Energy Indicators

Federal Reserve Bank of Dallas

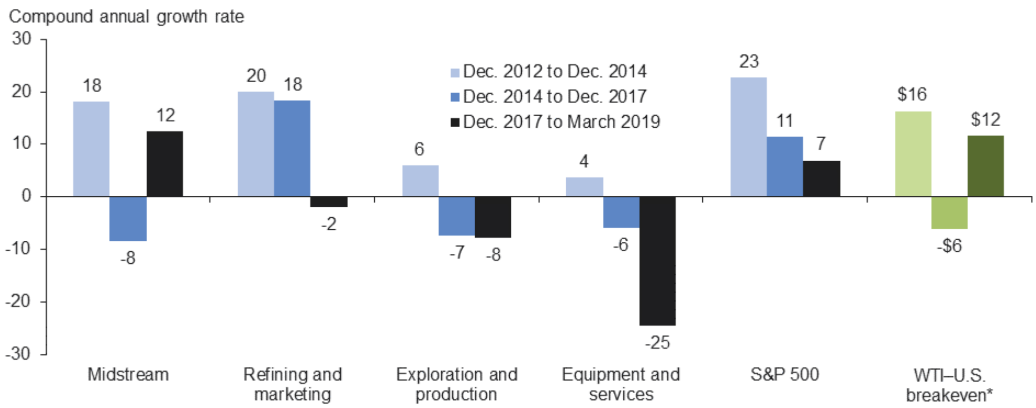
April 2019

Investor returns in the energy sector have lagged behind the broader market for some time. This has led to restraint in capital spending plans for 2019, which may be contributing to a lower rig count and a tepid outlook for employment growth this year. Oil prices are up on production cuts by OPEC and a few other countries, and U.S. crude differentials have declined with new pipeline capacity. However, West Texas natural gas prices are languishing near record lows even as liquefied natural gas (LNG) exports reach new heights.

S&P 500 and Public Company Energy Returns

Publicly traded energy companies have underperformed the S&P 500 total returns index over the past few years, even when the price of West Texas Intermediate crude was substantially higher than estimates of average industry breakeven prices for new wells (*Chart 1*). Exploration and production and equipment and services firms have fared the worst over the past 15 months, with the latter yielding a compound annual loss of nearly 25 percent from December 2017 to March 2019. Most public energy companies have announced more conservative capital spending plans in 2019 as they seek to improve investor returns in the year ahead.

Chart 1
S&P 500 and Energy Total Returns Indexes



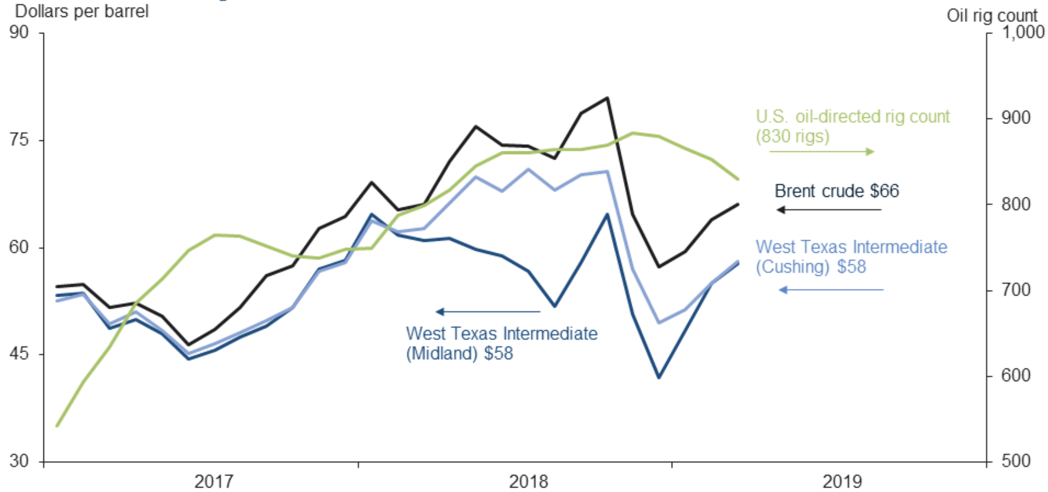
*Spread between West Texas Intermediate (WTI) and average industry breakeven prices for new wells is in dollars per barrel; 2013–14 period assumes a $79 average breakeven based on first quarter 2015 Kansas City Fed Energy Survey data. 2015–17 period assumes Dallas Fed 2016 Energy Survey result of a $54 average breakeven for the entire period; 2018–19 period uses a $51 breakeven based on Dallas Fed survey results.
NOTES: Total return indexes assume reinvestment of all dividends. Energy sector data are derived from S&P1500. Integrated oil and gas companies and private firms are not included in energy subsectors.
SOURCES: Bloomberg; Energy Information Administration; Kansas City Fed; Standard and Poor's; Dallas Fed.

Refining and marketing and midstream have fared better. Refining returns did well through most of 2018, but their value was pulled down from October to March by a soft market overall, a falling energy sector and a sharp drop in margins over the winter months. Midstream saw healthy returns over the past year thanks to surging production in the U.S. amid limited transportation capacity, as evidenced by comments in the Dallas Fed Energy Survey.

Oil Prices

Brent crude oil prices rose to average $66 a barrel in March, closing as high as $68 toward the end of the month (*Chart 2*). Crude prices continue to be supported by a variety of factors including production cuts in OPEC—and a few other countries—and U.S. sanctions on Venezuela and Iran.

Chart 2
Oil Prices and Drilling



NOTE: Data are monthly. Numbers in labels are average values for the month of March.
SOURCES: Energy Information Administration; Bloomberg.

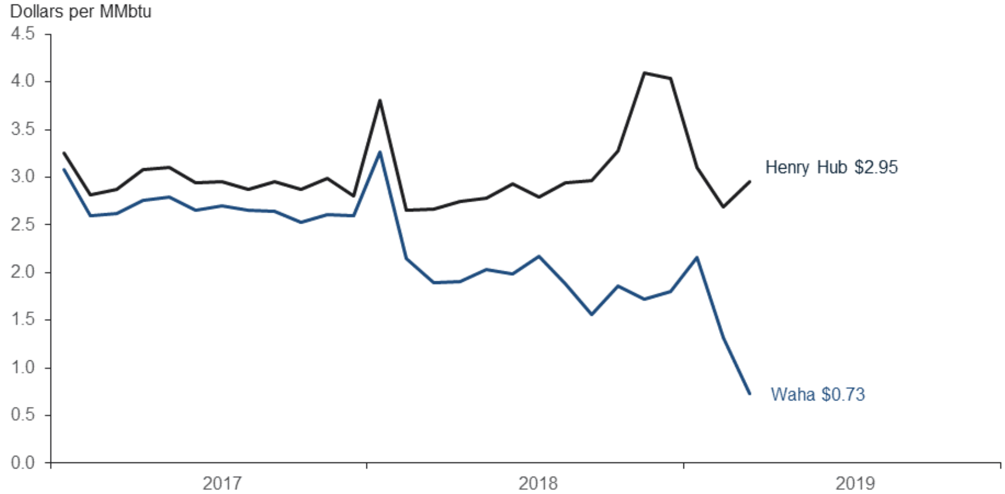
U.S. data released in March were also supportive of higher crude prices. Domestic crude production fell by 90,000 barrels per day in January, the largest one-month drop since June 2017, and seasonally adjusted U.S. commercial crude stocks fell nearly 12 million barrels in February and another 6.5 million barrels in March. Even as prices have risen, the U.S. oil rig count has continued to slip. It fell 23 rigs from February to March—down 50 rigs from December—as firms have reined in capital spending.

With the conversion of the Seminole natural gas liquids pipeline to carry crude at the end of February, oil prices in West Texas have risen on par with prices in Cushing, Oklahoma. The discount on West Texas Intermediate relative to Brent fell from $9 in February to $8 in March.

Natural Gas Prices

Additional takeaway capacity for crude oil in the Permian is doing nothing to lift local natural gas prices. West Texas Waha gas saw an average weekly price of only 73 cents per million British thermal units in March (*Chart 3*). The week of March 29, it fell to -48 cents—sellers *paying* buyers to take the gas. With prices already pressured by limited transportation capacity and a seasonal fall in demand, a temporary shutdown of a gas pipeline in New Mexico in mid-March helped push local prices through the floor. In contrast, Henry Hub natural gas ticked up to its longer-run average of nearly $3.

Chart 3
Natural Gas Prices

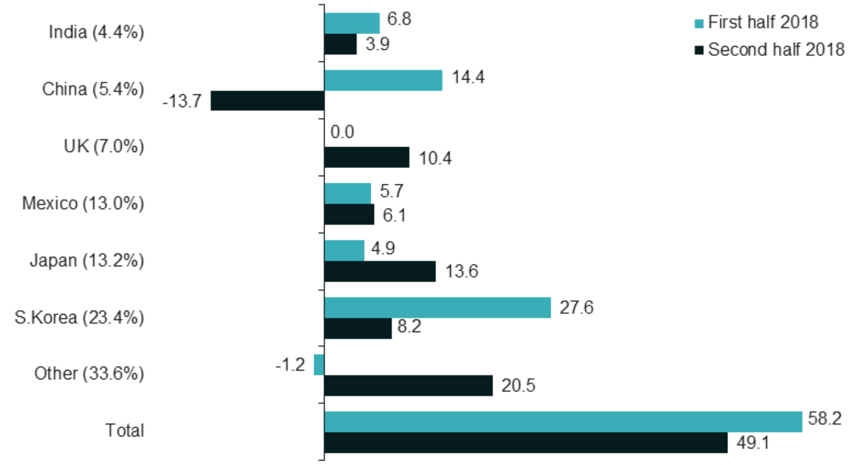


NOTE: Prices in labels are the average spot price in March 2019.
SOURCES: Energy Information Administration; Bloomberg.

LNG Export Growth

U.S. LNG exports hit a new record of nearly 0.6 trillion cubic feet in the second half of 2018—an increase of 49.1 percent year over year. Japan and South Korea were the biggest individual importers of U.S. LNG in the last half of the year (*Chart 4*). A sharp fall in exports to China was likely due to tariffs but was offset by growth in exports to Japan. Most of the volume increase in U.S. LNG exports was driven by smaller shipments to a variety of other countries.

Chart 4
Contributions to the Percent Change in LNG Exports



NOTES: Chart data show country contributions to year-over-year percent growth in the volume of liquefied natural gas (LNG) exports. Numbers in parentheses are shares of U.S. LNG exports for the second half of 2018.
SOURCE: Energy Information Administration.

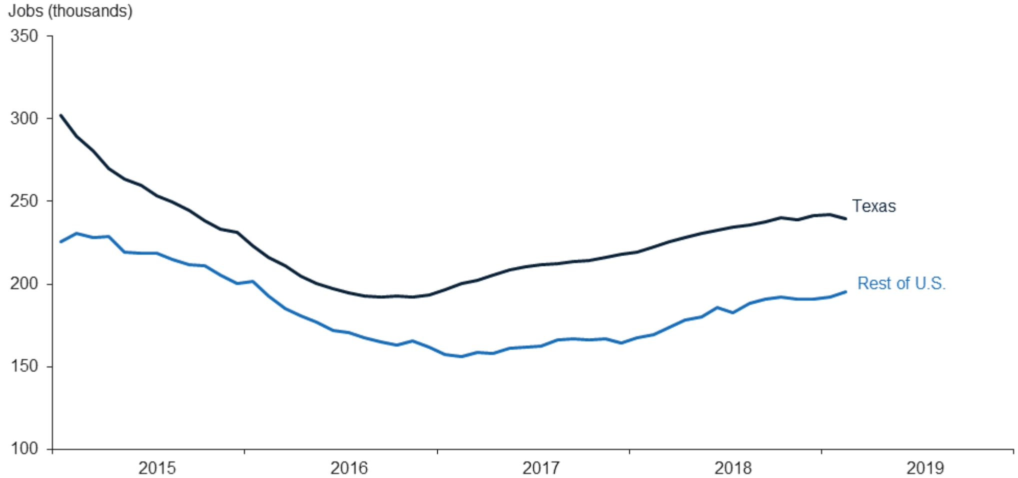
Overall, the U.S. exported nearly 1.1 trillion cubic feet of LNG in 2018—a 53 percent increase from 2017. To put that in context, global LNG trade grew 9.8 percent last year to total 15.2 trillion cubic feet, according to a report compiled by the International Gas Union.

Employment

Job Growth Pauses

Texas total mining jobs fell by 2,500 in February (*Chart 5*). That decline was driven by losses in support activities for mining (-2,400 jobs; mostly oilfield services firms), which tends to be much more sensitive to fluctuations in energy prices and drilling activity. The rest of the decline was in oil and gas extraction (-100). In contrast, mining employment in the rest of the U.S. grew by 2,600 jobs in February, driven mostly by oil and gas extraction (2,000). On net, industry job growth was nearly flat in the U.S.

Chart 5
Oil and Gas Employment

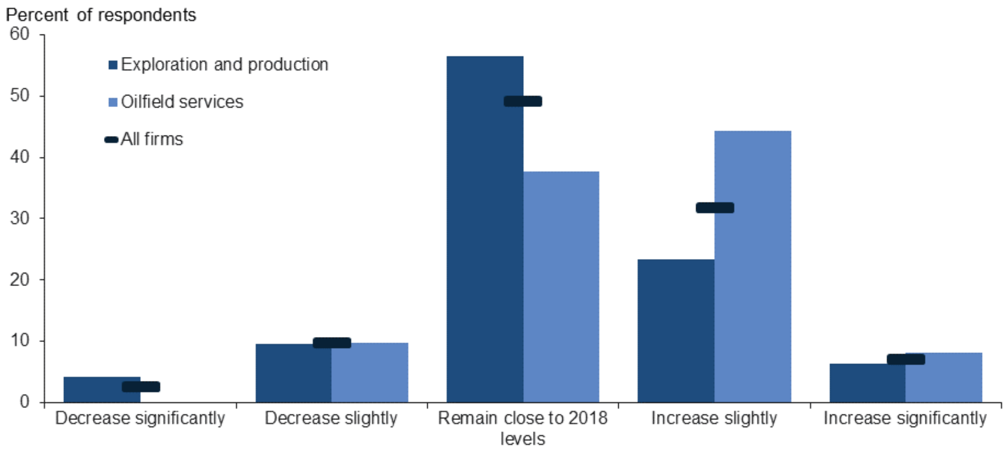


NOTE: Oil and gas employment is calculated by summing the data series for oil and gas extraction and support activities and does not include manufacturing or related industries that are nonetheless part of the oil and gas industry.
SOURCES: Bureau of Labor Statistics; seasonal and other adjustments to Texas employment data by the Dallas Fed.

Firms Project Modest Hiring in 2019

In the March Dallas Fed Energy Survey, expectations for hiring this year were muted. Half of the respondents indicated they expected employment to be steady compared with 2018 (*Chart 6*). Another 32 percent said they expected to increase employment only slightly. In line with hiring trends over the past two years in Texas, more support services firms expect a slight increase in the number of employees this year (44 percent) than producers (23 percent).

Chart 6
How Do You Expect the Number of Employees at Your Company to Change in 2019?



NOTES: Executives from 94 exploration and production (E&P) firms and 61 oil and gas support services firms answered this question during the survey collection period, March 13–21, 2019. "All firms" reports the percentages out of the total responses. Percentages may not sum to 100 due to rounding.
SOURCE: Dallas Fed.

Ongoing efforts to contain costs are likely contributing to the cautious labor outlook, but other factors are at play as well. The labor force in the Permian Basin is thoroughly utilized, and importing skilled labor to West Texas has become increasingly challenging, according to industry contacts.

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.