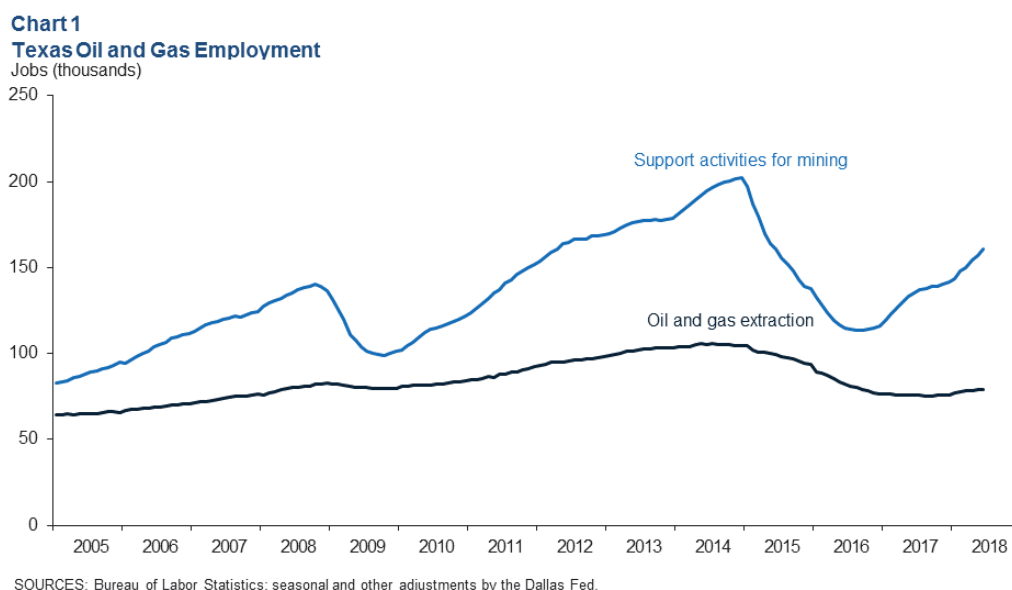


August 2018

Recent indicators have been mixed but continue to paint a positive overall picture for the industry. Drilling, well permit applications and production numbers have all plateaued in recent weeks. However, mining jobs are still growing in Texas despite steep discounts on crude priced in West Texas, and exports of crude, petroleum products and liquefied natural gas (LNG) are rising.

Employment

Texas mining employment continued to log impressive gains over the second quarter, though most are in services. Support activities for mining grew at an annual rate of 33.2 percent from March to June (11,100 jobs). The extraction sector saw more modest growth of 4.9 percent over that time (940) (*Chart 1*).

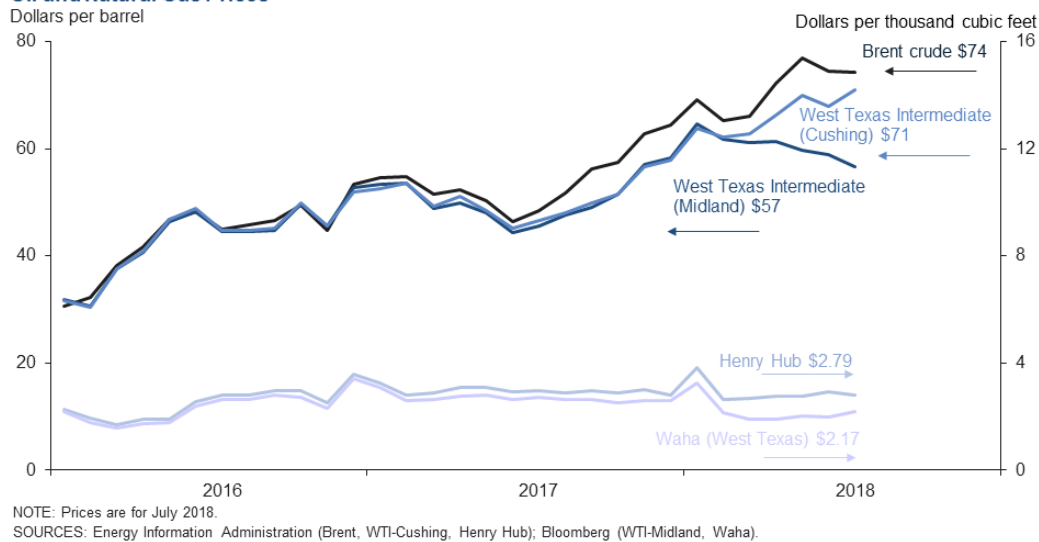


Oil and gas jobs outside of Texas have been growing more slowly. Extraction employment rose at an annual rate of nearly 2.6 percent (460) over the three months ending in June. U.S. support activities employment excluding Texas—which is available with a lag—grew an annualized 19.8 percent in February to May.

Prices

The monthly average price for Brent crude was little changed in July at \$74 (*Chart 2*). The sideways movement—amid increased intraday price volatility—was marked by expectations for more production out of Russia and Saudi Arabia, the return of exports and production capacity in Libya, falling U.S. inventories, and mixed signals on the likely efficacy of U.S. sanctions on Iran.

Chart 2
Oil and Natural Gas Prices



A production outage in Canada reduced flows to Cushing, Oklahoma, lifting West Texas Intermediate (WTI) crude prices there, but the price rise did not pass through to barrels priced in the Permian Basin due to ongoing pipeline constraints. WTI priced in Midland declined to \$57 in July. The average spread between Midland and global benchmark Brent rose by about \$2 to \$17.52.

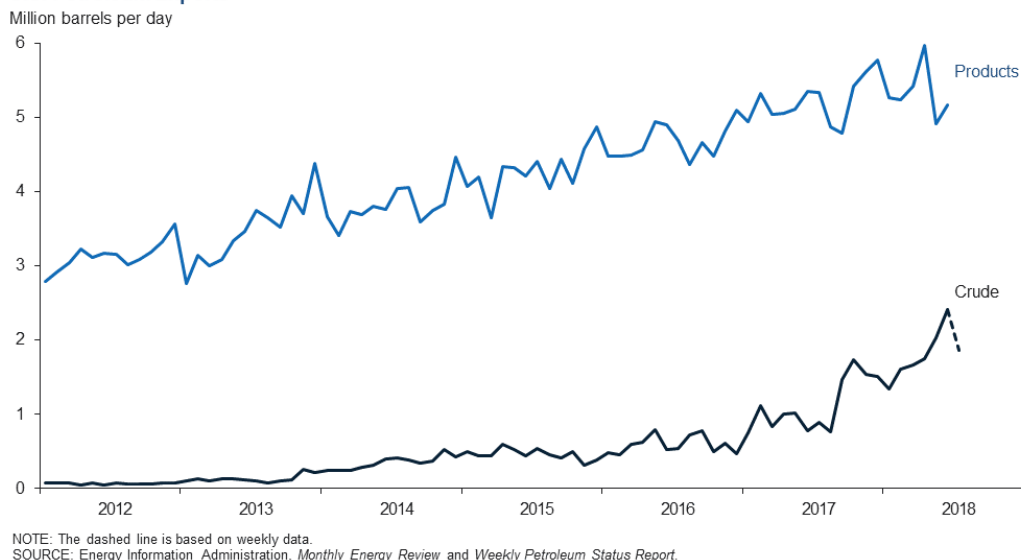
Natural gas prices at Henry Hub—increasingly a global benchmark due to rising liquefied natural gas exports from Texas and the Louisiana Gulf Coast—dropped slightly to \$2.79 in July. Summer power demand is unlikely to move benchmark pricing, with gas production rising in the Haynesville and with associated gas (gas produced as a byproduct of crude oil mining) pouring out of Texas shale. However, West Texas Waha hub gas prices did inch up to \$2.17 in July, narrowing the spread with Henry Hub from its 2018 high in June of nearly \$1 to an average of 62 cents in July.

Energy Exports

Crude Oil Exports Surge in June

Crude oil exports climbed in June to average 2.4 million barrels per day (mb/d) (*Chart 3*). June saw the loading of a very large crude carrier (VLCC, a tanker with a capacity of roughly 2 million barrels) at Texas City, and the fourth VLCC to load out of the Louisiana Offshore Oil Port this year set sail in early July, according to Platts. Weekly data for July suggest that U.S. exports fell back to 1.9 mb/d.

Chart 3
U.S. Petroleum Exports



Expanding U.S. production is giving rise to infrastructure investment on the Gulf Coast. Enterprise Products Partners recently announced plans to build an offshore loading terminal off the Texas coast that will facilitate more crude exports without the logistical challenges of bringing the largest vessels in to port. The port of Corpus Christi is also investing to further enable VLCC loadings.

Petroleum product exports (such as gasoline, diesel and jet fuel) were 5.2 mb/d in June, coming off of a relatively strong April and weak May. Second-quarter product export growth was 0.18 mb/d year over year.

Natural Gas Exports Rising

Pipeline exports of natural gas dipped for the fourth consecutive month in May to 178 billion cubic feet (bcf) (*Chart 4*). This was largely attributed to a falloff in exports to Canada, which saw the lowest May volume in 10 years. This was attributed at least in part to a drop in the cross-country pipeline tolls that made Canadian gas more competitive in eastern markets.



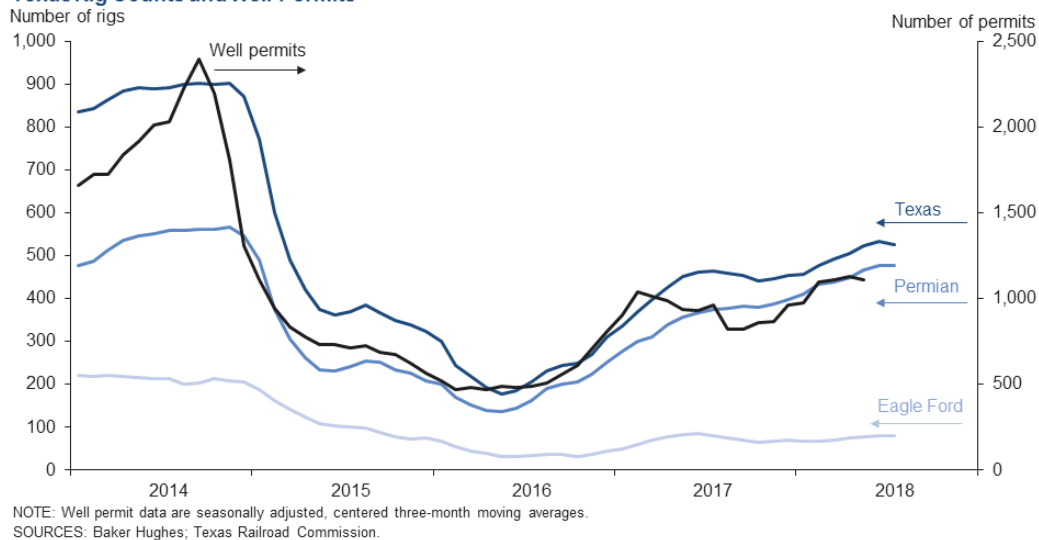
The Nueva Era and Topolobampo pipelines went online in Mexico in June with a combined capacity of 1.2 bcf per day. This grants Texas improved access to Mexican consumers and may be partly responsible for the increase in Waha gas prices relative to Henry Hub.

LNG exports hit 95 bcf in May. Based on projections in the July *Short-term Energy Outlook* from the Energy Information Administration, that number will grow nearly 24 percent by December 2018 and 136 percent by December 2019 as new capacity comes online.

Texas Rig Counts and Permits

Drilling in Texas basins leveled off in June and July, driven in part by the impact of pipeline constraints. The rig count was essentially flat from June to July in the Permian Basin at 477 rigs, as it was in the Eagle Ford at 81 rigs (*Chart 5*). Texas overall saw a modest dip of nine rigs (seven oil and two gas) from June to July as drilling outside the state's two main shale plays softened.

Chart 5
Texas Rig Counts and Well Permits

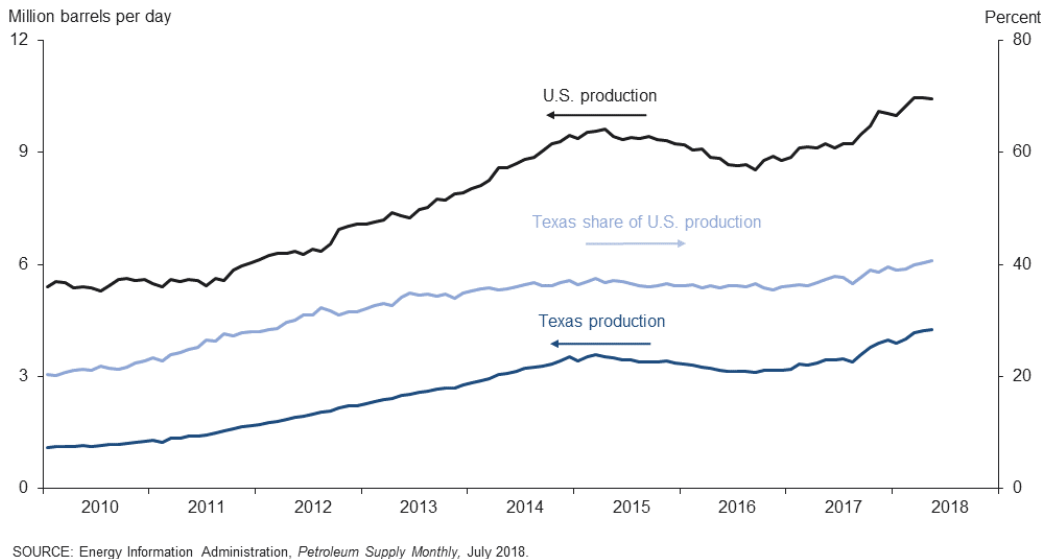


Seasonally adjusted permit applications for new wells, which tend to lead changes in the rig count, leveled off over the first quarter before declining slightly over the second. This suggests that drilling activity will remain cool in the coming months.

Crude Oil Production

After U.S. crude oil production growth paused in April, output fell slightly from 10.5 mb/d in April to 10.4 mb/d in May (*Chart 6*). That's the first month-over-month decline since January 2018, and it was largely due to seasonal factors.

Chart 6
Crude Oil Production



Monthly Texas crude oil production has also been essentially flat, with a very slight increase to 4.2 mb/d in May. Texas now produces 40.6 percent of U.S. crude oil.

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.