January 18, 2021

Nigeria Strategy Report

H1 2021

Global Economy and Markets

Crude Oil: The Journey to Re-balance the Oil Market

Executive Summary

At the start of H2 2020, we made a downward revision to our 2020 oil price forecast by 35.71% to close at \$40.5. The twin shocks of the COVID-19 pandemic and oil price war in H1:2020 hit the global oil market with a blow it is yet to fully recover from. Our forecast was hinged on an expected increase in demand as lockdowns eased and consumption levels begins to recover. Historic production cuts by OPEC+ and insistence for improved quota adherence helped keep oil prices afloat. In the second half of the year, the impact of the cuts began to crystalize gradually, as Brent crude rose by 10.05% from June to August. However, whilst lockdowns in parts of the US, China, United Kingdom, and Africa began to ease, fears of a second wave remained a source of bearish sentiment amongst traders.

We forecast the oil market will switch into a deficit in 2021, with net deficit expected at 0.67MMbpd. With improved economic activity, we expect global demand to gradually move closer to pre-pandemic levels of c.100MMbpd. Hence, in line with EIA's forecast we expect average consumption to come in at 97.78MMbpd in 2021 - 5.56MMbpd more than in 2020. This is hinged on expectations for higher auto sales and passenger vehicle usage in India, Other Asia, and the US, especially considering hopes surrounding the COVID-19 vaccine roll-out in the country. For 2021 average supply, it is expected to print at 97.11MMbpd – 2.85MMbpd more than in 2020. This is to be driven by a boost in crude oil production from OPEC countries, as supply cuts are eased in 2021. In addition, improved pipeline capacity in Canada and Brazil, rise in Libyan crude production, and the potential for an ease in Iranian sanctions feed into our expectation for increased supply in 2021. Considering these, we put our 2021 base forecast for average oil price at \$52.47pb (EIA: \$52.70pb), whilst our bull and bear cases are \$60.84pb and \$42.34pb, respectively.



In this report, we review major drivers in Global oil markets in H2 2020 and convey our outlook for the rest of 2021.

Drastic Event, Drastic Measures

The first half of 2020 was riddled with unprecedented events, as the global oil market reeled from the impact of the COVID-19 pandemic. In April, the price of West Texas Intermediate (WTI) crude turned negative for the first time in history to -\$37.63pb, whilst Brent crude declined to as low as \$19.33pb – the lowest in over two decades. The supply glut, exacerbated by the weak demand pinned the market in a rough position, as severe lockdown measures across the globe to curb the spread of the pandemic put active economies on a hold, including the world's largest crude importer, China. This led demand for petroleum products to dwindle before our eyes. Air travel and road transport remained impaired due to travel lockdowns whilst petroleum products consumption was further restrained due to reduced commuting. Support by OPEC and some non-OPEC countries in the Declaration of Corporation (DoC) agreement to cut production by a historic 9.7MMbpd in May and June did help to keep prices about the \$40pb line for a good part of the year, however, lingering issues such as the supply glut and sustained COVID-19 pandemic has kept the pressure on the market.

In H2:2020, the impact of the cuts began to crystalize gradually, as Brent crude rose by 10.05% from June to August. Lockdowns in parts of the US, China, United Kingdom, and Africa began to ease, although fears of a second wave remained a source of bearish sentiment amongst traders. Despite the supply cuts, the severe oil market imbalance made OPEC+'s efforts only do so much in helping.

·Brent — -WTI 80 60 40 20 0 Jun-19 -20 Aug-19 Oct-19 Dec-19 Feb-20 Apr-20 Jun-20 Aug-20 Oct-20 Dec-20 -40 -60

Figure 1: Brent and WTI prices (\$/bbl.)

Source: Bloomberg, ARM Research

Pressures on Consumption Levels Linger

In the second half of 2020, global demand came in at an average of 94.36MMbpd, a 4.75% rise from H1:2020 average demand of 90.08MMbpd. This followed an increase in both OECD and

Non-OECD demand, according to data from the EIA. While most regions recorded advancements in average demand between the two halves of the year, Japan printed the largest decline over the period, falling by 3.39% to settle at 3.18MMbpd.

This reflects the surge in COVID-19 cases in Japan during Q4. As winter set in the East-Asian island, the positive cases significantly rose, taking the toll to over 184,000 cases. This was further reflected as Japan's Eneos Corp shut its Osaka refinery, following slower demand. Despite China's slowdown in demand, as it took advantage and binged on the low-priced crude earlier in the year, the world's largest importer printed a 6.49% rise in average demand between H1:2020 and H2:2020, to settle at 14.75MMbpd per EIA data. As customs cleared backlogs of crude, following a buying binge earlier in 2020, it allowed headroom for increased imports.

In addition, Eurasia printed an 11.77% rise in average demand during H2:2020, driving the Non-OECD region consumption to close at 51.82MMbpd. Despite its surge in COVID-19 cases, US' average demand also grew by 0.71MMbpd during the second half of 2020 to print at 18.42MMbpd. H2:2020 rise in demand can be attributed to the easing in lockdowns across the globe, thereby boosting industrial activity and transportation.

120.0 ■ US ■ Europe China Other Asia (India) Others 100.0 38.4 38.1 37.1 80.0 35.6 34.9 60.0 14.0 14.1 13.7 14.1 13.3 12.7 13.6 11.7 14.6 14.9 14.8 14.7 40.0 13.8 14.5 15.0 14.0 14.2 14.0 14.7 14.1 13.4 12.8 12.7 11.0 20.0 20.5 20.6 19.3 18.5 18.4 16.1 0.0 Q1 19 Q2 19 Q3 19 Q4 19 Q1 20 Q2 20 Q3 20 Q4 20

Figure 2: Global oil demand (MMbpd)

Source: EIA, ARM Research

Natural well decline for the world's top producer

Average production in H2:2020 came in at 91.92Mbpd; 4.67MMbpd more than H1:2020's average. This reflects the supply cuts as per the April agreements. Whilst the 9.7MMbpd supply cut were extended through July by OPEC+, August saw the quota ease to 7.7MMbpd. Even at that, compliance levels were initially below desirable levels for OPEC, as usual

suspects like Nigeria and Iraq failed to reach full compliance. Better compliance was however attained as Saudi Arabia, amongst other OPEC leaders insisted on improved adherence. Less barrels rolled out of the US in H2:2020 as average supply declined by 0.65MMbpd, compared to the first half of the year to settle at 18.26MMbpd. This points to a faster rate of natural decline in old oil wells than the rate of new and resumed drilling in the US. As oil prices in the second half of the year began to rise, US producers felt more encouraged to open the taps – Brent crude price had advanced by 13.23% from the start of July to the end of November. Subsequently, shut-in wells in the 'Lower-48' states onshore fields were reactivated. According to Baker Hughes data, US oil rig count had risen by 39.5% in the second week of December 2020 (from the start of July) to close at 258; majority of which were constituted by Louisiana, New Mexico and Texas activity. But despite the resumption in drilling activity, natural declines from older wells counterbalances the wells being brought online.

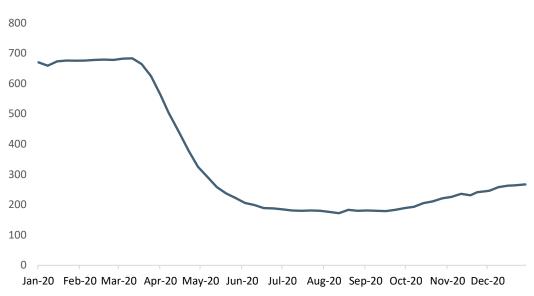
Other Non-OECD average supply rose by 0.32MMbpd during H2:2020 to print at 14.79MMbpd. This is reflective of higher supply of Brazil's sweet crude amidst the campaign to lower carbon emissions – especially after The International Maritime Organization (IMO) in January put a new limit on the sulfur content of maritime fuels (maximum of 0.5%). In addition, Brazil's blend from its pre-salt oil fields is also favorable to refiners, making it popular amongst Asian buyers, including China. Conversely, EIA data show that Mexico and Other-OECD printed declines in average supply. Mexico printed the largest decline in the period as its supply fell by 0.08MMbpd. Petroleos Mexicanos (Pemex) slashed production by c. 100,000bpd following the OPEC+ April agreements and has struggled to recover ever since. The Mexican state-owned petroleum company is in heavy debt, whilst international oil companies have no access to the country's fields. In addition, the Maloob offshore field continues to naturally deplete.

US OPEC ■ Others ■ Former Soviet Union 120.0 100.0 37.7 36.6 37.2 37.4 37.4 80.0 36.0 36.8 36.2 60.0 14.9 14.4 14.7 14.6 14.8 13.2 13.1 12.7 40.0 29.0 28.3 29.9 29.5 28.6 24.9 25.7 23.6 20.0 18.9 19.4 19.4 20.2 17.6 18.3 18.2 0.0 Q1 19 Q2 19 Q3 19 Q4 19 Q1 20 Q2 20 Q3 20 Q4 20

Figure 3: Global oil supply (mbpd)

Source: EIA, ARM Research

Figure 4: US rig count



Source: Baker Hughes, ARM Research

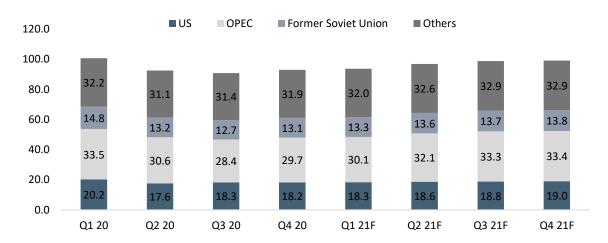
With a difference of 2.04MMbpd in average surplus in 2020, the journey to easing the pressure on the oil industry's logistics and inventory is still ongoing. Continued efforts from OPEC to manage crude oil output should help the process, amidst headwinds.

Libyan Headache

Production cut compliance were generally adhered to by countries in the OPEC+ April agreements, but with pockets of breaches by Nigeria, Iraq, amongst others. Underperforming nations were however called to order by OPEC insisting on compensatory cuts to make up for the breaches. But whilst the cartel was influential in that regard, Libya's accelerated supply of barrels into the market posed as a headache for OPEC. Libya, although a member nation of the cartel was exempted from the production cut plans. The north African nation's oil industry had been halted as it was pressured by civil war and unrest. With a pact made by the rival military forces in the country, Libya ramped up production at a rate that shocked the oil market, thereby posing as new issue against OPEC's efforts to rebalance the market. The Libyan National Oil Corporation (LNOC), lead the resumption of crude oil output, seeing production accelerate from less than 0.1MMbpd in August to 0.8MMbpd in October, and 1.2MMbpd in November 2020 according to the corporation. Libya has not expressed explicitly, any plans to join in the OPEC+ quotas, but the sentiment is that it would not be willing to do so until production stabilizes at levels desirable to the Libyan authorities. Off the back of the new development, Brent crude declined 8.52% in October 2020. However, we saw a reversal in prices for the month of November, following the announcement of a significant progress in the COVID-19 vaccine development.

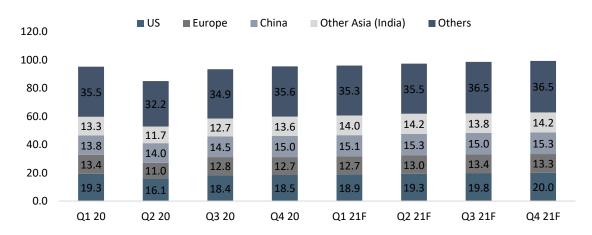
In addition, increased clarity pertaining to the US presidential elections improved optimism in the market. As a result, Brent Crude gained 27.04% in November to close at \$47.59bpd.

Figure 5: Global oil supply forecast (mbpd)



Source: EIA, ARM Research

Figure 6: Global oil demand forecast (mbpd)



Source: EIA, ARM Research

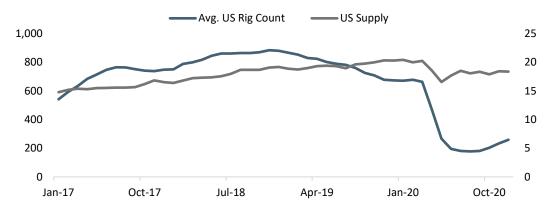
What A Biden Presidency Could Mean for the Oil Market

We posit that oil traders had priced in the various factors to drive the oil market in H2:2020 months before the US presidential elections in November. After the Democratic candidate Joe Biden won the tie according to the Electoral College vote, the market only appeared to react to the ease in uncertainty surrounding the election. Biden, leading up the election, had expressed intentions to shake up the US oil industry with ozone-layer friendly policies. He promised to transition from fossil energy and this is likely to spell tougher regulations on US drillers. Current president, Donald

Trump through his tenure showed commitment to achieving energy dominance, as the Republican candidate rolled out policies driven by fossil fuels.

The US shale boom continued to thrive under his administration as the US became the world's largest oil producer. As at January 2017, when Trump was sworn in, US supply printed at 14.77MMbpd per the EIA. This rose to by a CAGR of 11.38% over a three years to print at 20.42MMbpd in January 2020.

Figure 7: Average US rig count and US crude oil supply since 2017



Source: Baker Hughes, ARM Research

Whilst the US' rising market share remained a headache for OPEC, it would appear that president-elect Joe Biden's pro-clean energy approach to the US oil and gas industry is good news for the cartel, and potentially for oil prices. The chances of less drilling and slower approval of pipelines on the onset is likely to spell more market share for OPEC member nations, and potentially higher prices.

It is however not as simple as that. Even as excitement springs from Middle Eastern producers with Biden planning to reinstate the US back into the Paris Climate Change Agreements, a more diplomatic hand under the Democrat's administration could see Iran and the US shake hands above the Joint Comprehensive Plan of Action (JCPOA), also known as the Iran nuclear deal. This could facilitate an easing in sanctions on Iranian exports, potentially paving the way for millions of barrels of Iranian crude oil to return to the oil market. Iran has been exempted from OPEC's plans and another layer of factor which could complicate matters for the cartel is that Saudi Arabia are rivals to Iran.

The oil market for 2021 is far from bereft of uncertainties, but OPEC's demonstrated willingness to rebalance the market should yield a positive outcome amidst the headwinds.

What the near future holds

A major source for a glimmer of hope for the oil market moving forward is the development of a COVID-19 vaccine. This has added positivity to the oil market, bringing hopes of faster demand recovery. Hopes for an end to the lockdowns spurred optimistic sentiment amongst traders as Brent crude advanced 22.17% between the date of announcement and the end of 20. Whilst the prospects for renewed demand for crude oil is contingent on other factors, concerns pertaining to the administration and logistics of the vaccine remain. Moderna's vaccine for instance must be dispatched at -20 degrees Celsius, in addition to the demanding protocols of storing and refrigerating. As the best strategy for vaccination and shipping are being deliberated on, the rising rate of positive cases will continue to pressure crude oil prices and limit demand growth.

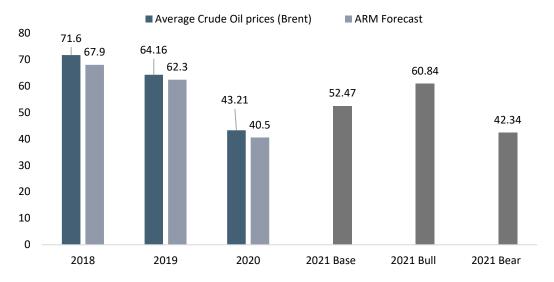
We forecast the oil market will switch into a deficit in 2021, with net deficit expected at 0.67MMbpd. With improved economic activity, we expect global demand to gradually move closer to prepandemic levels of c.100MMbpd. Hence, in line with EIA's forecast we expect average consumption to come in at 97.78MMbpd in 2021 – 5.56MMbpd more than in 2020. This is hinged on expectations for higher auto sales and passenger vehicle usage in India in 2021. The EIA expects crude oil consumption in Other Asia to grow by 9.48% - the highest forecast rate in all regions. In 2020, India fell off as Nigeria's top crude oil importer due to turnarounds and maintenance of refineries, but this is expected to be reverted in 2021. US consumption is also poised to boost global demand in 2021 with improved industrial activity and hopes surrounding the COVID-19 vaccine roll-out in the country.

Average supply for 2021 is expected to print at 97.11MMbpd – 2.85MMbpd more than in 2020. This is to be driven by a boost in crude oil production from OPEC countries, as supply cuts are eased in 2021. Canadian supply is expected to rise by 8.37% YoY to 5.72MMbpd, as pipeline its capacity improves, while investment in Brazil is expected to boost its supply by c. 0.3MMbpd in 2021. In addition, our sentiment is that Iran is poised to be subjected to weaker sanctions in 2021, which will subsequently lead to an acceleration in its crude oil output. With US president-elect, Joe Biden sworn in as president in January 2021, a more diplomatic hand is expected to handle the JCPOA with Iran. In addition, Libya is expected to pump more barrels into the market especially in the first and second quarters of 2021 - Libyan authorities have expressed production could rise by another 0.5MMbpd. Having assessed these factors, OPEC+'s plan to ease cuts by 2MMbpd in January 2021 was revised to 500,000bpd, whilst Saudi Arabia made additional voluntary cuts of 1MMbpd till the end of Q1:2021. We expect that continued restriction from OPEC+ on production should act as a catalyst in cooling global inventory levels. Considering these, we put our 2021 forecast for average oil price at \$52.47pb (EIA: \$52.70pb).

That said, we see both upside and downside risks to our forecast. Should we see Libya and Iran fall in line with their OPEC co-members in limiting production earlier than expected, this could tilt average oil prices higher than our base forecast. Faster than anticipated slowdown in US output and steeper natural decline in old wells is expected to boost oil prices further.

In addition, delays in easing sanctions on Iran and the possible re-escalation in Libyan civil tensions could see the oil market realize our bull forecast of \$60.84pb. On the flipside, should hopes for a significant positive impact of the COVID-19 vaccine dashed due to complicacies in logistics and administering doses, further pressure could be seen on demand and oil prices. In addition, should OPEC compliance levels decline, oil prices could fall below our base forecast. We already saw one of OPEC's adherence flouting culprits, Nigeria, amongst others call for the cartel to ease the supply cuts more than planned. Delay in acquiring a consensus from member countries on output policy in December also hints at a possibility of future compliance decline. This could thereby see the market realize a net surplus of c. 3.04MMbpd. At this level, we project average oil prices could fall to as low as \$42.34pb.

Figure 8: Oil price forecast in \$/bbl. (Base, Bull and Bear)



Source: Bloomberg, ARM Research

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