Confluence INVESTMENT MANAGEMENT

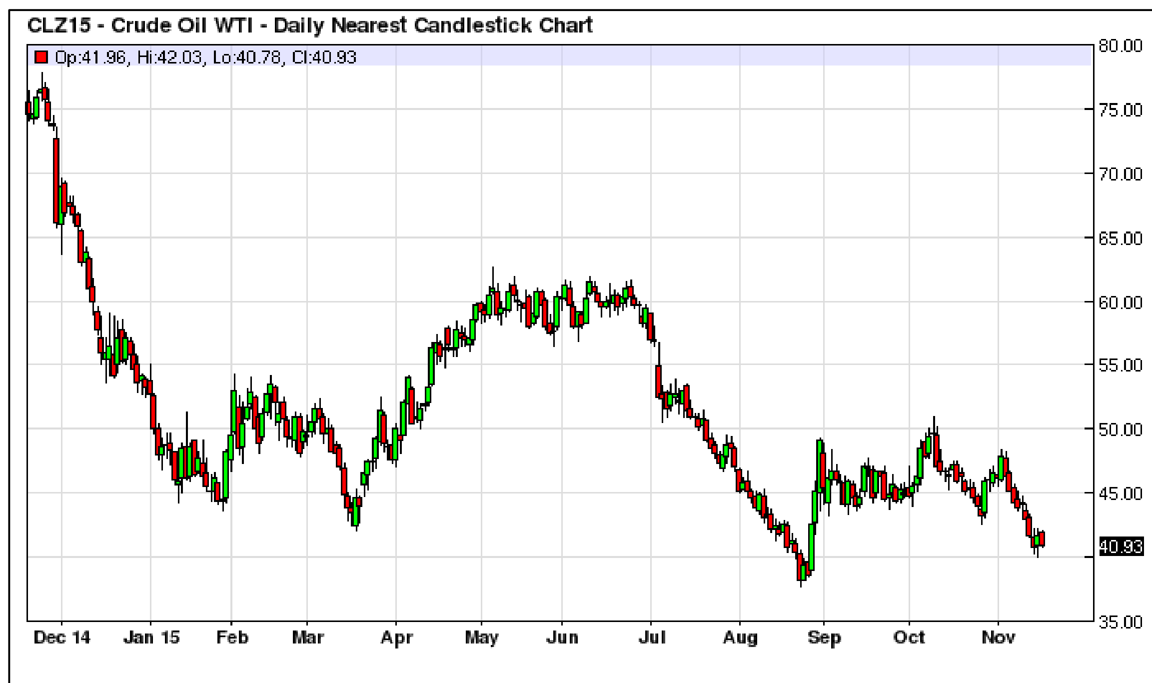
Quarterly Energy Comment

By Bill O'Grady

November 18, 2015

The Market

Over the past year, oil prices fell sharply into the first quarter, remained rangebound from January through March, rallied above $60 per barrel in the spring and early summer, and then slid to new lows in August. Since the August lows, prices have been in a range between the high $30s and $50 per barrel. In November, prices have been weak, testing the low end of the trading range.



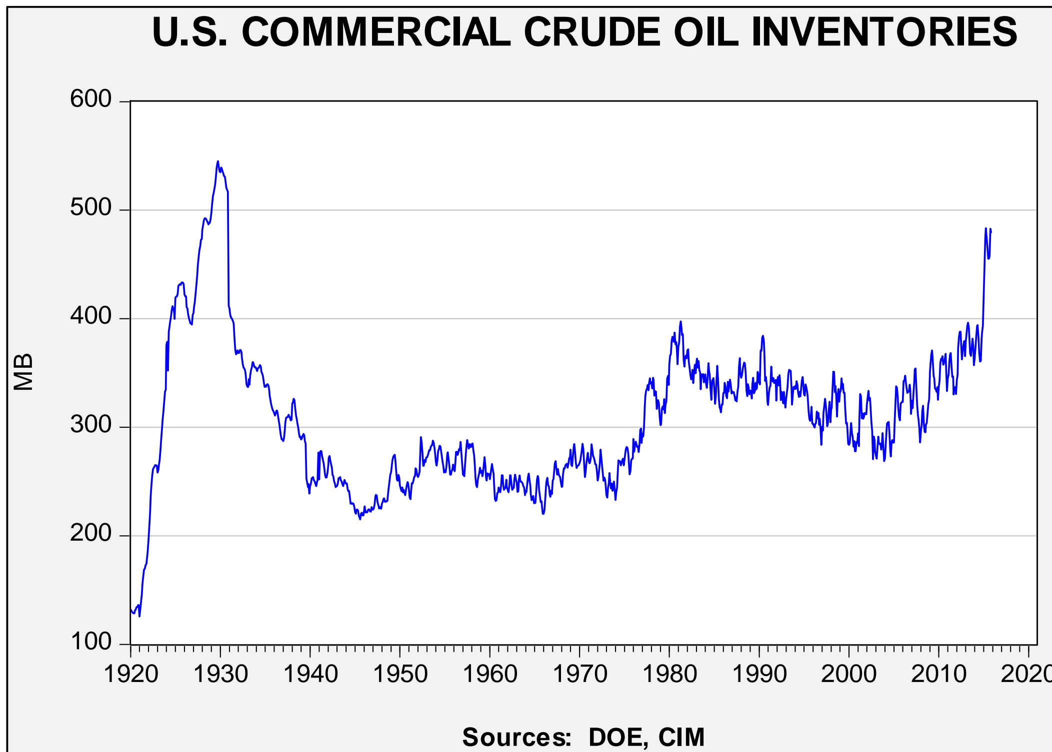
(Source: Barchart.com)

It is not unusual for prices to rally into year's end due to the rise in holiday driving and cold weather. The latter can lift heating oil demand and refining activity. We still expect a rally to develop into New Year's but it probably won't move prices much above $50 per barrel.

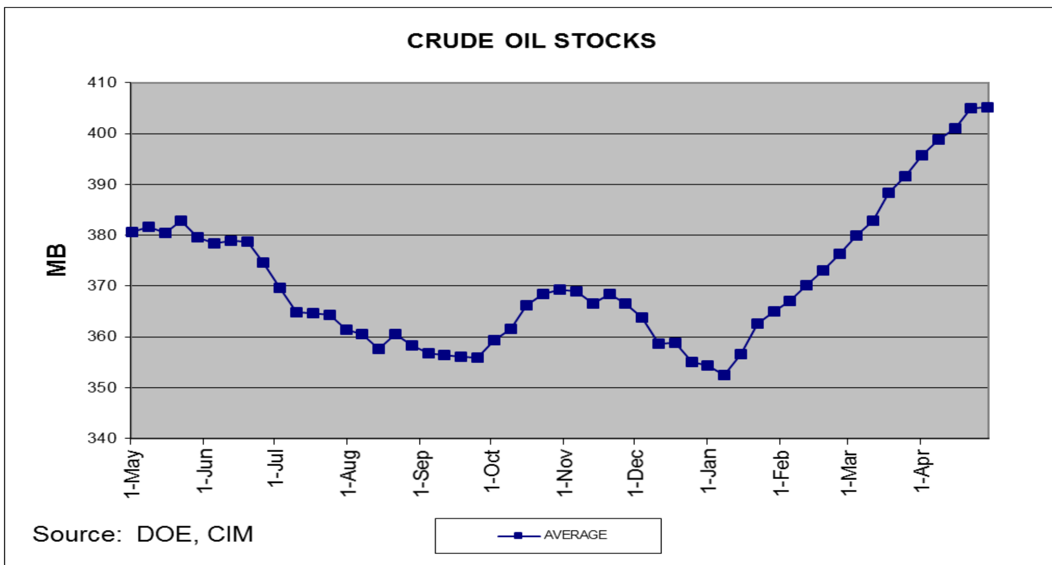
A much bigger worry for prices develops in early 2016. Refinery maintenance begins soon after the New Year which will depress demand. If production levels remain elevated, prices are vulnerable to breaking into the $30s in early spring.

Oil Prices and Inventories

U.S. commercial crude oil inventories remain elevated.

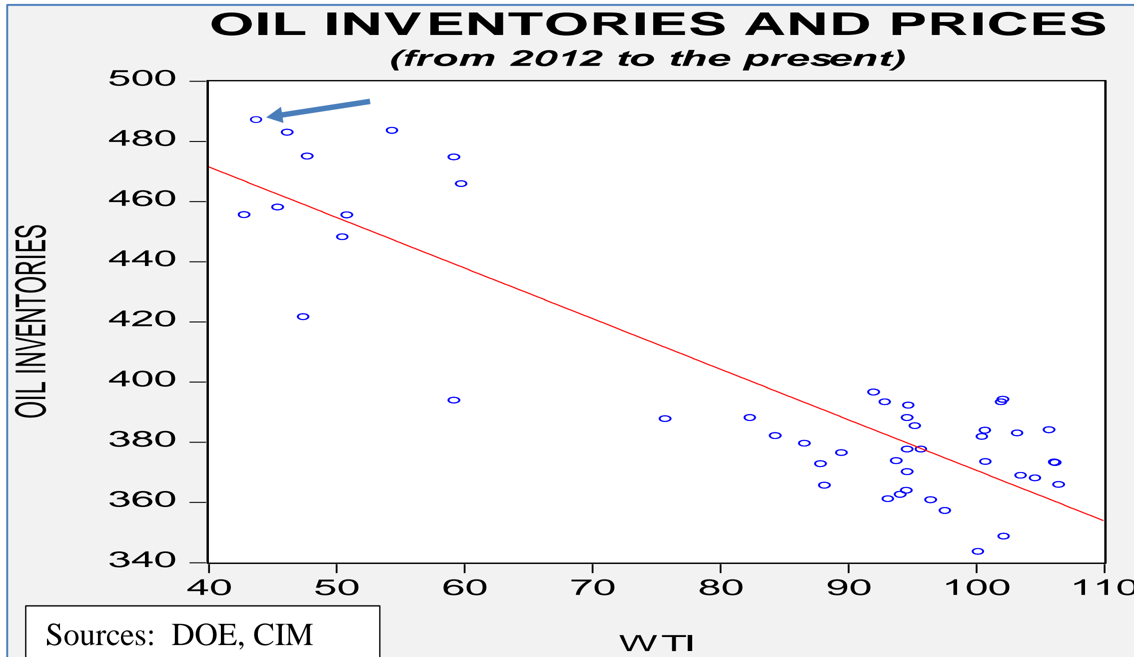


This chart shows U.S. commercial crude oil stockpiles beginning in 1920. Our estimate for end-September stockpiles is the last data point on the graph. Inventory levels remain very elevated, but are falling from their spring highs.



The above chart shows the five-year average of inventories to isolate the usual seasonal pattern. There are two primary inventory build periods, from late September into November and from early January into the spring. Over the past year, crude oil prices have mostly anticipated this pattern. Thus, we would expect the aforementioned price

recovery ***if oil inventories decline in line with seasonal patterns***. However, there are some doubts this will occur as news reports suggest oil imports may increase in the coming weeks. Still, we do expect to see a rise in refinery activity that will absorb some of these imports and support prices.

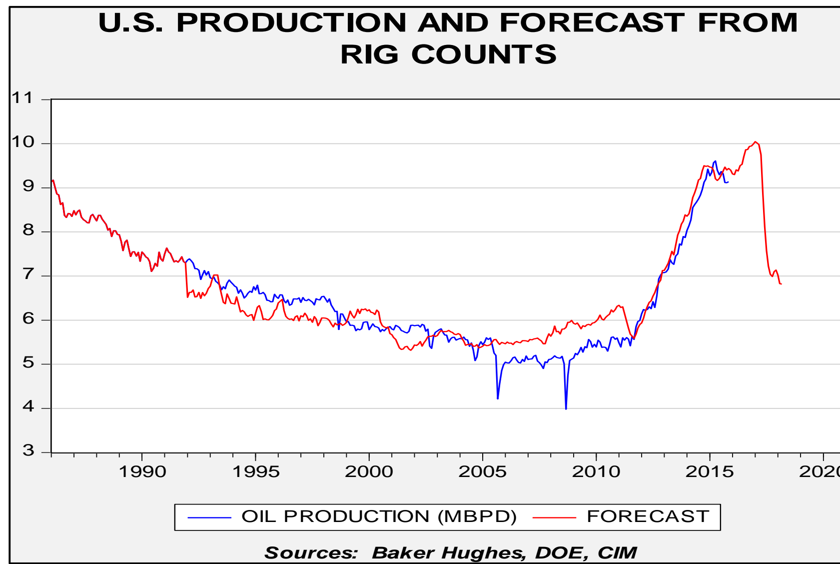


This scatterplot shows the relationship between oil prices and U.S. commercial crude oil inventories. The blue arrow shows November's combination of inventory and price. This model suggests prices are actually elevated given the current level of stockpiles. That difference likely reflects expectations that inventories will decline.

Slowing U.S. Production

Last quarter, we updated our outlook for U.S. oil production based on rig counts. Although the DOE did revise its recent production estimates lower, production remains elevated. Again, as we noted last quarter, there has been a 27-month lag between changes in rig counts and changes in production.

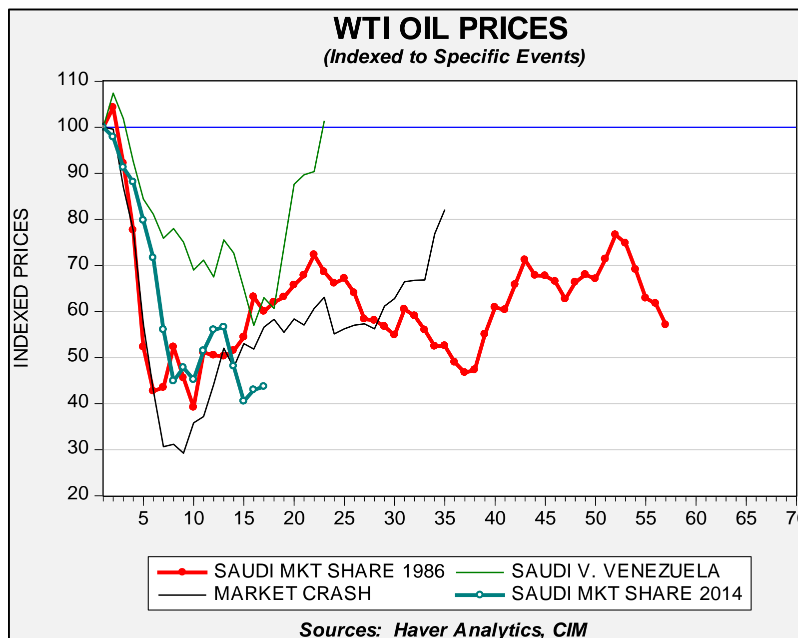
This chart updates our U.S. production model based on rig counts. So far, the model's forecast is working reasonably well.



This simple model suggests that production growth will remain high into 2017. Will this model get it perfect? No. All models are prone to error, simply because there are a number of uncountable variables that will affect production. In this case, high decline rates for fracked wells may lead to a shorter lag. Tightening financing could have a similar impact, although recent reports suggest that financing remains available. However, this model does make the case that a major drop in output may simply take time.

OPEC

In terms of bear markets in oil, the current one is developing into the worst since OPEC became the controlling cartel.



This chart shows four market events when oil prices fell significantly. Three were periods when Saudi Arabia was engaged in market share conflicts within the cartel and the fourth was tied to the 2008 Financial Crisis. As the chart shows, the current market is the weakest by this time frame compared to the previous three events.

Barring a geopolitical disruption, it appears that Saudi Arabia is prepared to maintain its market share and absorb weaker prices until other producers reduce output. As the above section shows, U.S. production probably remains elevated well into next year, meaning that price relief from falling American output isn't likely. We may see disruptions elsewhere, however. Conditions in Venezuela have deteriorated and there is growing unrest across Africa. Of course, the Middle East is also in turmoil, although to date oil output has been mostly unaffected. ***At some point, Saudi Arabia will declare victory and reduce output to bolster prices. However, that point has not been reached as of yet.***

Oil Summary

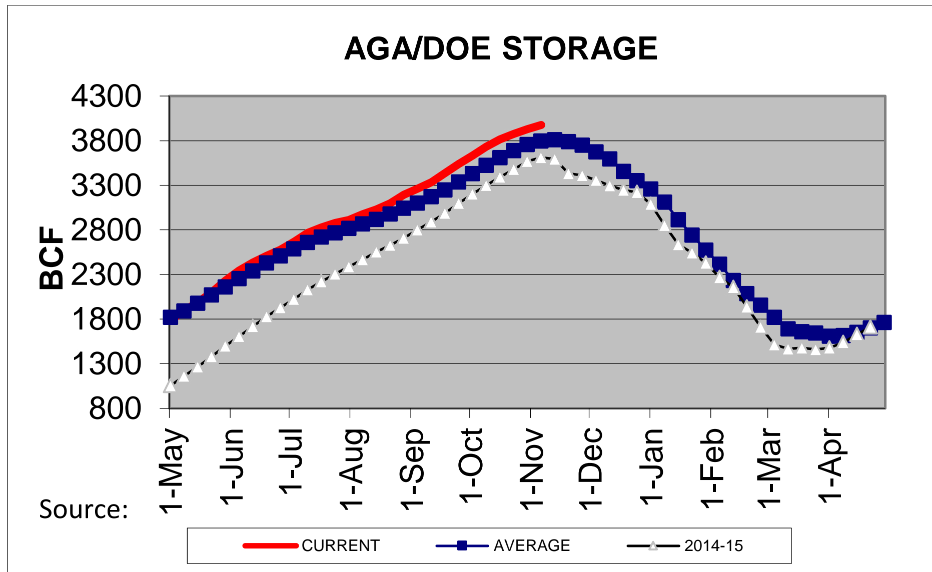
To a great extent, our outlook on oil prices remains mostly the same, although we have reset our trading range lower. We are probably in a $35 to $55 per barrel range until either (a) OPEC cuts production, (b) U.S. production falls significantly, or (c) oil-producing regions become geopolitically unstable. The second option probably will not occur until late next year at the earliest. There is no strong evidence that the first option is going to occur anytime soon and the last option could happen at any time. Thus, the aforementioned range probably takes us into the middle of next year with a return to the lower part of the range in Q1 2016.

Natural Gas

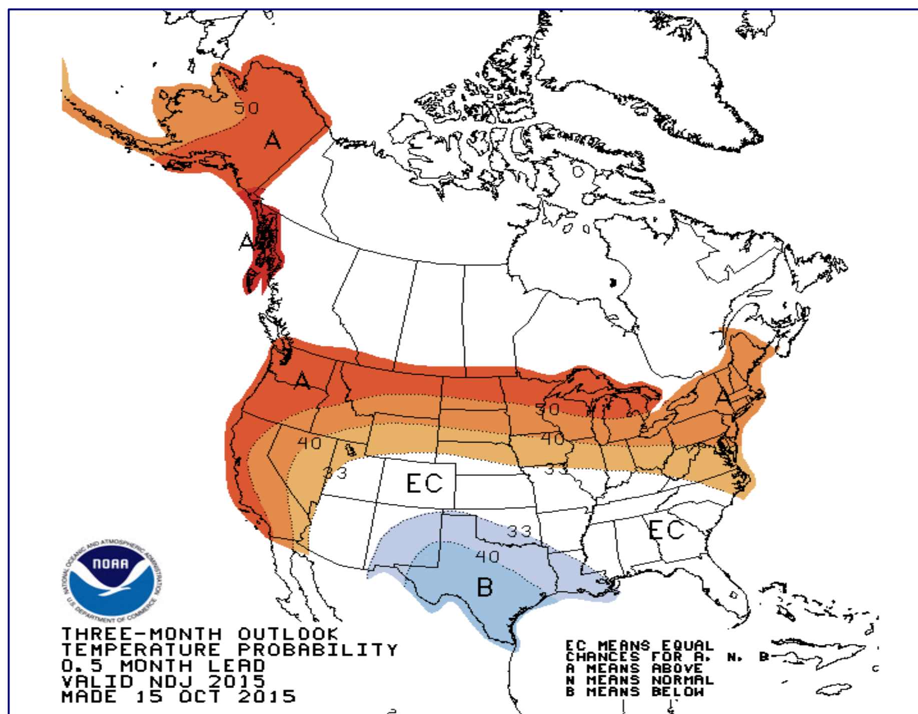
Natural gas prices have been coming under pressure.

(Source: Barchart.com)

Despite the onset of winter, inventory levels are very elevated.



We should see inventory liquidation begin very soon. Unfortunately, the current El Niño is projected to bring a mild winter, which will pressure prices.



This map shows the projected temperature anomalies for November through January. As the map shows, temperatures will likely be warmer than normal. The inventory situation is generally underappreciated by investors. The majority of U.S. natural gas inventories rest in depleted natural gas wells. To maintain well integrity, gas must be injected in on a

steady basis and withdrawn at a similar pace. Thus, even if demand is weak, the gas in storage must come to the market. Historically, weak prices have occurred in January for this reason. Given the current high levels of inventories, a warm winter could lead to prices below $2.000 per MMBTU. Even though current prices are low, we would be very cautious about a bullish stance at this time.

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