Buttonwood Merchants

# Crude Oil: Turning off the High Yield Debt Spiggot to Curtail Production

*Matthew J Piselli, CIO Buttonwood Merchants*

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**Key Points:**

- On November 27, 2014 OPEC decided to not cut production to balance a clearly oversupplied market, this was a decision to enter into a calculated game of economic chicken with the shale producers of North America as market forces balance the supply glut.
- The main raw material utilized to produce oil from North American shale formations is high yield debt. While the increase in investment in the sector has buoyed North American production to record levels not seen since 1985, it is a decrease in investment and capitalization levels that will ultimately cause the production declines required to balance the global market.
- Barring a curtailment in oil production due to geopolitical issues, it's quite improbable to see a significant increase in oil prices in the next year as the economic process by which output is curtailed is not swift.

The proliferation of hydraulic fracturing (fracking) as a method for oil extraction in North America over the last decade has altered global oil economics by decreasing the world's reliance on the 9 country oil producing cartel, OPEC. This shift in the market dynamic was epitomized by the November 2014 OPEC decision to not cut production despite an obvious supply glut that had forced the price of oil lower. The cartel, led by Saudi Arabia, realized that lost market share resulting from a decrease in production[1] would be more detrimental than the lower revenues, from lower oil prices, garnered by its members. Ultimately, this was a decision to enter into a calculated game of economic chicken with the shale producers of North America as market forces balance the supply glut. The initial market reaction to OPEC's November 27, 2014 meeting was a sharp decline in prices; however, the perverse initial reaction from producing entities (both corporate and sovereign) has been to increase output for two reasons. First, when faced with declining revenues from lower product prices the proper microeconomic response is increase output to make up for as much of the revenue gap as possible. The second reason why places such as North Dakota continue setting production records is that investor demand for both physical oil as well as debt and equity assets linked to oil production has kept producers well-funded and able to continue producing. This has left us in a quandary. Market forces are required to diminish the supply glut, however, these forces are multifaceted and the process of balancing the market will depend on both the economics of North American shale production and how those economics are perceived by the investors.

[1] In the early 1980s Saudi Arabia cut oil production from a high of 9.9MBpD down to 3.4 in 1985 to balance the market and rectify an oversupplied situation. Ultimately, this ended up being an economically disastrous policy as prices remained low for year and it took them two decades to reclaim the lost market share. They seem intent on not making this mistake again.

The main raw material utilized to produce oil from North American shale formations is high yield debt. One result of US Federal Reserve's recent easing policy has been a reach for yield in which investors have had to go further out on the curve both in duration and credit risk. Non-conventional oil producers satiated investors' appetite for high credit risk by issuing stunning amounts of debt over the last 5 years. Figure 1 shows the amount of High Yield Debt issued by Exploration and Production (E&P) companies that are domiciled in either the US or Canada. This chart also shows how this investment has driven the increase in oil production in those two countries.

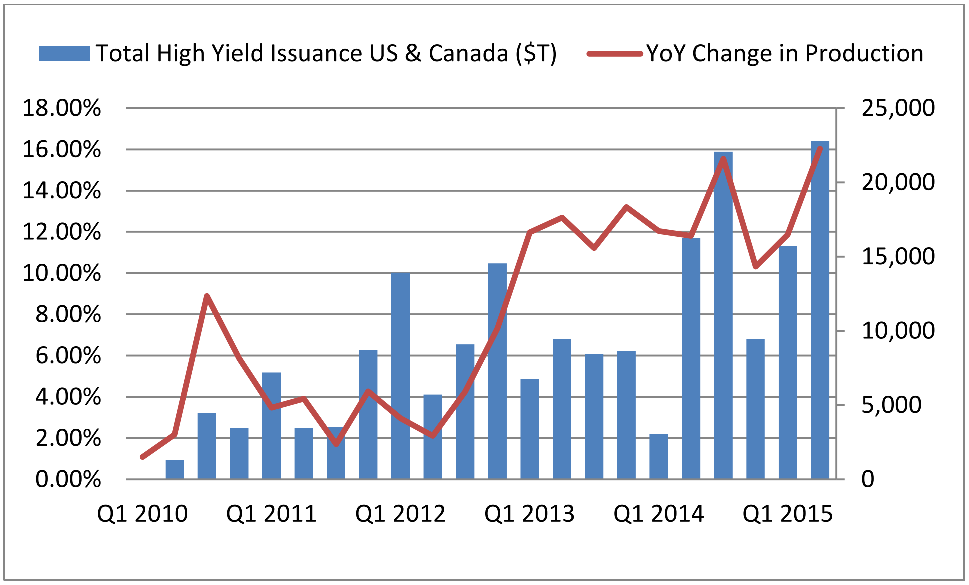

**Figure 1 – E&P High Yield Debt Issuance and YoY North American Production Change (Bloomberg and EIA)**

While the increase in investment in the sector has buoyed North American production to record levels not seen since 1985, it is a decrease in investment and capitalization levels that will ultimately cause the production declines required to balance the global market. The lows in oil price made in January failed to accomplish this as hedge funds and private equity shops actually raised capital for the sole purposed of buying distressed assets. However, the effect of the large investor appetite for distressed E&P assets meant that the high yield debt of North American firms never traded to distressed levels. To date there have only been seven[2] bankruptcies in the sector despite at 61% decrease in price over the past year. Perhaps most important to note in Figure 1 is the highest debt issuance on record for these companies in the second quarter of 2015 in which firms shored up their balance sheets by pushing out debt maturities and obtaining cash buffers from the marketplace. However, the most recent drop in prices over the past 2 months has begun to impair balance sheets of producers to a degree that could begin to slow the flow of funds into the space. Upon analysis of Canadian and American

[2] Milagro, Sabine, Quicksilver, Saratoga Resources, BPZ Resources, Dune Energy and American Eagle Energy Corp

oil production firms, we find that the amount of production in financial distress will be 2.773 MBpD in the 3rd quarter and 3.659 MBpD in the 4th quarter[3].

A decrease in production from North American E&P companies is a two-step process: first balance sheets are depleted to levels where operating capital becomes impaired, and then those firms have to curtail operation because they lack access to capital for operating purposes. The former was covered above and the later can be achieved through forces that are both exogenous and endogenous to the oil market. One exogenous factor would be a FED policy rate hike that would slowly begin to pull investors toward newly non-zero yielding treasury debt and away from high yield debt. Another major exogenous factor that will curtail investor interest in funding E&P debt will be a shift in sentiment with the realization that some of these producers are simply not solvent. This of course is a question of cause and effect as the market's aggregate belief in solvency is self-fulfilling. A sentiment shift will be driven by economic pain incurred by investors; their pain is approximately equivalent to an integral calculated by the duration of and distance under which oil prices remain below $60/barrel. A graphical illustration of this relationship is shown in Figure 2.

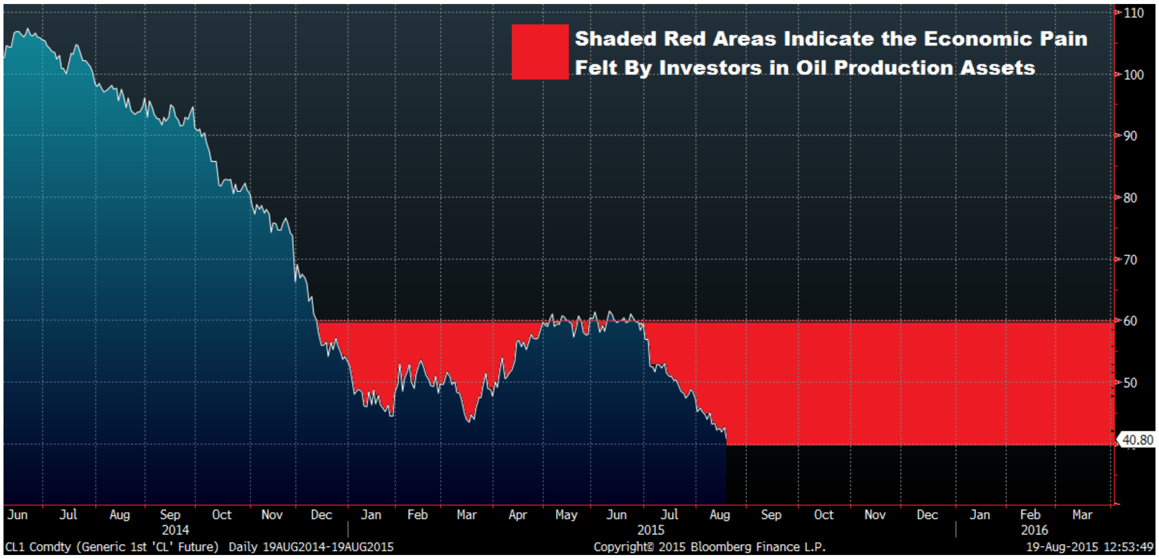

**Figure 2 – Illustration of Economic Pain Felt by Investor in Oil Assets (Bloomberg)**

As it is ultimately a lack of funding that will result in production decline, we can approximate when this will hit its tipping point by understanding when debt refinancing will occur. Figure 3 shows a schedule of debt refinancing in the sector. Due to the fact that it is quite light until the end of 2016, we anticipate that this will occur when balance sheets are depleted to the point that operation is no longer feasible for about 10%[4] of North American production assets at a time when these operators are not able to access lines of capital. The later part of this becomes the most contingent as it will depend on the sentiment of investors in the space as well as a shift in

[3] We define financial distress as a firm having a projected EBITDA that will deplete its stated Current Assets.

[4] The global oil market is oversupplied by about 1.5 MBpD. Assuming that North America will have to balance the market and production in the US and Canada amounts to 14 MBpD, about 10% of production will need to be curtailed.

exogenous factors in the marketplace.  As such it will likely take 3-5 quarters of economic pain before we see real curtailment in production.  Thus, it appears as though this proverbial game of chicken between the Saudi and North American E&P companies is one being played with steamrollers, rather than Lamborghinis.

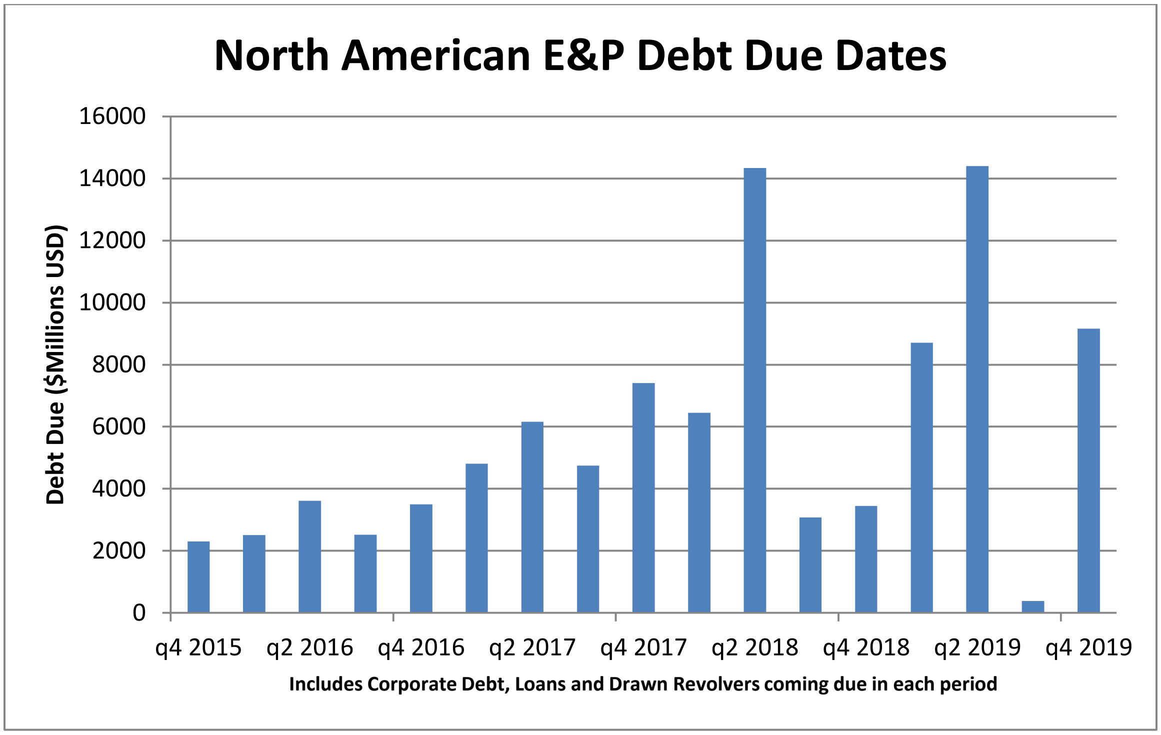

**Figure 3 – Debt Refinancing in the North American E&P Sector (Bloomberg)**

## The Long View

Barring a curtailment in oil production due to geopolitical issues, it's quite improbable to see a significant increase in oil prices[5] in the next year or so.  With that being said nearly all investment decisions by large producers (both corporate and sovereign) are effectively frozen as no one is able to sanction large projects.  Since these projects take approximately 3 years to reach production stage, a supply gap could emerge in 2018 and beyond.  This point becomes especially poignant when we consider the fact that Russian, Saudi Arabian and US Productions are all at record levels.  Therefore, the seeds for the next boom in oil prices (and assets) will likely be sown by the market's financial malaise over the next few quarters.

[5] We definite "significant" as a prolonged move over $60/Barrel in the price of WTI.

Contact: Info@ButtonwoodMerchants.com
(203) 376-5951

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