Confluence INVESTMENT MANAGEMENT

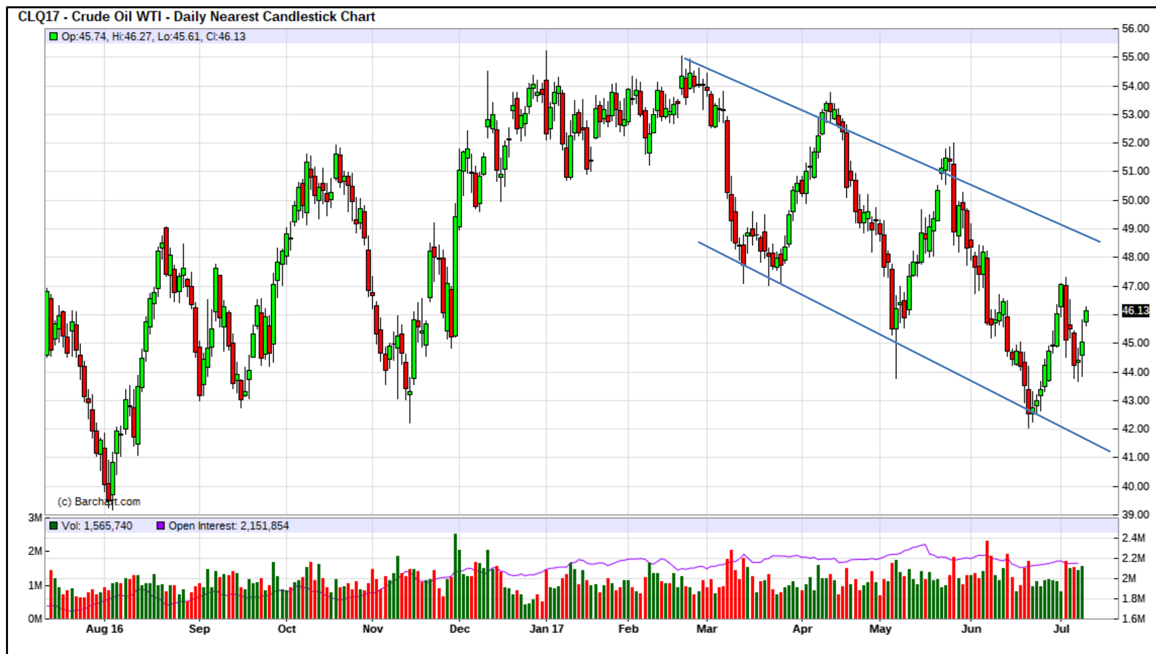
Quarterly Energy Comment

By Bill O'Grady

July 18, 2017

The Market

Oil prices peaked in March around $55 per barrel. There have been a series of lower highs and lower lows, as shown by the lines on the chart.

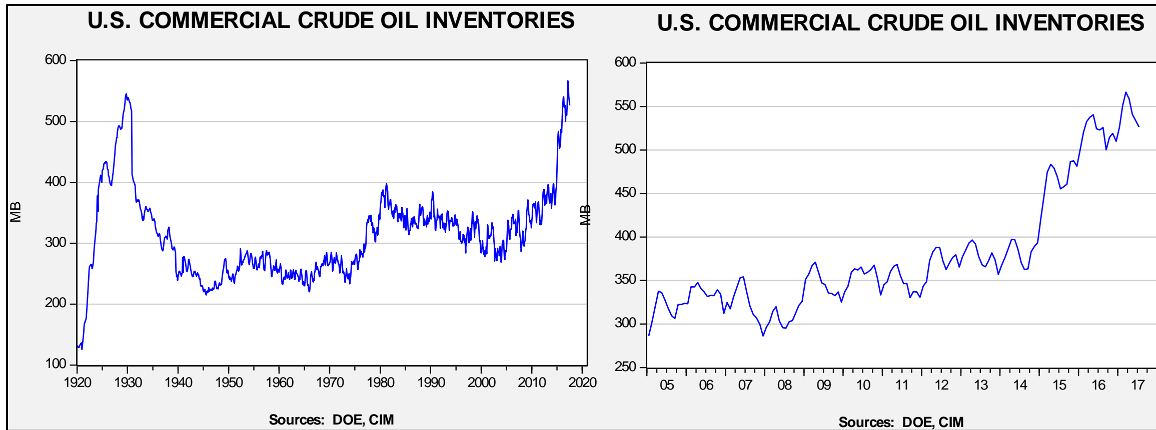


(Source: Barchart.com)

This obvious downtrend has led to a general bearish tone to the market. We don't necessarily share that level of pessimism; as we will show below, dollar weakness and falling inventories are supportive for oil prices. On the other hand, there are legitimate concerns that the Saudis may reverse production restrictions after next year's initial public offering for Saudi Aramco.

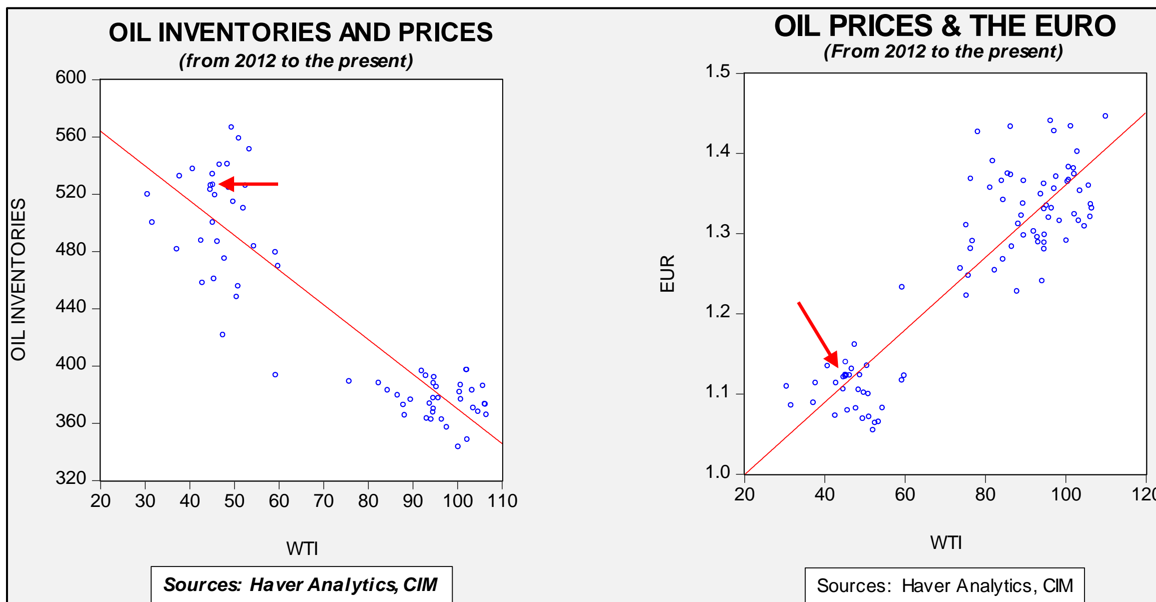
Prices and Inventories

Inventory levels remain elevated.

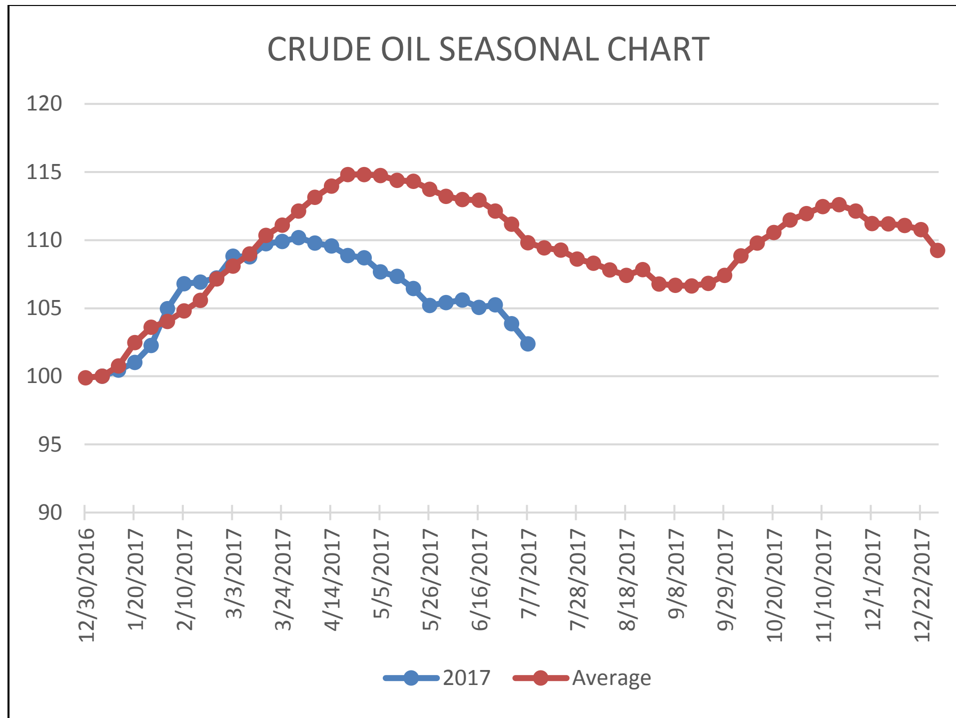


In the above charts, the one on the left shows the long-term inventory situation, while the chart on the right shows a 12-year history. Normal inventories would be below 400 mb, so stockpiles remain elevated. Also note that last year we reached a seasonal trough near 500 mb. We remain about 25 mb above that level.

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



Our model that evaluates oil prices based on the euro and oil inventories suggests a fair value of $51.60. Oil inventories alone generate a fair value of $42.85 while the euro generates a fair value of $55.84. Obviously, the bull case for oil rests on a weaker dollar; traders have not yet taken a falling dollar into account.

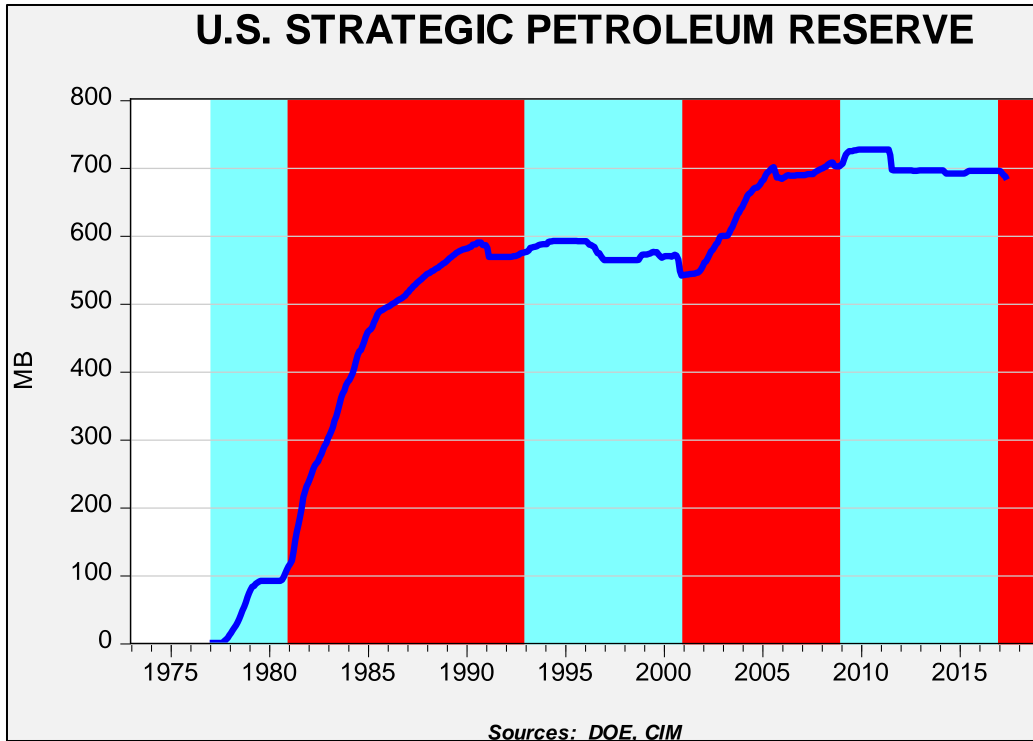


(Sources: DOE, CIM)

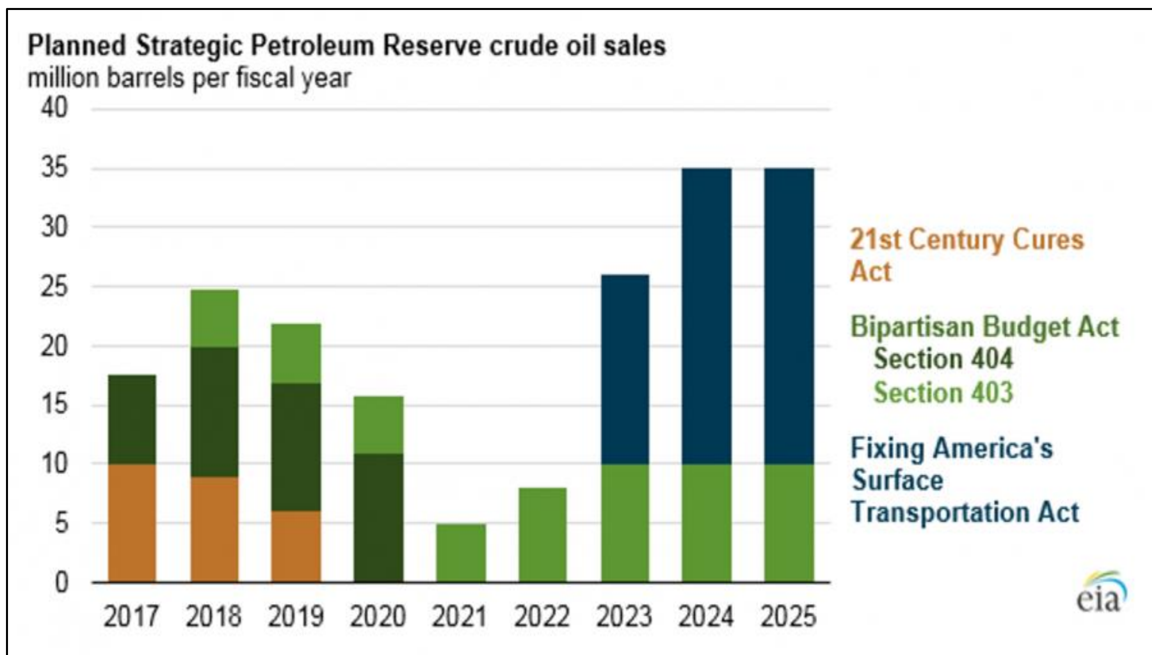
The chart above shows the seasonal inventory pattern for crude oil; stockpiles usually rise into mid-April then steadily decline into September. This year the seasonal inventory withdrawal period began sooner than normal and therefore inventory levels are well below the usual seasonal trough that occurs in mid-September. Thus, despite recent price weakness, we are seeing a rather impressive drop in stockpiles. However, as the above charts show, we are still roughly 125 mb above normal.

Strategic Petroleum Reserve

Although it hasn't generated much media comment, we have seen a 16 mb draw in the SPR since March. This means that the total withdrawal of commercial crude oil inventories from the seasonal peak is 56.3 mb. The usual draw is around 40 mb, so the additional oil supplies brought by the SPR sale have made a difference. The chart below shows the SPR through the years; the red and blue areas reference the party in control of the White House. In general, Democrats tend to hold or sell small amounts of oil, whereas Republicans tend to fill the reserve. SPR policy is complicated, but with the advent of shale production, we are probably approaching a point where maintaining this level of reserve doesn't make much sense. Thus, we would not be surprised to see more aggressive oil sales in the future—especially since the sales can be a source of revenue for the Federal Government that doesn't come from taxes. SPR oil sales can potentially be a bearish factor for oil prices.



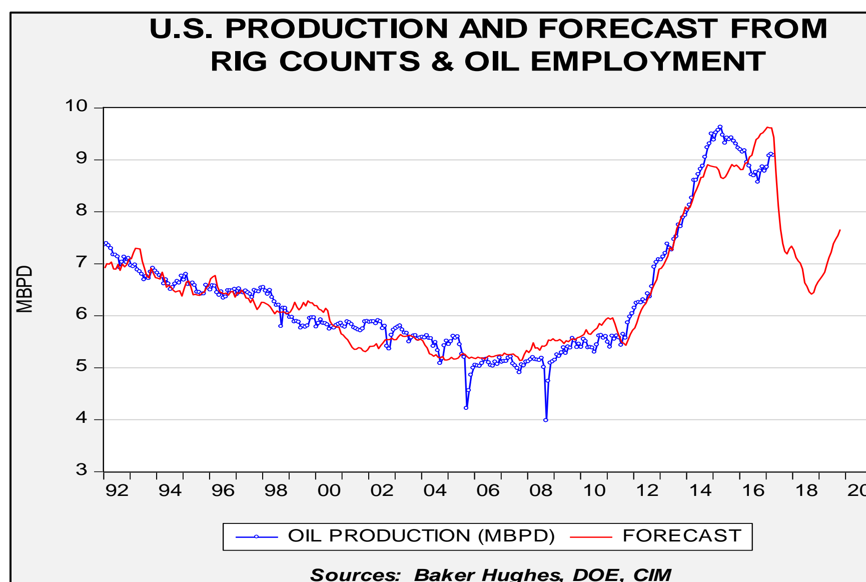
Policymakers have indicated that the SPR will be reduced in the future, in part to pay for infrastructure improvements and, as noted above, to address budget issues. The following chart shows the current slate of projected sales.



Next year, 25 mb are expected to be liquidated. However, the Trump administration has proposed selling down another 190 mb to potentially around 250 mb in the future.[1] If these additional sales occur, it would be quite bearish for oil prices.

Production

U.S. oil production continues to recover.



This chart shows oil production and our forecast model that uses rig counts and oil services employment as independent variables. Our model exhibits long lags and is signaling that a major decline in output is looming. However, the advent of shale production has changed the usual relationship between rigs and output. U.S. oil production has become much more coincident to prices, meaning that output tends to react much more quickly than before. This factor tends to make the U.S. more of a swing producer and complicates OPEC's output policy. Simply put, if the cartel is successful in raising prices, the U.S. can react quickly to take market share; in the past, the reaction time was longer which gave OPEC a chance to improve its revenue when it reduced output, lifting prices. Now, American shale producers react quickly and effectively take advantage of OPEC's production cuts.

Oil Demand

Although there has been a plethora of articles[2] suggesting we may be approaching "peak oil demand," thus far the data doesn't support the concept. To examine long-term oil demand, we first calculate per capita oil consumption on a per annum basis.

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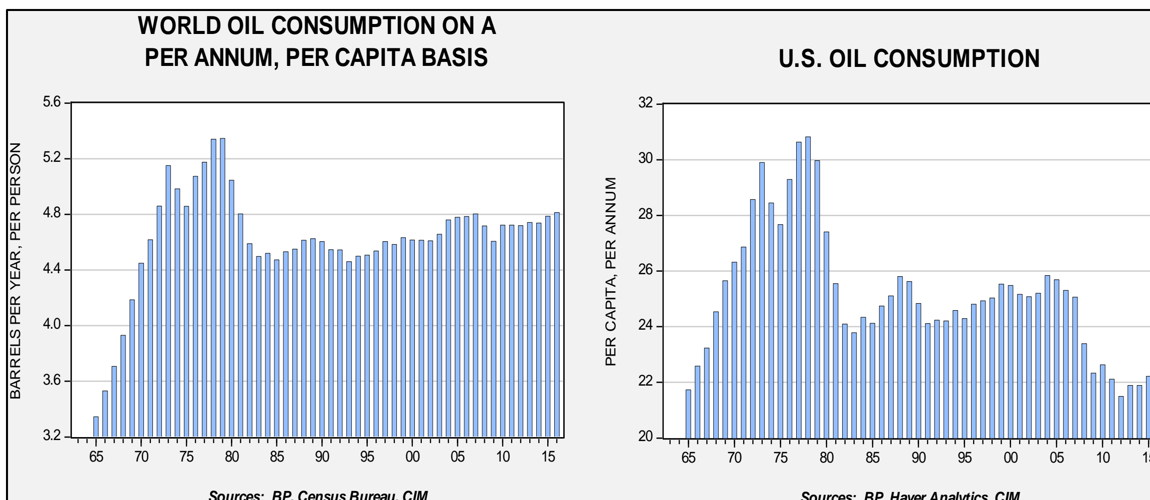
[1] http://money.cnn.com/2017/05/23/investing/strategic-petroleum-reserve-trump-budget-us-emergency-oil/index.html

[2] https://www.bloomberg.com/news/articles/2017-07-11/remember-peak-oil-demand-may-top-out-before-supply-does



In other words, we look at the average number of barrels a person in the world and the U.S. consumes in a year. For the world, it's 4.8 barrels; for the U.S., it's just above 22 barrels. Obviously, there is a lot of variation in such a broad number, but, by making these calculations, we can then use population data to estimate future consumption. Note that world and U.S. consumption have been slowly rising. Using world population estimates, the world will consume 109.7 mbpd in 2030, up from 96.6 mbpd in 2016. However, electric cars, social media, improved efficiency, carbon taxes, etc. could pressure future demand as these factors are not in the data so far.

Oil Summary

Current market sentiment for crude oil is rather bearish. OPEC output discipline has weakened and rising U.S. output is a threat to the cartel's market share. However, we expect the Saudis to keep the market "propped up" into the Saudi Aramco IPO, scheduled for late 2018. Thus, if prices begin to slip below $40 per barrel, we look for the kingdom to take steps to support the market via additional output cutbacks. This situation creates conditions for a rangebound market; we look for prices to hold within the $40 to $55 per barrel range.

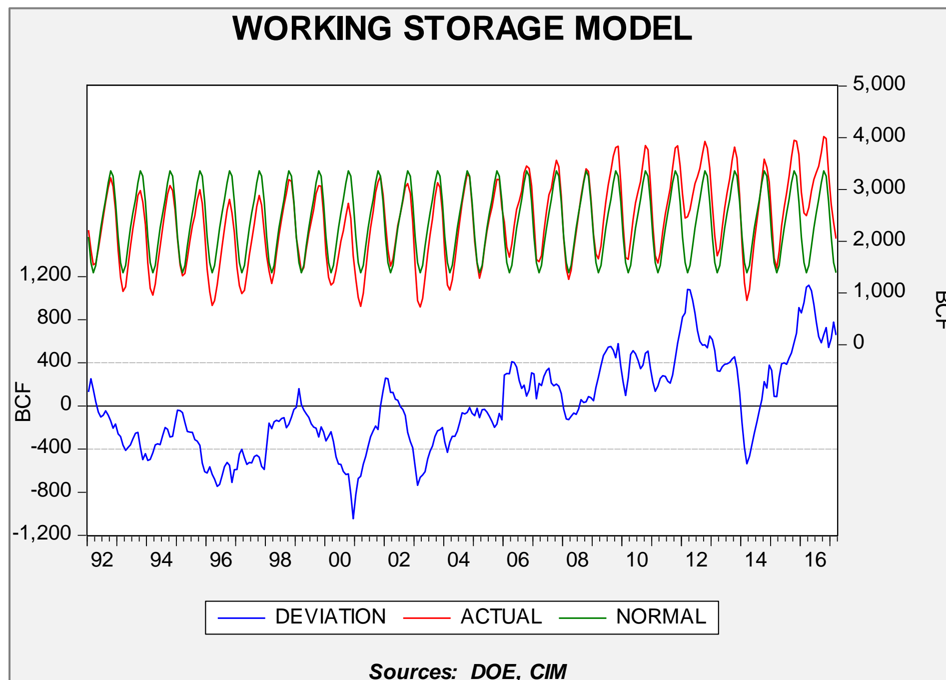
The longer term outlook is mixed. There is a growing possibility that nations will take more aggressive steps to reduce demand through electrification of the transportation sector and tax policy. At the same time, markets are ignoring the potential for a major geopolitical disruption. It's been 27 years since the 1991 Gulf War, when the world faced a supply shock brought by an event in the Middle East. The fact that the Trump administration is contemplating a major reduction in the SPR is strong evidence that fears of disruption have disappeared. It is clear that the U.S. is partially protected due to rising U.S. production; on the other hand, if a major event occurs to drive up oil prices, the value of the SPR would rise significantly. Although the potential for supply increases to exceed demand is rising, there is a high degree of complacency about supply security that is probably unwarranted.

Natural Gas

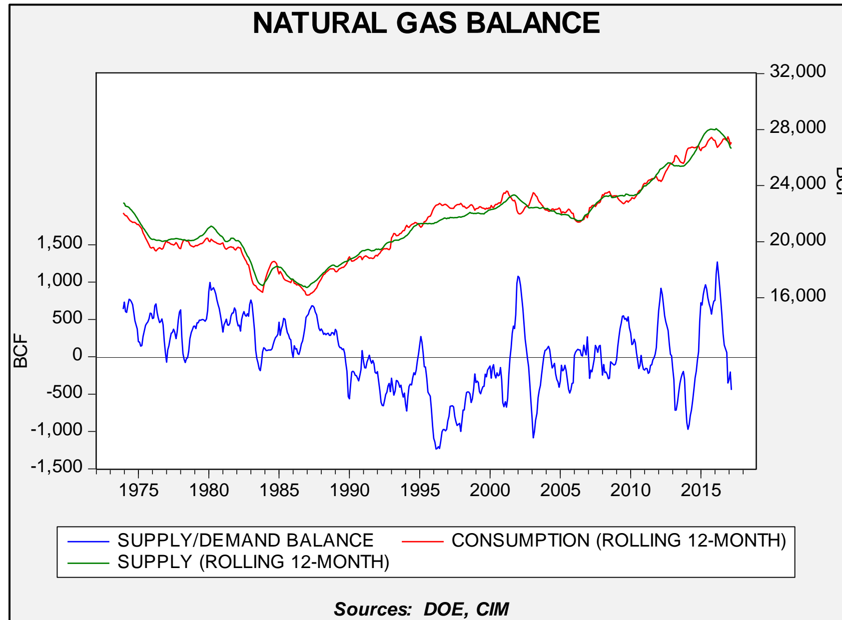
After falling to nearly $2.500 per MMBTU in late February, prices rebounded to $3.400 per MMBTU. They have subsequently settled into a tight range between $2.850 per MMBTU to $3.1000 per MMBTU.

(Source: Barchart.com)

This 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 elevated.



However, there is hope that the inventory situation may improve in the coming months. Supply has begun to decline relative to demand and the inventory overhang should begin to narrow if this condition persists.



As long as this inventory overhang remains in place, natural gas prices will struggle to exit the current trading range. The key for natural gas prices as we move into H2 is whether falling supply will be enough to reduce stockpiles. If inventories don't contract by Labor Day, prices will likely face renewed pressure.

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