

2011 in Review

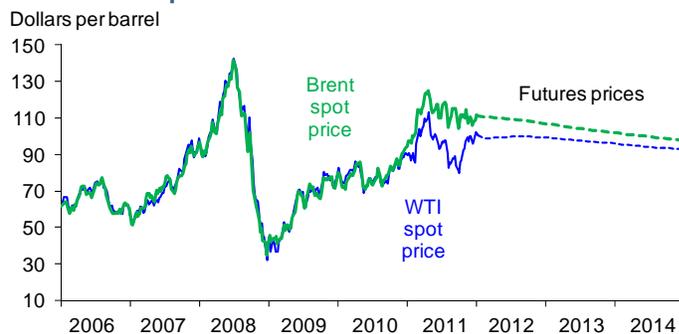
January 26, 2011

2011 continued the upward trend in oil prices. West Texas Intermediate (WTI) oil prices averaged \$95 per barrel in 2011, 19.7 percent higher than in 2010 (Table 1), but saw significant variability as concerns over the European debt crisis caused prices to fall midyear. Throughout the year, WTI prices traded at a discount to Brent (a U.K. North Sea blend of oil) because of high inventories at Cushing, Okla. The bottleneck at Cushing was the result of a rising inflow of oil from northern oil fields. This oil was unable to flow out as fast, either through pipelines or by rail or truck. Near year-end, it was announced that the Seaway pipeline, which normally transports oil from the Gulf of Mexico to Cushing, would be reversed. WTI rebounded as a result, and the WTI–Brent spread narrowed significantly (Chart 1).

Natural gas prices declined in 2011, as strong supply from shale gas combined with weak demand to push prices down. Unusually warm fall and early winter weather resulted in lower seasonal demand than normal at year-end, driving prices down further. For the year, natural gas prices averaged just under \$4 per million British thermal units, 8.7 percent below 2010 prices.

Both the International Energy Agency (IEA) and the Energy Information Administration (EIA) see supply–demand fundamentals easing in 2012. Oil supply is expected to increase, primarily from non-OPEC output in the U.S., Canada and Brazil, while oil demand growth

Chart 1
WTI–Brent Spread Narrows



SOURCES: *Wall Street Journal*; *Financial Times*; Bloomberg.

will likely be modest due to slow U.S. growth, slower growth from Asia and a possible recession in Europe.

Demand

Global oil demand grew by 700,000 barrels per day in 2011, about 0.8 percent. The IEA expects world demand growth to accelerate to 1.2 percent in 2012 on the back of global GDP growth of 3.9 percent. Organization for Economic Cooperation and Development (OECD) demand is expected to decline in 2012; thus, demand growth will be completely driven by non-OECD countries.

The EIA expects U.S. GDP to grow 1.8 percent in 2012, resulting in a 0.5 percent increase in oil demand. Though

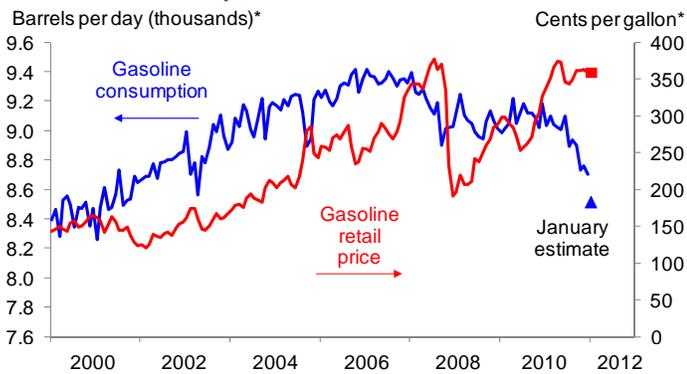
Table 1

Petroleum Prices Rise Throughout the Year							
	2010 Average*	2010 High	2010 Low	2011 Average*	2011 High	2011 Low	% Change 2010–11
Oil, West Texas Intermediate (\$ per barrel)	79.42	92.21	66.88	95.08	113.93	75.67	19.7
Oil, Brent (\$ per barrel)	79.58	94.64	67.19	111.35	127.01	93.45	39.9
Natural Gas, Henry Hub (\$ per MMBtu)	4.38	7.38	3.17	3.99	4.92	2.56	-8.7
Diesel, New York Harbor (\$ per gallon)	2.16	2.61	1.89	2.97	3.33	2.49	37.8
Gasoline, New York Harbor (\$ per gallon)	2.10	2.48	1.82	2.80	3.35	2.35	33.2

*Average of daily closing prices

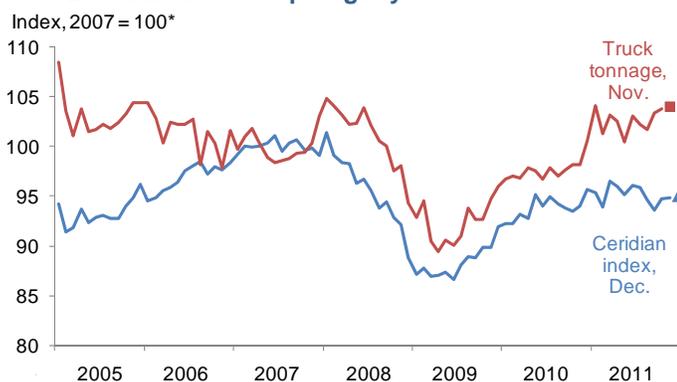
Sources: *Wall Street Journal*; *Financial Times*; calculations by the Dallas Fed.

Chart 2
Gasoline Consumption Weak



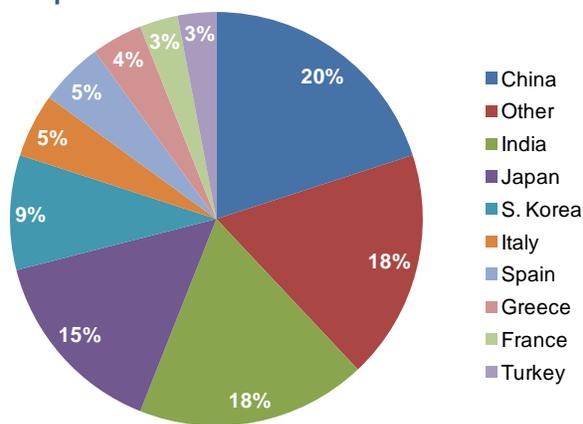
*Seasonally adjusted.
SOURCE: Energy Information Administration; seasonal and other adjustments by the Federal Reserve Bank of Dallas.

Chart 3
U.S. Diesel Indicators Up Slightly



*Seasonally adjusted.
SOURCES: University of California at Los Angeles; American Trucking Association.

Chart 4
Iran's Oil Exports



SOURCE: Deutsche Bank.

small, this amount stands in contrast to the 1.6 percent decrease in demand seen in 2011.

Current U.S. energy indicators are mixed. Year-to-date through October 2011, gasoline consumption fell 2.8 percent (*Chart 2*) and is expected to decline slightly in 2012. Diesel consumption has been stronger as truck tonnage (an indicator of diesel use) has risen since mid-2011, and the Ceridian Index (which tracks diesel purchases across the nation) has ticked up recently as well (*Chart 3*). Distillate exports also rose 27 percent through October 2011.

Supply

According to the EIA, world oil supplies grew about 0.7 percent in 2011. OECD production grew modestly, with strong gains in Canada and the U.S. offsetting declines in Europe. Non-OECD growth was driven by increases in OPEC production and gains in the former Soviet Union states.

Global oil supplies are expected to rise in 2012, more than offsetting the increase in oil demand. The IEA reports that Libyan production was 800,000 barrels per day in December, increasing by approximately 250,000 barrels per day from November yet still below pre-civil war levels of 1.6 million barrels per day. OPEC output overall rose to 30.9 million barrels per day—the highest level in over three years.

Despite the optimistic supply outlook, there are serious geopolitical risks to oil supply in the new year, the most predominant of which is Iran's threat to close off the Strait of Hormuz. The U.S. has tightened sanctions on Iran in an effort to reduce its oil revenues. In response, Iran threatened to close the strait, through which approximately 17 million barrels of oil pass each day. Current importers of Iranian oil would have to find substitutes. The primary importers of Iranian oil are in Asia and Europe (*Chart 4*).

Natural Gas

Natural gas prices dropped below \$3 per MMBtu in early January 2012 (*Chart 5*). Low gas prices are being driven by elevated supply due to shale gas production and weak winter demand resulting from an unusually warm winter. So far, this winter has been 6 percent warmer than normal, pushing gas inventories up 13 percent over year-ago levels. The number of gas-directed rigs has been falling and is down about 12 percent over the past year, but this has failed to stem the rise in gas supply (*Chart 6*). This is partly due to strong oil prices, which have incentivized drilling in shale plays with high natural gas liquids (NGL) production—the corollary being that associated gas is produced alongside the NGLs, keeping gas supply strong and putting downward pressure on natural gas prices.

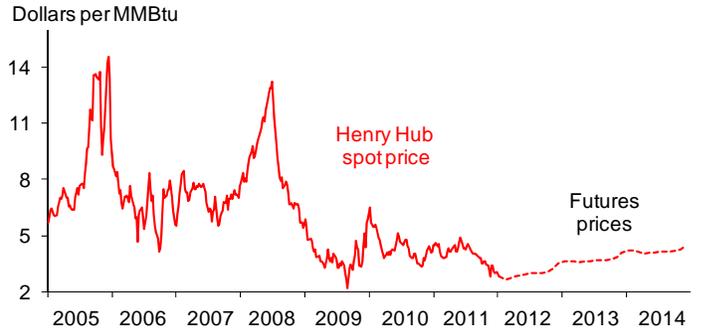
While low natural gas prices are a negative for producers, they can be a boon to consumers. According to the EIA, residential gas consumers paid an average of \$12.26 per thousand cubic feet (MCF) for gas in the 12 months ending October 2011, or about three times the average spot price of gas over the same period. If prices hold near \$3 per MCF and residential customers are charged a similar premium, customers could save more than \$9 billion, or approximately \$81 per household. Taking into consideration electric, commercial and industrial users, total savings on natural gas expenditures could reach about \$36 billion for the year. This is only an estimate and is derived by looking at consumption and price data from October 2010 through October 2011 and assumes consumption remains steady. However, it does give an idea of the potential savings natural gas consumers could see; of course, those consumer savings also mean reduced revenues for producers.

—Jackson Thies and Mine Yücel

About the Authors

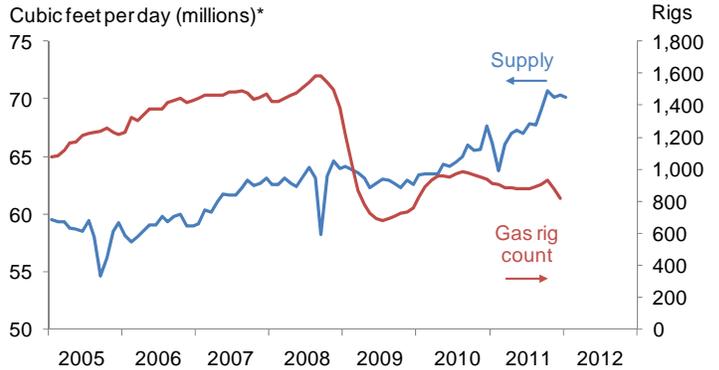
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**Chart 5
Natural Gas Prices Remain Low**



SOURCES: *Wall Street Journal*; Bloomberg.

**Chart 6
Gas Rig Count Down but Supplies Still Strong**



*Seasonally adjusted.
SOURCES: Bentek Energy; Baker Hughes .