DALLASFED Economic Update
Energy

World Still Knee-Deep in Crude Oil Despite Cuts

Second Quarter 2017

Elevated stocks of crude continue to weigh on global oil prices, and markets are facing the likelihood that elevated crude inventories will persist much longer than expected a few months ago.

In an effort to erode global inventories and support higher prices, 11 OPEC members, along with several non-OPEC nations, in May 2017 extended an agreement to reduce global crude output by as much as 1.8 million barrels per day (mb/d) through March 2018. However, rising output from the U.S, Libya and Nigeria will likely replace most, if not all, of those barrels before the end of 2017. This has led many analysts to conclude that global crude markets will find themselves in surplus again by early next year.

Observed Stocks Fall, but Not Fast Enough

Following OPEC's agreement and the implementation of its promised cuts, crude oil prices rose in early 2017. In particular, spot prices for heavier crudes like Arabian Medium rose relative to lighter crudes like Brent as expectations for OPEC production fell. One of OPEC's goals was to work off excess global crude stocks—those in excess of the 2011–15 average level of Organization for Economic Cooperation and Development (OECD) stocks (around 340 million barrels).[1] However, inventories declined less than expected in the first few months of the year, which likely contributed to softer spot prices amid increased price volatility in the second quarter. By mid-June, spot prices for Arabian Medium, West Texas Intermediate and Brent crudes had nearly fallen to levels last seen prior to the OPEC agreement *(Chart 1)*.

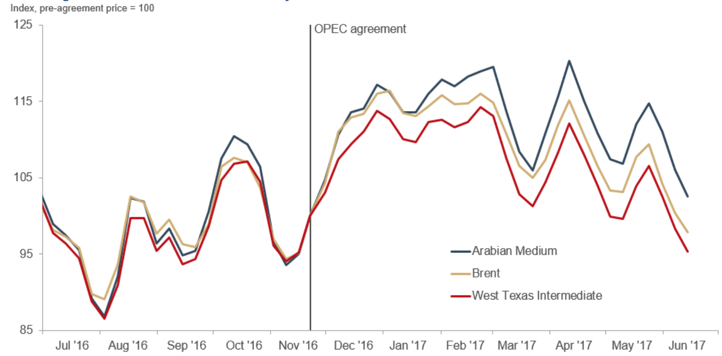
OECD crude inventories increased in January despite the OPEC production cut, partially due to a surge in exports from Russia and some OPEC nations at the end of 2016. Furthermore, declines in OPEC production by the end of the first quarter were not immediately matched by declines in OPEC exports of crude.[2] The number of tankers heading to OECD countries from the Arabian Gulf and Red Sea has increased, suggesting higher OPEC exports in the second quarter. This may be keeping upward pressure on observed OECD stocks *(Chart 2)*.

Increased U.S. Production to Offset OPEC Cuts

U.S. crude output in April was more than 0.5 mb/d above its recent low of 8.6 mb/d in September 2016. Production growth has come principally from increased activity in Texas, New Mexico, Oklahoma and the Gulf of Mexico. Of the 145 U.S. counties that saw a change in drilling activity between the end of May 2016 and the end of June 2017, 14 counties (in red) accounted for 227 of the 440-unit rise in the U.S. oil-directed rig count during that time *(Chart 3)*.

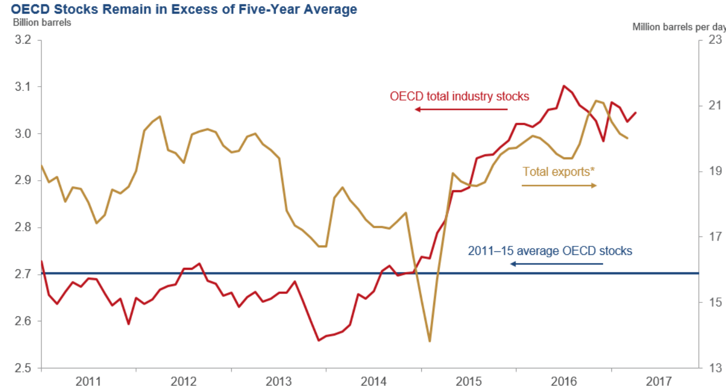
Factoring in lags between recent increases in drilling activity and production—typically around three months—the U.S. Energy Information Administration (EIA) projected in its June Short Term Energy Outlook report that U.S. production

Chart 1
OPEC Agreement Boosts Oil Prices in Early 2017



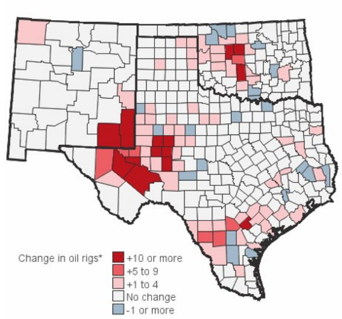
NOTE: Price series are indexed to average prices for the week of Nov. 21, 2016.
SOURCES: Bloomberg; authors' calculations.

Chart 2
OECD Stocks Remain in Excess of Five-Year Average



*Three-month centered moving average of the sum of exports from Iran, Iraq, Libya, Nigeria, Russia and Saudi Arabia.
SOURCES: Joint Organizations Data Initiative; International Energy Agency; authors' calculations.

Chart 3
Drilling Increases in Hot Spots, Decreases Elsewhere



*Change is taken from end of May 2016 to end of June 2017.
SOURCES: Baker Hughes; authors' calculations.

would rise to nearly 10 mb/d by the end of 2017. The increase would nearly offset the cuts set forth in the current OPEC supply agreement. Additionally, production in Libya and Nigeria increased in the second quarter, raising OPEC's output in the EIA's production forecast. Those two countries could produce as much as 0.5 mb/d of additional crude oil by the end of the year, though their output is highly variable.

In June, the EIA projected U.S. crude output to remain at or above 10 mb/d in 2018. However, respondents to the first-quarter Dallas Fed Energy Survey said they needed an average WTI price of $48 to continue drilling new wells in the three onshore areas driving the projected growth. The price varied greatly across producers and regions, with some claiming to need as little as $20 to break even. If the price were to linger below the $48 threshold—as it did most of June—realized output growth could be lower than projected. Indeed, industry optimism was less robust in the second-quarter Dallas Fed Energy Survey and among energy sector Beige Book contacts *(Chart 4)*.

Global Stocks Resume Growth

Despite persistently high inventories, crude prices largely stayed between $45 and $55 in the first half of 2017, in part due to expectations that OPEC policies would drive OECD inventories toward their five-year (2011–15) average levels by the end of 2017. Current prices are affected by what market participants think about future market dynamics. An average of several June 2017 forecasts for implied changes in global stocks assigns a low likelihood of seeing significantly lower inventories by the end of 2017.[3] If all of the implied global stock draws (based on analysts' expectations) were from OECD tanks (which is unlikely), excess stocks would only briefly fall within the five-year range before climbing again to new highs in 2018, thanks largely to higher expected production growth from non-OPEC countries like the U.S. Stocks were projected to fall in second quarter 2017, but available data indicate that a large drop did not occur *(Chart 5)*.

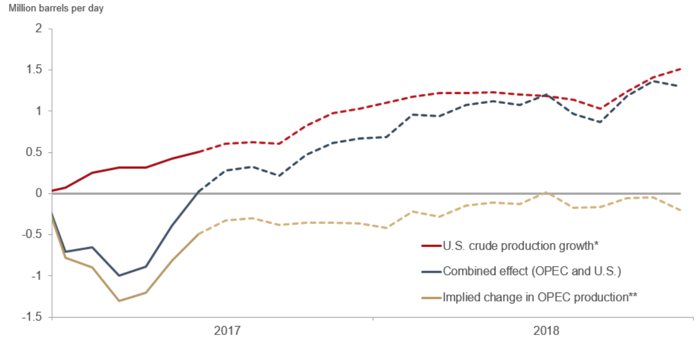
Consumers Key to Balanced Market in 2019?

Higher inventory levels may be a new normal that markets need time to adapt to—at least until consumption catches up with global supply. Consumer demand remains the centerpiece of achieving market balance. Among the June analysts' forecasts included in Chart 4, the average expectation for quarterly global consumption growth is 1.4 mb/d through the end of 2018. This demand figure may be boosted by a healthier outlook for the global economy.

U.S. producers have demonstrated some ability to fill the void left by OPEC in world markets, and their ability to do so continues to evolve. This may dampen OPEC's willingness to extend or deepen its existing agreement at future meetings. If recent data are evidence of future compliance with quotas, nearly 1.6 mb/d of production may return to world markets when the agreement expires. In short, data and projections from second quarter 2017 suggest there will be sufficient global crude oil supplies to meet demand growth through at least 2018, assuming that no new significant disruptions, unplanned outages or periods of low prices undercut current projections. When asked in mid-June, "In what quarter do you think it most likely that the global oil market will come into balance?" the majority of respondents to the Dallas Fed Energy Survey indicated the second half of 2018 or later.

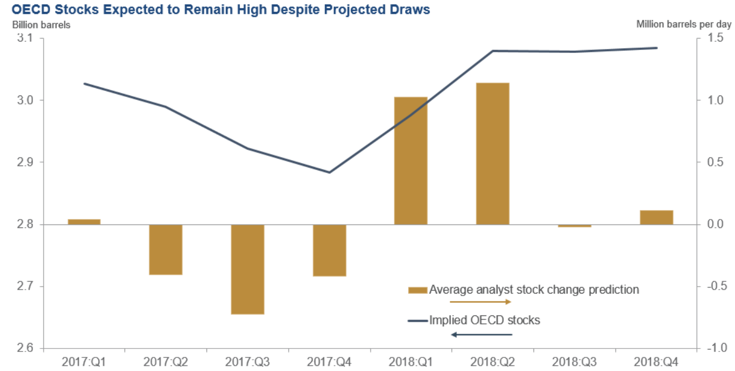
—Jesse Thompson and Rachel Brasier

Chart 4
U.S. Production Growth Projected to Offset Lower OPEC Output



*U.S. crude production growth since October 2016.
**Change in OPEC crude production since October 2016, including Libya and Nigeria.
NOTE: Dashed lines denote forecasts.
SOURCES: U.S. Energy Information Administration; authors' calculations.

Chart 5
OECD Stocks Expected to Remain High Despite Projected Draws



NOTES: Beginning with second quarter 2017, stocks are the previous quarter's implied ending stocks, adjusted up or down according to the average analyst prediction for implied stock draws or builds in that quarter.
SOURCES: Barclays; Energy Aspects; International Energy Agency; J.P. Morgan; Morgan Stanley; Rapidan; authors' calculations.

Notes

1. Based on International Energy Agency data for Organization for Economic Cooperation and Development stocks.
2. Based on data from the Joint Organizations Data Initiative.
3. Forecasts were from Barclays, Energy Aspects, J.P. Morgan, Morgan Stanley and Rapidan.

About the Authors

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