

November 2017

Positive signs are starting to reappear for the Texas oil and gas sector. Prices for West Texas Intermediate (WTI) crude oil rose in October. Texas oil and gas employment expanded further in September, marking eight consecutive months of increases. Oil production growth in the Permian Basin remained strong. Total U.S. crude exports reached an all-time high in October.

Oil and Natural Gas Prices

The average WTI spot price increased to \$51.58 per barrel in October from \$49.82 in September as commercial inventories of crude and petroleum products declined (*Chart 1*). Continuing declines in U.S. inventories coupled with strong OPEC compliance and geopolitical tensions in the Kurdistan region drove the increase in crude oil prices.

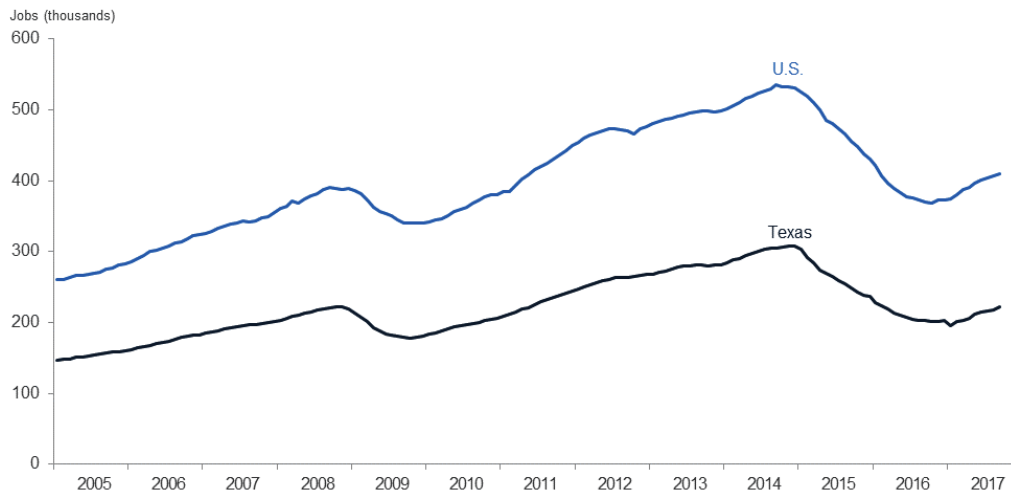


Henry Hub natural gas prices were \$2.87 per million British thermal units (MMBtu) in October, compared with \$2.96 in September. Prices remain largely subdued even though natural gas inventories are below the five-year average. The market will end the injection season (April through October) at around 3.8 trillion cubic feet, the lowest storage level entering the winter heating season (November through March) since 2014.

Oil and Gas Employment

Texas oil and gas employment expanded in September by 4,100 jobs to roughly 222,000, with oil and gas extraction reporting its first monthly increase since April (*Chart 2*). Support activities for mining added 2,100 jobs, and payrolls in oil and gas extraction increased by 2,000. U.S. oil and gas employment stood at 409,200 in September, with Texas accounting for 54 percent of the total.

Chart 2
Oil and Gas Employment

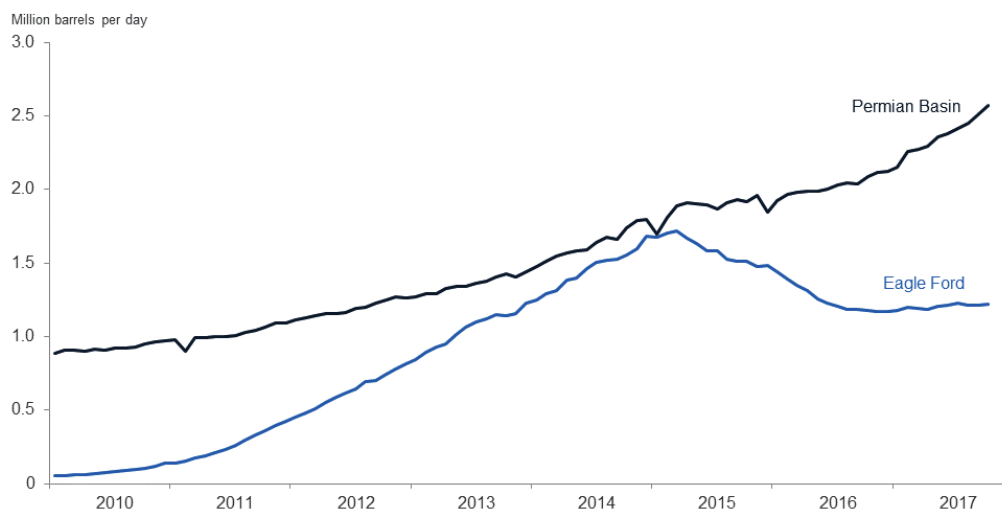


NOTES: Oil and gas employment is calculated by summing data series for oil and gas extraction and support activities for oil and gas operations for the U.S. and summing oil and gas extraction and support activities for mining employment for Texas. All values are seasonally adjusted.
SOURCES: Bureau of Labor Statistics; seasonal and other adjustments to Texas employment data by the Dallas Fed.

Eleventh District Oil Production

Permian Basin production rose in October by 60,800 barrels per day (b/d) to 2.57 million, and Eagle Ford production was up 8,600 b/d to 1.22 million (*Chart 3*). This marks the 13th consecutive monthly increase in Permian production. Eagle Ford production has remained relatively flat, increasing only 40,600 b/d over the past 12 months. Operating rigs numbered 379 in the Permian Basin and 65 in the Eagle Ford at the end of October.

Chart 3
Eleventh District Oil Production

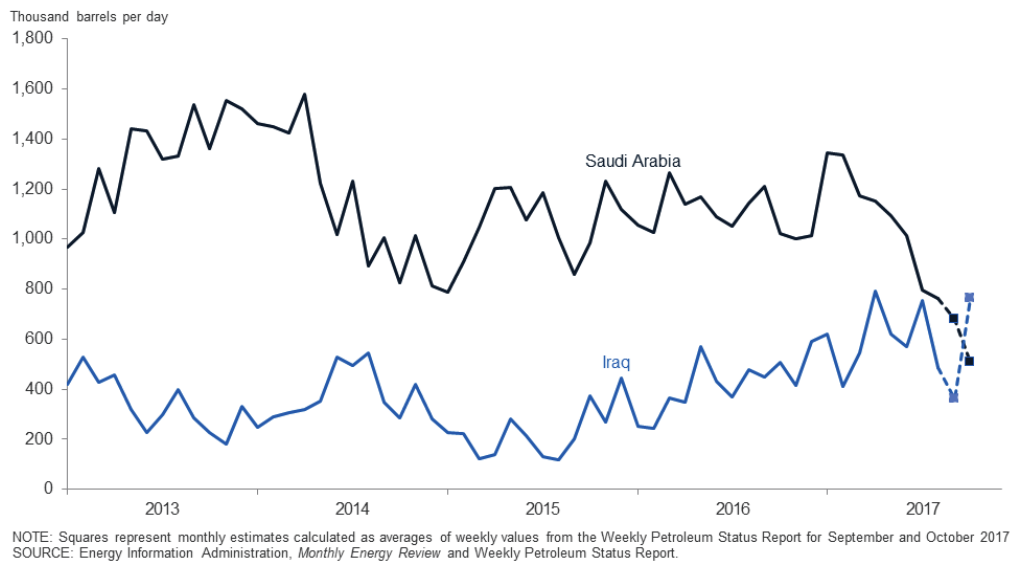


SOURCE: Energy Information Administration, Drilling Productivity Report, November 2017.

U.S. Crude Imports

U.S. crude imports from Saudi Arabia decreased from 678,000 b/d in September to 506,000 in October (*Chart 4*). Meanwhile, U.S. crude imports from Iraq increased from 363,000 b/d in September to 763,000 in October, surpassing Saudi imports for the first time since September 1985. This is likely a result of Saudi Arabia's strong compliance with the OPEC production cuts.

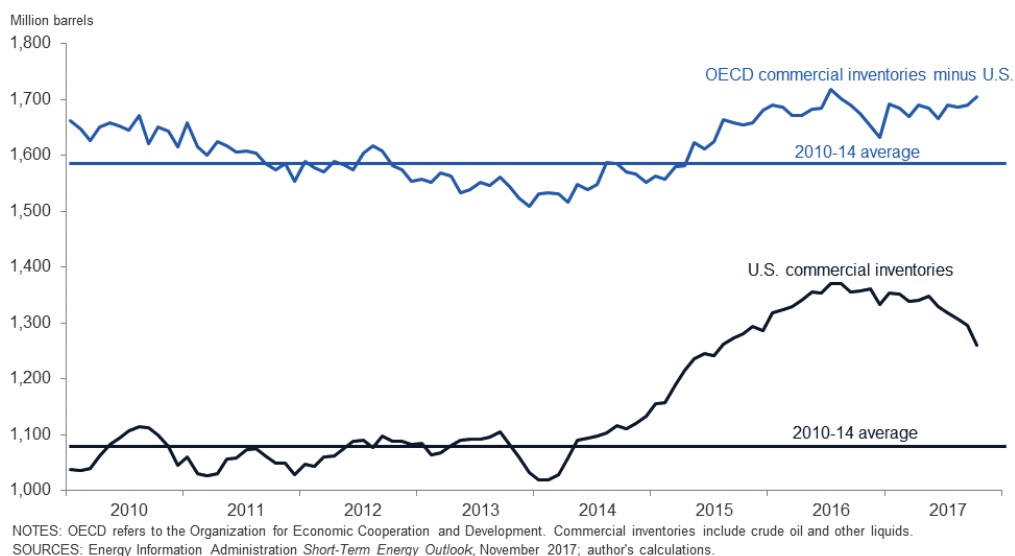
Chart 4
U.S. Crude Imports from Saudi Arabia and Iraq



OECD Inventories

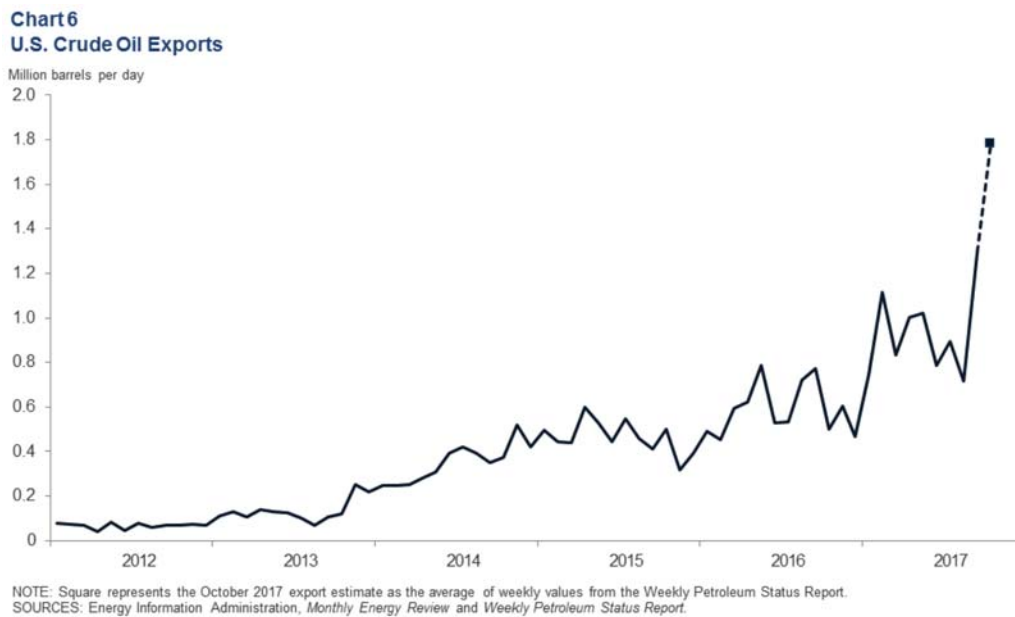
Commercial inventories in the U.S. decreased in October by 34 million barrels to 1,261 million but remain 188 million barrels above 2010–14 average inventory levels (*Chart 5*). Meanwhile, Organization for Economic Cooperation and Development (OECD) commercial crude oil inventories excluding the U.S. rose by 15 million barrels to 1,705 million and are just 119 million barrels above 2010–14 average levels. While over half of the inventory overhang in OECD markets is concentrated in the United States, the 88-million-barrel decline in U.S. inventories since May is a promising sign that domestic inventories are rebalancing.

Chart 5
OECD Inventories



U.S. Crude Exports

U.S. crude oil exports increased from 1.29 million b/d in September to 1.78 million b/d in October, an all-time high (*Chart 6*). Since the crude oil export ban was lifted in December 2015, infrastructure has been built or modified to support exports, including construction of the Ingleside Energy Center Terminal in Corpus Christi, Texas. The widening of the WTI–Brent spread is incentivizing marketers to ship domestic crude internationally to obtain higher prices.



Additional charts of interest can be found in the Dallas Fed's monthly energy slideshow.

<https://www.dallasfed.org/research/energy/slideshow.aspx>

About Energy Indicators

Questions can be addressed to Kunal Patel at kunal.patel@dal.frb.org. *Energy Indicators* is released every third Thursday of the month 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.