Energy Indicators

Federal Reserve Bank of Dallas

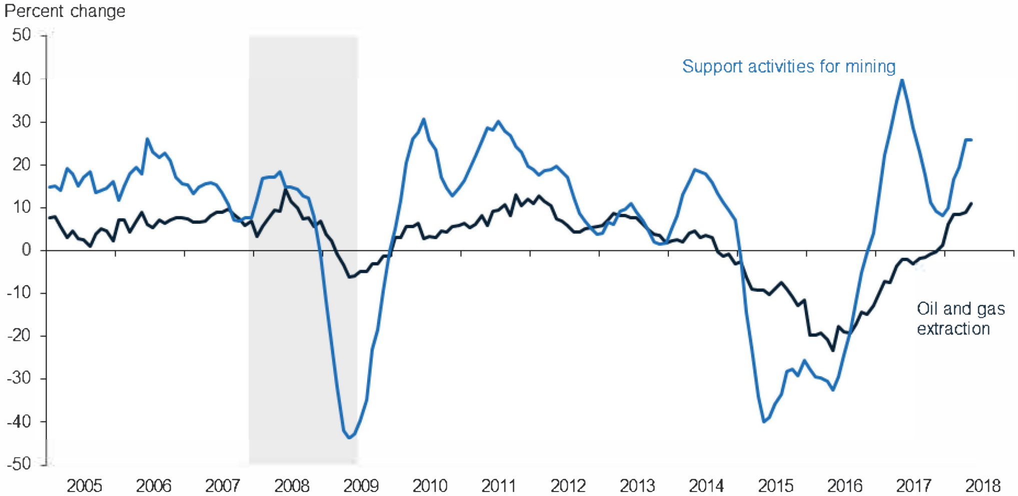
July 2018

Drilling activity continues to expand in Texas as prices continue to be favorable. OPEC recently indicated it would increase production, but falling inventories, unplanned outages and limited spare OPEC capacity left the price reaction mixed. Responses to the recent Dallas Fed Energy Survey indicated robust activity and positive outlooks but noted mounting constraints on the ability to grow.

Employment

Texas mining employment has increased at breakneck speed in 2018. Support activities for mining grew at an annualized rate of 25.9 percent over the first five months of the year (14,240 jobs) (*Chart 1*). Growth in the less-volatile extraction sector has also picked up, rising 10.9 percent over that time (3,350). By comparison, extraction employment in the rest of the United States grew at an annual rate of nearly 13.2 percent (3,650) for the five months ending in May.

Chart 1
Texas Oil and Gas Employment



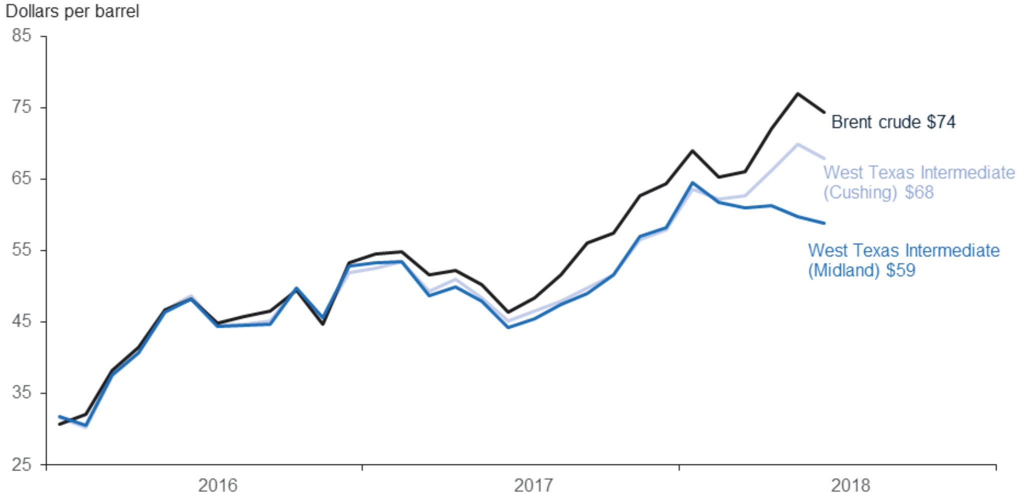
NOTES: Data are depicted as the five-month annualized percent change. The shaded area is U.S. recession.
SOURCES: Bureau of Labor Statistics; seasonal and other adjustments by the Dallas Fed.

When asked about factors limiting growth potential, over half of firms surveyed indicated that finding workers—particularly lower- and middle-skilled workers—was a problem in the Permian. That share fell to one-third outside the Permian.

Oil Prices

The monthly average price of West Texas Intermediate (WTI) crude oil priced in Cushing, Oklahoma, dipped slightly from $70 in May to $68 in June (*Chart 2*). The price of Brent crude also slipped, from an average of $77 to $74. The dip was in part driven by an expectation, based on public statements by Saudi and Russian officials, that OPEC would announce a production increase at its June 22 meeting in Vienna. OPEC did announce a production increase, but the prices of benchmarks Brent and WTI (Cushing) rose to average $78 and $75 in the last few days of that month, in part due to a 0.36 million barrel-per-day (mb/d) production outage in Canada that was projected to last through the end of July.

Chart 2
Oil Prices



NOTE: Prices in legend are for June 2018.
SOURCES: Energy Information Administration (WTI-Cushing, Oklahoma); Bloomberg (WTI-Midland, Texas).

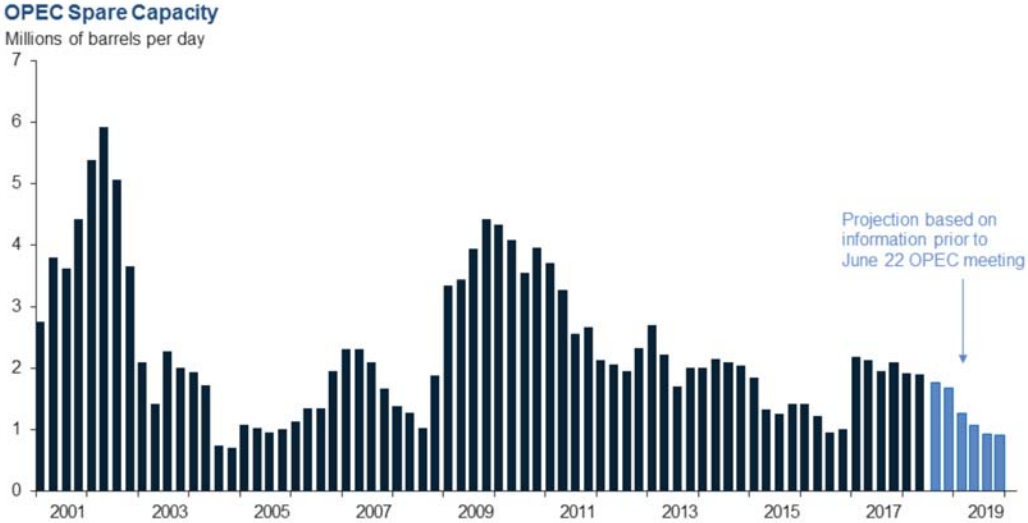
WTI priced in Midland, Texas, fell to an average of $59 in June. The spread between Midland and Brent crude expanded to average $17 in both May and June. As crude production in the Permian gets closer to testing the limits of takeaway capacity in the region, that spread could widen. While the WTI spot price remains well above most firms' reported breakeven prices for drilling a new well, the steepening discount of crude in local markets may be adversely affecting firms not sufficiently hedged against the decline. Pipeline capacity is the No. 1 factor limiting growth potential in the Permian Basin, according to survey respondents.

OPEC Agreement, Spare Capacity

OPEC and several other countries decided on June 22 to increase production. Beginning in July, member countries would return to an aggregate compliance level of 100 percent, with the targeted production cut of 1.18 million barrels per day (mb/d). Aggregate production levels have been consistently below the group's target in 2018 due largely to eroding Venezuelan production. Overall compliance with the cut was 158 percent in May (1.86 mb/d), according to the June *Oil Market Report* from the International Energy Agency.

Before the June OPEC meeting, the U.S. Energy Information Agency (EIA) updated its estimate of OPEC spare capacity for third quarter 2018 to 1.76 mb/d, most of which is in Saudi Arabia (*Chart 3*). That is sufficient for OPEC to meet its stated goal of roughly 1.0 mb/d of increased production, but that leaves little buffer against further production outages.

Chart 3
OPEC Spare Capacity



NOTE: Data are quarterly.
SOURCES: Energy Information Administration; Thompson Reuters.

U.S Inventories

U.S. commercial crude oil inventories plunged 16.6 million barrels over the month of June, half of which occurred the week ending June 22 (*Chart 4*). Year-to-year declines in inventories had been slowing April through May but reversed course in June as exports surged. Similarly, stocks of crude oil at the trading hub in Cushing fell by 7.8 million barrels during June. The large inventory draws reported at the end of the month contributed to the jump in crude spot prices. With futures markets projecting falling crude prices through the end of the year and Brent–WTI price spreads making exports attractive, there is little impetus to build inventories.

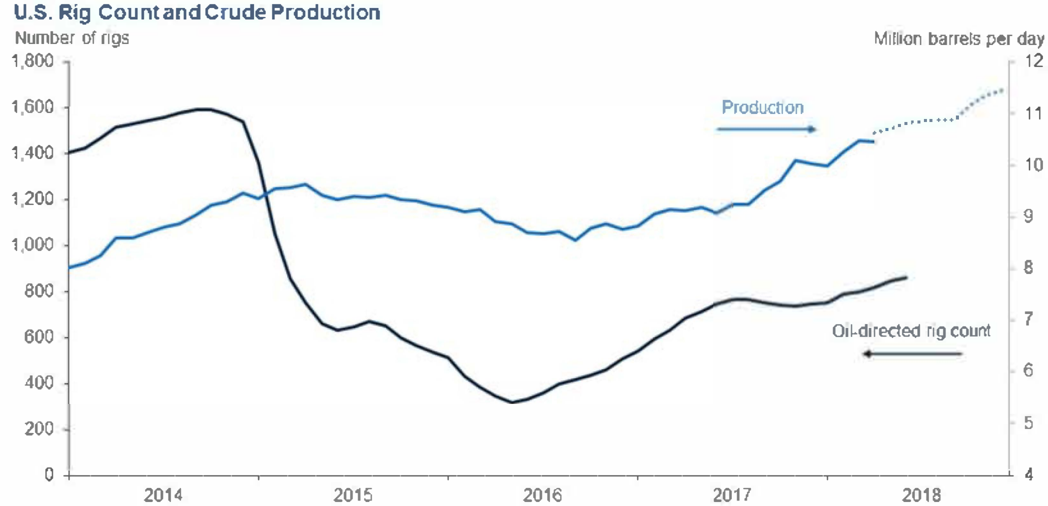
Chart 4
U.S. Commercial Crude Inventories

SOURCE: Energy Information Administration, *Weekly Petroleum Status Report*.

U.S. Production and Rig Count

Monthly U.S. crude oil production rose to 10.5 million barrels per day in March 2018, up 1.3 mb/d from March 2017 (*Chart 5*). That year-over-year growth rate is likely to increase based on projections in the June *Short-Term Energy Outlook* from the EIA showing that U.S. crude production will rise to 11.5 mb/d by December 2018—1.4 mb/d higher than in December 2017, with most of the growth coming from the Permian Basin.

Chart 5
U.S. Rig Count and Crude Production



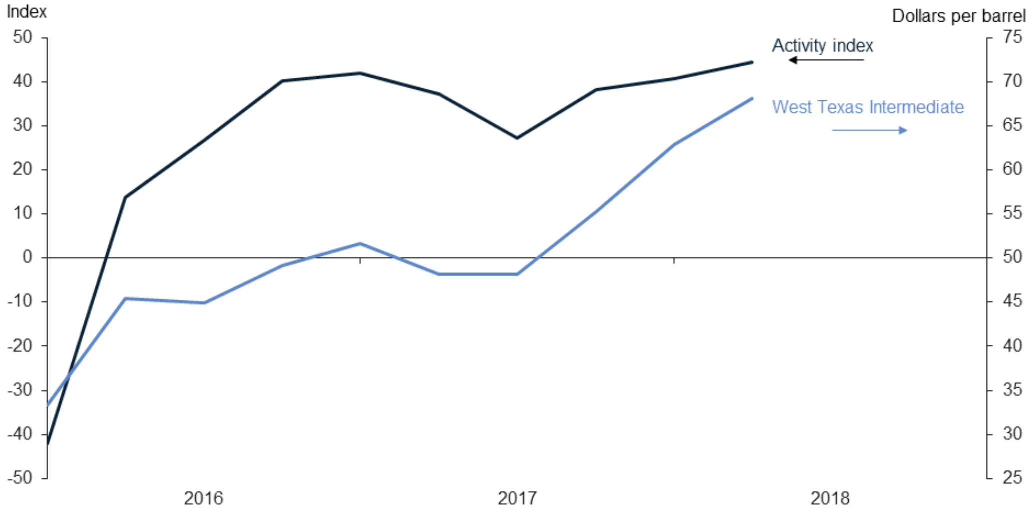
NOTE: Dotted line represents forecast.
SOURCES: Baker Hughes; Energy Information Administration, *Short-Term Energy Outlook*, June 2018.

A significant factor in the EIA outlook is the rising oil-directed rig count, which averaged 861 in June, the highest monthly value since March 2015. On a weekly basis, the rig count peaked in mid-June at 863 and slipped to 858 at the end of the month.

Energy Survey

Respondents to the second-quarter Energy Survey were positive in their outlooks for 2018. The survey's broadest measure of conditions—the level of business activity index—rose from 40.7 to 44.5 (*Chart 6*). That is the highest level since the survey began in 2016. The increase was driven by both exploration and production and oilfield services firms.

Chart 6
Business Activity Index and Crude Oil Price



SOURCE: Dallas Fed Energy Survey.

About Energy Indicators

Questions can be addressed to Jesse Thompson at jesse.thompson@dal.frb.org. *Energy Indicators* is released monthly and can be received by signing up for an email alert. For additional energy-related research, please visit the Dallas Fed's energy home page.