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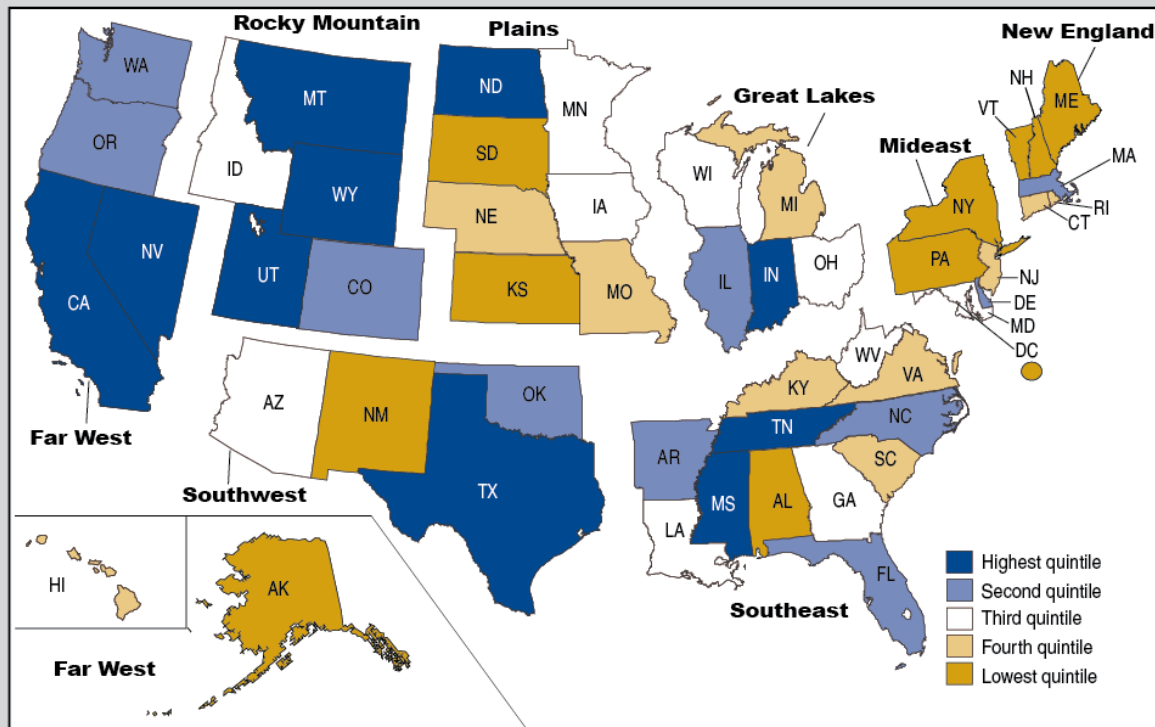
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Real Personal Income for States and Metropolitan Areas, 2008-2012

Today, the U.S. Bureau of Economic Analysis released real, price-adjusted estimates of personal income for states and metropolitan areas for 2008-2012.

“For the first time, Americans looking to move or take a job anywhere in the country can compare inflation-adjusted incomes across states and metropolitan areas to better understand how their personal income may be affected by a job change or move. Businesses considering relocating or establishing new plants also now have a comprehensive and consistent measure of differences in the cost of living and the purchasing power of consumers nationwide. The Commerce Department’s ‘Open for Business Agenda’ prioritizes making our data more accessible and understandable so that it can continue powering both small and large businesses nationwide,” said U.S. Secretary of Commerce Penny Pritzker.

Real Personal Income for States: Percent Change, 2011-2012



U.S. Bureau of Economic Analysis

The price-adjustments are based on regional price parities (RPPs) and on BEA's national Personal Consumption Expenditure (PCE) price index. The RPPs measure geographic differences in the price levels of consumption goods and services relative to the national average, and the PCE price index measures national price changes over time (see Technical Note on page 4). Using the RPPs in combination with the PCE price index allows for comparisons of the purchasing power of personal income across regions and over time. These estimates are being released for the first time as official statistics¹.

Real Personal Income for States and Metropolitan Areas

Real personal income across all regions rose by an average of 2.3% in 2012. This growth rate reflects the year-over-year change in nominal personal income across all regions adjusted by the change in the national PCE price index. On a nominal basis, personal income across all regions grew an average of 4.2% in 2012. In 2012, the U.S. PCE price index grew 1.8%.

Growth in real state personal income from 2011 to 2012 ranged from a decline of 1.2% in South Dakota to an increase of 15.1% in North Dakota. These growth rates reflect the year-over-year change in the state's nominal personal income, the change in the national PCE price index, and the change in the regional price parity for that state. After North Dakota, the states with the largest growth rates were Montana (3.7%), Indiana (3.7%), California (3.4%), and Mississippi (3.4%). South Dakota was the only state with a decline in real personal income. The states with the smallest growth rates were Maine (0.3%), Alaska (0.7%), and Alabama (0.8%). The District of Columbia's growth rate was 0.4%. States with growth rates close to the national average were Delaware (2.4%), Georgia (2.2%), Illinois (2.4%), Minnesota (2.2%), and Oregon (2.4%).

Growth in real metropolitan area personal income from 2011 to 2012 ranged from a decline of 3.8% in Kennewick-Richland, WA to an increase of 10.2% in Odessa, TX. After Odessa, TX, the metropolitan areas with the largest growth rates were Midland, TX (9.6%), Greenville, NC (9.0%), Jackson, TN (8.1%), and Columbus, IN (7.6%). After Kennewick-Richland, WA, the metropolitan areas with the largest declines were Watertown-Fort Drum, NY (-2.5%), State College, PA (-2.4%), Hanford-Corcoran, CA (-2.3%), and Sierra Vista-Douglas, AZ (-1.7%).

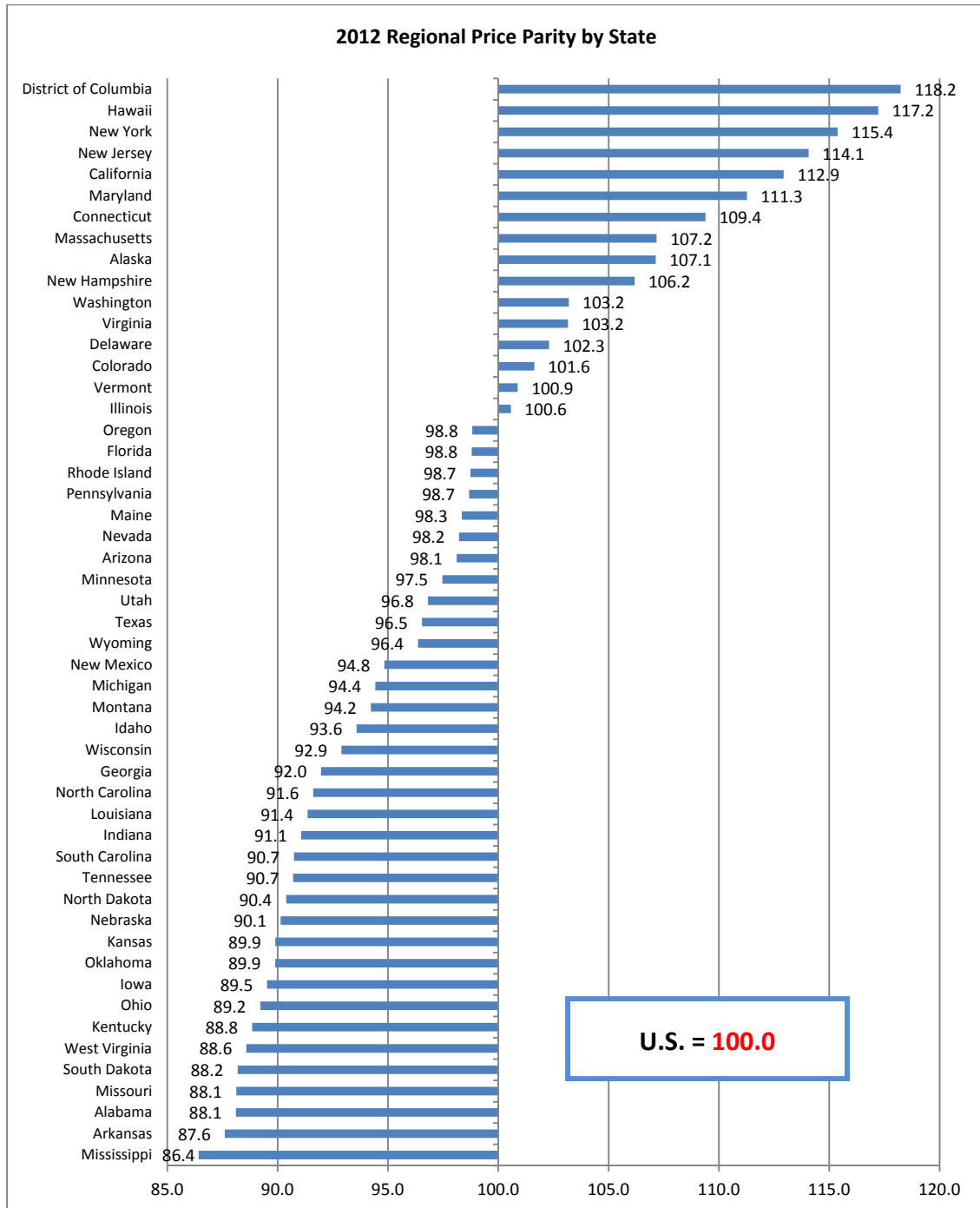
Regional Price Parities

Regional Price Parities (RPPs) measure the differences in the price levels of goods and services across states and metropolitan areas for a given year. RPPs are expressed as a percentage of the overall national price level for each year, which is equal to 100.0.

In 2012, the District of Columbia's RPP (118.2) was higher than that of any state. The states with the highest RPPs were Hawaii (117.2), New York (115.4), New Jersey (114.1), and California (112.9). Mississippi (86.4), Arkansas (87.6), Alabama (88.1), Missouri (88.1), and South Dakota (88.2) had the lowest RPPs among the States. States with high (low) RPPs typically have relatively high (low) price levels for rents. States with RPPs closest to the national average price level were Florida (98.8), Oregon (98.8), Illinois (100.6), and Vermont (100.9).

¹ Prototype statistics were released for evaluation and comment by users on June 12, 2013.

In 2012, the metropolitan area with the highest RPP was Urban Honolulu, HI (122.9). Metropolitan areas with RPPs above 120.0 also include New York-Newark-Jersey City, NY-NJ-PA (122.2), San Jose-Sunnyvale-Santa Clara, CA (122.0), Bridgeport-Stamford-Norwalk, CT (121.5), Santa Cruz-Watsonville, CA (121.4), San Francisco-Oakland-Hayward, CA (121.3), and Washington-Arlington-Alexandria, DC-VA-MD-WV (120.4). The metropolitan area with lowest RPP was Danville, IL (79.4), followed by Jefferson City, MO (80.8), Jackson, TN (81.5), Jonesboro, AR (81.7), and Rome, GA (82.2).



Technical Note on Regional Price Parities and Implicit Regional Price Deflators

Price indexes commonly measure price changes over time. The BEA's Personal Consumption Expenditure price index and the BLS' Consumer Price Index (CPI) are two examples. Spatial price indexes measure price level differences across regions for one time period. An example of these type of indexes are purchasing power parities (PPPs), which measure differences in price levels across countries for a given period, and can be used to convert estimates of per capita GDP into comparable levels in a common currency. The regional price parities (RPPs) that BEA has developed compare regions within the United States, but without the need for currency conversion. An implicit regional price deflator (IRPD) can be derived by combining the RPPs and the PCE price index.

Regional Price Parities. The RPPs are calculated using price quotes for a wide array of items from the CPI, which are aggregated into broader expenditure categories (such as food, transportation, or education). Data on rents are obtained separately from the Census Bureau's American Community Survey (ACS). The expenditure weights for each category are constructed using the BLS' Consumer Expenditure Survey and BEA's Personal Consumption Expenditures².

The broader categories and the data on rents are combined with the expenditure weights using a multilateral aggregation method that expresses a region's price level relative to the US³.

For example, if the RPP for area A is 120 and for area B is 90, then on average, prices are 20% higher and 10% lower than the US average for A and B respectively. If the Personal Income for area A is \$12,000 and for area B is \$9,000, then RPP-adjusted incomes are \$10,000 (\$12,000/1.20) and \$10,000 (\$9,000/0.90) respectively. In other words, the purchasing power of the two incomes is equivalent when adjusted by their respective RPPs.

Implicit Regional Price Deflator. The IRPD is a regional price index derived as the product of two terms: the regional price parity and the US PCE price index.

$$\text{Implicit regional price deflator for region } i: P_i = P_{i,us} * P_{us}$$

The first term on the right-hand side of the equation is $P_{i,us}$, which is the regional price parity for region i (using the US as the reference region⁴). The second term is P_{us} , the national PCE price index.

The implicit regional price deflator will equal current dollar personal income divided by real personal income in chained dollars. The growth rate or year-to-year change in the IRPDs is a measure of regional inflation⁵.

² To estimate RPPs, CPI price quotes are quality adjusted and pooled over 5 years. The ACS rents are also quality adjusted, and in the case of the metropolitan areas, pooled over 3 years. The expenditure weights are specific to each year.

³ The multilateral system that is used is the Geary additive method. Any region or combination of regions may be used as the base or reference region without loss of consistency.

⁴ A different reference region could be used as the base, as long as the time-to-time price index was consistent with the new base.

Detailed information on the methodology used to estimate the RPPs may be found in the article, “Real personal income and Regional Price Parities for States and Metropolitan Areas, 2007-2011”, in the August 2013 issue of the *Survey of Current Business*.

Definitions

Personal income is the income received by all persons from all sources. Personal income is the sum of net earnings by place of residence, property income, and personal current transfer receipts. These are current dollar estimates. Comparisons for different regions and time periods reflect changes in both the price and quantity components of regional personal income.

Estimates of personal income in the United States are derived as the sum of the regional estimates. These differ from the estimates of personal income in the national income and product account (NIPAs) because of differences in coverage, in the methodologies used to prepare the estimates, and in the timing of the availability of source data.

Regional price parities (RPPs) are regional price levels expressed as a percentage of the overall national price level for a given year. The price level is determined by the average prices paid by consumers for the mix of goods and services consumed in each region.

Detailed CPI price data are adjusted to obtain average price levels for BLS-defined areas⁶. These are allocated to counties in combination with direct price and expenditure data on rents from the ACS. County data are then aggregated to states and metropolitan areas.

Personal income at RPPs is current-dollar personal income divided by the price parity⁷ for a given year and region. A balancing factor is applied so that the sum of personal income at RPPs across regions equals the current dollar sum.

Real personal income is personal income at RPPs divided by the national PCE chain-type price index. The result is real personal income in chained dollars (using 2008 as the reference year)⁸. Using Colorado in 2012 as an example:

⁵ The growth rate of the implicit regional price deflators will not necessarily equal the region or metro area price deflators published by the BLS. This is because the CPI deflators are calculated directly while the IRPDs are indirect estimates, and because of differences in the source data and the methodology. For a complete description see the BEA working paper titled “Note on estimating the Multi-year regional price parities by 16 expenditure categories: 2005-2009” (http://www.bea.gov/papers/pdf/notes_on_estimating_the_multi_year_rpps_and_appendix_tables.pdf)

⁶ The CPI represents about 87% of the total U.S. population, including almost all residents of urban or metropolitan areas. Rural area prices (exclusive of Rents) are assumed to be the same as those in the urban, non-metropolitan areas of the CPI.

⁷ RPP should first be divided by 100.

⁸ Real personal income estimates are in 2008 dollars, the first year of the series in this release.

(1) Personal Income is divided by the RPP	(2) Personal income at RPPs is deflated by the US PCE Price Index	2012 Colorado Real Personal Income
\$237.5 / 1.016 = \$233.8	\$233.8 / 1.059 = \$220.8	\$220.8

Note. Dollar amounts are in billions.

Estimates of real personal income in the United States are derived as the sum of the regional estimates divided by the U.S. PCE Price Index.

Implicit Regional Price Deflator (IRPD) is the product of the RPP times the national PCE price index⁹. It is equal to personal income divided by real personal income. See also the Technical Note.

* * *

The tables in this press release are also available on the BEA website. Additional tables showing estimates of real income and regional price parities can also be found there for state metropolitan and nonmetropolitan portions, and metropolitan areas.

BEA's national, international, regional, and industry statistics; the *Survey of Current Business*; and BEA news releases are available without charge on BEA's web site at www.bea.gov. By visiting the site, you can also subscribe to receive free e-mail summaries of BEA releases and announcements.

Next real personal income release – April 2015 for states, state metropolitan and nonmetropolitan portions, and metropolitan areas.

⁹ The IRPDs will equal the RPPs in the reference year, 2008.

Table 1. Real Personal Income and Implicit Regional Price Deflators by State, 2011 and 2012

	Personal Income Millions of dollars			Real Personal Income Millions of chained (2008) dollars			Implicit Regional Price Deflators		
	2011	2012	Percent growth	2011	2012	Percent growth	2011	2012	Percent growth
United States	13,179,561	13,729,063	4.2	12,670,133	12,958,961	2.3	104.0	105.9	1.8
Alabama	167,787	173,236	3.2	184,281	185,792	0.8	91.0	93.2	2.4
Alaska	34,827	36,160	3.8	31,686	31,892	0.7	109.9	113.4	3.2
Arizona	229,238	237,513	3.6	224,381	228,740	1.9	102.2	103.8	1.6
Arkansas	100,005	104,508	4.5	109,913	112,726	2.6	91.0	92.7	1.9
California	1,683,204	1,768,039	5.0	1,430,212	1,479,356	3.4	117.7	119.5	1.6
Colorado	226,032	237,461	5.1	214,906	220,778	2.7	105.2	107.6	2.3
Connecticut	207,162	214,297	3.4	182,483	185,116	1.4	113.5	115.8	2.0
Delaware	38,873	40,558	4.3	36,575	37,461	2.4	106.3	108.3	1.9
District of Columbia	46,104	47,281	2.6	37,628	37,787	0.4	122.5	125.1	2.1
Florida	761,303	792,255	4.1	739,169	757,737	2.5	103.0	104.6	1.5
Georgia	356,836	371,488	4.1	373,328	381,708	2.2	95.6	97.3	1.8
Hawaii	60,095	62,330	3.7	49,551	50,245	1.4	121.3	124.1	2.3
Idaho	52,954	55,022	3.9	54,616	55,561	1.7	97.0	99.0	2.1
Illinois	567,197	590,094	4.0	541,432	554,445	2.4	104.8	106.4	1.6
Indiana	236,815	249,198	5.2	249,422	258,572	3.7	94.9	96.4	1.5
Iowa	130,131	135,063	3.8	139,994	142,567	1.8	93.0	94.7	1.9
Kansas	120,783	124,137	2.8	129,263	130,490	0.9	93.4	95.1	1.8
Kentucky	150,850	156,131	3.5	163,899	166,058	1.3	92.0	94.0	2.2
Louisiana	176,690	184,340	4.3	186,955	190,667	2.0	94.5	96.7	2.3
Maine	51,653	53,283	3.2	51,018	51,195	0.3	101.2	104.1	2.8
Maryland	306,001	316,682	3.5	264,482	268,936	1.7	115.7	117.8	1.8
Massachusetts	358,218	372,026	3.9	319,250	328,017	2.7	112.2	113.4	1.1
Michigan	365,753	378,443	3.5	372,860	378,704	1.6	98.1	99.9	1.9
Minnesota	241,352	252,413	4.6	239,548	244,719	2.2	100.8	103.1	2.4
Mississippi	95,854	100,465	4.8	106,266	109,854	3.4	90.2	91.5	1.4
Missouri	228,270	235,661	3.2	248,780	252,687	1.6	91.8	93.3	1.6
Montana	36,630	38,753	5.8	37,479	38,864	3.7	97.7	99.7	2.0
Nebraska	80,420	83,521	3.9	86,224	87,558	1.5	93.3	95.4	2.3
Nevada	101,717	105,450	3.7	98,566	101,444	2.9	103.2	103.9	0.7
New Hampshire	62,651	64,885	3.6	57,116	57,745	1.1	109.7	112.4	2.4
New Jersey	471,188	487,437	3.4	397,749	403,804	1.5	118.5	120.7	1.9
New Mexico	72,300	74,416	2.9	73,263	74,147	1.2	98.7	100.4	1.7
New York	1,012,406	1,041,931	2.9	844,330	853,317	1.1	119.9	122.1	1.8
North Carolina	352,455	369,704	4.9	371,148	381,336	2.7	95.0	96.9	2.1
North Dakota	32,332	38,390	18.7	34,869	40,136	15.1	92.7	95.6	3.2
Ohio	446,136	462,424	3.7	480,076	489,788	2.0	92.9	94.4	1.6
Oklahoma	147,430	154,958	5.1	158,458	162,898	2.8	93.0	95.1	2.2
Oregon	146,001	152,722	4.6	142,547	146,033	2.4	102.4	104.6	2.1
Pennsylvania	558,345	575,425	3.1	545,333	551,039	1.0	102.4	104.4	2.0
Rhode Island	46,881	48,184	2.8	45,372	46,113	1.6	103.3	104.5	1.1
South Carolina	159,747	165,595	3.7	169,599	172,448	1.7	94.2	96.0	1.9
South Dakota	36,932	37,819	2.4	40,997	40,523	-1.2	90.1	93.3	3.6
Tennessee	237,618	250,189	5.3	253,494	260,645	2.8	93.7	96.0	2.4
Texas	1,053,552	1,111,110	5.5	1,053,124	1,087,533	3.3	100.0	102.2	2.1
Utah	96,175	101,163	5.2	95,583	98,737	3.3	100.6	102.5	1.8
Vermont	26,888	27,886	3.7	25,863	26,121	1.0	104.0	106.8	2.7
Virginia	381,930	396,005	3.7	356,882	362,744	1.6	107.0	109.2	2.0
Washington	303,088	317,575	4.8	283,739	290,802	2.5	106.8	109.2	2.2
West Virginia	62,737	65,091	3.8	68,230	69,438	1.8	91.9	93.7	1.9
Wisconsin	232,094	241,201	3.9	240,443	245,355	2.0	96.5	98.3	1.8
Wyoming	27,920	29,147	4.4	27,749	28,583	3.0	100.6	102.0	1.3
Maximum	1,683,204	1,768,039	18.7	1,430,212	1,479,356	15.1	122.5	125.1	3.6
Minimum	26,888	27,886	2.4	25,863	26,121	-1.2	90.1	91.5	0.7
Range	1,656,316	1,740,153	16.3	1,404,348	1,453,234	16.3	32.4	33.7	2.9

Source: U.S. Bureau of Economic Analysis

Table 2. Real Per Capita Personal Income by State, 2011 and 2012

	Per Capita Personal Income Dollars			Real Per Capita Personal Income Chained (2008) dollars		
	2011	2012	Percent growth	2011	2012	Percent growth
United States	42,298	43,735	3.4	40,663	41,282	1.5
Alabama	34,929	35,926	2.9	38,362	38,530	0.4
Alaska	48,114	49,436	2.7	43,773	43,601	-0.4
Arizona	35,446	36,243	2.3	34,695	34,905	0.6
Arkansas	34,032	35,437	4.1	37,403	38,223	2.2
California	44,666	46,477	4.1	37,953	38,888	2.5
Colorado	44,179	45,775	3.6	42,004	42,559	1.3
Connecticut	57,758	59,687	3.3	50,877	51,559	1.3
Delaware	42,805	44,224	3.3	40,275	40,848	1.4
District of Columbia	74,480	74,773	0.4	60,787	59,759	-1.7
Florida	39,896	41,012	2.8	38,736	39,225	1.3
Georgia	36,366	37,449	3.0	38,046	38,479	1.1
Hawaii	43,606	44,767	2.7	35,955	36,087	0.4
Idaho	33,436	34,481	3.1	34,485	34,818	1.0
Illinois	44,106	45,832	3.9	42,103	43,063	2.3
Indiana	36,342	38,119	4.9	38,276	39,553	3.3
Iowa	42,470	43,935	3.4	45,688	46,376	1.5
Kansas	42,079	43,015	2.2	45,033	45,216	0.4
Kentucky	34,545	35,643	3.2	37,533	37,909	1.0
Louisiana	38,623	40,057	3.7	40,867	41,432	1.4
Maine	38,880	40,087	3.1	38,402	38,516	0.3
Maryland	52,401	53,816	2.7	45,291	45,702	0.9
Massachusetts	54,218	55,976	3.2	48,320	49,354	2.1
Michigan	37,032	38,291	3.4	37,751	38,317	1.5
Minnesota	45,135	46,925	4.0	44,798	45,494	1.6
Mississippi	32,193	33,657	4.5	35,690	36,803	3.1
Missouri	37,988	39,133	3.0	41,401	41,961	1.4
Montana	36,716	38,555	5.0	37,566	38,665	2.9
Nebraska	43,654	45,012	3.1	46,804	47,188	0.8
Nevada	37,396	38,221	2.2	36,237	36,769	1.5
New Hampshire	47,542	49,129	3.3	43,342	43,722	0.9
New Jersey	53,333	54,987	3.1	45,021	45,552	1.2
New Mexico	34,782	35,682	2.6	35,245	35,553	0.9
New York	51,914	53,241	2.6	43,295	43,603	0.7
North Carolina	36,520	37,910	3.8	38,457	39,103	1.7
North Dakota	47,218	54,871	16.2	50,923	57,367	12.7
Ohio	38,657	40,057	3.6	41,597	42,427	2.0
Oklahoma	38,960	40,620	4.3	41,874	42,701	2.0
Oregon	37,744	39,166	3.8	36,851	37,451	1.6
Pennsylvania	43,813	45,083	2.9	42,792	43,173	0.9
Rhode Island	44,621	45,877	2.8	43,185	43,905	1.7
South Carolina	34,183	35,056	2.6	36,291	36,507	0.6
South Dakota	44,843	45,381	1.2	49,779	48,626	-2.3
Tennessee	37,129	38,752	4.4	39,610	40,371	1.9
Texas	41,103	42,638	3.7	41,087	41,733	1.6
Utah	34,173	35,430	3.7	33,963	34,580	1.8
Vermont	42,911	44,545	3.8	41,276	41,726	1.1
Virginia	47,126	48,377	2.7	44,036	44,313	0.6
Washington	44,420	46,045	3.7	41,584	42,164	1.4
West Virginia	33,822	35,082	3.7	36,784	37,425	1.7
Wisconsin	40,648	42,121	3.6	42,110	42,846	1.7
Wyoming	49,212	50,567	2.8	48,909	49,587	1.4
Maximum	74,480	74,773	16.2	60,787	59,759	12.7
Minimum	32,193	33,657	0.4	33,963	34,580	-2.3
Range	42,287	41,116	15.8	26,824	25,179	15.0

Source: U.S. Bureau of Economic Analysis

Table 3. Regional Price Parities by State, 2012

	Regional Price Parities			
	All Items	Goods	Services	
			Rents	Other
Alabama	88.1	96.7	64.3	93.1
Alaska	107.1	103.0	142.1	99.6
Arizona	98.1	100.6	93.6	98.0
Arkansas	87.6	95.6	63.0	92.4
California	112.9	103.1	147.4	105.6
Colorado	101.6	101.7	106.5	98.8
Connecticut	109.4	104.9	118.9	109.5
Delaware	102.3	102.3	98.9	104.4
District of Colum	118.2	107.0	157.2	112.0
Florida	98.8	98.3	104.8	95.9
Georgia	92.0	97.1	79.8	93.8
Hawaii	117.2	107.5	159.0	104.2
Idaho	93.6	98.7	78.8	96.7
Illinois	100.6	101.4	100.5	99.7
Indiana	91.1	96.6	75.8	93.9
Iowa	89.5	93.7	74.8	91.3
Kansas	89.9	94.7	75.0	91.7
Kentucky	88.8	95.3	68.1	92.5
Louisiana	91.4	96.9	77.4	93.2
Maine	98.3	98.6	99.5	97.5
Maryland	111.3	103.4	125.1	111.0
Massachusetts	107.2	98.0	121.4	110.9
Michigan	94.4	97.7	82.4	97.2
Minnesota	97.5	98.5	95.7	97.2
Mississippi	86.4	95.1	62.1	92.0
Missouri	88.1	92.8	74.1	90.5
Montana	94.2	99.2	80.3	95.6
Nebraska	90.1	94.5	76.2	91.9
Nevada	98.2	97.4	98.8	98.9
New Hampshire	106.2	98.1	123.4	107.3
New Jersey	114.1	101.4	136.8	115.5
New Mexico	94.8	97.9	83.2	98.1
New York	115.4	108.1	134.9	113.2
North Carolina	91.6	96.7	79.1	93.1
North Dakota	90.4	93.5	79.3	91.1
Ohio	89.2	95.1	73.9	91.9
Oklahoma	89.9	96.2	70.3	92.8
Oregon	98.8	98.3	99.1	99.3
Pennsylvania	98.7	100.0	89.8	102.1
Rhode Island	98.7	98.4	101.6	97.3
South Carolina	90.7	96.9	76.3	93.3
South Dakota	88.2	93.2	70.8	90.8
Tennessee	90.7	96.6	75.5	93.1
Texas	96.5	97.9	89.3	99.0
Utah	96.8	97.7	92.1	98.4
Vermont	100.9	98.6	116.6	97.1
Virginia	103.2	100.2	114.6	100.8
Washington	103.2	103.1	111.0	99.9
West Virginia	88.6	95.7	63.3	93.6
Wisconsin	92.9	95.7	87.6	92.1
Wyoming	96.4	99.0	90.6	95.9
All States	100.0	99.4	101.2	100.0
Maximum	118.2	108.1	159.0	115.5
Minimum	86.4	92.8	62.1	90.5
Range	31.8	15.3	96.9	25.0

Source: U.S. Bureau of Economic Analysis