Confluence Investment Management

Quarterly Energy Comment

By Bill O'Grady

April 11, 2017

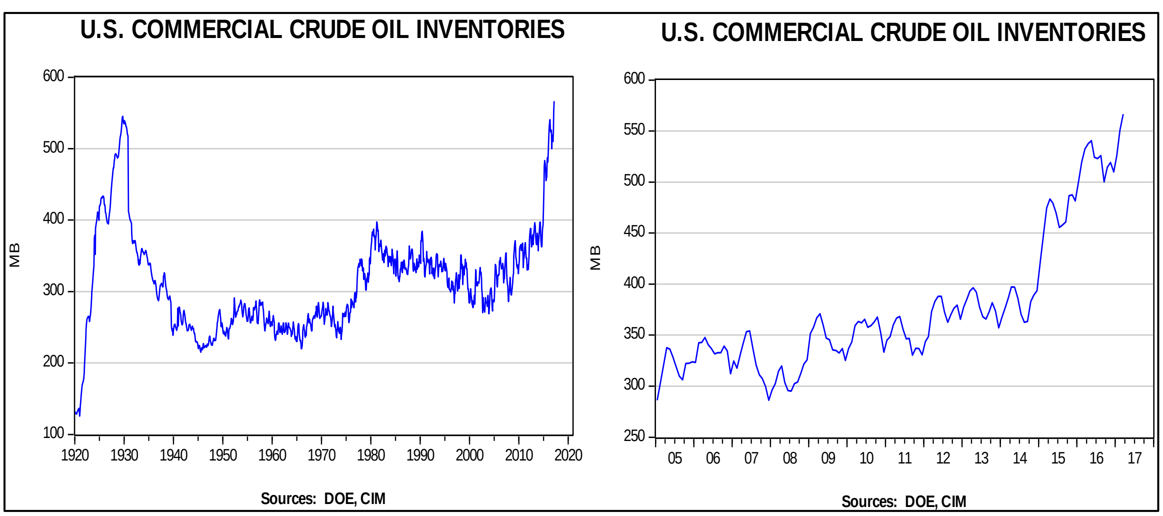
The Market

Since December, oil prices have been ranging between $48 and $55 per barrel.

(Source: Barchart.com)

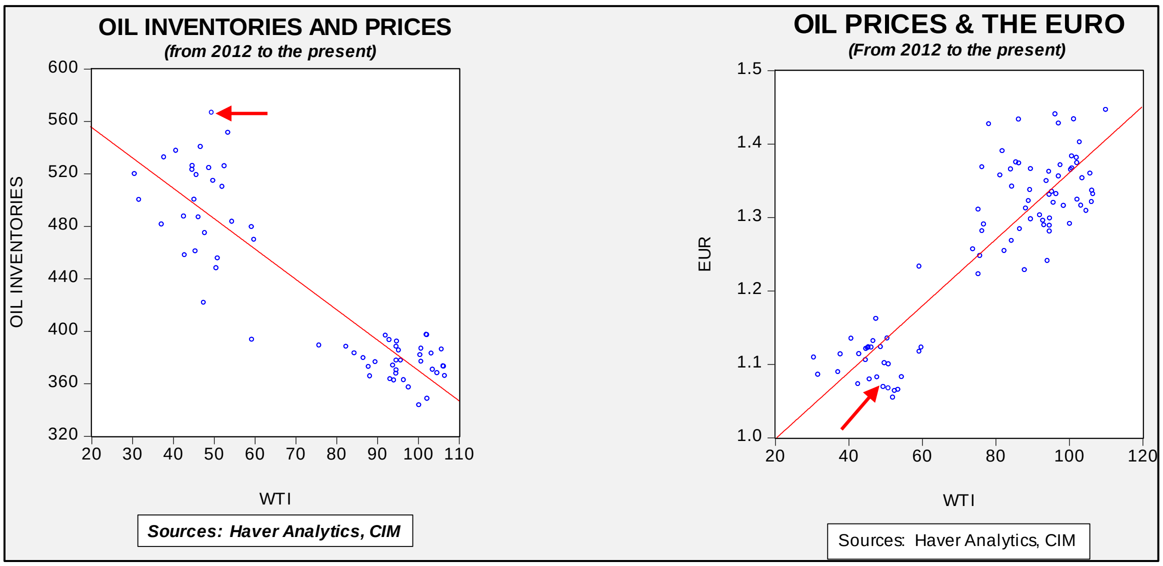
Prices and Inventories

Inventory levels remain elevated, reaching historic highs.

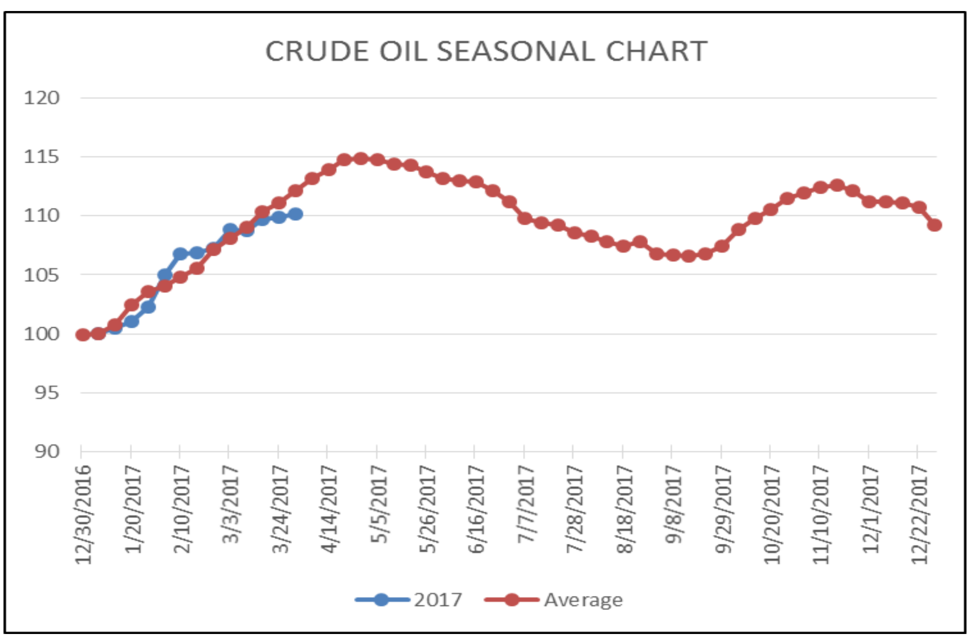


In the above charts, the one on the left shows the long-term inventory situation, while the chart on the right shows a 12-year history. Normal inventories would be below 400 mb, so stockpiles remain elevated.

Since 2012, oil prices have closely tracked the dollar and U.S. commercial crude oil inventories.



Both in terms of inventories and the dollar, oil prices are overvalued. Essentially, fair value is in the low $40s or high $30s. However, we are probably close to the seasonal peak in crude oil inventories and, on an indexed basis, the peak will be lower than normal.

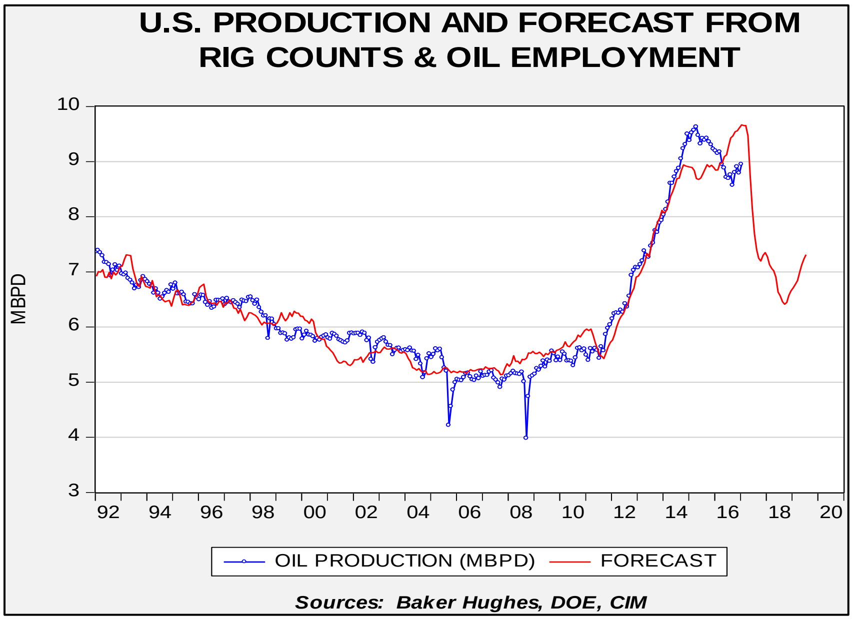


(Sources: DOE, CIM)

The chart above shows the seasonal inventory pattern for crude oil; stockpiles usually rise into mid-April then steadily decline into September. Although inventories are still rising, the pace has started to slow. We have seen a rise in refinery operations which should bode well for an improving inventory situation.

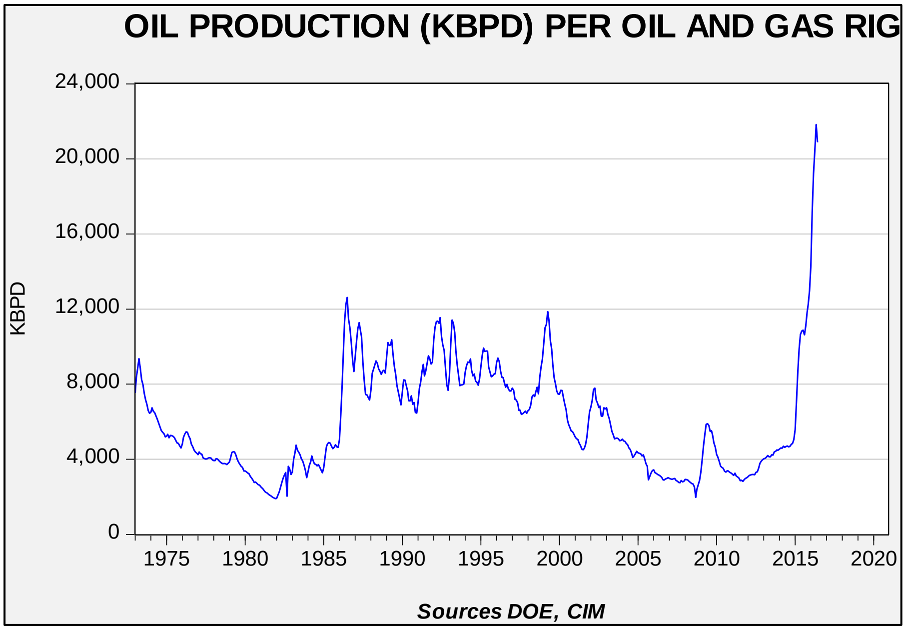
Production

U.S. oil production fell from 2014 into Q3 of 2016 but has started to recover.



This chart shows oil production and our forecast model that uses rig counts and oil services employment as independent variables. The model, which exhibits long lags, is signaling that a major decline in output is looming. However, we have serious doubts about the reliability of this model, despite its solid past performance. Today's oil rigs have improved dramatically—the advent of horizontal drilling and multiple drill bits have made each rig significantly more productive.

The chart below shows the improvement in productivity. Since 2016, the amount of oil production per rig has soared. This change offsets the drop in rig counts and will keep production elevated.



Oil Summary

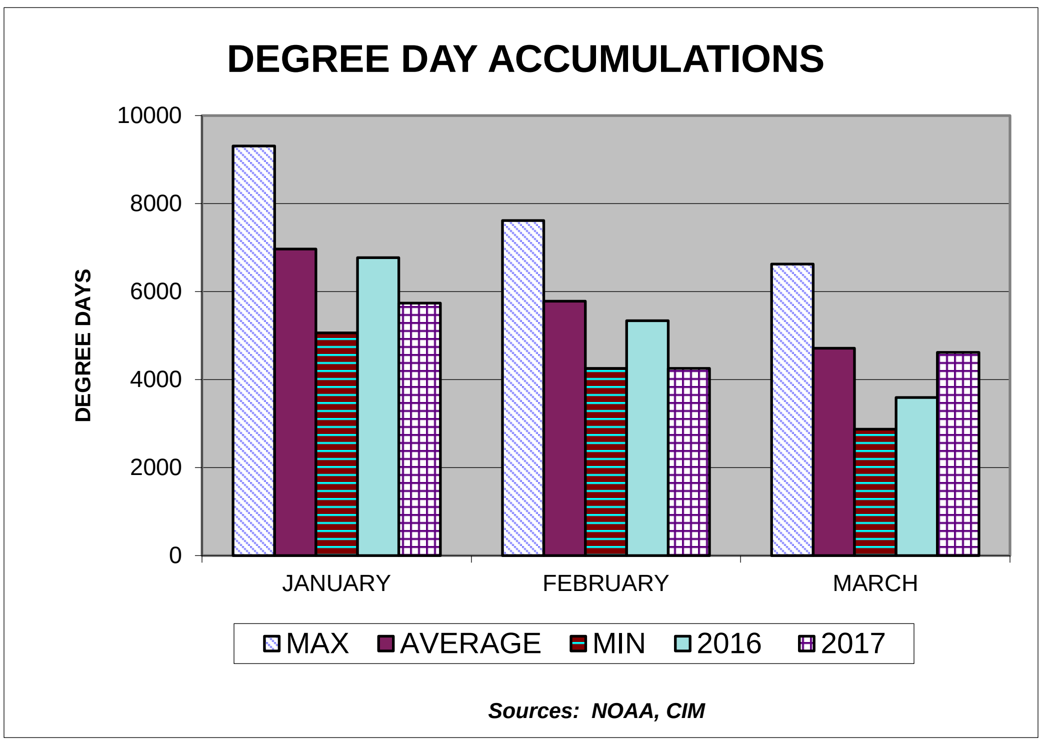
OPEC, like all cartels, generally tries to engineer stable markets. As we note above, based on inventories and the dollar, oil prices should be significantly lower. However, they are not, in part, because the oil markets believe that OPEC will maintain adequate output discipline and erode the current inventory overhang. For now, this hope will probably be enough to keep the oil market supported. However, based on the relationship between oil prices, inventories and the euro, assuming a 1.07 $/€ exchange rate, a $52 per barrel price assumes a 396 mb level of crude stocks, over 150 mb lower than the current level. Even a strong vacation season probably won't yield that outcome. On the other hand, a 1.14 $/€ only requires a 33 mb decline from current levels. A weaker dollar would go a long way to support oil prices at current inventory levels. For now, we don't expect a soft dollar but with a large number of Federal Reserve vacancies expected to be filled over the next two years, a more dovish central bank could emerge that would be more consistent with a president intent on narrowing the trade deficit.

And so, given that current prices have already discounted some favorable fundamental trends, the potential for disappointment does exist. That issue probably won't affect prices until late summer when crude oil inventories begin their rebuilding process. If the summer doesn't yield better fundamentals, oil prices are vulnerable to a retreat.

Natural Gas

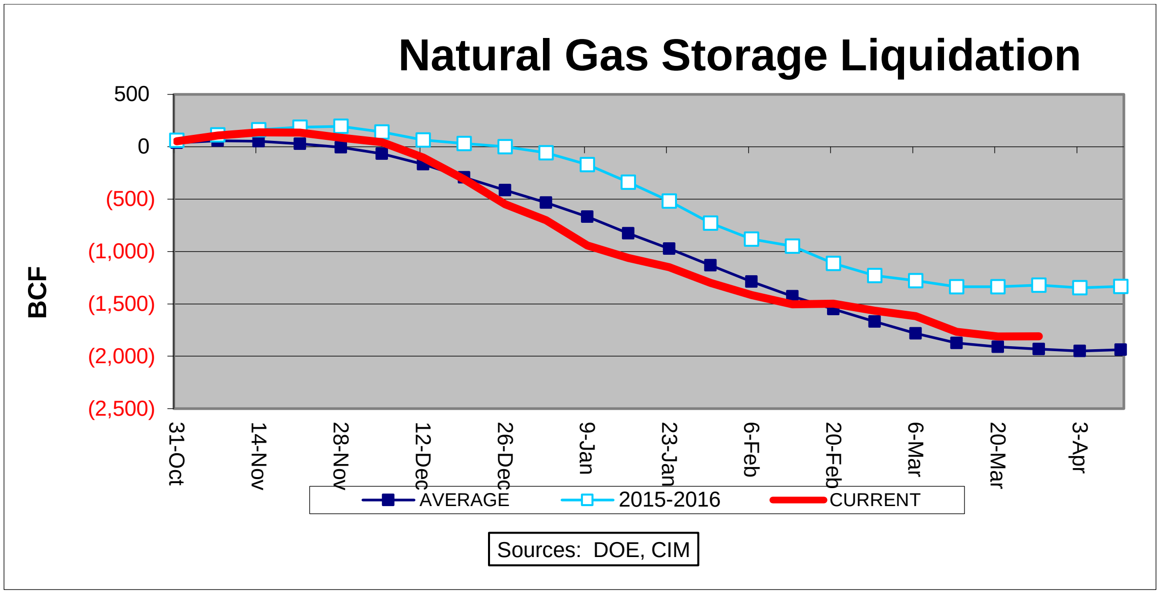
Natural gas prices have rebounded from the late February lows; after rising near $4.00 per MMBTU, prices fell sharply due to an unusually mild February. The recovery was due, in part, to a more normal March.

(Source: Barchart.com)



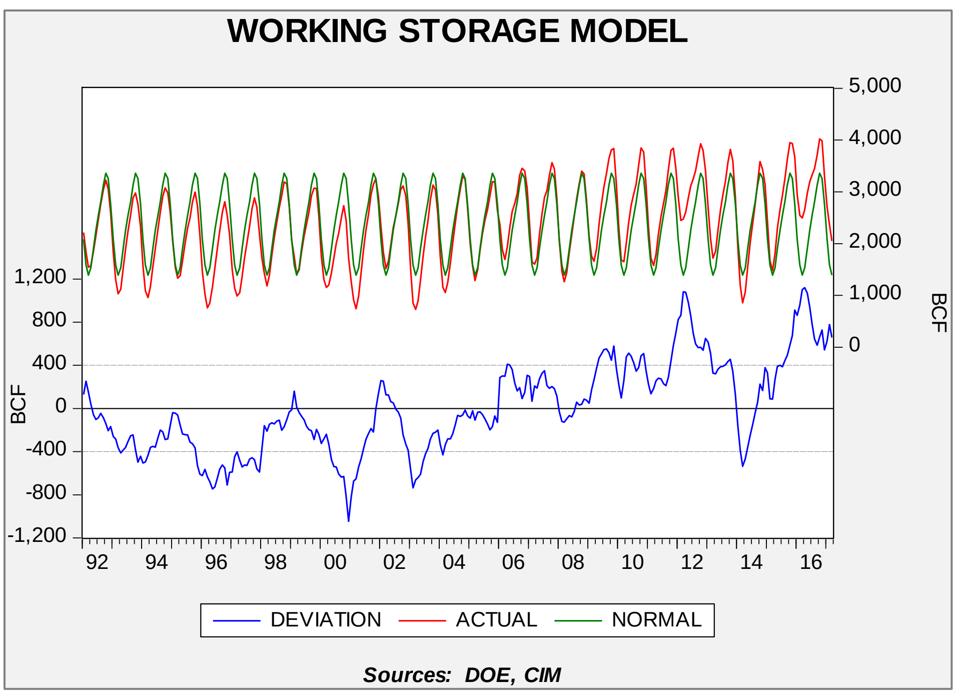
This chart shows average combined heating and cooling population-weighted degree days for the region east of the Rockies. January was a bit milder than average but February had the lowest degree day accumulations on record. March temperatures rebounded to average. As we head into the "shoulder" months of Q2, temperature-related demand will slow.

Despite a mostly mild winter, the liquidation season for natural gas was near normal.



The above chart measures the accumulated weekly liquidation of inventories. As we approach the end of the liquidation season, inventory withdrawals mostly tracked normal. This is a somewhat surprising outcome and suggests that supply and demand is getting in better balance.

Still, as we have seen over the past few years, inventory levels remain elevated.



This last chart shows our working natural gas storage model. It seasonally adjusts the data to show how far inventory levels are deviating from normal. As the chart shows, storage remains high. As long as this inventory overhang remains in place, natural gas prices will remain rather soft. We would look for prices to ease back under $3.000 per MMBTU through the spring.

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