The Texas Energy Industry: From Boom to Gloom

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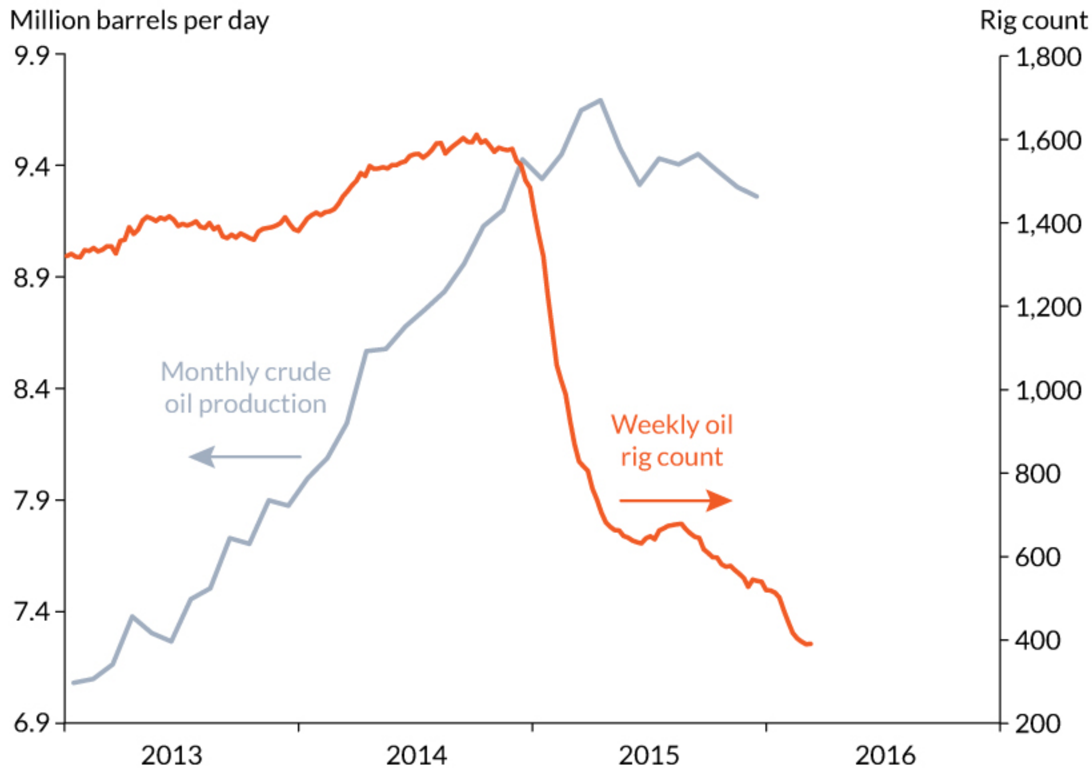
Horizontal drilling and hydraulic fracturing of shale formations have transformed Texas' oil and gas sector.

The shale boom contributed to robust growth in the state after the Great Recession by boosting oil production more than threefold from 2010 to 2015. However, Texas economic growth weakened markedly in 2015 due to falling oil and gas prices, and the state faces another challenging year in 2016.

Ironically, the energy sector's success helped create the current low-price environment. The new technology dramatically increased crude production in Texas and elsewhere in the U.S. Combined with more supply from countries such as Iraq, Brazil and Canada, the market found itself unexpectedly awash in oil. Saudi Arabia, the major swing producer, was forced to confront a difficult choice. It chose to maintain production levels instead of cutting output to bolster prices. A sharp crude oil price decline followed in late 2014.

Lower oil prices have made it less profitable to drill in shale areas, sharply curtailing drilling activity. Rig counts nationwide have fallen 75 percent (*Chart 1*). Output, however, has remained incredibly resilient; production peaked at almost 9.7 million barrels per day in April 2015 and remained relatively high throughout the year. The story is similar for Texas.

Chart 1: U.S. Crude Oil Production Resilient Despite Drilling Cutbacks



SOURCES: Baker Hughes; Energy Information Administration.

Drilling productivity is a major factor in the lagged response of oil output. As prices fell, firms focused on the most productive areas, working to reduce costs and increase efficiency. As a result, production remained stubbornly high in several areas despite sharply reduced rig counts.

Low oil prices have hurt the financial status of numerous oil companies, and a large number of them face uncertain prospects in 2016 even after achieving efficiency gains.[1] Many companies are also affected by extremely low U.S. natural gas prices, another result of the shale boom. At least 69 U.S.-based oil and gas companies went bankrupt in 2015; more are likely to do so in 2016.

The low oil price environment will continue challenging the Texas economy, especially in Houston and the oil-producing regions of the Permian Basin in West Texas and the Eagle Ford Shale in South Texas. The industry has lost nearly 60,000 jobs since the price collapse and may see further cuts if prices remain low. The carnage has spilled over into Texas manufacturing, which has faced the added impediment of a strong U.S. dollar that has increased the foreign currency cost of exports. Overall Texas employment grew only 1.3 percent in 2015, less than half the 2014 pace.

On the bright side, while Texas is best known as an oil and gas producer, it is also home to significant petrochemical and refinery sectors that have benefited dramatically from the shale boom.

Unfortunately, the outlook for the petrochemical sector has also become less rosy due to lower oil prices—though it is not nearly as pessimistic as for oil and gas producers. The petrochemical sector has benefited from low domestic prices for natural gas. Over time, as global oil prices have fallen, the cost advantage has eroded for U.S. petrochemical companies vis-à-vis their foreign competition. Dimmer prospects may diminish new petrochemical sector investment along the Gulf Coast, although current projects will likely keep construction active through 2017. The strong dollar and weaker global demand are not helping, either.

At the same time, refiners have benefited from the recent oil price decline. Lower gasoline prices have helped spur increased demand from U.S. consumers, bolstering refining margins. The shale boom has also led to significantly larger exports of refined products, with volumes from the Gulf Coast more than doubling between 2008 and 2014.

Some expected the end of the U.S. crude oil export ban in December 2015 to herald a surge in exports. Such a scenario is unlikely, at least in the short to medium term. The ban became less relevant as production fell. Prices for benchmark West Texas Intermediate and Brent crude oil are quite close, creating less of an incentive for large-scale exports. In the long term, if oil prices move up and Texas oil production increases, the implications of access to the global market will be more significant.

The shale boom revolutionized the oil and gas industry in Texas but has not helped the state avoid the almost inevitable busts that seem to follow such booms. The industry, and the areas in Texas intimately connected with it, will likely continue to face significant challenges until oil prices recover. The state's ability to continue growing in this challenging environment is a testament to the diversity and resiliency of its economy.

NOTE

1. "OPEC Tips Crude Oil Markets over the Cliff," by Navi Dhaliwal and Martin Stuermer, *Quarterly Energy Update*, Federal Reserve Bank of Dallas, Fourth Quarter, 2015.