

Effect of 2007 Weights on Producer Price Index Commodity Data

Effective with the January 2012 Producer Price Index (PPI) Detailed Report, the weights used to calculate PPIs have been updated to reflect the 2007 domestic values of shipments, as measured by the Census of Manufactures, the Census of Mining, the Census of Services, and the Census of Agriculture. The PPI commodity index weights are derived from the various Economic Census product line statistics, which provide the value of shipments for products made in all industries. The 2007 weight revision has not changed the basic structures of the PPI commodity index system; however, it has resulted in significant shifts in the relative importance of various products. Table 1 shows the relative importance of selected PPI commodity indexes for December 2011 with respect to the all commodities index before and after the shift to 2007 weights, as well as the percent change between the 2002 and 2007 based relative importances of these indexes.

The relative importance of farm products and processed foods and feeds decreased overall from 2002 to 2007. Among the decliners, fresh fruits and melons dropped by 20.9 percent as total fruit production fell in 2007 due to poor weather. Citrus production in 2007 was relatively low due to hurricane damage and citrus diseases in Florida. An early-year freeze in California damaged much of their crop as well. The low levels of citrus production also resulted in a drop in the production of juices and juice concentrates, as evidenced by the 52.2 percent decrease in the relative importance of frozen juices, ades, drinks, and cocktails. The relative importance of fresh vegetables also fell substantially, as the January 2007 below-freezing temperatures affected the production of artichokes, lettuce, broccoli, and leafy greens grown in California and Arizona.

Between 2002 and 2007, the relative importance of slaughter cattle decreased 26.6 percent and that of beef and veal products declined 10.4 percent. Exports of beef, which dropped dramatically following the initial discovery of mad cow disease in the United States in December 2003, had not recovered to their pre-disease levels by 2007. In 2007, the U.S. exported 1.434 billion pounds of beef, valued at \$2.187 billion, in comparison with 2.447 billion pounds, valued at \$2.629 billion in 2002.¹

The relative importance of confectionery end products fell 7.7 percent as the competitiveness of domestic confectionery manufacturers has been hampered by the high domestic price of sugar. The U.S. sugar program maintains sugar prices above comparable levels in the world market through price supports, domestic marketing allotments, and tariff-rate quotas.²

In contrast, the relative importance of cotton increased 16.9 percent as rising prices, due to higher global demand and improved yields per acre, more than offset an overall decrease in planted acreage.³ Higher volume sales of alcoholic beverages combined with a growing emphasis on more expensive premium brands of liquor and specialty beers resulted in a relative importance increase of 13.6 percent. The relative importance of non-carbonated soft drinks rose 53.9 percent as demand for these beverages rose dramatically as they are perceived to be healthier than carbonated soft drinks due to the inclusion of vitamins, minerals, anti-oxidants, and lower sugar.

The relative importance of textile products and apparel declined significantly between 2002 and 2007, as U.S. imports of textiles and apparel increased over 36 percent.⁴ In 2004, the last remaining import quotas on clothing and textile products expired in accordance with the World Trade Organization's Agreement on Textiles and Clothing. The domestic shipment value decrease was reflected in the production of yarns, threads, and fabrics, although the greatest impact was seen in finished apparel products whose relative importance declined 64.8 percent. Leather and footwear showed similar relative importance drops – 46.8 percent and 28.0 percent - respectively, as imports of those products rose more than 23 percent over the same period.⁵

The relative importance of coal increased 16.6 percent as a result of the weight revision, mostly due to increased demand from utilities for electric power generation. In addition, exports rose almost 50 percent and export prices advanced nearly 39 percent.⁶ The relative importance of well-head natural gas decreased 18.8 percent as production was relatively unchanged from 2002 to 2007, increasing less than one percent.⁷ The relative importance of utility natural gas increased 9.5 percent due, in part, to higher natural gas demand for home heating purposes.

The relative importance of liquefied petroleum gas decreased 46.6 percent as production decreased 3.6 percent over the five year period.⁸ The relative importance of crude petroleum declined 3.4 percent. Crude petroleum prices rose significantly from 2002 to 2007; however, domestic production decreased, falling from 5.746 million barrels per day to 5.064 million barrels per day, a drop of almost 12 percent.⁹ Crude oil production in the United States has been steadily declining since the 1970s. The relative importance of refined petroleum products was stable throughout the 2002 – 2007 period, falling one tenth of a percent. The relative importances of premium and mid-premium gasoline went down, while regular gasoline increased as rising prices spurred consumers to shift consumption to the lower grade, less expensive fuel.

The relative importance for pharmaceutical preparations decreased 9.0 percent. Growth slowed in the pharmaceuticals sector as patents for many high-cost branded drugs expired and their generic equivalents entered the market. Many insurance plans started to include tiered drug plans that encouraged consumers to choose lower cost generics over brand name medications. Basic organic chemicals had a relative importance increase of 22.0 percent as higher crude petroleum costs (which is a major input in the chemicals manufacturing process) were passed on to customers in the form of higher prices.

The shifts in relative importance were mixed for construction materials. Even though spending on non-residential construction grew steadily from 2002 to 2007, the residential construction market peaked in 2005 and fell substantially from that point on due to the housing crisis. Housing starts went from 1.7 million units in 2002, peaking at over 2 million units in 2005, before declining to 1.35 million units in 2007, an overall decrease of over 20 percent between 2002 and 2007.¹⁰ The housing crisis also resulted in a relative importance decrease of 36.1 percent for mobile homes, as stricter lending standards in 2007 made securing financing more difficult for those with lower incomes. The relative importances of softwood lumber fell 16.3 percent; hardwood lumber fell 2.0 percent; millwork increased 4.8 percent; and logs, bolts, timber, and pulpwood decreased 10.0 percent between 2002 and 2007. Other areas impacted by housing were wood household furniture, which declined 52.1 percent, and carpets and rugs, which fell 22.3 percent.

The relative importance of primary nonferrous metals fell 28.7 percent due to lower demand. Copper more than tripled in price from 2002 to 2007, with the largest increase occurring in 2006, which resulted in decreased demand as manufacturers switched to alternative materials such as plastic or aluminum. The decreased demand for copper products is also reflected in lower relative importances of copper ores, secondary copper, and copper and brass mill shapes. The relative importance of iron ores increased 18.0 percent, while that of iron and steel scrap increased 10.8 percent, both due to increased global demand driving up prices. The relative importance of steel mill products advanced 4.2 percent as steady growth in commercial construction resulted in increased demand and higher prices for steel products. The relative importance of fabricated structural metal products rose 11.9 percent reflecting the higher prices of the steel mill products which are the inputs to these products.

Construction and mining equipment both showed significant relative importance increases, reflecting higher demand in commercial construction markets and advancing commodity prices in the mining sector. The relative importance for agricultural machinery and equipment rose 14.4 percent, as increased commodity prices resulted in higher farm income, which led to a pickup in demand for agricultural equipment. The relative importance of oil field and gas field machinery more than doubled, as rising oil prices spurred increased capital investment by oil and gas companies.

The relative importance of electronic computers increased 154.7 percent due to strong growth in demand for portable computers. Computer storage devices relative importance increased 269.0 percent as the downloading and storing of digital content such as TV shows, music, and photographs became more prevalent over the period. On the other hand, the relative importance of computer peripheral equipment and parts decreased 31.2 percent due to increased international competition. From 2002 to 2007, imports of computer peripheral equipment and parts increased over 61 percent, while prices steadily declined.¹¹

The relative importance of passenger cars decreased 7.3 percent as domestic production fell about 22 percent from 2002 to 2007.¹² However, the relative importances of light motor trucks and truck trailers both rose for the same time period due to shifting consumer preferences for larger and more versatile vehicles. The relative importance of military ships advanced 38.3 percent as conflicts in both Afghanistan and Iraq resulted in increases in defense spending by both the U.S. and foreign governments. From 2001 to 2007, U.S. defense expenditures increased about 59 percent, while global defense spending increased more than 36 percent.¹³

The relative importance of tobacco products fell 13.1 percent, reflecting continued decreases in production, domestic consumption, and exports of cigarettes. The relative importance of photographic supplies decreased 19.5 percent as consumers shifted away from film to digital cameras and digital photo storage devices.

Table 1. Relative Importance of selected Producer Price Index commodity indexes based on 2002 and 2007 weights, December 2011

Commodity code	Commodity title	2002 Relative importance	2007 Relative importance	Percent change
	All commodities	100	100	-
	Farm products plus processed foods and feeds	15.952	15.267	-4.3
01	Farm products	5.384	4.548	-15.5
0111	Fresh fruits and melons .....	.268	.212	-20.9
011302	Fresh vegetables, except potatoes .....	.260	.176	-32.3
0131	Slaughter cattle	1.195	.877	-26.6
015	Raw cotton .....	.124	.145	16.9
02	Processed foods and feeds	10.568	10.720	1.4
022101	Beef and veal products, fresh or frozen .....	.781	.700	-10.4
024203	Frozen juices, ades, drinks, and cocktails .....	.046	.022	-52.2
0255	Confectionery end products .....	.444	.410	-7.7
0261	Alcoholic beverages .....	.565	.642	13.6
026206	Soft drinks, non-carbonated .....	.178	.274	53.9
032	Processed yarns and threads .....	.226	.163	-27.9
033	Gray fabrics .....	.191	.108	-43.5
034	Finished fabrics .....	.354	.303	-14.4
0381	Apparel .....	.546	.192	-64.8
042701	Leather .....	.047	.025	-46.8
043	Footwear .....	.025	.018	-28.0
051	Coal .....	.626	.730	16.6
0531	Natural gas	1.069	.868	-18.8
0532	Liquefied petroleum gas .....	.951	.508	-46.6
054	Electric power	6.189	6.158	-0.5
055	Utility natural gas	1.611	1.764	9.5
055121	Residential natural gas .....	.633	.711	12.3
0561	Crude petroleum, domestic production	2.278	2.200	-3.4
057	Petroleum products, refined	9.524	9.517	-.1
0571	Gasoline	4.800	4.636	-3.4
057103	Unleaded premium gasoline .....	.668	.571	-14.5
057104	Unleaded regular gasoline	3.656	3.747	2.5
057105	Unleaded mid-premium gasoline .....	.308	.166	-46.1
0614	Basic organic chemicals	3.017	3.680	22.0
0638	Pharmaceutical preparations	2.342	2.131	-9.0
0811	Softwood lumber .....	.233	.195	-16.3
0812	Hardwood lumber .....	.147	.144	-2.0
082	Millwork .....	.619	.649	4.8
085105	Logs, bolts, timber and pulpwood .....	.221	.199	-10.0
1011	Iron ores .....	.050	.059	18.0
1012	Iron and steel scrap .....	.748	.829	10.8
1017	Steel mill products	1.752	1.826	4.2

Table 1. Relative Importance of selected Producer Price Index commodity indexes based on 2002 and 2007 weights, December 2011 – Continued

Commodity code	Commodity title	2002 Relative importance	2007 Relative importance	Percent change
102102	Copper ores .....	.159	.142	-10.7
1022	Primary nonferrous metals .....	.310	.221	-28.7
102403	Secondary copper, alloyed and unalloyed .....	.034	.019	-44.1
102502	Copper and brass mill shapes .....	.239	.206	-13.8
107	Fabricated structural metal products	1.566	1.752	11.9
111	Agricultural machinery and equipment .....	.278	.318	14.4
112	Construction machinery and equipment .....	.371	.575	55.0
1151	Electronic computers .....	.106	.270	154.7
1152	Computer storage devices .....	.029	.107	269.0
1154	Computer peripheral equipment and parts .....	.218	.150	-31.2
1191	Oil field and gas field machinery .....	.113	.240	112.4
1192	Mining machinery and equipment .....	.047	.086	83.0
1212	Wood household furniture .....	.219	.105	-52.1
1231	Carpets & rugs .....	.265	.206	-22.3
141101	Passenger cars	1.285	1.191	-7.3
141105	Trucks, 14,000 lbs. and under	2.093	2.382	13.8
1414	Truck trailers .....	.079	.114	44.3
143102	Military self-propelled ships, new construction.....	.094	.130	38.3
152	Tobacco products, incl. stemmed & redried .....	.789	.686	-13.1
1542	Photographic supplies .....	.154	.124	-19.5
155	Mobile homes .....	.147	.094	-36.1

Endnotes:

- ¹ *U.S. Beef and Cattle Industry: Background Statistics and Information*, U.S. Department of Agriculture, Economic Research Service, <http://www.ers.usda.gov/news/BSECoverage.htm>
- ² For more detailed information on the U.S. sugar program, see <http://www.ers.usda.gov/Briefing/Sugar/Policy.htm>
- ³ *Cotton and Wool Yearbook*, Table-01 U.S. cotton supply and use, U.S. Department of Agriculture, Economic Research Service, December 2011, <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1282>
- ⁴ *The Textile and Apparel Trade Balance Report*, U.S. Department of Commerce, International Trade Administration, Office of Textiles and Apparel, <http://otexa.ita.doc.gov/scripts/tbr.exe>
- ⁵ *Footwear, Leather and Travel Goods - U.S. Imports for Consumption*, U.S. Department of Commerce, International Trade Administration, Office of Textiles and Apparel, <http://otexa.ita.doc.gov/scripts/tqflt.exe>
- ⁶ *U.S. Coal Supply and Demand: 2007 Review*, U.S. Energy Information Administration, April 2008, <http://www.eia.gov/coal/review/pdf/feature07.pdf>
- ⁷ *Natural Gas Annual 2007*, U.S. Energy Information Administration, January 2009, http://www.eia.gov/naturalgas/annual/archive/2007/nga_2007.html
- ⁸ *Product Supplied for Liquefied Petroleum Gases*, U.S. Energy Information Administration, <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MLPUPUS1&f=A>
- ⁹ *U.S. Field Production of Crude Oil*, U.S. Energy Information Administration, <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPUS1&f=A>
- ¹⁰ *New Residential Construction Historical Data*, U.S. Census Bureau, http://www.census.gov/construction/nrc/historical_data/
- ¹¹ U.S. International Trade Commission DataWeb, <http://dataweb.usitc.gov/>

- ¹² *The Road Ahead*, U.S. Department of Commerce, Office of Transportation and Machinery, April 2009, http://trade.gov/wcm/groups/public/@trade/@mas/@man/@aai/documents/web_content/auto_report_roadahead09.pdf
- ¹³ *SIPRI Yearbook 2008, Armaments, Disarmament, and international Security*, Stockholm International Peace Research Institute, August 2008, <http://www.sipri.org/yearbook/2008/files/SIPRIYB0805.pdf>

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