

Wednesday, July 22, 2020

## OIL MARKET UPDATE: HAS THE OIL PRICE RALLY RUN ITS COURSE?<sup>1</sup>

**1. The first half of 2020 has seen extreme volatility in global financial markets, and oil markets were no exception.** After crashing in Q1, oil prices staged a sharp rebound in Q2 (59 percent in log return terms), albeit to a still-low level (Figure 1). A combination of supply, demand and technical factors underpinned the observed volatility (Figure 2). The fall in oil prices—which occurred between January and April—was driven by several events: (1) a severe contraction in demand due to the COVID-19 pandemic; (2) failure by the Organization of Petroleum Exporting Countries and its oil-producing allies (“OPEC+”) to agree on production cuts; (3) increased production by Saudi Arabia, the UAE and Russia; and (4) a shortage of storage facilities. The subsequent easing in containment measures around the world—as well as deep production cuts agreed upon by OPEC+—saw oil prices rise rapidly in May and early-June, partially recovering their Q1 losses.

**2. Supply side factors have been the larger driver of oil market volatility, while demand has been the underlying factor in price weakness.** The Federal Reserve Bank of New York ([FRBNY, 2020](#)) estimates that 57 percent of the fall in oil prices during the January–April period is attributable to supply side factors, while 27 percent is due to demand side factors (Figure 3). The corresponding numbers for oil price recovery are 40 percent to supply side factors and 23 percent to demand side factors.

**3. Developments on the supply side have been both precautionary as well as reactionary.** The former is reflected in OPEC+ production cuts, while the latter is evidenced in production halts as a result of too-low oil prices:

- On April 12, OPEC+ members agreed to reduce production by 9.7 million barrels per day (mb/d) in May and June. The recovery in oil prices picked up pace as production cuts commenced in May, despite some non-compliance ([Wang and Gupte, 2020](#)). The June 6 OPEC+ meeting extended the existing cuts by a month, while deeper voluntary cuts in June, amounting to 1.2 mb/d, were made by Kuwait, Saudi Arabia, and the UAE. Non-compliant OPEC+ members also committed to compensate for missing the May–June targets during Q3 2020. However, following the pre-meeting expectation-fueled rally, oil prices struggled to reach new highs, until this week.
- The oil price crash over January–April made oil production unprofitable for many producers, especially in the shale oil industry, shutting down many facilities. Non-OPEC+ oil production fell by 5 mb/d over the March–May months, of which almost 50 percent was attributable to the United States and another 20 percent to Canada. The dramatic fall in rig count reflected the loss of production (Figures 4 and 5). A Federal Reserve Bank of Dallas ([FRBD, 2020](#)) survey shows that 82 percent of Exploration and Production (E&P) firms surveyed had either shut-in (that is, when an oil or gas well has available but unused capacity) or curtailed production in Q2, of which 94 percent of them were due to low oil prices. Meanwhile, many US shale oil producers (E&P and oilfield services) defaulted on debt and filed for bankruptcy ([Andre, 2020](#)).

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4. **On the demand side, containment measures against the COVID-19 infection played a key role.** Stringent lockdowns of economies were the primary triggers for the collapse in global demand ([Perkin, 2020](#); [IMF, 2020](#)). The nadir of oil demand in April coincided with the period when lockdowns were strictest (Figures 6 and 7). Oil prices recovered in May and early-June but then stagnated as a result of the outlook for demand and risk backdrop, both of which deteriorated as anxiety rose over a possible global second wave of infections. They also underscored market concerns on whether: (1) the production cuts could compensate for the fall in demand; and (2) OPEC+ members would fully comply despite the higher (and more stable) oil prices.

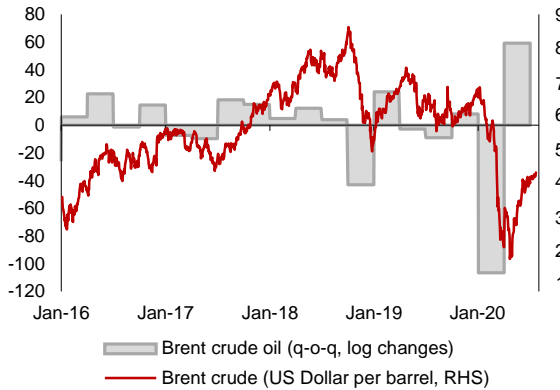
5. **While the demand for oil is recovering in line with the resumption in economic activity, it is unlikely to reach pre-pandemic levels anytime soon.** Forecasts by the US Energy International Agency ([EIA, 2020](#)) and [OPEC \(2020\)](#) suggest that demand should pick up gradually in Q3 and Q4 2020, but remain substantially below pre-January levels (Table 1). A breakdown of crude oil demand by sector shows that 45 percent are accounted for by the transportation sector ([OPEC, 2019](#)), with another 7 percent by the aviation sector (Figure 8). As lockdowns ease, demand from the former has started to pick up, but with widespread international travel bans still in place, the latter may take time to fully recover (Figures 9 and 10). The specter of a second wave of the pandemic is rising with the resurgence in infections, and new lockdowns could further hamper the tepid recovery.

6. **Oil price movements over the past month suggest that the rally may need a fresh catalyst to continue.** Brent oil prices were range-bound between USD 37 to USD 44 per barrel through most of the trading sessions, with no clear momentum in either direction. Buoyed by news of the EU fiscal agreement and a possible vaccine, they rose above USD 44 per barrel on July 21, but remain well-below pre-pandemic levels.

7. **Market pricing and positioning paint a mixed picture for the future path of oil prices.** The forward curve shows expectations of a mild appreciation (Figure 11). The peak (end-of-day) oil price in 2020 was reached on 6 January, bottoming on 21 April. The forward curves on both those days likely represented the best- and worst-case scenarios for oil prices, respectively, from the perspective of supply and demand expectations. In the near term, neither of the extremes is likely to be tested, consistent with the current forward curve pricing (which is well within the best-worst case band). The build-up in speculative positions in the Brent crude market has been much more cautious since oil prices troughed in April (Figure 12). And, although the speculative long positions in WTI had increased rapidly, and contributed to a rise from negative prices ([Pande, 2020](#)) and catch-up with Brent prices, momentum seems to have weakened.

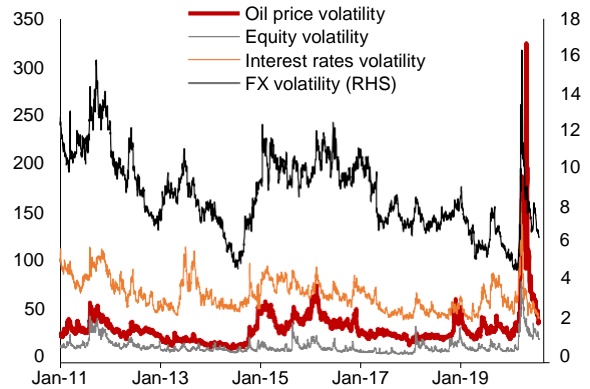
8. **On balance, the risks to oil prices appear to be tilted to the downside.** The strong build-up in inventories in the first half of 2020 and substantial unused supply suggests that any significant rally would be highly unlikely. Inventories in the United States (530 million barrels) and crude stored in tankers (200 million barrels) are at record highs (Figure 13) as a result of the severe shortage of onshore storage facilities ([Pande, 2020](#)). According to [EIA \(2020\)](#) and [OPEC \(2020\)](#), the supply surplus accumulated in Q1 and Q2 2020 would take another six quarters (that is, up to end-2021) to run down (Table 1 and Figure 14). In brief, the main drag on oil prices could come from: (1) the negative impact on demand in the event of a sustained second wave of the pandemic; (2) supply coming back to the market (both due to potential OPEC+ non-compliance and resumption in supply from shut-ins); and (3) record-high inventories. The only upside risk to oil prices would be an inexplicable strong rebound in global demand, although market sentiment could still cause some volatility.

**Figure 1. Oil Prices, since January 2016**  
(Percent quarter-over-quarter; US dollars per barrel)



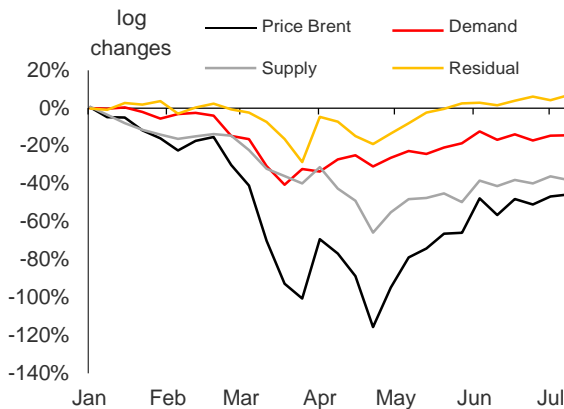
Sources: Haver Analytics; and AMRO staff calculations.

**Figure 2. Volatility in Financial Markets**  
(Percent)



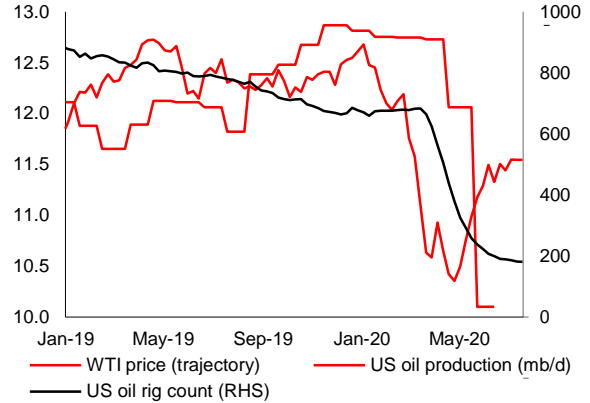
Sources: Bloomberg Finance L.P.; and AMRO staff calculations.  
 Note: CBOE Crude Oil Volatility Index used for Oil price volatility, CBOE VIX index used as a proxy for Equity volatility, Bank of America's MOVE index used for Interest rates volatility and Deutsche Bank Currency Volatility Index for FX volatility.

**Figure 3. Impact of Supply and Demand Factors on Oil prices**



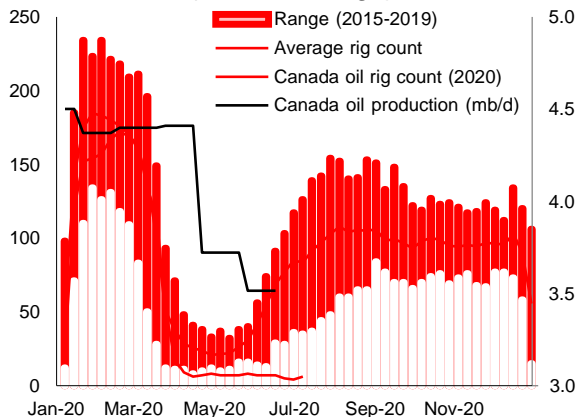
Sources: Federal Reserve Bank of New York; and AMRO staff calculations.

**Figure 4. US Crude Oil Production**  
(number of rigs, million barrels per day)



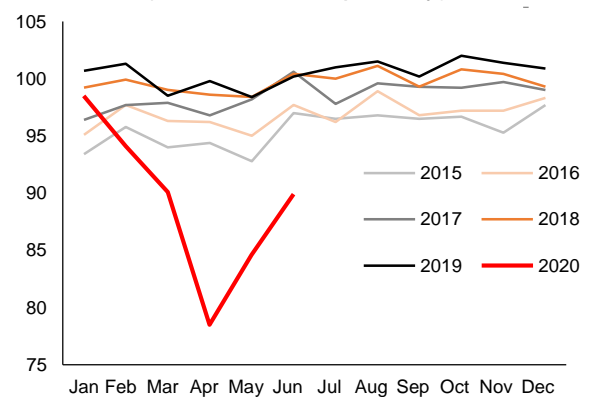
Sources: Bloomberg Finance L.P.; and AMRO staff calculations.

**Figure 5. Canada Crude Oil Production**  
(number of rigs)



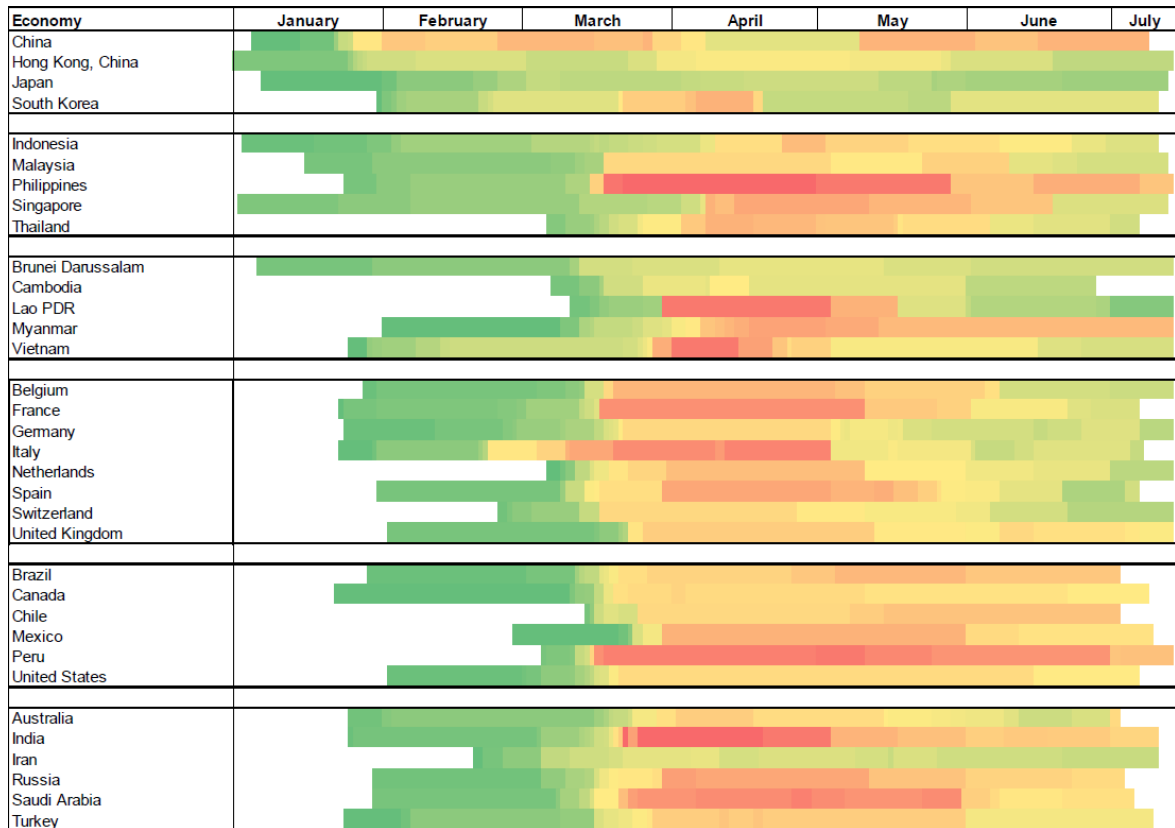
Sources: Bloomberg Finance L.P.; and AMRO staff calculations.

**Figure 6. Global Crude Oil Demand**  
(Million barrels per day)



Sources: Bloomberg Finance L.P.; and AMRO staff calculations.

**Figure 7. Selected Economies: COVID-19 Government Response Stringency, 2020**  
(Daily index, as of July 14, 2020)



Sources: Hale and others (2020). <https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker>.

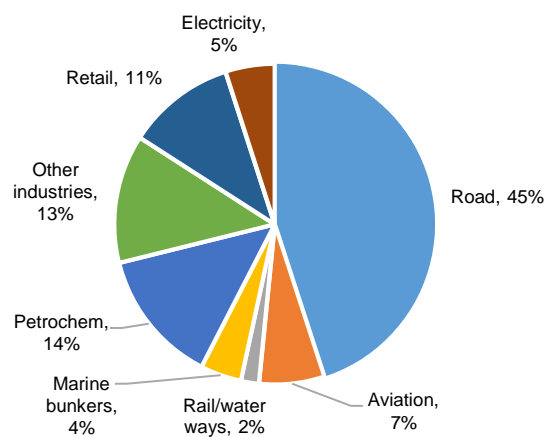
Note: The index records the number and "strictness" of government policies for containing COVID-19, using nine closure indicators (including school, work, and border travel). The redder the color, the more stringent the set of policies vis-a-vis the rest of the world, and can be taken to mean that the COVID-19 infections are still not under control.

**Table 1. Oil Supply and Demand Forecasts**  
(Million barrels per day)

EIA	Supply	Demand	Supply surplus
Q1 2020	100.8	95.2	5.5
Q2 2020	92.3	84.4	7.9
Q3 2020	90.8	94.3	-3.4
Q4 2020	94.5	97.6	-3.1
2020 (average)	94.6	92.9	1.7
Q1 2021	96.5	98.3	-1.8
Q2 2021	98.6	99.3	-0.7
Q3 2021	99.7	100.8	-1.1
Q4 2021	100.2	101.1	-0.9
2021 (average)	98.8	99.9	-1.1
OPEC	Supply	Demand	Supply surplus
Q1 2020	100.0	92.4	7.7
Q2 2020	91.7	82.0	9.7
Q3 2020	88.2	92.2	-4.0
Q4 2020	91.7	96.2	-4.6
2020 (average)	92.9	90.7	2.2
Q1 2021	92.6	96.3	-3.6
Q2 2021	92.8	96.9	-4.2
Q3 2021	97.7	97.9	-0.2
Q4 2021	99.3	99.7	-0.4
2021 (average)	97.1	97.7	-0.6

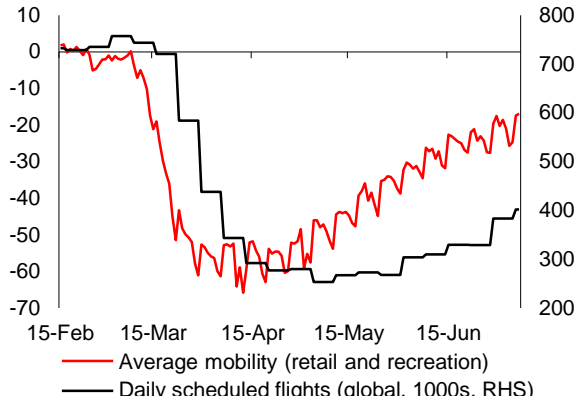
Sources: EIA, OPEC; and AMRO staff calculations.

**Figure 8. Share of Oil Demand by Sector**



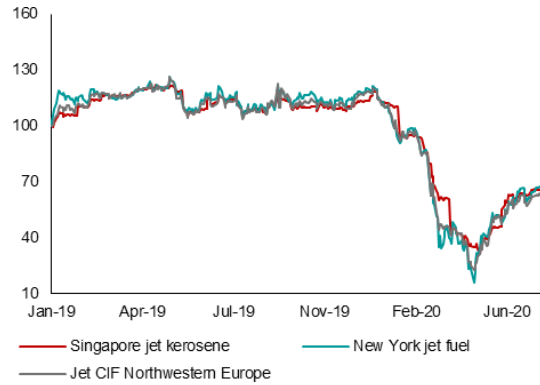
Sources: OPEC; and AMRO staff calculations.

**Figure 9. Recovery in Global Activity (Index Feb 15 = 0; number of flights)**



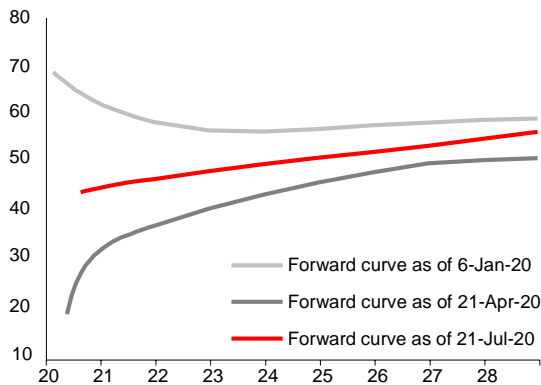
Sources: Official Aviation Guide, Google COVID-19 Community Mobility reports; and AMRO staff calculations.  
 Note: Average mobility calculated as average percentage from baseline for the 15 largest economies – excluding China for which the mobility data is not available. The daily scheduled flights include both domestic and international flights.

**Figure 10. Price of Jet Fuel, as of July 14, 2020 (January 1, 2020 = 100)**



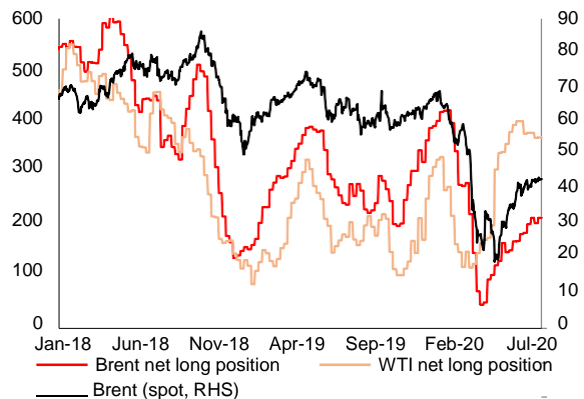
Sources: Bloomberg Finance L.P.; and AMRO staff calculations.

**Figure 11. Forward Curve Pricing of Brent Crude (US dollars per barrel)**



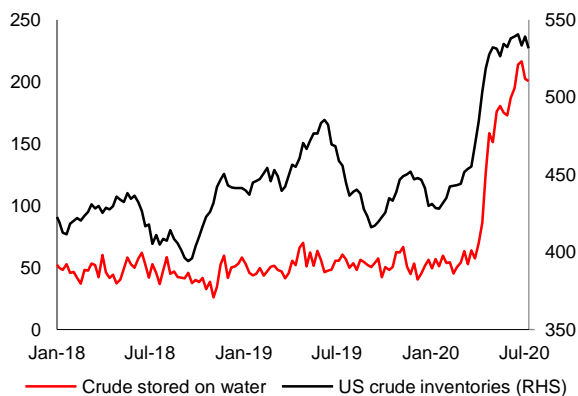
Sources: Bloomberg Finance L.P.; and AMRO staff calculations.

**Figure 12. Positioning in Brent Crude Oil (Millions of contracts; US dollars per barrel)**



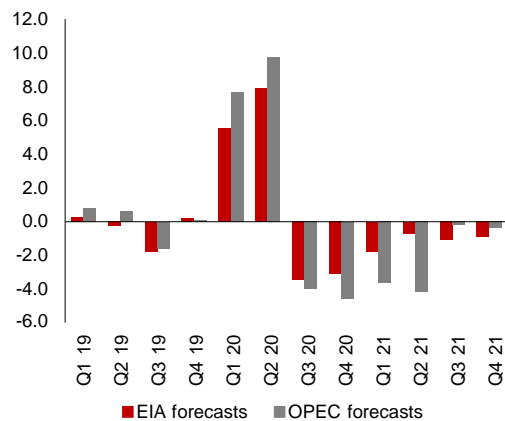
Sources: Bloomberg Finance L.P.; and AMRO staff calculations.  
 Note: Includes net positioning in Brent and WTI forwards in Intercontinental Exchange (ICE) and New York Mercantile Exchange (NYMEX).

**Figure 13. Crude Oil Inventory (Million barrels)**



Sources: Bloomberg Finance L.P.; and AMRO staff calculations.

**Figure 14. Quarterly Surplus Supply of Crude Oil (Million barrels per day)**



Sources: EIA, OPEC; and AMRO staff calculations.

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