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. After July 2008, however, petroleum prices and import volumes fell at a historically rapid pace; in January 2009, prices of crude oil fell below $40 per barrel. Since then, crude oil prices have more than doubled, while the average monthly volume of imports of energy-related petroleum products has risen slightly, year over year, reflecting the positive, albeit slow, rate of growth in economic activity. In addition to the slight rise in the volume of crude oil imports, the rise in the cost of energy imports in 2010 added about $80 billion to the nation's trade deficit in 2010 over that experienced in 2009. Turmoil in the Middle East caused petroleum prices to rise sharply in the first three months of 2011 and could add $100 billion to the U.S. trade deficit in 2011. The increase in energy import prices is pushing up the price of energy to consumers and could spur some elements of the public to pressure the 112th Congress to provide relief to households that are struggling to meet their current expenses. With oil prices rising to over $100 per barrel in early 2011, the International Energy Agency cautioned that the rising price of oil was becoming a threat to the global economic recovery. This report provides an estimate of the initial impact of the changing oil prices on the nation's merchandise trade deficit.

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Background

According to data published by the Census Bureau of the Department of Commerce,[1] 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 85% between February and December 2009, climbing to nearly $80 per barrel at times. In 2010, petroleum prices reached a peak average price of about $77 per barrel in April before falling to around $72 per barrel in July 2010. Average prices dropped from May to July, one of only three times average monthly petroleum prices have declined since January 2009. In December 2010, petroleum import prices averaged nearly $80 per barrel and continued to increase, reaching over $100 per barrel at times in February and March 2011. Oil futures contracts indicate, however, that crude oil prices are expected to peak at the $100 per barrel range before falling to under $90 per barrel by mid-fall. Turmoil in the Middle East, however, could have a significant impact on the course of oil prices for the foreseeable future. As a result of changing petroleum prices, the price changes in imported energy-related petroleum products worsened the U.S. trade deficit in 2006-2008, 2010, and likely will again in 2011. *Energy-related petroleum products* is a term used by the U.S. 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.

In 2009, the slowdown in the rate of growth in the U.S. economy reduced the amount of energy the country imported and helped push down world energy prices. As economic growth has improved, energy imports have increased and energy prices have risen. 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, however, 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 2010 and estimated values for 2011 are presented in **Table 1**. The data indicate that during 2010, the United States imported about 4.3 billion barrels of energy-related petroleum products, valued at $323 billion. On average, energy-related imports for 2010 were up 0.3% in volume terms from the average in 2009 and cost an average of 31% more than similar imports during the same period in 2009. Estimates for 2011 indicate that with an average price per barrel of $100, U.S. imported petroleum costs will rise by over $100 billion to $428 billion.

[1] U.S. Department of Commerce, U.S. Census Bureau, Report FT900, *U.S. International Trade in Goods and Services,* Table 17, March 10, 2011. The report and supporting tables are available at 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)

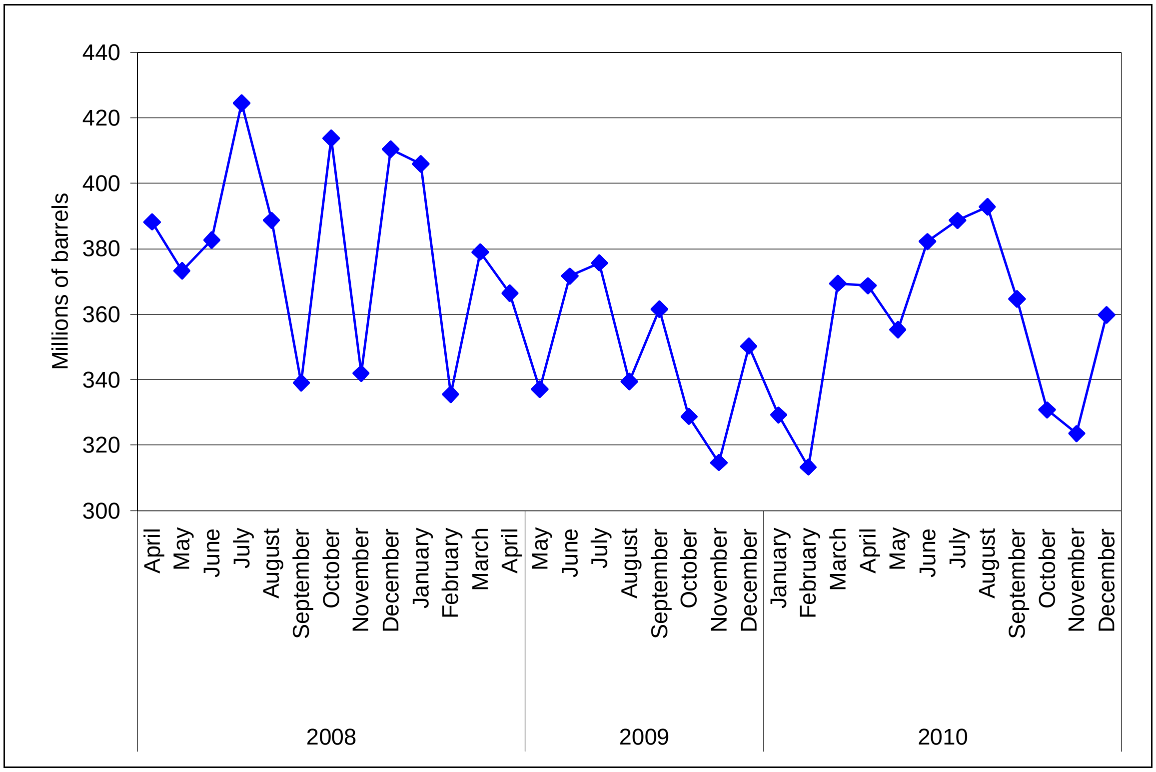
	January					
	2010		2011			
	Quantity (millions of barrels)	Value ($ billions)	Quantity (millions of barrels)	% change 2010 to 2011	Value ($ billions)	% change 2010 to 2011
Total energy-related petroleum products	329.2	$24.7	375,303	14.0%	$32.2	30.3%
Crude oil	245.3	$18.1	290,666	18.5%	$24.5	35.3%
	January through December					
	2010		**2011**			
	(Actual values)		**(Estimated values)**			
	Quantity (millions of barrels)	Value ($ billions)	Quantity (millions of barrels)	% change 2010 to 2011	Value ($ billions)	% change 2010 to 2011
Total energy-related petroleum products	4,,278.5	$323.6	4,,877.0	14.0%	$421.7	30.3%
Crude oil	3,377.7	$252.2	4,002.8	18.5%	$341.1	35.3%

Source: U.S. Department of Commerce, U.S. Census Bureau, Report FT900, *U.S. International Trade in Goods and Services,* Table 17, March 10, 2011.

Note: Estimates for January through December 2011 were developed by CRS from data in January 2011 and data through 2010 published by the Census Bureau using a straight line extrapolation.

The data also indicate that the United States imported 4.3 billion barrels of total energy-related petroleum products in 2010, valued at $252 billion, compared with a total value of $246 billion in 2009. Also, in 2009, the quantity of energy-related petroleum imports fell by 4.0% compared with the comparable period in 2008; crude oil imports also fell by 2.7% from the same period in 2008. Year-over-year, the average value of energy-related petroleum products imports fell by 44% in 2009, while the average value of crude oil imports fell by 45%. As **Figure 1** shows, imports of energy-related petroleum products can vary sharply on a monthly basis. In 2009, imports of energy-related petroleum products averaged about 355 million barrels a month. In 2010, such imports averaged 356 million barrels per month.

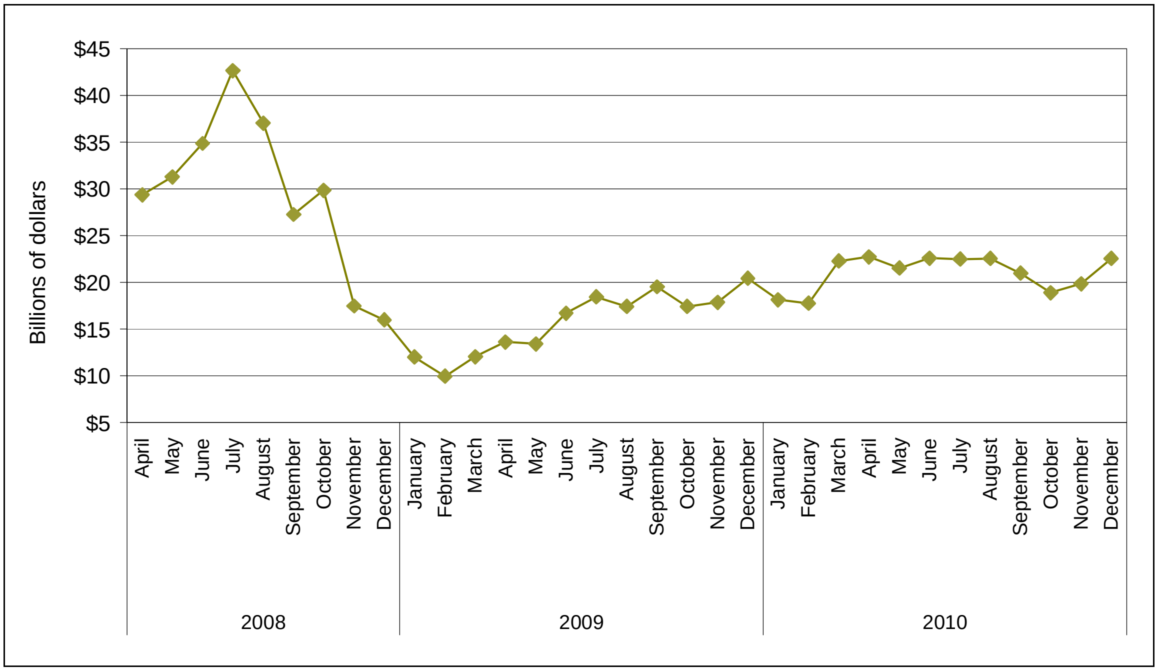
Figure 1. Quantity of U.S. Imports of Energy-Related Petroleum Products



Source: Department of Commerce.

In value terms, energy-related imports fell from a total value of $439 billion in 2008 to $245 billion in 2009, or a decrease of 44%, to account for about 16% of the value of total U.S. merchandise imports. Energy prices rose sharply in 2007 and continued rising from January through July 2008, not following 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 a month in February 2009, reflecting a drop in the price and in the volume of imported oil. The average price of imported oil in January 2011 was $84 per barrel, an increase of 14% over the average price per barrel of $74 in January 2010. The value of total energy imports (reflecting the change in the amount of imports and the change in the price of those imports) in January 2011 rose 4% slightly from December 2010 to $32.2 billion and up from $24.7 billion in January 2010, as indicated in **Table 2**.

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



Source: Department of Commerce.

As a result of the drop in the overall value of energy-related imports in 2009, the trade deficit in energy-related imports amounted to $204 billion, down by nearly half from the $386 billion recorded in 2008, and accounted for 40% of the total U.S. trade deficit of $517 billion for the year. In 2010, the rise in oil prices, year over year, combined with a slight increase in energy imports, pushed up the overall value of energy imports, which accounted for 41% of the total merchandise trade deficit. In January 2011, the share of the U.S. trade deficit arising from energy imports was 45%, down slightly from the 47% share recorded in January 2010.

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

	Total energy-related petroleum products[a]		Crude oil			
Period	**Quantity (millions of barrels)**	**Value ($ billions)**	**Quantity (millions of barrels)**	**Thousands of barrels per day (average)**	**Value ($ billions)**	**Unit price (dollars)**
			2009			
Jan.-Dec.	4,266.0	$245.7	3,314.8	9,082	$188.7	$56.93
July	375.7	23.6	294.6	9,504	18.4	62.52
August	339.4	22.5	268.9	8,673	17.4	64.78
September	361.6	24.8	286.2	9,540	19.5	68.17
October	328.8	22.4	258.4	8,336	17.4	67.37
November	314.7	23.0	245.9	8,198	17.8	72.57
December	350.3	25.7	279.3	9,010	20.4	73.14

Period	Total energy-related petroleum products[a] Quantity (millions of barrels)	Total energy-related petroleum products[a] Value ($ billions)	Crude oil Quantity (millions of barrels)	Crude oil Thousands of barrels per day (average)	Crude oil Value ($ billions)	Crude oil Unit price (dollars)
			2010			
Jan.-Dec.	4,278.5	$323.6	3,377.7	9,254	$252.2	74.66
January	329.2	24.7	245.3	7,912	18.1	73.89
February	313.3	23.0	243.3	8,689	17.7	72.92
March	369.5	27.8	299.5	9,660	22.3	74.32
April	368.7	28.8	294.1	9,804	22.7	77.13
May	355.3	27.6	280.0	9,033	21.5	76.93
June	382.2	28.0	311.9	10,398	22.6	72.44
July	388.7	28.4	311.7	10,056	22.5	72.09
August	392.8	29.2	306.9	9,900	22.5	73.47
September	364.7	26.6	289.7	9,656	21.0	72.36
October	330.7	25.0	254.5	8,209	18.9	74.18
November	323.6	25.2	258.2	8,606	19.8	76.81
December	359.8	29.2	262.6	9,115	22.5	79.78
			2011			
January	375.3	$32.2	290.7	9,376	$24.5	84.34

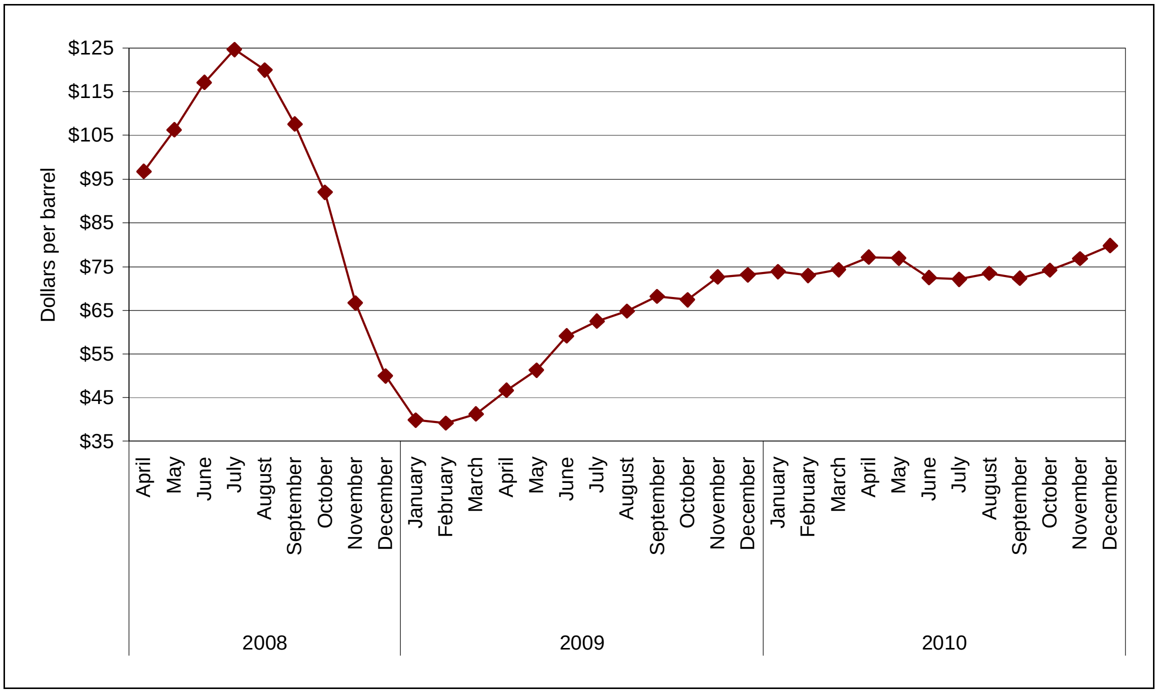
Source: U.S. Department of Commerce, U.S. Census Bureau, Report FT900, *U.S. International Trade in Goods and Services,* Table 17, March 10, 2011.

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.

Crude oil comprises the largest share of energy-related petroleum products imports. According to Census Bureau data,[2] imports of crude oil fell from an average of 9.8 million barrels of crude oil imports per day in 2008 to an average of 9.1 million barrels per day in 2009, or a decrease of 7%. In January 2010, such imports averaged 9.4 million barrels per day, or an increase of 18.5% over the volume of such imports recorded in January 2010. From January 2008 to June 2008, the average price of crude oil increased from $84 per barrel to $117 per barrel, or an increase of 39%, as shown in **Figure 3**. As a result, the value of U.S. crude oil imports rose from about $27 billion a month in January 2008 to $35 billion a month in June 2008. In 2010, crude oil imports averaged 281 million barrels per month at an average value of $21 billion a month.

[2] Report FT900, *U.S. International Transactions in Goods and Services,* Table 17, March 10, 2011.

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



Source: Department of Commerce.

Data for 2009 indicate that a number of factors, primarily the economic recession, had a large impact on pushing down oil prices in the first three months. As economic growth picked up, the higher demand for oil ended to raise pressure on oil prices, which rose through the end of the year. The rise in oil prices and an increase in the volumes of oil imports during the period combined to raise 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 size 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 2009, the imported volume of energy-related petroleum products fell by 44% compared with 2008, due in large part to a slowdown in economic activity. At an average price of $56 per barrel in 2009, compared with an average price of $95 per barrel in 2008, energy-related imports fell by nearly $130 billion as a component in the overall U.S. trade deficit. For 2010, the total cost of energy imports could rise to $323 billion at an average price of $75 per barrel and accounted for 41% of the annual trade deficit.

Issues for Congress

The rise in the prices of energy imports experienced since early 2000 through February 2011 could have a significant impact on the annual U.S. trade deficit in 2011, should those price increases stick, or run even higher. The rise in energy prices may well affect the U.S. rate of inflation and could have a slightly negative impact on the rate of economic growth in 2011. Various factors, dominated by the political turmoil in the Middle East and the rate of economic growth in the United States and Western Europe, have combined to push up the cost of energy imports, which will have a slightly negative impact on the pace of the economic recovery. Typically, energy import prices have followed a cyclical pattern as energy prices rose in the summer and declined in the winter. The slowdown in the rate of economic growth in the United States and elsewhere in 2009 sharply 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 return to a positive rate of economic growth has placed upward pressure on the prices of energy imports and contributed 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, 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.

Social turmoil in the Middle East is creating uncertainty in the oil markets and pushing up prices. The duration and intensity of the turmoil likely will continue to be the most important factor driving oil prices. As was the case in 2008, high and sustained oil prices likely will have a detrimental effect on the pace of economic growth in many parts of the world. 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. Higher oil prices may well cause consumers to increase pressure on 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 reduce the governments' budget deficit and to stimulate the economy should the rate of economic growth stall. 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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