169 | 52,148 | 3.9 | 44,867 | 46,522 | 3.7 | 102.5 | 99.5 | 111.8 | 100.6 |
| Washington..... | 50,421 | 51,971 | 3.1 | 44,165 | 45,349 | 2.7 | 104.8 | 103.8 | 113.2 | 101.5 |
| West Virginia..... | 35,783 | 36,820 | 2.9 | 37,145 | 37,887 | 2.0 | 88.9 | 94.6 | 66.0 | 95.3 |
| Wisconsin..... | 44,414 | 45,942 | 3.4 | 43,679 | 45,106 | 3.3 | 93.1 | 96.2 | 85.9 | 93.3 |
| Wyoming..... | 56,068 | 56,038 | -0.1 | 53,246 | 53,253 | 0.0 | 96.2 | 98.4 | 91.5 | 95.9 |
| United States..... | 46,464 | 48,190 | 3.7 | 42,569 | 43,996 | 3.4 | 100.0 | 99.4 | 101.1 | 100.0 |
| Maximum..... | 70,468 | 73,505 | 5.5 | 58,030 | 57,902 | 6.0 | 118.8 | 109.2 | 163.4 | 113.4 |
| Minimum..... | 34,151 | 34,805 | -3.4 | 35,430 | 36,843 | -4.5 | 86.2 | 93.9 | 62.8 | 91.3 |
| Range..... | 36,317 | 38,700 | 8.9 | 22,600 | 21,059 | 10.5 | 32.6 | 15.3 | 100.6 | 22.1 |