DALLASFED Economic Update
Energy

Oil Roller Coaster: Prices Rise on Production Outages, Fall with Brexit

Second Quarter 2016

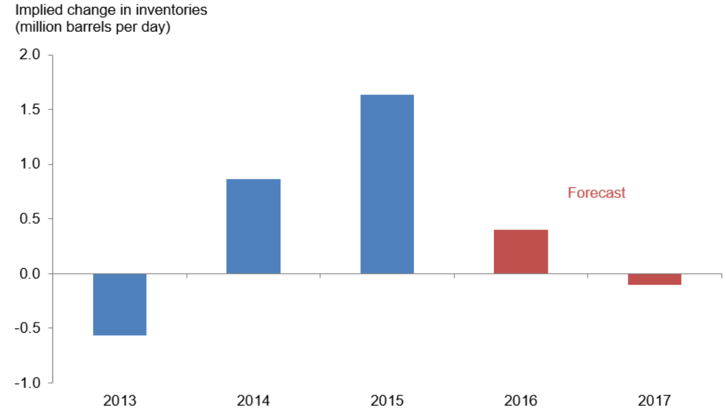
After a wild downhill ride at the start of the year, oil prices began ascending in the second quarter. Prices rose as market participants found some assurance that global inventory build-ups are slowing. However, the U.K.'s Brexit referendum and its possible global repercussions may signal a renewed series of ups and downs.

Markets Tighten in the Second Quarter

Oil prices increased significantly in the second quarter. Brent crude stood at $48 per barrel at the end of June, up roughly 30 percent from March 30. While predictions in the first quarter were for prices to remain "lower for longer," price expectations have firmed up. Uncertainty, as measured by the Crude Oil Volatility Index, fell about 20 percent over the period.

Market participants seemed reassured by global inventory build-ups in 2016 that appear far more subdued than in 2015 as U.S. output responds to the low-price environment *(Chart 1)*. The International Energy Agency forecast for 2017 indicates small inventory draws on average. This is in line with Dallas Fed Energy Survey participants' expectations.[1] Over 70 percent of survey respondents expect global oil consumption to equal global oil output by the first half of 2017. Unexpected production outages in Canada and Nigeria have supported this shift in market sentiment.

Chart 1
World Oil Inventory Build-Ups Expected to Abate

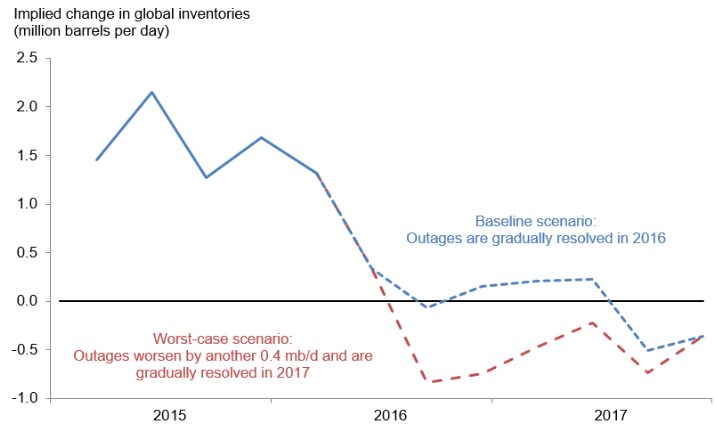


NOTE: World petroleum production minus consumption equals the implied change in inventory.
SOURCE: International Energy Agency.

Outages in Nigeria, Canada Hit World Oil Output

While Canada's wildfire-related production outages have been short-lived, Nigeria's outages have been more persistent. Attacks on oil infrastructure in Nigeria have diminished oil production by around 0.5 million barrels per day (mb/d) since the beginning of the year. The risk of continued attacks remains through 2016 if the multifaceted conflict between new President Muhammadu Buhari and militants in the Niger Delta cannot be resolved. In the 2000s, similar attacks in Nigeria led to outages of up to 0.9 mb/d. Such a worst-case scenario would lead to substantial global inventory draws in the second half of 2016 and in 2017 *(Chart 2)*. Overall, Nigeria is a wild card, with substantial upside risk to global oil prices.

Chart 2
Nigerian Production Outages Will Shape Global Inventory Changes



SOURCES: International Energy Agency; authors' calculations.

OPEC Inaction Becomes the New Normal

The Organization of the Petroleum Exporting Countries (OPEC) did not agree on an output intervention in the second quarter as talks of a production freeze fizzled. The arrival of new Saudi oil minister Khalid al-Falih and signs of market "rebalancing" seemed to help ease disagreements at OPEC's June meeting. The organization even stated that more investment in oil production capacity is needed in the medium term to cover expected world demand growth.

Saudi Arabia, meanwhile, announced plans to keep crude oil production capacity at around 12.5 mb/d until 2020 and preserve its spare capacity of about 2 mb/d as a backstop against drastic price spikes. While Saudi Arabia increased production

0.6 mb/d in 2015, the country's plans imply an increase of that magnitude is unlikely going forward. If world demand continues to grow at the current rate of about 1.3 mb/d until 2020, it is difficult to see how OPEC production increases alone can meet demand. This suggests some role for future production increases in the U.S. and other non-OPEC countries in the medium term.

Brexit Might Lead to a Bumpier Ride

Oil prices fell at the end of the second quarter following the U.K.'s vote to leave the European Union. The decision also led to a sharp jump in broader financial market volatility and declines in global stock markets. It remains to be seen how this will affect global economic growth and, hence, oil consumption. If the repercussions are limited to the U.K., the impact on oil consumption will be small because the U.K.'s share of global oil consumption is only 1.6 percent *(Chart 3)*. However, substantial negative economic spillovers to the euro area or to the global economy would have a significant effect on the demand side, representing an important new downside risk to prices.

U.S. Oil and Gas Industry: Less Tumult Ahead?

The U.S. oil and gas industry continued contracting in the second quarter. U.S. crude oil output has fallen 0.5 mb/d since March to an estimated monthly average of 8.7 mb/d in June. The latest available data show that more than 35,000 jobs in oil and gas extraction and in support services for oil and gas were cut through April. Restructuring in the sector accelerated as bankruptcies and associated debt spiked in the second quarter. Bankruptcies went up 60 percent to 48, while associated debt increased over sevenfold to around $38.5 billion, according to the latest numbers from Haynes and Boone LLP.

Still, the industry outlook has improved markedly. The share of firms reporting an improved company outlook doubled from about 20 percent to 40 percent in the second quarter, according to the Dallas Fed Energy Survey. This is in line with changes in the U.S. rig count, which bottomed out in May *(Chart 4)*. Fifty-dollar-per-barrel crude oil was once considered too low for much of the U.S. oil and gas industry to survive. Energy survey results show that while this price level can support new drilling activity for a substantial share of firms, prices remain slightly below average breakeven levels for most geographic areas *(Chart 5)*.

—Navi Dhaliwal and Martin Stuermer

Note

1. The Dallas Fed conducts the [Dallas Fed Energy Survey] quarterly to obtain a timely assessment of energy activity among oil and gas firms headquartered or located in the Eleventh District, many of which have national or global operations. Around 200 firms are asked whether business activity, employment, capital spending and other indicators increased, decreased or remained unchanged compared with the prior quarter and the same quarter a year ago. [Read more] about the survey.

About the Authors

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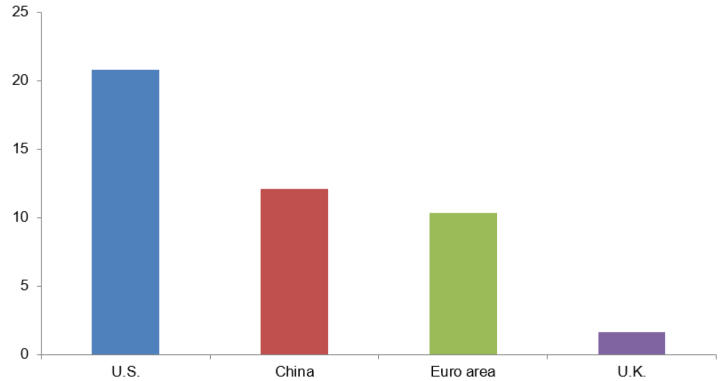
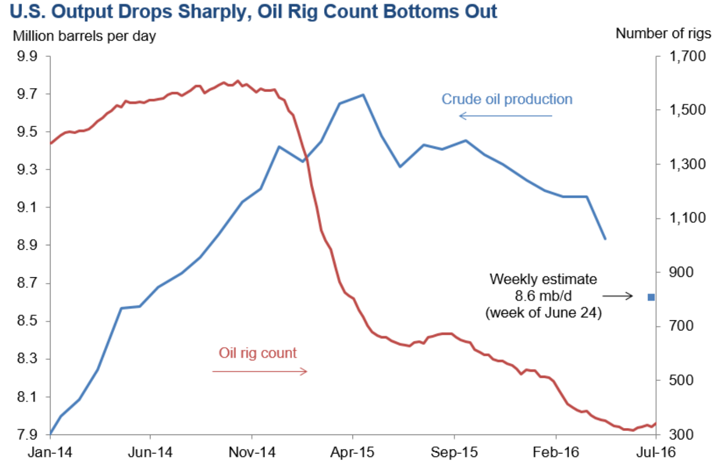
Chart 3
U.K. Is a Relatively Small Contributor to Total World Oil Demand

Percent of 2015 world oil consumption



NOTE: Euro area excludes the U.K.
SOURCES: International Energy Agency; authors' calculations.

Chart 4
U.S. Output Drops Sharply, Oil Rig Count Bottoms Out

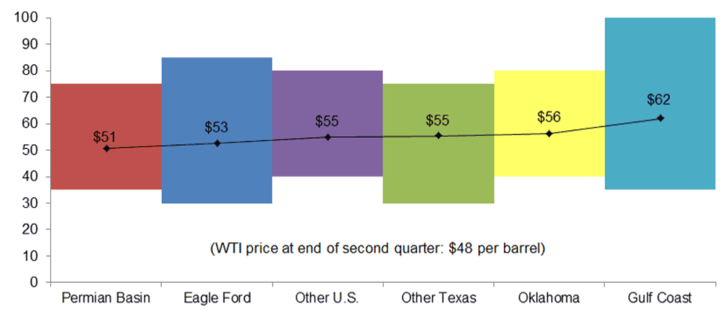


SOURCES: Baker Hughes; Energy Information Administration.

Chart 5
Dallas Fed Energy Survey: Prices Support New Wells for Some Firms

Question: In the top two areas in which your firm is active, what West Texas Intermediate oil price does your firm need to profitably drill a new well?

Dollars per barrel



NOTES: Line depicts the mean and bars depict the range of responses. Sixty-three oil and gas extraction firms answered this question from March 16–24, 2016. Number of responses by region varied from 5 (onshore Gulf Coast) to 28 (Permian). Other U.S. includes Bakken, Kansas and Gulf of Mexico, among others.
SOURCE: Federal Reserve Bank of Dallas.