

PDV *OBSERVATIONS*

A Quarterly Newsletter for PDV Clients and Friends

Oil Market Update

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In the Spring 2018 issue of *Observations*, we explained why oil prices should rise further. Oil markets indeed continued rebalancing positively throughout most of 2018, boosting prices substantially for West Texas Intermediate (WTI) and Brent crude oil. By early October, the market was worrying about \$100+ oil and what that would do to inflation and possible demand destruction (i.e. oil demand dropping because of elevated prices).

But investor sentiment took a 180-degree turn over the past 2 months, pummeling oil prices to the point that the market is now worried about sub-\$40 oil. What happened and can we expect another crushing downcycle for oil after climbing out of the last one over the past 2 years?

To answer these questions, it is necessary first to explain some basics on the oil markets. Global oil prices react to whether *physical* oil markets are “tight” around the world. We use the phrase “physical oil markets” to describe a) the amount of oil in global storage, and b) ongoing changes to that storage. In a perfect world, oil prices should accurately reflect the state of the physical oil markets. However, in practice oil prices are disproportionately affected in the short run by what is happening in the *financial (a.k.a. paper)* oil futures market, where hedge funds and speculators trade derivatives linked to oil. This trading often causes oil prices to deviate (sometimes substantially) from what should be appropriate levels based on the state of the physical oil markets. We believe now is one of those periods of substantial deviation.

Thanks for your referrals!

As we conclude our twenty-fourth year of publishing *Observations*, we would like to take this opportunity to express our gratitude and appreciation to all our clients and friends for their client referrals over the past year. We always welcome the opportunity to be of service to relatives, friends, and acquaintances of our clients. As many of you know, we do not market our services to people with whom we are not acquainted. Our business has grown over the past twenty-four years primarily due to satisfied clients adding business and through their referrals. We hope you'll think of us if you come across someone who would benefit from our services. Thanks again!

Whether the physical oil markets are “tight” depends on two factors, which are often confused by the media and even by some oil experts as being the same factor. This stems from careless or imprecise use of the word “supply,” treating supply from **new production** and that from **existing storage** interchangeably.

The first factor is how much oil exists in storage around the world at any one point in time. This can be separated into oil that is in the ground (both discovered and undiscovered) versus oil that has already been extracted and is stored in one or more of the following locations: offshore floating tankers, onshore above-ground tanks, and onshore underground salt caverns. The market pays a lot

Inside This Issue:

- Oil Market Update p.1

more attention to the amount of extracted oil that sits in storage around the world, giving much less emphasis to discovered or undiscovered oil that has not been extracted.

The market estimates all oil that exists in storage of whatever kind around the world and compares the amount to some multi-year average, with 5-year and 10-year trailing averages being particularly common and popular. This comparison may be further adjusted for demand growth over time. If oil currently in storage around the world is below the multi-year averages, the market will deem the physical oil markets tight. An amount that is roughly in line with multi-year averages would be seen as balanced, while a number larger than those averages would be seen as “loose” or (when extreme) a glut.

The second factor to evaluate is the future *direction* of the physical oil markets. For example, a tight market can get tighter or looser going forward, just as a loose market can get even looser or become tighter. If new supply from production is higher than demand, storage will build. In contrast, storage or inventory will draw if demand exceeds supply.

An analogy helps illustrate these two factors. Think of total oil storage around the world as the sum of oil in separate containers in different countries. New production or supply will raise the amount of oil in those containers, while demand for oil will drain it. Whether the amount of oil stored in a particular container (country) will increase or decrease depends on whether more oil is being poured into the container than taken out via demand. Supply comes from new production or imports from other countries. Demand arises from domestic consumption or exports to other countries. And since supply and demand are not linear over time, the amount of oil in the container will ebb and flow.

Determining global storage levels is tricky. Accuracy, timeliness and transparency of inventory data differ greatly around the world. In this regard, U.S. ranks highest, followed by countries belonging to the Organization for Economic Co-operation and Development (OECD), then OPEC, and lastly Russia.

This difference in data quality can send false signals. For example, let’s say U.S. storage is building because it is importing oil from Saudi Arabia (SA). It is much easier to see the more transparent U.S. storage numbers go up, suggesting perhaps a glut. But if the oil imports are coming from less transparent SA storage rather than SA new production, oil is just being moved out of SA storage and into U.S. storage. In this example, the global oil inventory remains unchanged.

First half of 2018

U.S. storage was drawing strongly in the first half of 2018, following very robust draws throughout 2017. Since U.S. oil storage is the most watched and visible in the world, the draws sent out signals of a tight physical oil market and pushed WTI and Brent crude to roughly \$75 and \$85 a barrel, respectively by early October, with widespread prediction that Brent was going to top \$100 a barrel before year end.

But back in May, Trump had already planted the seeds to contain the eventual oil price spike. Trump pressured OPEC to increase production in anticipation of Iranian sanctions taking barrels off the market in November. Trump did not want sky-high gas prices going into midterm elections. SA was happy to oblige to stabilize oil prices and to see its arch nemesis Iran sanctioned. SA hiked exports to U.S. substantially, which by some estimates increased U.S. storage by some 40-45 million barrels, turning a slightly tight U.S. oil market loose by early October.

Early October 2018

In early October, U.S. and OECD inventories were slightly loose (primarily because of SA dumping oil into U.S. storage to appease Trump), but non-OECD inventories were tight. In fact, SA inventory (at a self-reported 219 million barrels) was at multi-year lows. Further, it appeared likely that at least part of the

SA higher exports to U.S. were from storage rather than new production (i.e. simply moving stored SA oil into U.S storage, with no real additional global supply).

Despite the increased oil production from OPEC and Russia and without the full effect of Iranian sanctions yet, the global oil market nevertheless appeared roughly in balance at the beginning of October, rather than the oversupplied market portrayed by the mass media and those who wanted lower oil prices.

It was true that the *direction* of the physical oil market was getting looser because OPEC and Russia signaled their plans to maintain increased production to deal with impending Iranian sanctions going into November. But that fact did not justify the shocking collapse of oil prices in the past 10 weeks. So what caused the collapse?

Trump shock

The market absorbed the increased supply from OPEC and Russia without too much oil price disruption because it expected Iranian production to fall off a cliff by end of 2018. But at the last minute Trump shocked the world by granting limited and temporary sanction waivers, allowing 8 countries to continue buying limited amounts of Iranian oil for a few months. In hindsight, SA was hoodwinked by Trump and oversupplied the market at the front end since the offsetting reduction in Iranian production was not as material as expected due to waivers. Once the sanction waivers were announced, oil prices sold off massively and swiftly.

A confluence of several other bearish factors hit oil prices at roughly the same time. First, the trade wars (especially with China) worsened the situation significantly. As the trade wars slowed China's economy, the market began to fret about demand destruction from one of the largest buyers of oil in the world. Further, the market reacted negatively to China temporarily stopping to buy U.S. oil in retaliation for U.S. tariffs. The trade wars also began creating fear of global recession and reduced demand for oil.

Second, the speculators in the financial (*paper*) oil futures market were caught leaning the wrong way. These speculators had to unwind trades because of margin calls during the oil price collapse, as they were forced to sell oil futures en masse. This panic selling pushed oil prices further down. Away from the casino and back in the real world, many oil producers that had hedged their production between \$50-60 per barrel saw their hedges kick in, meaning the banks who sold them those derivatives started losing money while the producers gained. The banks then had to sell more oil futures to hedge their own downside, contributing to a downward spiral by setting off even more selling by momentum-based hedge funds, exchange-traded funds (ETFs) and computer algorithm-based traders.

Third, it was reported around the same time that U.S. shale production had spiked beyond expectations in August, leading the market to extrapolate much higher U.S. production growth for the rest of 2018 and into 2019. It remains to be seen whether this extrapolation will turn out to be correct in hindsight.

Despite this tsunami of bearish developments for the oil market, we think oil prices will recover in the coming months for the following reasons.

Iran production cut. Trump's shocking Iranian sanction waivers were limited both in duration and magnitude. 3 of the 8 countries getting sanction waivers have to reach zero imports by end of 2018. The other 5 countries are still required to achieve "significant reduction" of imports by early May 2019 when the 180-day waiver expires, unless extended. So, while fewer Iranian barrels will be taken off the market and later than expected, recent data suggest that a substantial amount of Iranian oil is being curtailed, with more to follow by end of this year and into first quarter of 2019. As of November 16, 2018, the Wall Street Journal reported that the White House projected by April 2019 at least a 900,000 barrels per day (b/d) export cut (even after taking into account the sanction waivers).

R-OPEC 2.0 cuts. Trump has incessantly tweeted against oil prices for months. But everything has a tradeoff. Lower oil prices temper inflation, mute likelihood of rate hikes and put more money in consumers' pockets. But lower oil prices hurt the energy sector, a primary engine of employment and economic growth.

SA needs Brent to be around \$85 a barrel to balance its budget and fund its social programs, so it has every incentive to boost oil prices from here. In response to the swift oil price decline over the past 10 weeks, Russia and OPEC have agreed to cut oil production to stabilize the oil market and maintain a healthy equilibrium. The cut covers 1.2 million b/d (800,000 b/d from OPEC, 228,000 b/d from Russia, and the rest from other non-OPEC producers) from their October production levels. The deal is to be revisited in April 2019.

SA oil exports reversal. Even before the announcement of R-OPEC 2.0 production cuts, SA had aggressively reversed the front-loading of oil exports to U.S. Again, since U.S. storage is one of the most watched and visible data points, SA reducing exports to U.S. should help drain U.S. inventory and boost bullish sentiment.

Understated demand. As of December 2018, the International Energy Agency (IEA)'s forecast of global oil demand growth is 1.3 million b/d for 2018, which is slightly lower than the level forecasted earlier in the year (i.e. 1.5 million b/d as of May 2018) to reflect weaker economic outlook, and 1.4 million b/d for 2019. However, it is important to note that the IEA has repeatedly underestimated the annual global oil demand growth in 9 of the past 10 years! Well respected research firm Goehring & Rozenwajg thinks that the underestimation could be as large as 500,000 b/d for 2018, mostly because of missing barrels adjustment which typically in hindsight turns out to be underestimated demand that gets adjusted up after the fact.

Further, China has recently resumed buying U.S. oil and may greatly increase its purchases should progress be made on its trade war with the U.S.

Overstated non-OPEC growth. While U.S. production growth for 2018 is currently on pace for 1.5 million b/d on average, this could taper off in the coming months as logistical constraints in the Permian, scarce financing, and the vicious price drop limit new supply. Disappointing production from Brazil and the North Sea, Canada's recent production cut and lower year-over-year supply from non-OPEC/non-U.S. conventional projects (due to massive underinvestment in recent years) should all work towards restraining supply growth in 2019.

Minimal spare capacity. Global spare capacity is the ability to increase global production within a short time and sustain the supply over several months. Think of it as a cushion to address unexpected oil shortages or production outages. Such spare capacity is at multi-year lows relative to the level of oil demand. This will become more important as Venezuela continues to implode and cut its production.

In the span of only 10 weeks, the oil markets have been turned upside down. In the short run, it is difficult to distinguish between false narratives and reality. Contrary to widespread and bearish narrative, the global physical oil markets are collectively slightly tight and getting tighter; they are not in a glut. Those markets did loosen in the past 6 months because OPEC and Russia increased supply in anticipation of Iranian production cuts that have turned out to be less severe than expected because of Trump's Iran sanction waivers. Some price decline was justified, but much of it was not. With the turn of a new year, the recent confluence of negative events hitting the oil markets is unlikely to be repeated. Barring a global recession, we expect higher oil prices in the coming year.