

## Macro Observations

In April, positive momentum in the oil price continued to be driven by the anticipation of inventory drainage. The reality proved worse than anticipated, however, with OECD inventory growing slightly more than seasonal average (to be confirmed once all the data comes in.) According to Bloomberg, Iranian exports of crude oil and condensate in March (for April arrivals) were up over 1.2mmb/d from the trough in December of 0.7mmb/d. ***This increase in exports is huge and is equivalent to the whole nominal OPEC cut.*** China, in particular, took advantage of the waivers by buying more Iranian crude than it did before the sanctions were announced. US inventory grew about 15mm barrels more than the seasonal average in April, driven by weak demand and slightly higher imports. The weak demand seems to be random, as the US economy has been stronger than expected. The higher imports could have been driven by the surge in Iranian exports displacing some barrels towards North America. The oil market is viewing the bad data as noise. With the OPEC+ cuts running around 2.5mmb/d from the October reference level when including the exempt countries, it is only a matter of time before inventory starts draining in earnest.

In late April, the Trump administration announced that the end of the waivers would take Iranian exports to zero. While zero is overly optimistic, Iranian exports could drop by 0.8mmb/d to 1.2mmb/d from March levels. This would leave the market short, and inventory drainage would resume in earnest unless OPEC ramps production to offset it. Despite Trump's declaration that Saudi/OPEC would offset the Iranian loss, they remain uncommitted. In what appears to be market manipulation, Trump told reporters that he had spoken to OPEC, but no one from the organization could confirm. Saudi would prefer \$80-\$85 Brent, and the Iranian sanctions will not have any effect on this. The sanctions increase the likelihood of Saudi realizing its desired price and, furthermore, they will lower spare capacity once OPEC increases production. Despite the muted oil price reaction, the sanctions are an unmitigated positive. The oil price is being restrained somewhat by concern surrounding the upcoming OPEC meeting in June so not to provide the cartel with any incentive to raise production. It appears that both the market and OPEC would like to see OECD inventory at 2.70-2.75B barrels.

The physical oil market, Brent in particular, is tight. The 1-6 month backwardation in the Brent curve broke \$2.50 and hovered near the highest levels since 2014. Crack spreads globally are robust. Russia closed its largest pipeline, the Druzhba pipeline, and took 1.0 mmb/d off the market, as the crude it was sending to Europe had an abnormally high concentration of organic chlorides, a corrosive. According to Bloomberg, 36 million barrels of tainted crude are sitting in the pipeline, with no easy method of removal. It is not clear whether the contamination was the result of foul play or accident. It is also not clear when the situation will be resolved. Transneft has warned that once the pipeline restarts, it would carry less than two thirds of its average volume (of 1mmb/d), and getting it back to full capacity could take months. Russia, which had been slow to comply with the OPEC+ cuts, is now suddenly over-complying. This pipeline issue will make Russia much more supportive of an extension to the OPEC+ cuts if they are not in a position to ramp production fully.

Conventional oil production continues to show signs of old age and underinvestment. In April, Angolan production came in at a 12-year low, 100,000 b/d below their OPEC quota and 150,000 b/d below the October reference level. According to Energy Aspects, the 17% base decline at existing fields is too much to replace, and Angolan production will continue to fall. Mexican production also continues to be problematic, declining close to 200,000 b/d y/y. Their largest field, Ku Maloob Zapp, is very much at risk of hyperbolic declines, which would be impossible for the Mexicans to offset. Additionally, Ghawar, the world's largest field responsible for half of Saudi's cumulative production, has fallen much more than expected. Brazilian, Kazakhstani, and Norwegian oil production have all been worse than expected YTD. Norwegian production will grow next year when the Johan Sverdrup field starts, but that is the last of the large fields sanctioned in the \$100 oil world to come on globally.

IMO 2020 remains on course for a rigorous implementation on January 1, 2020. The Singaporean government announced that they will seek jail time for captains and owners of vessels who fail to comply with the new regulations. Rigorous compliance will make the transition more difficult, but realistically, there is little reason not to comply as the fuel cost is passed onto customers. About 3.2mmb/d of high sulfur residual fuel will need to be replaced. Scrubbers and cheating will drop that number to 2.0mmb/d in a best-case scenario. The question then becomes: how much incremental marine diesel can the refinery system produce when it is already producing at maximum diesel yield and it has not invested for the transition. An incremental 1.0mmb/d would be a heroic outcome. For the remaining 1.0mmb/d, refinery runs (or oil demand) would need to increase by 2.5mmb/d given the 40% diesel yield. IMO 2020 will likely prove to be much more disruptive than anticipated. A number of top oil trading houses are now hoarding low sulfur fuel oil in tankers in the Strait of Malacca to take advantage of a coming price spike.

A landmark M&A deal in the oil patch was announced with both Chevron and Occidental competing to buy Anadarko Petroleum. Berkshire Hathaway is underwriting the Occidental bid with the second largest preferred they have ever done, combined with warrants on Newco. This is a significant endorsement of the E&P space from Warren Buffet, although it's hard not to admire the terms he negotiated for himself. The E&P space is trading at extremely depressed multiples, and the outperformance of the commodity versus the equities is unprecedented. Once there is a perception of scarcity in the oil market, E&P multiples will expand substantially, in order to encourage the industry to increase investment. This perception of scarcity could come in the next year.