

Energy

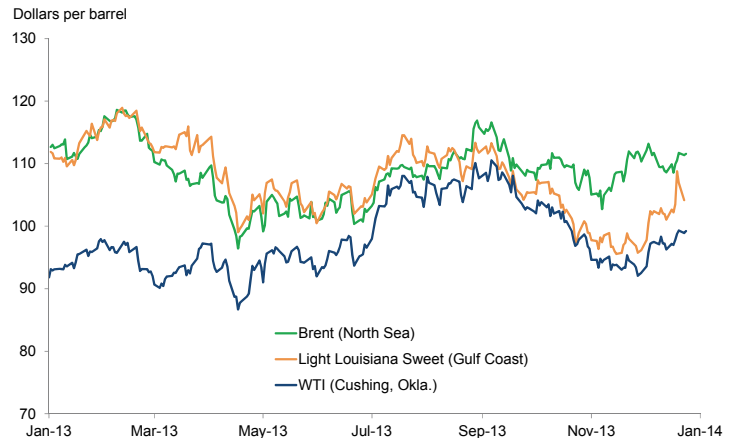
Surging U.S. Oil Production Puts Downward Pressure on Domestic Crude Prices

Fourth Quarter 2013

Domestic and international crude oil prices diverged in the fourth quarter (*Chart 1*). West Texas Intermediate (WTI), the domestic benchmark price, averaged \$97 per barrel during the quarter, while Light Louisiana Sweet (LLS), which is traded on the Gulf Coast, averaged \$101. Brent, the global benchmark, averaged \$109. LLS crude oil prices generally follow Brent closely, but LLS traded at a discount to Brent in the quarter as continued production growth in the U.S., along with refinery maintenance, pushed domestic prices lower.

While the average price of WTI was lower in the fourth quarter than in the third, it was 4 percent higher for all of 2013 than for 2012. WTI averaged almost \$98 per barrel in 2013. However, Brent averaged \$109 this year, 3 percent below its 2012 average (Table 1). Prices for oil products in the U.S. followed the Brent trend and were lower on average in 2013 than in 2012. U.S. retail prices for regular gasoline averaged \$3.51 per gallon in 2013, 3 percent below the 2012 average, and the U.S. Energy Information Administration (EIA) expects gasoline to decline further to \$3.43 in 2014. Retail diesel prices averaged \$3.92 in 2013, down 1 percent from their 2012 average.

Chart 1
U.S. Crude Oil Prices' Discount to Brent Widens in Fourth Quarter



SOURCES: Wall Street Journal; Bloomberg.

Gasoline prices in fourth quarter 2013 are sharply lower than they were this time last year. The national average retail price in October was almost 40 cents lower than last year's price. Over the past month, gasoline prices have been pushed higher by rising export demand for petroleum products, slightly higher Brent prices and, possibly, stronger-than-expected demand from U.S. consumers. Despite this, the U.S. average retail gasoline price remains below year-ago levels (*Chart 2*).

Table 1

Petroleum Price Changes Mixed; Natural Gas Prices Up from Last Year

	2013 average	2013 high	2013 low	2012 average	2012 high	2012 low	Percent change 2012-13
West Texas Intermediate crude oil (\$ per barrel)	97.93	108.67	87.97	94.20	107.49	80.29	4.0
Brent crude oil (\$ per barrel)	108.57	118.09	98.23	111.76	126.57	92.02	-2.9
Natural gas, Henry Hub (\$ per MMBtu)	3.70	4.31	3.18	2.75	3.67	1.86	34.5
U.S. Retail gasoline (\$ per gallon)	3.51	3.78	3.19	3.62	3.94	3.25	-3.0
U.S. Retail diesel (\$ per gallon)	3.92	4.16	3.82	3.97	4.15	3.65	-1.1

SOURCES: Wall Street Journal; Energy Information Administration

International Supply and Demand

Global consumption of oil products increased year-over-year in the third quarter (*Chart 3*). Preliminary data for the fourth quarter show lower growth rates than those seen in the third quarter. Consumption growth in countries outside the Organization for Economic Cooperation and Development (OECD) has softened somewhat over the past few quarters, while OECD consumption has increased on the strength of U.S. and European demand. U.S. demand has been particularly strong.

Total oil supply for the Organization of the Petroleum Exporting Countries (OPEC) is forecast to be 35.4 million barrels per day (b/d) in fourth quarter 2013, according to the EIA. This is 0.6 million b/d below third quarter 2013 and fourth quarter 2012. Supply disruptions in Libya continue to be a major source of decline, with third-quarter production 0.8 million b/d below third quarter 2012. Since the end of July, prolonged strikes and protests have blocked oil exports and caused production to be cut at major oil fields in Libya.

The November Joint Plan of Action agreement on Iran

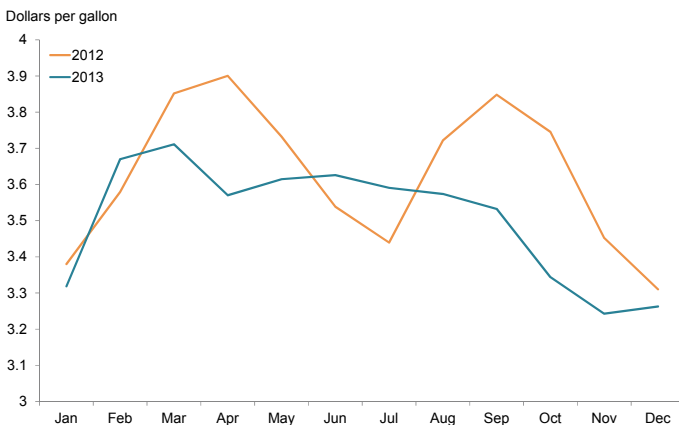
with the five permanent members of the United Nations Security Council plus Germany did not affect existing sanctions on Iranian crude oil sales. Therefore, the deal should have minimal impact on oil production in Iran and global oil supplies, at least for the foreseeable future. Iranian crude oil exports have declined to 1 million b/d in recent months.

U.S. Energy Indicators

U.S. crude oil production increased in the fourth quarter, according to supply estimates from the EIA. Production reached 8 million b/d in November, the highest level since 1988. The EIA expects production to average 8.5 million b/d in 2014. The Eagle Ford Shale and Permian Basin in Texas and Bakken Shale in North Dakota accounted for the bulk of the growth (*Chart 4*).

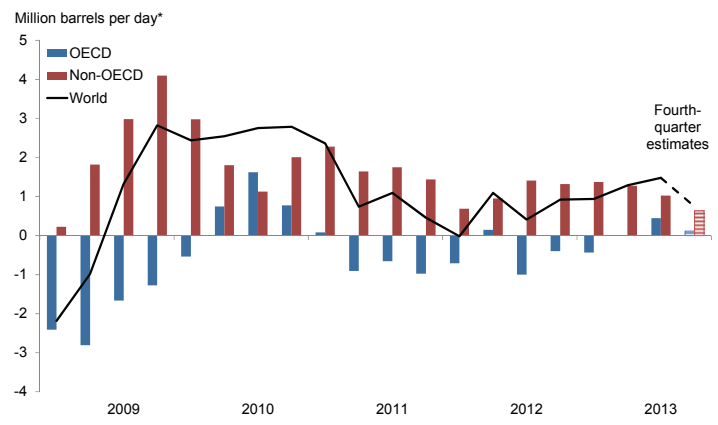
Consumption of motor gasoline in the U.S. was better than expected in third quarter 2013, and estimates suggest fourth-quarter demand may also exceed expectations (*Chart 5*). The EIA expects gasoline consumption to rise 1 percent in 2013 over 2012 and to fall 0.4 percent in 2014 as increases in overall fuel efficiency outpace

Chart 2
Gasoline Prices Drop Below Year-Ago Levels in Last Half of Year



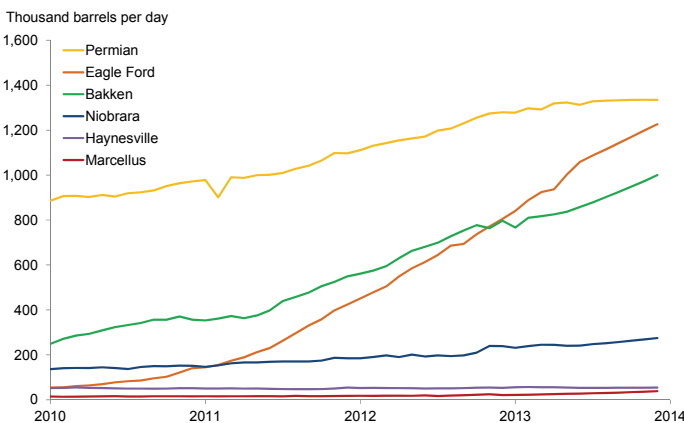
SOURCE: Energy Information Administration.

Chart 3
Global Oil Demand Increases in 2013



*Year-over-year change.
SOURCE: Energy Information Administration.

Chart 4
Oil Production in Eagle Ford, Bakken Shale Grows Significantly



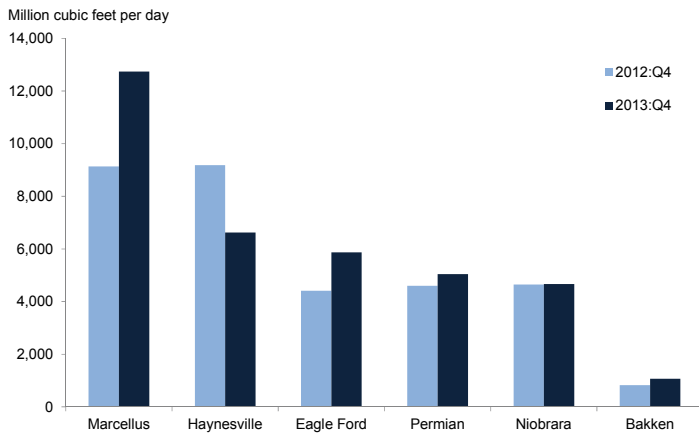
SOURCE: Energy Information Administration.

Chart 5
Gasoline Consumption Better than Expected in Second Half of 2013



SOURCE: Energy Information Administration.

Chart 6
Shale Regions Drive U.S. Natural Gas Production Growth



SOURCE: Energy Information Administration.

growth in highway travel.

Natural Gas

The Henry Hub natural gas spot price increased to an average of \$3.79 per million British thermal units in fourth quarter 2013, reflecting higher demand as a result of colder weather. This is a 24 cent increase over the third-quarter average and 40 cents more than fourth quarter 2012.

Higher natural gas prices, coupled with relatively unchanged coal prices this year, contributed to a decline in natural gas used for electricity generation. Natural gas used for power generation is expected to be 10 percent lower in 2013 than 2012 and to decrease by another 1 percent in 2014.

Natural gas production continued to grow during the fourth quarter. Much of this growth is due to surging production in the Marcellus Shale and Eagle Ford, which posted year-over-year production gains of 39 and 33 percent, respectively (*Chart 6*).

—Amy Jordan and Michael Plante

About the Authors

Jordan is a research analyst and Plante is a research economist in the Research Department at the Federal Reserve Bank of Dallas.

