Confluence INVESTMENT MANAGEMENT

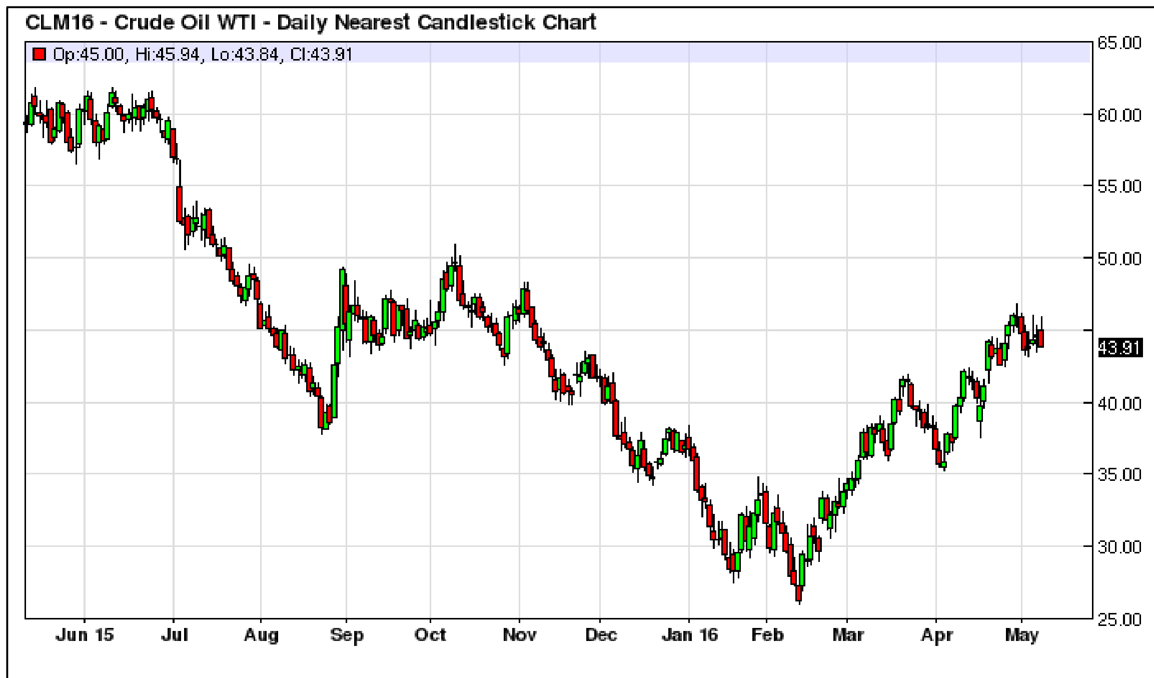
Quarterly Energy Comment

By Bill O'Grady

May 10, 2016

The Market

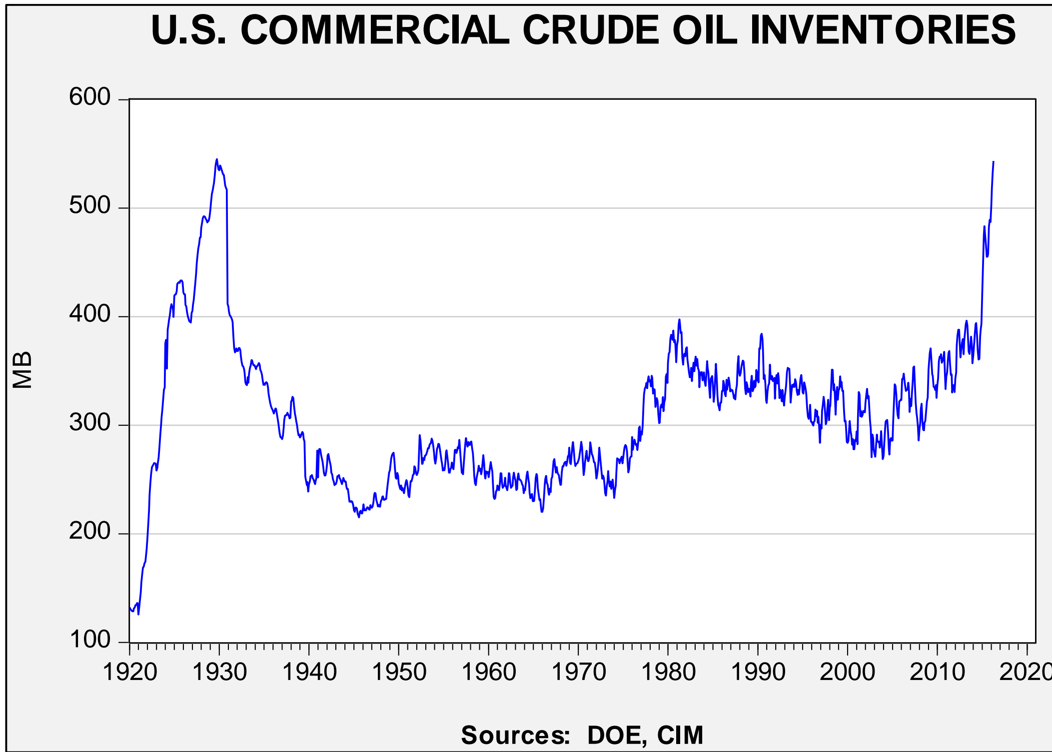
Oil prices have rallied since mid-February and are now back into the price range established last autumn.



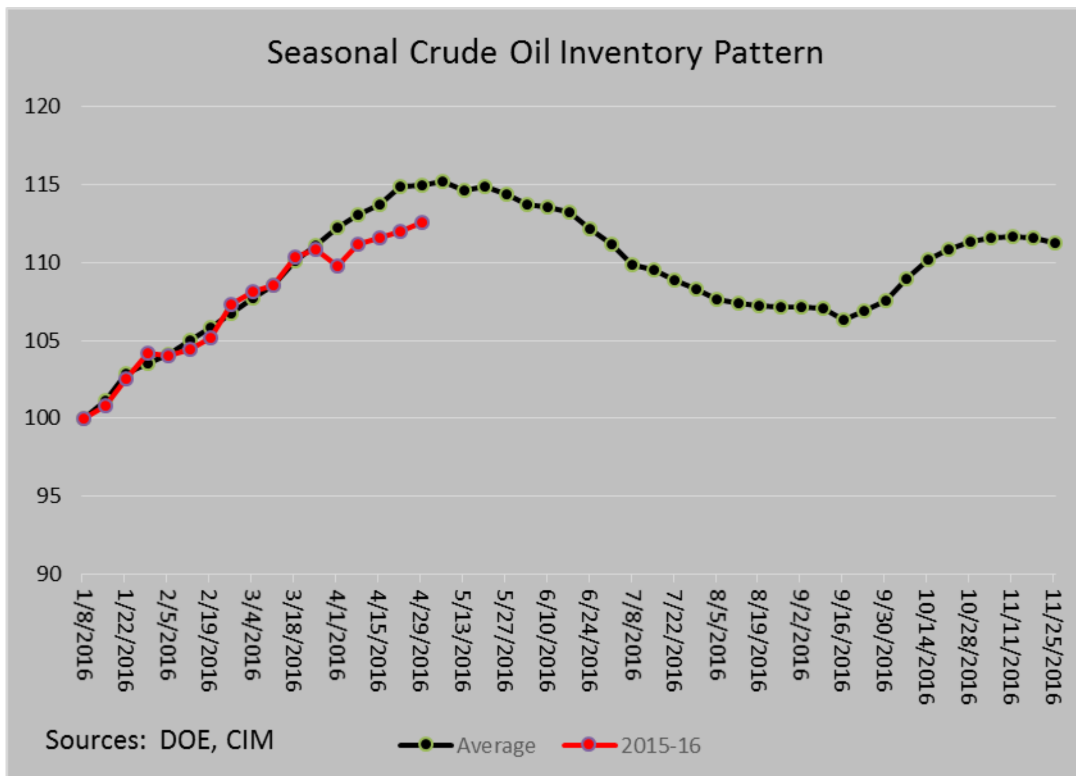
(Source: Barchart.com)

Oil Prices and Inventories

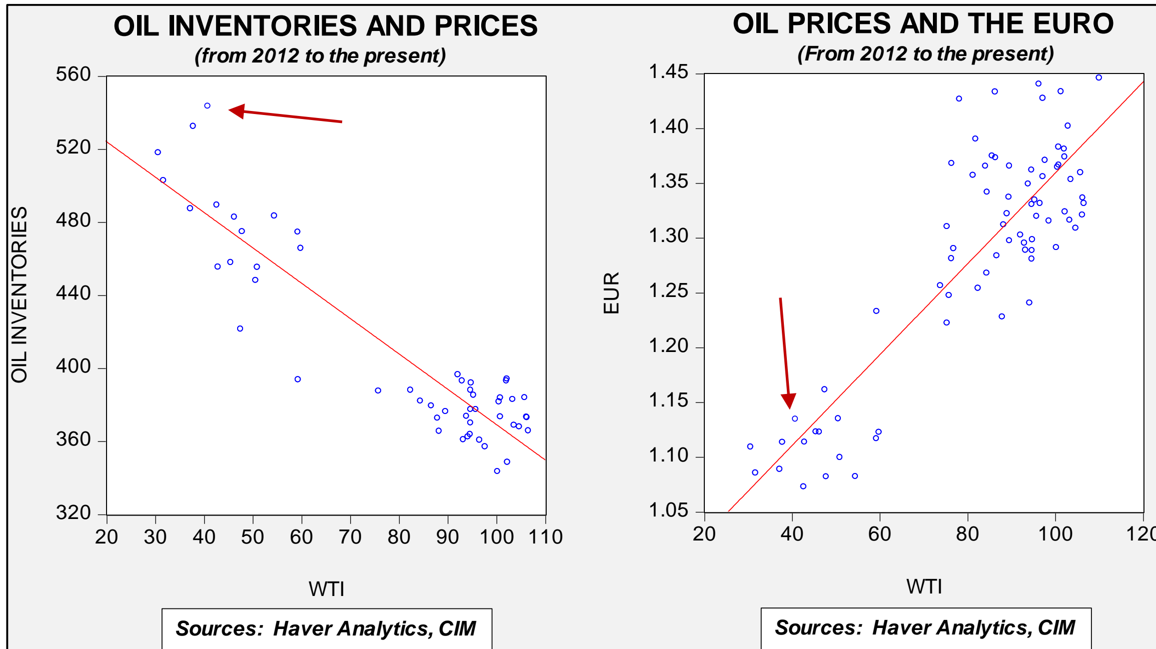
Inventory levels remain elevated but should begin their seasonal decline later this month. In fact, working commercial storage hit an all-time high in April, exceeding the levels reached during the Great Depression. Although there were concerns that prices could plummet once the Department of Energy's (DOE) estimate of working storage was exceeded, at 502 mb, it has become clear that there was ample storage available. Thus, worries about a decline into the low $20s per barrel did not occur.



Crude oil inventories have fallen below their normal pace due to falling imports. Assuming the pattern holds, we should see stockpiles around 500 mb by late September.



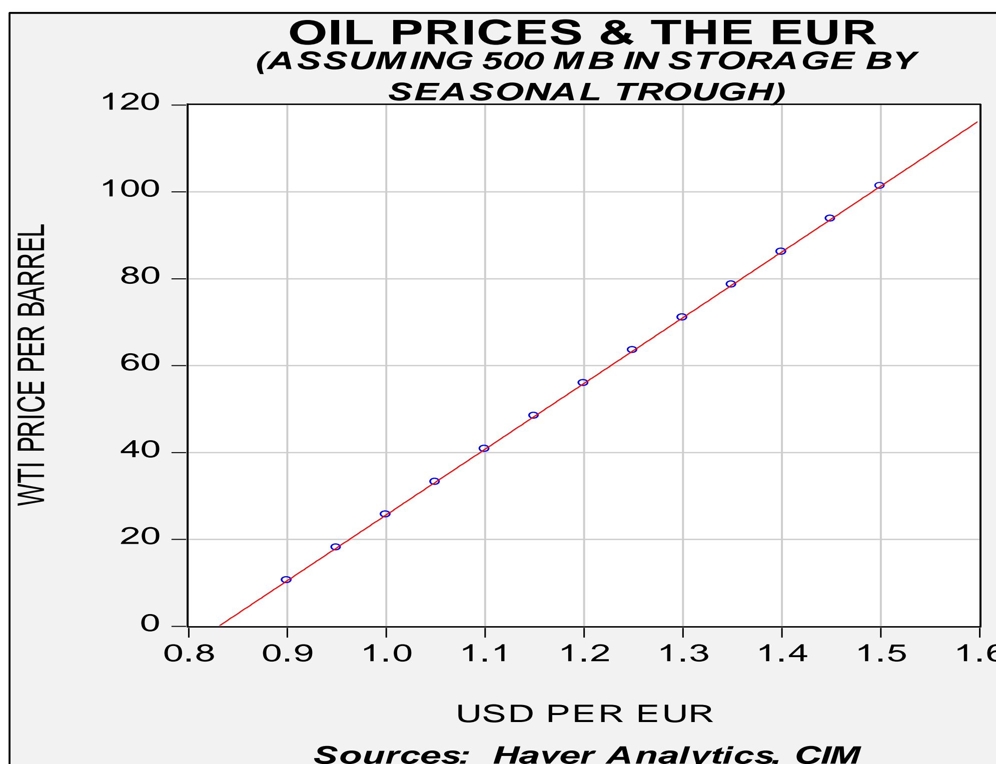
Oil Prices
Since 2012, oil prices have closely tracked the dollar and U.S. commercial crude oil inventories. In fact, they are tracking closely enough to be nearly collinear.



Since mid-2012, the correlation between U.S. commercial crude oil inventories and oil prices is -88%. Between oil prices and the EUR, the correlation is 95%. The single equation models yield significantly different results. The fair value of WTI compared to current oil inventories is $21.75 per barrel. Note on the above scatterplot that the current ordered pair between oil prices and inventories is well above the fitted regression line, shown by the red arrow. The current average price for April, around $40 per barrel, is consistent with oil stocks around 490 mb. Meanwhile, compared to the EUR, the price of oil is below the fair value of $52.91 per barrel.

Historically, as we discussed last quarter, inventories and the dollar's impact on oil prices vary. However, for now, the relationship is reasonably consistent. At present, we can say that the dollar seems to be more important than inventories, but it is also plausible that the markets are projecting the seasonal decline in inventories and this anticipation is boosting oil prices.

The chart below assumes that oil inventories will reach 500 mb by the seasonal trough in September. As the chart shows, the EUR/USD exchange rate will be a key component for oil prices as we move through the summer.



As seen here, a weaker dollar plays a major role in oil prices. Because oil is priced in dollars, a weaker dollar cuts the price to non-dollar consumers, making oil more attractive.

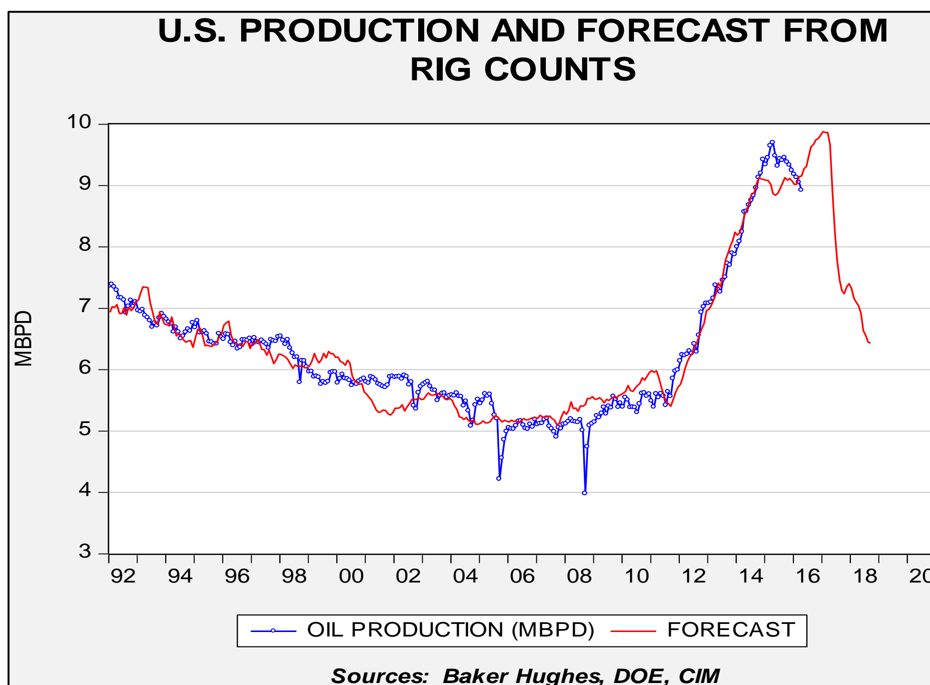
So, the short-run outlook (three to six months) for oil is mostly going to be driven by oil inventories and the dollar. The seasonal decline in inventories is reasonably certain. Thus, the dollar will likely play a key role in determining oil prices. A stronger dollar has put downward pressure on the U.S. economy, and the dollar's strength was mostly due to expectations that the Fed was prepared to tighten when other major central banks were still easing credit. As the FOMC has backed away from raising rates, the dollar has weakened, lifting oil and other commodity prices.

Although we cannot prove this assertion, it appears to us that Chair Yellen may be using the dollar for policy signals. We are assuming that the FOMC won't consider raising rates until the EUR/USD reaches $1.200. If that's the case, oil prices (assuming a 500 mb inventory trough) should reach between $55 and $60 per barrel by the end of the summer. Obviously, this forecast rests on two assumptions—first, that oil inventories will continue to move roughly with seasonal patterns, and second, that the Fed will engineer a weaker dollar.

Slowing U.S. Production

For the past several months, we have been updating our expectations toward oil production based upon oil rigs in operation and the number of workers employed in the

industry. It should be noted that both variables work with significant lags. The following chart shows our most updated version.



This simple model suggests that production growth will remain high into 2017. Will this model get it perfectly right? 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. Tighter financing could have a similar impact, although recent reports suggest that financing remains available. However, this model makes the case that a major drop in output may simply take time, but production levels would be expected to decline sharply in the second half of 2017.

OPEC

There have been two major news items recently regarding OPEC. First, Saudi Arabia refused to cooperate with OPEC members looking for an agreement to freeze production. Although long-time Saudi Oil Minister Ali al-Naimi appeared ready to sign off on the agreement, Saudi Deputy Crown Prince (DCP) Salman instructed the Saudi representatives not to agree to any freeze without a similar promise from Iran. According to reports, participants at the meeting in Doha said that al-Naimi had been overruled. The second major news item came on May 7, when King Salman sacked al-Naimi, replacing him with Ali al-Falih, the chairman of Saudi Aramco. We believe the DCP is putting his own stamp on the Saudi government and thus the firing of al-Naimi was part of this effort. At the same time, it appears that one of Saudi Arabia's oil policy goals is to weaken the Russian and Iranian economies. Iran is a traditional rival in the region due to its sectarian (Shiite v. Sunni) differences. Russia is a major supporter of Syrian President Assad, whom the Saudis would like to see ousted. Thus, it appears the DCP intends to keep production elevated to undermine the economies of his rivals. However, we doubt

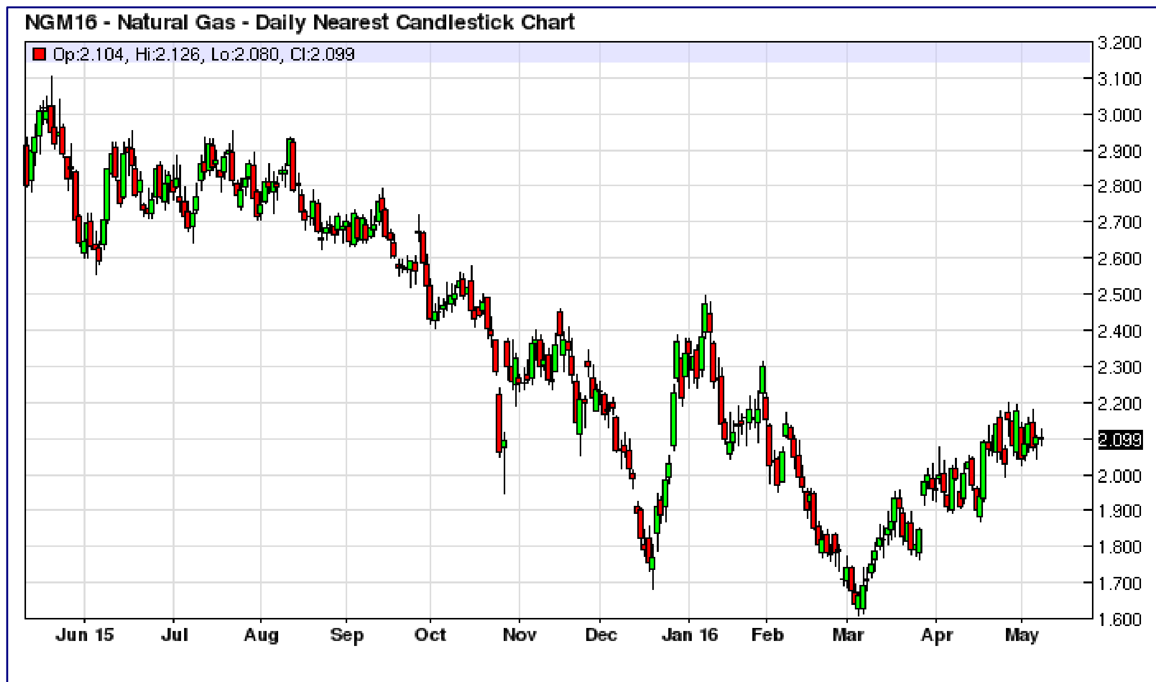
the kingdom can significantly add to current oil supplies and so the recent news is only mildly bearish for prices. If U.S. production falls as expected, oil prices will rise and U.S. commercial crude inventories will decline in the coming months.

Oil Summary

As noted above, if the dollar continues to weaken as U.S. monetary policy remains on hold, oil prices should benefit. At current exchange rates, the WTI price at the time of this writing ($43.35) implies oil inventories of 521 mb, about 22 mb below current values. Assuming normal seasonal declines in stockpiles, the current price indicates inventory levels usually seen around July 4. Thus, a period of consolidation in the very short term would not be a surprise, but higher prices into the summer are likely. As noted above, if our exchange rate assumptions prove true, oil prices have the potential to move toward the mid to high $50s per barrel.

Natural Gas

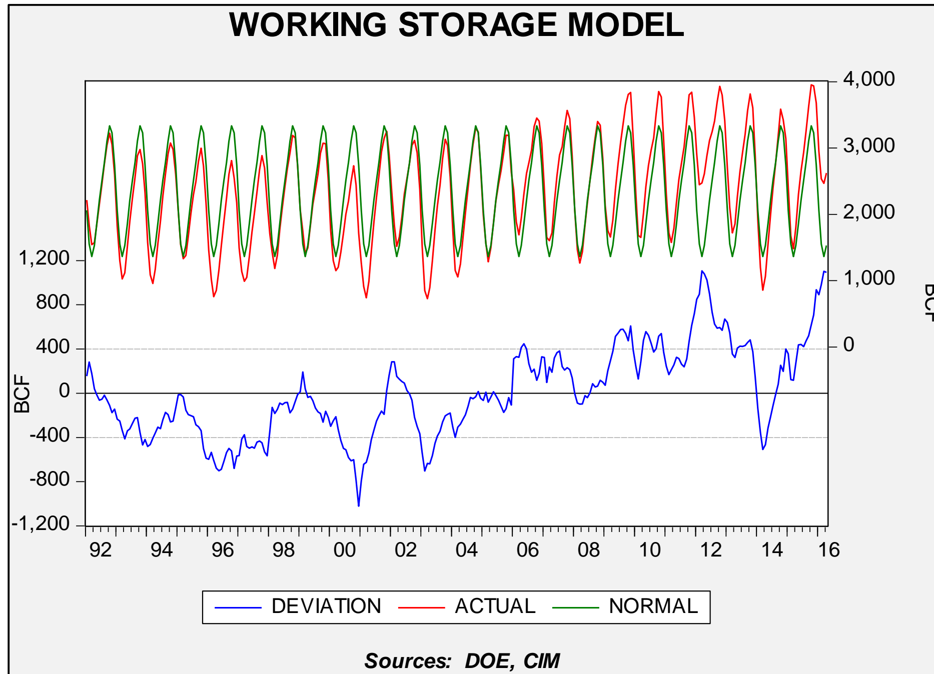
Natural gas prices had a difficult winter but have rebounded since making their lows in March.



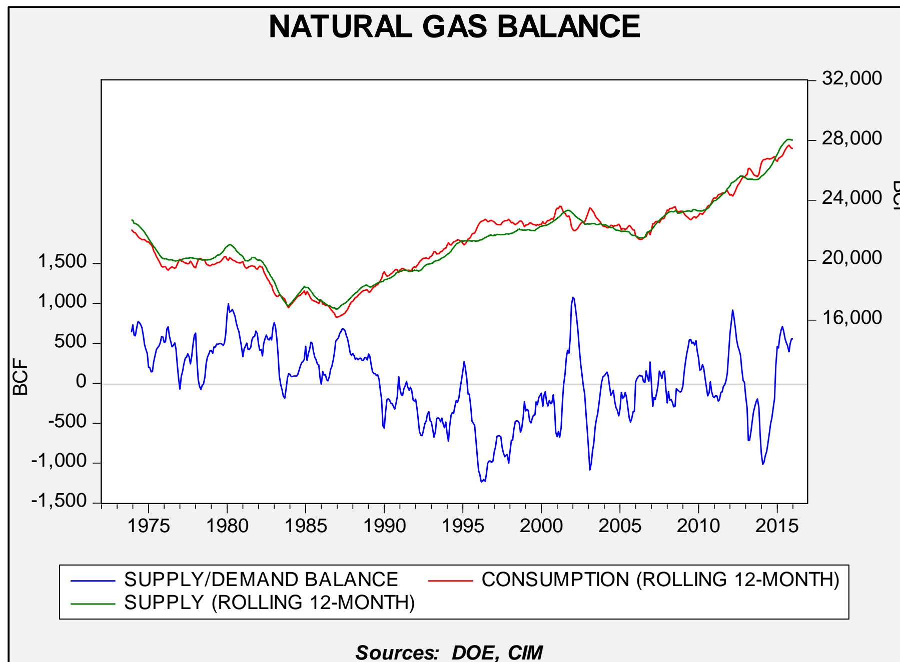
(Source: Barchart.com)

Inventory levels remain very elevated. It should be noted that weak prices were mostly due to a mild winter.

The chart below shows seasonally adjusted working natural gas storage. This is the highest level of natural gas inventories since 2012.

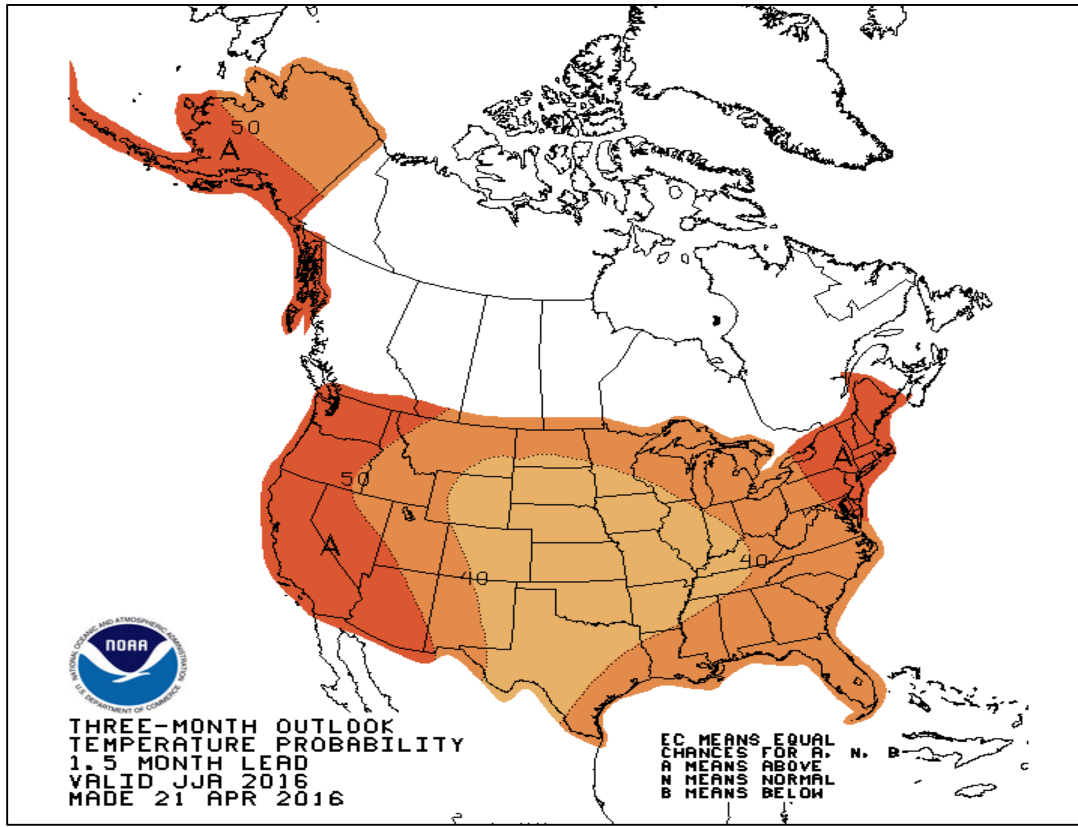


In 2012, inventory levels fell, in part, due to hot weather. July 2012 was the second hottest month on record.[1] Hot weather boosted demand, while supply growth also flattened, as the chart below shows.



As we noted last month, we are expecting a hot summer.

[1] NOAA, population-weighted degree days, data from 1931 to 2016.



It should be noted that mild winters are sometimes followed by hot summers. The National Weather Service's official forecast for this summer calls for hot weather. If this forecast is accurate, it will likely reduce the inventory overhang. Thus, natural gas may be an attractive purchase at these levels.

Bill O'Grady
Chief Market Strategist
Confluence Investment Management

This report was prepared by Bill O'Grady of Confluence Investment Management LLC and reflects the current opinion of the author. It is based upon sources and data believed to be accurate and reliable. Opinions and forward looking statements expressed are subject to change without notice. This information does not constitute a solicitation or an offer to buy or sell any security.