Where We Are On Oil And Gas Rig Counts And Production

- As oil prices plummeted in mid-2014, what followed was a significant reduction in the oil and gas rig counts across the major shale regions of the U.S.
- Rig counts faltered and finally troughed in early 2016, but production in the Permian region continued to grow as new rigs benefited from technology advances.
- As oil prices firm above shale oil break-evens, there is a greater tailwind behind ever higher rig counts.

The Energy Information Administration (EIA) issued its December issue of the Drilling Productivity Report this week found here. This is an informative summary of recent trends in tight oil and shale gas regions. The EIA defines tight oil as “oil embedded in low-permeable shale, sandstone, and carbonate rock formations.”

- Leading up to the mid-2014 peak in crude oil prices, oil rig counts grew substantially (see top chart). During the period of pricing in the $100 per barrel range, significant investment was made in oil rigs with the rig count peaking at 1,609 by mid-October, 2014 (see 2nd chart).
- Oil prices fell 71% during the June 2014 - February 2016 period.
- Since early 2016, oil pricing has nearly doubled and both oil and gas rig counts have increased.
- Natural gas prices also declined precipitously during the 2014 - early 2016 period and are currently trading at $2.74 per million BTU (MMBTU), up 42% from the low in May 2016.

While there are many estimates of break-even pricing for shale oil, depending on the shale region and age of the rig, clearly an average above the $40 per barrel range stimulates production.

- Indeed, because of expanding productivity of new wells as compared to the “scrapage” of legacy rigs, oil production continued to expand in the Permian region even when oil prices were below $40 per barrel (see 3rd chart).
- Of the seven tight oil and gas shale regions, only the Permian region was able to increase production during the period of lower oil prices.
- With the oil and natural gas price recovery and technology advances, all seven regions are expanding both oil and gas production from the rigs in place.
- The expansion of this production has coincided with a drop in crude oil imports. EIA reports that crude oil imports peaked in 2005 at 10.1 million barrels per day (MMBD), but as of 2016 stood at 7.9 MMBD, a 22% drop.

Fracking and Public Health

“Health economists Janet Currie, Michael Greenstone, and Katherine Mecke studied 1.1 million infants born in Pennsylvania between 2003 and 2013...and found that infants born within 1 km of a well were 25% more likely to have low birth weights than infants found more than 3 km away.” Science Magazine, December 2017