



Focus on Prices and Spending



Import and Export Prices: First Quarter 2011

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Current Price Topics

U.S. Import and Export Prices and the Terms of Trade

The great commerce of every civilized society is that carried on between the inhabitants of the town and those of the country. It consists in the exchange of rude for manufactured produce, either immediately, or by the intervention of money, or of some sort of paper which represents money. The country supplies the town with the means of subsistence and the materials of manufacture. The town repays this supply by sending back a part of the manufactured produce to the inhabitants of the country.

Adam Smith, 1776¹

Economics—and Adam Smith—teach us that trade is healthy for a nation's economy and for its standard of living. As with trade between town and country, trade between one nation and another is designed to maximize the volume of goods and services an entity can consume, in balance with the volume of goods and services the entity can produce. In light of the current debate about the advantages and disadvantages of U.S. and world trade, this article examines one interesting method for measuring a country's gains from trade: analyzing its terms of trade index.

In its simplest form, the definition of terms of trade is the ratio of the price index of a country's exports to the price index of its imports. An increase in this ratio means that a country's terms of trade are more favorable and its gains from trade are greater. In other words, the higher the prices received for a country's exports, the less quantity of goods it has to ship for a given market basket of imports. For example, let's say that the United States exports wheat at \$10 a bushel, while it imports a barrel of crude petroleum at \$100 a barrel. The United States would have to produce and export 10 bushels of wheat to pay for every barrel of imported oil. However, if the price of oil were to fall to only \$50 a barrel, the United States could pay for that barrel of oil by exporting only 5 bushels of wheat.² To put it another way, let's say that a barrel of oil is equivalent to 42 gallons of gas, and a bushel of wheat can make 100 loaves of bread. If oil is priced at \$100 a barrel, the United States would have to sell the equivalent of roughly 333 loaves of bread to "pay" for an average fill-up at the gas station (approximately 14 gallons).

The terms of trade concept rests on the assumption that trade flows for every country must be in balance in the long run; that is, the value of exports must equal the value of imports. Although this assumption is certainly relaxed in practice, as evidenced by the long-

standing U.S. trade deficit, this limitation still plays a significant role in the ability of many of the world's developing nations to sustain economic growth.

Historically, trends in the terms of trade index were considered critical to a country's ability to prosper. Most trade tended to be between countries that specialized in manufactured goods, instead of with those that supplied raw materials. In particular, it was assumed that the cost of producing raw materials would go up over time, because supply of land and natural resources is limited. As a consequence, the terms of trade would turn against countries specializing in manufactured products and in favor of those that specialize in raw materials or primary products.

This view was generally accepted until around 1950 when several studies provided evidence that the terms of trade were turning against developing countries and their raw material exports.³ Ever since, questions about the long-term direction of the terms of trade have persisted.⁴

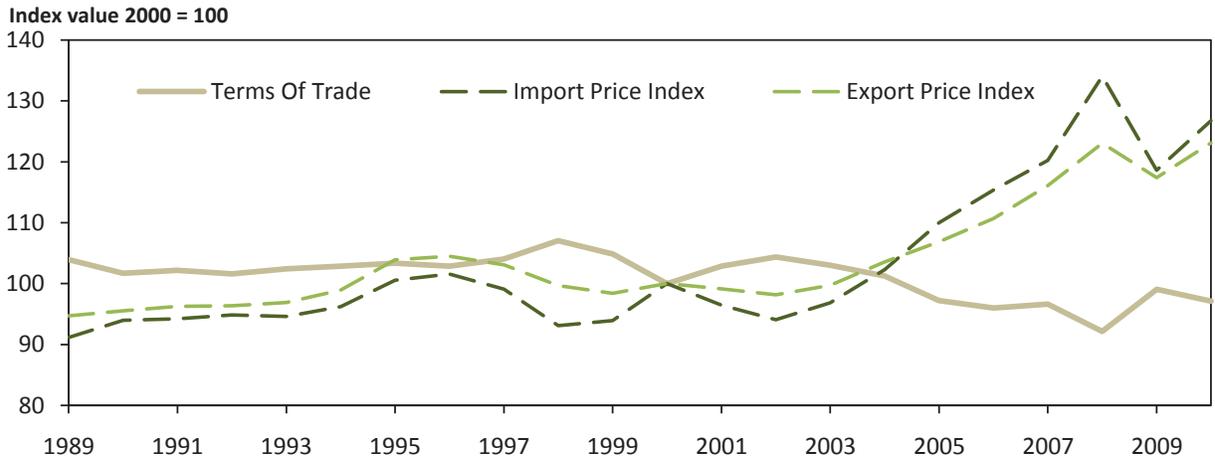
Trade in raw materials still represents a significant component of the merchandise trade in the United States, although most trade in merchandise goods today consists primarily of manufactured products.⁵ An analysis of the terms of trade index for the United States during the past 20 years indicates that the index has tended to vary by less than 10 percent. A

spike in the import price index in 2008 (driven by sharply higher prices for fuels) was offset to some extent by a jump in the export price index (related to higher grain prices). (See chart 1.) Given the recent surge in market prices for petroleum as well as grains, the terms of trade for the United States will bear watching.

The primary source of income for many developing countries still flows from exported raw materials. According to a recent study by the International Monetary Fund (IMF), 37 countries receive 50 percent or more of their export earnings from primary commodities.⁶ (The IMF produces an estimate of each country's terms of trade and uses this information in assessing a country's economic vitality.) Chart 2 illustrates the terms of trade indexes during the past decade for the United States, Chile, and Pakistan. Although the terms of trade for the United States have been fairly flat during this period, Pakistan has had a sharp deterioration in its index. Pakistan's chief export is textile products, a sector affected by increasing world competition. In contrast, the terms of trade for Chile has improved significantly during this time, as world demand for its chief export, copper, has soared.

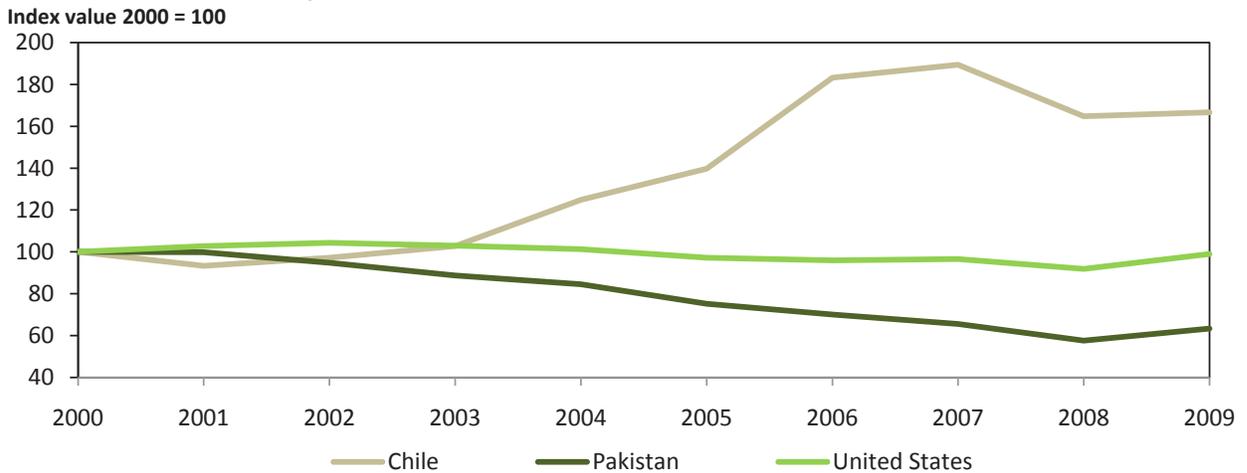
With the volume of world trade predicted to grow significantly during the next few years, the need to analyze price trends in international trade will be increasingly important, and terms of trade indexes will continue to be an important tool for that analysis.⁷ 

Chart 1. Comparison of U.S. terms of trade indexes and export import prices indexes, 1989–2010



SOURCE: U.S. Bureau of Labor Statistics

Chart 2. Comparison of terms of trade indexes for Chile, Pakistan, and the United States, 2000–09



SOURCES: U.S. Bureau of Labor Statistics and The World Bank



Current Price Trends

Quarterly Price Highlights

Import prices

For the first quarter of 2011, import prices increased 5.7 percent, following a 4.2-percent advance during the fourth quarter of 2010. The first quarter 2011 increase was driven by a sharp rise in fuel prices, and was the largest quarterly rise since the price index rose 9.0 percent during the second quarter of 2008. A 1.8-percent advance in nonfuel prices also contributed to the increase in import prices for the quarter ended in March.

Fuel import prices

Prices for fuel imports rose 18.4 percent during the first quarter of 2011, which was the largest quarterly increase since prices advanced 36.8 percent during the second quarter of 2009. Prices rose in each of the three months of the quarter, increasing 4.1 percent in January, 4.2 percent in February, and 9.0 percent in March. Petroleum prices led the first quarter increase, rising 19.2 percent. Much of the advance took place in March, when the price index rose 10.5 percent. Political unrest in the Middle East throughout the quarter was a major contributor to the rise in petroleum prices. Prices increased as fears of petroleum supply disruptions mounted with the onset of wide-scale antigovernment protests in Egypt in January.⁸ Civil unrest broke out in Libya in late February,

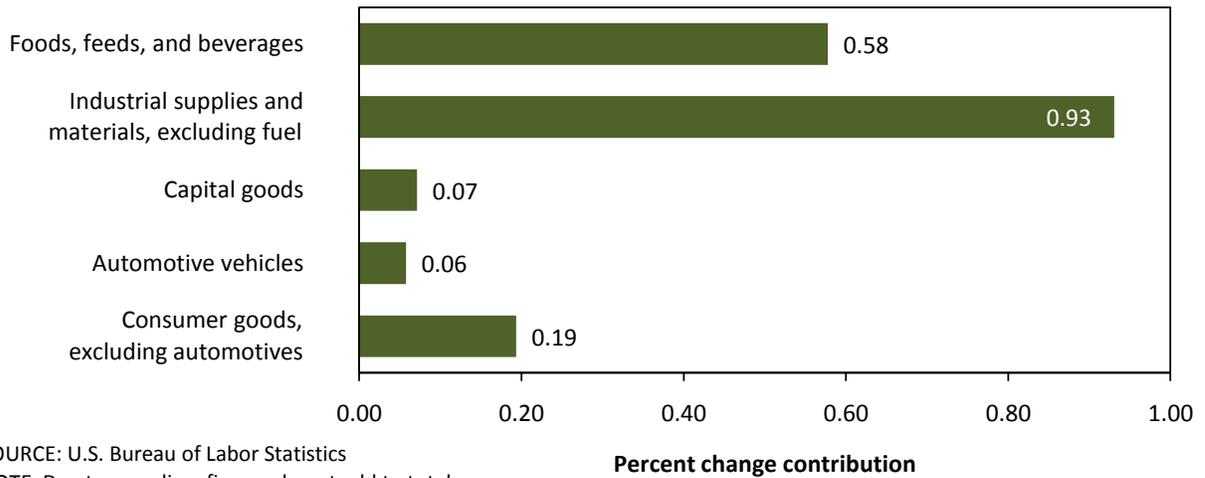
and by March had escalated into open warfare between the ruling regime of Muammar Gaddafi and antigovernment forces. Two main factors drove the price of petroleum higher: the violence in Libya stoked fears of supply disruptions, and U.S. jobs data indicated expectations of economic growth.⁹ The price index for natural gas increased 4.8 percent during the first quarter of 2011. Prices increased 10.4 percent in both January and February largely because of cold weather in much of the United States, but fell by 14.0 percent in March due to an abundance of supply as temperatures rose.¹⁰

Nonfuel import prices

During the first quarter of 2011, the price index for nonfuel imports increased 1.8 percent, the largest quarterly advance since a 2.3-percent rise in June 2008. As shown in chart 3, rising prices for industrial supplies and materials, and foods, feeds, and beverages were the major contributors to the overall increase in nonfuel prices. Rising prices for each of the major finished goods categories also contributed to the overall increase in nonfuel import prices, though they had a less significant impact.

Prices for industrial supplies and materials, excluding fuels, increased 5.4 percent in the first quarter of 2011, which was, along with an identical advance in the fourth quarter of 2010, the largest increase since a 7.2-percent increase in the second quarter of 2008. Higher prices for iron and steel mill products and other precious metals, which rose 15.1 and 12.0 percent respectively, led the advance. The aforemen-

Chart 3. Major contributors to the 1.8-percent increase in the first quarter 2011 in import prices, excluding fuel



tioned increases were part of a broad increase in unfinished metals and commodities prices. Many of the prices of commodities such as precious metals were driven up by investors amidst economic uncertainty.¹¹

The price index for foods, feeds, and beverages rose 7.7 percent in the first quarter of 2011, the largest increase since an 8.1-percent advance in the fourth quarter of 1985. Much of the increase was brought about by rising vegetable prices, which jumped 20.4 percent during the first quarter of 2011. Freezing temperatures across the southern United States, as well as a severe freeze in Mexico, key growing areas for early season produce, damaged crops of tomatoes, peppers, lettuce, eggplants, and other types of vegetables.¹²

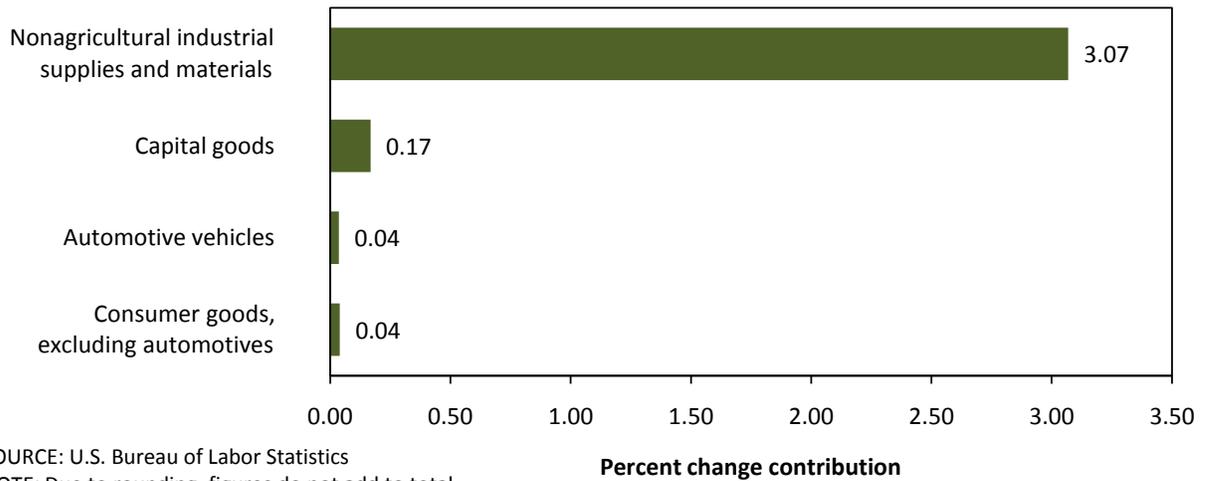
The price index for consumer goods rose 0.6 percent, the largest quarterly advance since a 0.9-percent increase in the second quarter of

2008. Higher prices for cotton apparel were a major contributor to the overall increase in the index. Prices for automotive vehicles advanced 0.5 percent in the first quarter of 2011. A combination of higher prices for metals and a weakening of the U.S. dollar contributed to the overall increase. The price index for capital goods rose 0.2 percent.

Export prices

The export price index rose 4.1 percent in the first quarter of 2011, following a 3.1-percent increase during the fourth quarter of 2010. The most recent advance marked the eighth consecutive quarter in which export prices have increased, and was the largest quarterly rise since the index was first published in 1983. The price index for exports of agricultural commodities increased 10.3 percent during the first quarter of 2011, and nonagricultural exports rose 3.3 percent over the same period,

Chart 4. Major contributors to the 3.3-percent increase in the first quarter 2011 in export prices, excluding agriculture



the largest quarterly advance since the index was first published in 1985.

Agricultural export prices

The first quarter increase was driven by rising prices for corn and cotton, which advanced 27.2 percent and 30.7 percent, respectively. Several factors drove up corn prices in the first quarter. At the beginning of March, U.S. inventories were an estimated 6.52 billion bushels, which was 15 percent lower than the previous year.¹³ An increase in the usage of corn for the production of ethanol also drove prices higher, and the U.S. Department of Agriculture reported that export demand was strong during the first quarter of 2011. Growing domestic demand for meat in China led to growing livestock feed needs, increasing China’s demand for corn from the United States.¹⁴ Cotton prices rose because of strong demand and a tight supply situation. Devastating floods in Paki-

stan, export restrictions in India, and strong demand in China that outstripped domestic production, all contributed to the historic rise in cotton prices.

Nonagricultural export prices

The price index for nonagricultural exports increased 3.3 percent in the first quarter of 2011. As seen in chart 4, rising prices for non-agricultural industrial supplies and materials drove the increase. The price indexes for capital goods, automotive vehicles, and consumer goods also advanced for the quarter ended March 2011.

Nonagricultural industrial supplies and materials prices rose 8.7 percent during the first quarter of 2011, the largest quarterly advance since the index was first published in 1989. As was the case in 2010, a broad commodities rally was responsible for the increase. Rising prices

for fuels, metals, and chemicals were all major contributors to the overall increase. The export price index for fuel oil increased 27.8 percent, and iron and steel mill products advanced 16.7 percent during the quarter. Rising prices for industrial organic chemicals, other precious metals, and aluminum, which increased 7.4 percent, 8.4 percent, and 7.4 percent, respectively, also contributed to the rise in nonagricultural industrial supplies and materials.

Consumer goods prices rose 1.2 percent in the first quarter of 2011, automotive vehicles prices advanced 0.5 percent, and the price index for capital goods ticked up 0.1 percent.

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Notes

¹ Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (London, 1776), book III, chapter 1.1, <http://www.econlib.org/library/Smith/smWN.html>.

² As of February 22, 2011, the price for crude petroleum on the New York Mercantile Exchange was \$98.00 a barrel, while the price for hard red winter wheat on the Kansas City Board of Trade was \$8.79 a bushel.

³ R. Prebisch, *The Economic Development of Latin America and its Principal Problems* (New York, UN Economic Commission for Latin America, 1950); and H.W. Singer, "The distribution of gains between investing and borrowing countries," *American Economic Review* 40 (May 1950), pp. 473–85.

⁴ See, for example, D. Diakosavvas and P. L. Scandizzo, "Trends in the Terms of Trade of Primary Commodities, 1900-1982: The Controversy and Its Origin," *Economic Development and Cultural Change* 39 (1991), pp. 231–64.

⁵ For the United States, in the year 2010, 68 percent of exported goods and 74 percent of imported items were manufactured products.

⁶ Nikola Spatafora and Irina Tytell, "Commodity Terms of Trade: The History of Booms and Busts," IMF Working Paper WP/09/205 (2009).

⁷ The January 2011 issue of the World Bank's publication *Global Economic Prospects* forecast the volume of world trade to grow by 8.3 percent in 2011 and 9.6 percent in 2012.

⁸ Sandy Shore, "Oil Prices Surge on Middle East Unrest," ABC News, January 28, 2011, <http://abcnews.go.com/Business/wireStory?id=12786671>.

⁹ Robert Gibbons, "Oil Rises to 2-1/2 Year Peak on Job Rise, Supply Fear," Reuters, April 1, 2011, <http://www.reuters.com/article/2011/04/02/us-markets-oil-idUSTRE72D01W20110402>.

¹⁰ Matt Day, "Natural Gas Drops in Late Selloff," *The Wall Street Journal*, March 29, 2011, <http://online.wsj.com/article/SB10001424052748704471904576229030889075582.html>.

¹¹ Matt Whitaker, "Precious Metals: Investors Seeking Refuge Boost Gold, Silver," *The Wall Street Journal*, April 8, 2011, <http://online.wsj.com/article/BT-CO-20110408-707513.html>.

¹² Paul Hollis, "Cold Weather Influencing Fresh Vegetable Prices, Supplies," *Delta Farm Press*, March 31, 2011, <http://deltafarm-press.com/orchard-crops/cold-weather-influencing-fresh-vegetable-prices-supplies>.

¹³ Caroline Henshaw, "High Grain Prices Here to Stay," *The Wall Street Journal*, March 31, 2011, <http://online.wsj.com/article/SB10001424052748703712504576234600508848760.html>.

¹⁴ Tom Polansek, "China Buys U.S. Corn After Long Break," *The Wall Street Journal*, March 19, 2011, <http://online.wsj.com/article/SB10001424052748704608504576208913644223364.html>.