



# U.S. Trade Deficit and the Impact of Changing Oil Prices

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## Summary

Petroleum prices rose sharply in the first half of 2008, at one time reaching more than \$140 per barrel of crude oil. Since July, however, petroleum prices and import volumes have fallen at a historically rapid pace; in January 2009, prices of crude oil fell below \$40 per barrel. At the same time the average monthly volume of imports of energy-related petroleum products fell slightly. The sharp rise in the cost of energy imports added an estimated \$28 billion to the nation's trade deficit in 2007 and \$120 billion in 2008. The fall in the cost of energy imports combined with the drop in import volumes as a result of the slowdown in economic activity reversed the trend of rising energy import costs and sharply reduced the overall costs of U.S. energy imports for 2008 and for the first two months of 2009. Beginning in March 2009, the import price of petroleum products rose each month through September 2009, the most recent period for data. This report provides an estimate of the initial impact of the changing oil prices on the nation's merchandise trade deficit.

## **Contents**

Background .....	5
Issues for Congress .....	10

## **Figures**

Figure 1. Quantity of U.S. Imports of Energy-Related Petroleum Products .....	7
Figure 2. Value of U.S. Imports of Energy-Related Petroleum Products .....	7
Figure 3. U.S. Import Price of Crude Oil .....	9

## **Tables**

Table 1. Summary Data of U.S. Imports of Energy-Related Petroleum Products, Including Oil (not seasonally adjusted) .....	6
Table 2. U.S. Imports of Energy-Related Petroleum Products, Including Crude Oil (not seasonally adjusted) .....	8

## **Contacts**

Author Contact Information .....	11
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## Background

According to data published by the Census Bureau of the Department of Commerce,<sup>1</sup> the prices of petroleum products over the first half of 2008 rose sharply, generally rising considerably faster than the change in demand for those products, before falling at a historic rate. After falling each month between August 2008 and February 2009, average petroleum prices reversed course and rose by 65% between February and September 2009, climbing to nearly \$80 per barrel at times. As a result of changing petroleum prices, the price changes in imported energy-related petroleum products worsened the U.S. trade deficit in 2006, 2007, and 2008. Energy-related petroleum products is a term used by the Census Bureau that includes crude oil, petroleum preparations, and liquefied propane and butane gas. Crude oil comprises the largest share by far within this broad category of energy-related imports. The slowdown in the rate of growth in the U.S. economy reduced the amount of energy the country imports and helped to push down world energy prices. As economic growth improves, energy imports will increase and energy prices are expected to rise. In isolation from other events, lower energy prices tend to aid the U.S. economy, which makes it a more attractive destination for foreign investment. Such capital inflows place upward pressure on the dollar against a broad range of other currencies. To the extent that the additions to the merchandise trade deficit are returned to the U.S. economy as payment for additional U.S. exports or to acquire such assets as securities or U.S. businesses, the U.S. trade deficit could be mitigated further.

Summary data from the Census Bureau for the change in the volume, or quantity, of energy-related petroleum imports and the change in the price, or the value, of those imports for 2008 and for 2009 are presented in **Table 1**. The data indicate that during the first nine months of 2009, the United States imported 3,372 million barrels of energy-related petroleum products, valued at \$174 billion. Energy-related imports for this nine-month period were down 5.2% in volume terms from the same period in 2008 and cost slightly less than half the value of such imports during the same period in 2008.

The data also indicate that the United States imported 4.6 billion barrels of total energy-related petroleum products in 2008, valued at \$439 billion, compared with a total value of \$319 billion in 2007. Also, in 2008, the quantity of energy-related petroleum imports fell by 4.0% compared with the comparable period in 2007; crude oil imports also fell by 2.7% from the same period in 2007. Year-over-year, the average value of energy-related petroleum products imports rose by 37.6%, while the average value of crude oil imports rose by 44.2%. As **Figure 1** shows, imports of energy-related petroleum products can vary sharply on a monthly basis. In 2008, imports of energy-related petroleum products averaged about 384 million barrels a month, but through the first nine months of 2009, such imports have averaged 363 million barrels a month.

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<sup>1</sup> Census Bureau, Department of Commerce. Report FT900, *U.S. International Trade in Goods and Services*, November 13, 2009. Table 17. The report and supporting tables are available at [http://www.census.gov/foreign-trade/Press-Release/current\\_press\\_release/ftdpress.pdf](http://www.census.gov/foreign-trade/Press-Release/current_press_release/ftdpress.pdf).

**Table 1. Summary Data of U.S. Imports of Energy-Related Petroleum Products, Including Oil (not seasonally adjusted)**

	January through September					
	2008		2009			
	Quantity (thousands of barrels)	Value (\$ thousands)	Quantity (thousands of barrels)	% change 2008 to 2009	Value (\$ thousands)	% change 2008 to 2009
Total energy-related Petroleum Products	3,114,482	\$323,698,054	2,909,784	-6.6%	\$149,641,187	-53.8%
Crude oil	2,437,398	\$252,155,488	2,244,319	-7.9%	\$113,457,896	-55.0%

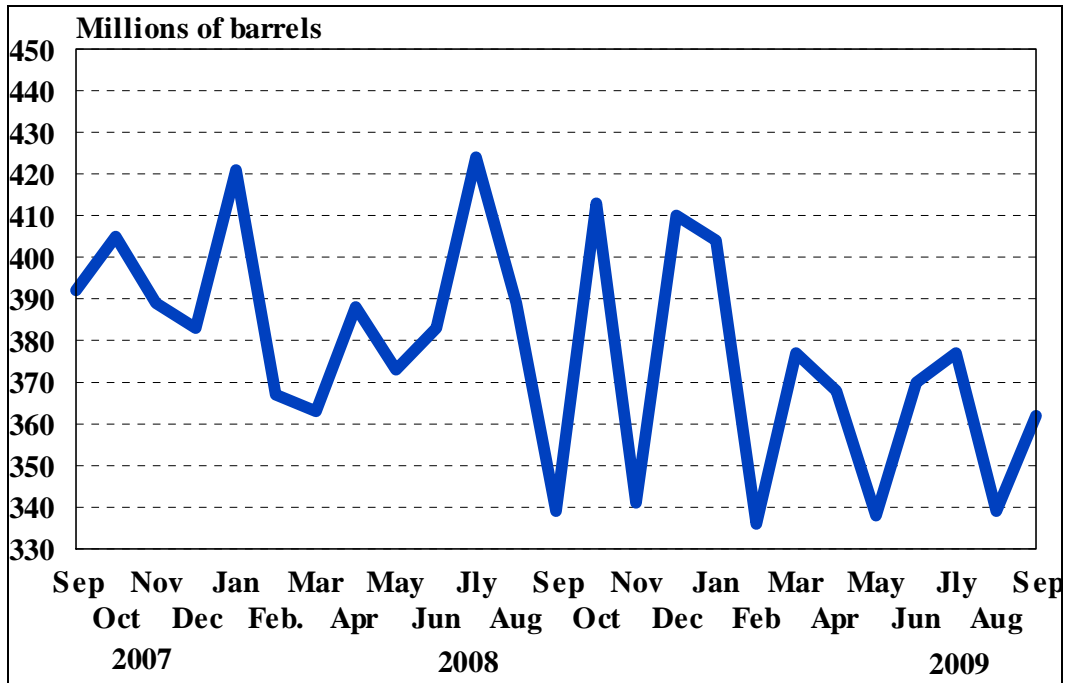
	January through December					
	2008		2009			
	(Actual values)		(Estimated values)			
	Quantity (thousands of barrels)	Value (\$ thousands)	Quantity (thousands of barrels)	% change 2008 to 2009	Value (\$ thousands)	% change 2008 to 2009
Total energy-related Petroleum products	4,613,626	\$438,745,954	4,310,397	-6.6%	\$202,826,259	-53.8%
Crude oil	3,591,136	\$341,978,528	3,306,663	-7.9%	\$153,873,963	-55.0%

**Source:** Census Bureau, Department of Commerce. Report FT900, *U.S. International Trade in Goods and Services*, November 13, 2009. Table 17.

**Note:** Estimates for January through December 2009 were developed by CRS from data through September 2009 and data through 2008 published by the Census Bureau using a straight line extrapolation.

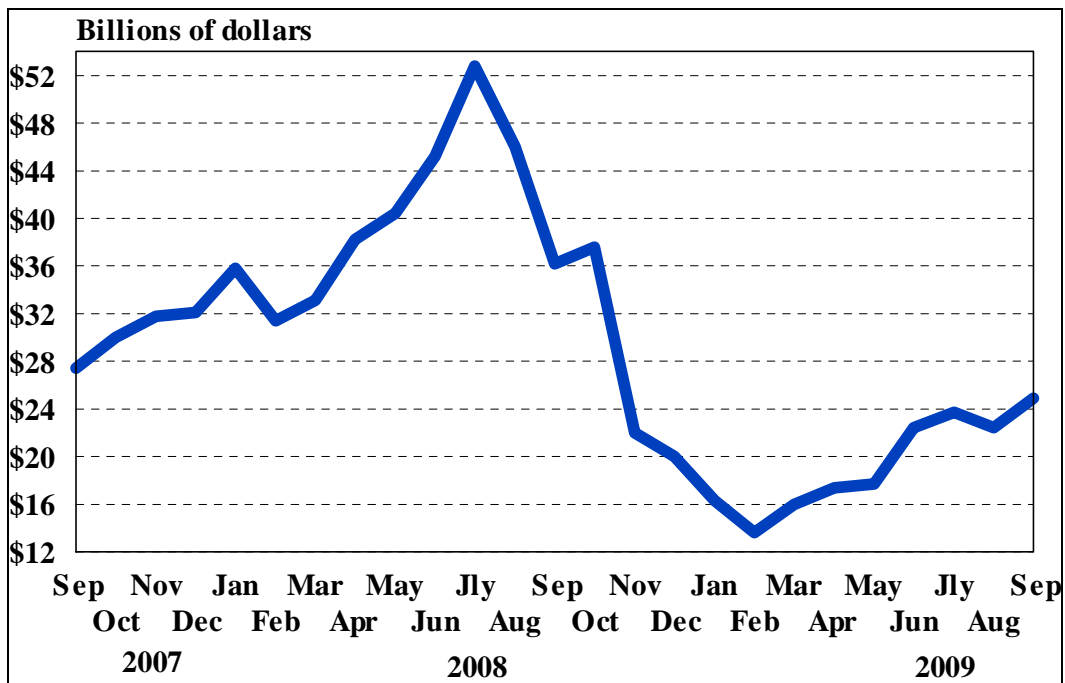
In value terms, energy-related imports rose from \$319 billion in 2007 to \$439 billion in 2008, or an increase of 38%, to account for about 22% of the value of total U.S. merchandise imports. The sharp rise experienced in energy prices in 2007 continued from January through July 2008 and did not follow previous trends of falling during the winter months. As **Figure 2** shows, the cost of U.S. imports of energy-related petroleum products rose from about \$17 billion per month in early 2007 to \$53 billion a month in July 2008, but fell to \$13.6 billion in February 2009, reflecting a drop in the price and in the volume of imported oil. The average price of imported oil in September 2009 was down 37% from the average price in July 2008, reflecting the sharp decrease in the price of imported oil in August 2008 through February 2009, as indicated in **Table 2**.

Figure 1. Quantity of U.S. Imports of Energy-Related Petroleum Products



Source: Department of Commerce

Figure 2. Value of U.S. Imports of Energy-Related Petroleum Products



Source: Department of Commerce

**Table 2. U.S. Imports of Energy-Related Petroleum Products, Including Crude Oil (not seasonally adjusted)**

Period	Total energy-related petroleum products		Crude oil			
	Quantity (thousands of barrels)	Value (\$ thousands)	Quantity (thousands of barrels)	Thousands of barrels per day (average)	Value (\$ thousands)	Unit price (dollars)
<b>2008</b>						
Jan.-Dec.	4,613,444	\$438,686,820	3,590,628	9,810	\$341,912,489	\$95.22
Jan.-Sept.	3,450,431	359,454,064	2,688,497	9,812	279,098,862	103.81
March	363,252	33,146,123	278,571	8,986	25,030,666	89.85
April	388,145	38,185,528	303,050	10,102	29,339,760	96.81
May	373,287	40,360,232	293,995	9,484	31,245,288	106.28
June	382,675	45,207,376	297,532	9,918	34,850,146	117.13
July	424,467	52,813,717	342,024	11,033	42,637,563	124.66
August	388,679	46,012,928	308,380	9,948	37,000,980	119.99
September	339,044	36,179,838	253,276	8,443	27,247,205	107.58
October	413,766	37,632,930	324,185	10,458	29,830,414	92.02
November	341,870	21,995,613	261,600	8,720	17,452,979	66.72
December	410,426	20,018,803	319,834	10,317	15,968,127	49.93
<b>2009</b>						
Jan.-Sept.	3,271,740	\$174,513,474	2,530,537	9,269	\$132,969,541	\$52.55
January	404,658	16,342,408	300,137	9,682	11,949,605	39.81
February	335,912	13,618,145	254,874	9,103	9,996,300	39.22
March	377,470	16,047,403	289,693	9,345	11,983,004	41.36
April	367,943	17,403,719	292,601	9,753	13,633,848	46.60
May	338,081	17,703,718	261,888	8,448	13,410,641	51.21
June	369,963	22,415,123	280,424	9,347	16,592,370	59.17
July	377,218	23,720,887	296,274	9,557	18,510,434	62.48
August	338,539	22,389,783	268,429	8,659	17,381,693	64.75
September	361,956	24,872,287	286,217	9,541	19,511,645	68.17

**Source:** Census Bureau, Department of Commerce. Report FT900, *U.S. International Transactions in Goods and Services*. November 13, 2009. Table 17.

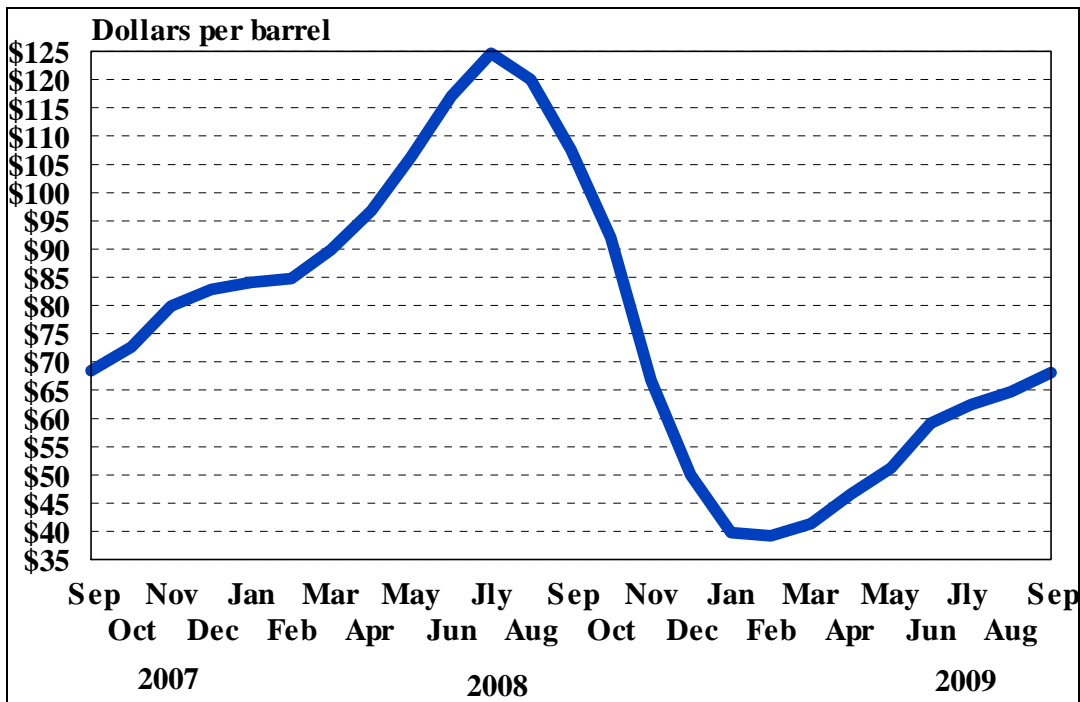
- a. Energy-related petroleum products is a term used by the Census Bureau and includes crude oil, petroleum preparations, and liquefied propane and butane gas.

As a result of the overall rise in the value of energy-related imports in 2008, the trade deficit in energy-related imports amounted to \$386 billion, or 47% of the total U.S. trade deficit of \$821 billion for the year. In the nine-month period of January-September 2009, the drop in oil prices, year over year, combined with reduced demand for energy imports pushed down the overall value of energy imports, which accounted for 43% of the total merchandise trade deficit. This share is

up from the same period in 2008, primarily due to a relatively large drop in the non-petroleum trade deficit.

Crude oil comprises the largest share of energy-related petroleum products imports. According to Census Bureau data<sup>2</sup>, imports of crude oil fell from an average of 10.11 million barrels of crude oil imports per day in 2007 to an average of 9.8 million barrels per day in 2008, or a decrease of 3%. In December 2008, such imports averaged 10.3 million barrels per day, or an increase of 7.4% over the volume of such imports recorded in December 2007. From June 2007 to June 2008, the average price of crude oil increased from \$61 per barrel to \$117 per barrel, or an increase of 92%, as shown in **Figure 3**. As a result, the value of U.S. crude oil imports rose from about \$19 billion a month in June 2007 to \$35 billion a month in June 2008.

**Figure 3. U.S. Import Price of Crude Oil**



Source: Department of Commerce

Data for 2008 indicate that a number of factors combined to push oil prices to record levels in July 2008, before the prices tumbled quickly. The sharp rise in oil prices combined with a small decrease in the volumes of oil imports experienced during the period to post a large jump in the overall cost of imported energy. At times, crude oil traded for nearly \$148 per barrel in July 2008, indicating that the cost of energy imports would have a significant impact on the overall costs of U.S. imports and on the value of the U.S. trade deficit. Since those record prices, the price per barrel of imported crude oil fell to under \$40 per barrel at times in January and February 2009. For the year 2008, the imported volume of energy-related petroleum products fell by 4.0%, due in large part to a slowdown in economic activity. At an average price of \$95 per barrel, compared with an average price of \$64 per barrel in 2007, energy-related import prices added nearly \$100 billion to the trade deficit on an annual basis in 2008, pushing the annual trade deficit to just over

<sup>2</sup> Report FT900, U.S. International Trade in Goods and Services, November 13, 2009. Table 17.



\$820 billion. For 2009, the total cost of energy imports is projected to rise to just less than half the \$438 billion experienced in 2008

## **Issues for Congress**

The sharp rise in prices of energy imports experienced since early 2007 through July 2008 was expected to affect the U.S. rate of inflation and have a slightly negative impact on the rate of economic growth in 2008. Various factors, dominated by the sharp slowdown in the rate of economic growth in the United States and most other areas of the world, are combining to push down the cost of energy imports. Typically, energy import prices have followed a cyclical pattern that has caused energy prices to decline in the winter. A slowdown in the rate of economic growth in the United States and elsewhere has reduced the demand for energy imports and caused oil prices to tumble from the heights they reached in July 2008. An important factor that often affects crude oil prices is the impact Atlantic hurricanes have on the production of crude oil in the Gulf of Mexico. The drop in oil prices likely will lessen the nation's merchandise trade deficit, although the most important factor affecting the trade deficit throughout 2009 will be the rate of growth in the U.S. economy.

The return to a positive rate of economic growth has placed upward pressure on the prices of energy imports that is contributing to the nation's merchandise trade deficit. Some of the impact of this deficit could be offset if some of the dollars that accrue abroad are returned to the U.S. economy through increased purchases of U.S. goods and services or through purchases of such other assets as corporate securities or acquisitions of U.S. businesses. Some of the return in dollars likely will come through sovereign wealth funds (SWFs), or funds controlled and managed by foreign governments, as foreign exchange reserves boost the dollar holdings of such funds. Such investments likely will add to concerns about the national security implications of foreign acquisitions of U.S. firms, especially by foreign governments, and to concerns about the growing share of outstanding U.S. Treasury securities that are owned by foreigners.

It is likely that the economy will again face high and rising prices for imported energy products as national economies recover to a more robust rate of economic growth. It is possible for the economy to adjust to the higher prices of energy imports by improving its energy efficiency, finding alternative sources of energy, or searching out additional supplies of energy. There may well be increased pressure applied to Congress to assist in this process. For Congress, the increase in the nation's merchandise trade deficit could add to existing inflationary pressures and complicate efforts to stimulate the economy should the rate of economic growth slow down. In particular, Congress, through its direct role in making economic policy and its oversight role over the Federal Reserve, could face the dilemma of rising inflation, which generally is treated by raising interest rates to tighten credit, and a slow rate of economic growth, which is usually addressed by lowering interest rates to stimulate investment. A sharp rise in the trade deficit may also add to pressures for Congress to examine the causes of the deficit and to address the underlying factors that are generating that deficit. In addition, the rise in prices of energy imports could add to concerns about the nation's reliance on foreign supplies for energy imports and add impetus to examining the nation's energy strategy.

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