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The Fundamental Problem with Oil Prices

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It has been a tumultuous month when it comes to oil and fuel markets. As of the writing of my Oil and Fuel column in the May issue of Logistics Management, which was submitted on the 15th of April, WTI (the crude stream traded on the NYMEX) was at $109.66 per barrel, up 19.8% from $91.55 where it sat at the beginning of the year. Meanwhile, the spot price for Brent Blend, the benchmark crude stream traded on the European Intercontinental Exchange (ICE), had climbed 30.1% from $95.82 on January 3, to $124.63 by the 15th of April. My warning in the May article was that refiners' costs were better reflected in the price for Brent, and that supply chain and logistics professionals following the WTI price were going to get caught short as the refiner average acquisition cost had diverged from a historical average of $2 to $4 per barrel below the WTI spot price to $4 per barrel above the WTI spot price.

Since the writing of the last column, the prices for a barrel of both WTI and Brent Blend have gone on a roller coaster ride. The spot price for Brent climbed as high as $126.64 by the 2nd of May before falling by nearly 12% over the next three days alone. Meanwhile, the front month WTI futures price reached a peak of $113.93 on April 29 before falling by more than 16% to a low of $95.33 by the 12th of May.

Of course volatility is precisely what should be expected when oil markets are tight, as they have been since the onset of the recovery. Despite living up to expectations, however, the recent volatility has led some to conclude that the prices simply don't reflect the underlying fundamentals of supply and demand, but such a conclusion is not supported by sober analysis. The precipitous price decline has led others to postulate that the mini-bubble inspired by the shuttering of Libyan production has been popped, and the price of oil has returned to a fair level. Yet others, like ExxonMobil CEO, Rex Tillerson, are all-too-eager to pass the blame of high fuel prices on to Wall Street and the little-understood high-frequency trading of quantitative hedge funds.

Interpreting Market Fundamentals

To a Senate committee, Mr. Tillerson asserted that oil should be $60 to $70 given the fundamentals of supply and demand. As always, context is important, and Mr. Tillerson was testifying before a group of Senators who are aiming to eliminate the significant oil tax breaks that Mr. Tillerson benefits from. The Senators' basic argument is that the tax breaks made sense when enacted because the price of oil was less than $20 per barrel and the vast majority of new fields were located offshore where production costs exceeded the sale price. The fact that today's oil prices are now earning the oil majors near record profits strongly suggests that the subsidies are no longer needed.

At any rate, Mr. Tillerson's reading of the fundamentals differs from mine. The simple fact is that today's prices reflect the market's best guess as to what future supply and demand will be. When the market interprets economic and oil production signals as indicative that demand will grow faster than supply, the price of oil is bid up. Through this important process, the market signals to oil producers that additional investments in exploration and production are justified. To consumers, rising prices inspire increased efficiency.

Mr. Tillerson's reading of today's fundamentals of supply and demand belie the reality that oil markets will most definitely tighten into the foreseeable future, unless, of course, the world economy falls into another recession and the demand for oil and fuel falls as a consequence.

Mr. Tillerson's argument also plays to the wrongheaded idea that oil futures traders collectively win when the price of oil increases. To be clear, traders earn profits by correctly guessing the direction that aggregate market sentiment will take the price of oil futures. Traders can turn a significant profit by betting that the price will fall just as easily as they can turn a profit by betting that the price will rise, so long as the market moves in the direction that they bet. Futures traders base their bets on their reading of aggregate market sentiment, and aggregate market sentiment represents the collective, though imperfect, interpretation of news which bears on future oil demand and future oil supply.

Most recent news regarding the supply side of the equation indicates a further tightening of oil and fuel supplies. Rather than taking my word for it, I present below a review and brief interpretation of current events on supply coming from the largest oil producing countries.

Russia and Saudi Oil Production and Consumption

Russia and Saudi Arabia are the world's largest oil producers. They are also the world's largest oil exporters, and from the perspective of a net oil importer like the U.S., oil exports matter far more than oil production. On this front, there is a critical difference between Russia and Saudi Arabia. Russia has continued to increase oil exports each and every year. Oil exports from Saudi Arabia, on the other hand, peaked in 2005.

Another important difference is that Russia, like nearly every other oil producing nation, does not claim to have any surplus production capacity. By contrast, Saudi Arabia is one of only four nations to claim that they have the ability to increase production at a moment's notice. Saudi Arabia is, in fact, the only nation to claim significant surplus production capacity (3.15 million barrels per day), thus Saudi Arabia is the world's swing producer.

Of course Saudi claims of surplus production capacity are not backed up by transparent and verifiable information, so market observers like me are left to interpret Saudi Arabia's actions in addition to their words. Along these lines I am discouraged by the Kingdom's actions. At the end of March, Saudi Arabian oil officials met with Halliburton to discuss plans to boost their oil-directed rig count by roughly 30%. The fact that there exists a strong inverse relationship between the amount of surplus production capacity and oil prices leaves the market observer wondering why on earth Saudi Arabia would make such a large investment to increase production capacity if their claims of having more than 3 million barrels per day of surplus production capacity reflect reality.

With Saudi Arabia already claiming production capacity of 12.5 million barrels per day, why would they look to further increase their production cushion? Do they think the price is too high, and look forward to earning less per barrel of exported oil? Obviously, not. Could it be that they are seeing internal demand climbing, and realize that without significant investment, their production cushion would be quickly eroded? Or could it be that their claim of 12.5 million barrels of capacity in place is, in fact, an overstatement?

According to a Saudi oil official interviewed by Reuters, the investment in new drilling rigs "is not to expand capacity. It's to sustain current capacity on new fields and old fields that have been bottled up." (1) This news on its own should be troubling as it infers that the Kingdom is facing significant declines on currently producing fields. Even more troubling is the recent statement by another senior Saudi oil official that the Kingdom "expects oil production to hold steady at an average of 8.7 million barrels per day to 2015." (2) These statements made in regard to Saudi production call into question the Saudi willingness and ability to increase exports, which is tacitly understood to be the responsibility of the world's only pivot producer. Moreover, these statements should come as a warning. If the Kingdom holds production flat, exports will decline by the rate of growth of internal demand, and Saudi domestic consumption has been growing at just under 10% per year.

Turning to Russia, I am equally concerned by the news that "Russia decided on Thursday [April 28] to halt premium petrol exports and switch the flow to the home market to fight shortages and a price rise that is coinciding with growing voter discontent."(3) Interestingly, Vladimir Putin, like Mr. Tillerson, is eager to deny that oil and fuel markets are tight and tightening. Unlike Mr. Tillerson, who defends oil producers and passes the blame onto Wall Street, Mr. Putin relieves political pressure by passing the blame to the oil producers, asserting that, "there is no deficit… this is an issue of collusion." (4)

At any rate, fuel demand in Russia is climbing faster than the rate of supply, and exports are by default put into jeopardy, just as they are in Saudi Arabia and many other oil exporting nations.

Revenue Requirements of Oil Exporting Nations

But Russia is not alone when it comes to enacting export restrictions. Said the Financial Times on May 10, "Beijing has put strong pressure on its state-owned [oil] companies to halt overseas sales of petrol." (5) Then on May 13, the Financial Times reported, "Beijing has suspended exports of diesel fuel indefinitely to help meet domestic energy demand ahead of the peak summer season, prompting concerns about knock-on effects across Asia." (6) In addition to battling inflation, China, like Russia, is facing diesel supply shortages.

China is not alone in an effort to battle inflation in Brazil, leaders there have called on state-owned oil producer, Petrobras, to lower fuel prices by 10 percent. Doing so would of course provide a perverse incentive to Brazilian consumers to increase consumption. Even more importantly, lowering fuel prices would cause further problems for Brazil's unregulated and privately owned ethanol producers who are already suffering from skyrocketing input prices as they compete with food producers for sugarcane. Perhaps this is why Petrobras was also recently ordered to triple its share of the nation's ethanol production, and why there have been calls within the nation to begin regulating the sugar and ethanol industries.

Turning north to Venezuela, we learn from the Wall Street Journal that, "the South American nation is swapping out its old system of royalties and will instead charge a higher levy of 80 percent or 90 percent on revenue above $70 and $100 a barrel, respectively." (7) As investment advisor and energy expert, Jim Hansen, points out, "The taxes will be directed to social programs (read that as buying votes) and not into the poorly performing Venezuelan oil industry. About all this is going to guarantee is continued pressure on declining oil production from Venezuela and continued domestic economic difficulties." (8)

Given that 80 to 90 percent of revenues will be funneled away from Venezuelan oil producers, it will be difficult for Petroleos de Venezuela to continue investing in new production. And the Venezuelan government is not unique in levying what might be called a 'political premium' on top of production costs. According to a study by the Institute of International Finance, a global banker's trade group, the increase in Saudi federal spending in response to the unrest in the Middle East and North Africa has ensured that Saudi Arabia will need to sell its oil at an average of $88 per barrel in 2011 just to break even. (9) Bearing in mind that Saudi oil, which is both heavy and high in sulfur content, sells at a discount to Brent, it is clear that even Saudi Arabia requires the price to be above $60 to $70.

Of course, Mr. Tillerson, like so many other prognosticators, has a vested interest in passing the blame for higher prices to someone, really anyone, other than themselves. But the reality is that we are all complicit in the rising prices.

The Majority View on Likely Oil Price Developments

All that said, if we were to ask oil industry executives to forecast prices for the remainder of the year, we would get a very different take from Mr. Tillerson's. This is, in fact, exactly what KPMG did in their annual energy survey, which in April polled 550 financial executives from global energy companies. In contrast to Mr. Tillerson's claims, the majority of executive see $121-plus oil through the end of the year. To quote Downstream Today, "32 percent think 2011 U.S. crude oil prices will peak between $121 and $130 per barrel. One-third of executives see even higher prices, with 17 percent of those predicting between $131 and $140 per barrel; nine percent between $141 and $150; and six percent expecting crude prices to exceed $151 per barrel before year end." (10) Either these financial executives are basing their analyses on something other than the fundamentals, or Mr. Tillerson interprets the fundamentals differently than many of his peers.

Unfortunately for those of us in logistics, sober analysis suggests that the supply is likely to tighten through 2011 and beyond. As it does so, the prevailing trends in rising prices and rising price volatility will continue... unless, of course, the trend in rising global demand suddenly reverses - an outcome which is highly unlikely given the subsidies that oil exporting nations provide for domestic consumers.

Given these trends in rising prices and price volatility, it might be time to revisit contingency plans and re-evaluate current sourcing and transportation strategies. While the market is tightening and prices are generally rising, the price impacts are not distributed evenly across modes, nor are they distributed evenly across geographical regions or along the major shipping lanes that connect them. With every challenge comes opportunity.

(1). http://www.reuters.com/article/2011/03/29/us-saudi-libya-idUSTRE72S5RT20...
(2). http://www.platts.com/RSSFeedDetailedNews/RSSFeed/Oil/8812036
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