New Outlook for Oil Market in the New Post-Coronavirus World

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See footnote at end of text.

Since the beginning of the twentieth century, and particularly within the period of globalization, disease outbreaks have taken different forms and have elicited different reactions as the spread across countries has varied in speed and scope. In 2002–2003, the world experienced the severe acute respiratory syndrome coronavirus (SARS) that spread to more than twenty countries, albeit with a relatively lower number of infections but with a mortality rate of around 8%. The next large-scale contagion was the Middle East respiratory syndrome coronavirus (MERS coronavirus) that was transmitted to 27 countries, with an even lower number of infected cases (around 2460), but with a much higher mortality rate of around 36%. The most recent pandemic of coronavirus disease, known as COVID-19, has new and different characteristics compared to more recent outbreaks; the fast pace with which it has spread around the world, the exponential increase in the number of infected patients, and a relatively high (15%) proportion among them needing respiratory support.

Three months after the emergence of the first few cases in China, COVID-19 has killed over 120,000 people and infected more than 2 million around the world. This pandemic has brought about a significant change worldwide by constraining normal lifestyle, global economic systems, financial markets, and oil markets as well. The main impact of COVID-19 on the oil markets is based on its exposure to both demand and supply shocks at the same time. The oil price, which was $63.05 per barrel on December 30, 2019, fell down to $53.0 on January 21, 2020 (at the time of the Wuhan database creation), and continued this downward trend in the subsequent two months to $21.55 per barrel (as at 21 March 2020). A formal investigation is therefore important to understand what happened during the current health crisis within the context of oil prices, and it is equally as important to discuss the outlook for the oil industry for the rest of the year.

In this note, we aim to understand the dynamics of the oil markets during the period of the coronavirus disease spread and then discuss the prospects of the oil industry in the second half of 2020.

From health crisis to oil crisis

Hamilton's (1983) seminal paper established a relationship between the oil market and the real economy. Theoretically, this relationship is modelled through several channels, such as stock valuation, monetary and fiscal measures, output, and uncertainty channels.[1] We posit that COVID-19 has impacted the real sector as well as the financial market by affecting the output and the stock valuation channels, as the mobility of workers, tourists, trade, and transportation has been affected by this crisis, leading to an overall collapse in demand.

Figure 1 displays the dynamics of oil prices during the coronavirus disease. More interestingly, since the beginning of January 2020, we have observed a downward trend because of a shock in oil demand, caused by COVID-19 and specifically the lockdown in China (January 23, 2020). A second, decreasing episode is observed around February 21, 2020, when Lambardy's cluster is detected, and continues from one day to another with an exponential increment in deaths and the discovery of newly impacted countries.

In addition to this oil demand shock, the oil market also experienced a supply shock. On March 6, 2020, Saudi Arabia and Russia locked horns for dominance over global oil market share. The Saudi Arabian proposal of a reduction in oil supply was rejected by the Russians, which led the Saudis to flood the market through increased oil production. Further, United Arab Emirates also announced its plan to boost oil supply. This news plunged the oil price to $31.05 per barrel on

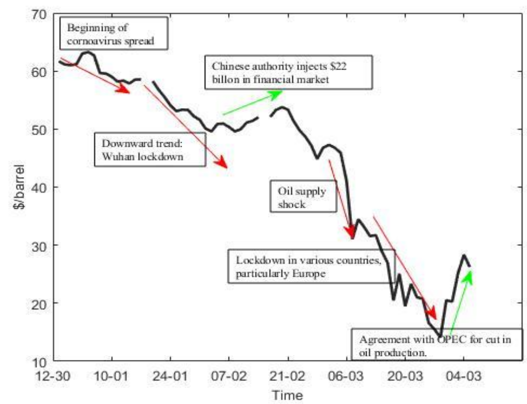

Figure 1. The dynamics of oil prices under the coronavirus disease

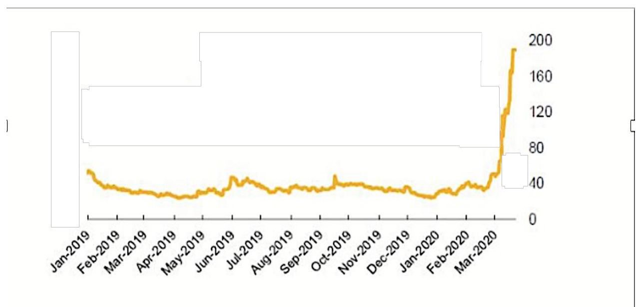

Figure 2. CBOE crude oil price volatility

Source: Bloomberg Finance LP.

March 9, 2020, with a 20% loss in price, further leading to a financial crash on the same day.

These shocks in demand and supply generated financial market stress (Figure 2). The high level of uncertainty, echoed by nervous market sentiment, also saw the recent spectacular rallying of U.S. government bonds, as the 10-year yields fell from 1% to 0.4%. This rallying can be explained by understanding the intention of people to rush for safety through institutional investments.

Overall, the impact of COVID-19 on the oil markets can be explained through two mechanisms. First, based on the output channels; the restrictions on traveling, supply chain, and workers' mobility due to strict measures in place to limit the contagion have plunged the industry into inactivity. Consequently, the consumption of oil and oil-based products has reduced dramatically, leading to a sudden reduction in the demand for oil. The second effect is related to the effect of the stock market on the oil market, especially within the context of rising uncertainty and anxiety in market sentiment. This negative sentiment within the oil market led to pessimistic expectations concerning oil demand, prompting flight away from energy stocks and leading to further price decrease.

Oil industry outlook

Oil demand & consumption

The coronavirus disease has now spread to more than 100 countries. The delay in propagation across countries implies that the lockdown of the main importing countries may be spread out over the entire first half of 2020. From the beginning of January to April 8, 2020, China adopted serious containment measures, such as the lockdown of Wuhan region, that severely constrained economic activity. During the first quarter of the year, Chinese oil demand saw a significant year-on-year drop because of confinement measures, as the economy slowly came to a halt.

From the beginning of March, Italy locked itself down completely, while France moved on to this strategy on March 17; the lockdowns are expected to remain until mid-May, at least, for both countries. In the United States, between the mid of March and beginning of April, some states began taking sweeping containment action while others took a more limited approach. A similar reaction was adopted by India on March 25. It is expected that the lockdown will remain in some key oil importing countries until June, at least, in an optimistic scenario.

Although the economic situation in China has improved after lockdowns were eased off in some regions beginning in the second quarter of 2020, the conditions remain extremely volatile in other key oil importing-countries, which have maintained their oil demand close to the levels in the first quarter. For the rest of 2020 (third and fourth quarters), we expect a smooth improvement in oil demand, as a basic scenario. Easing of lockdowns in different countries, however, does not imply removal of constrained measures, such as limits on traveling and tourism activities, which impact oil consumption. From January to end of March, the oil demand decreased from 100 mb/d to 92 mb/d. We expect that in April, May, and June, the oil demand will be around 90 mb/d, as most of the oil importing countries are still in lockdown or will continue adopting restrictive measures during this period. We expect that the oil demand will recover from the beginning of the third quarter of 2020 in a progressive manner.

Oil supply

The level of oil stocks around the world is currently estimated at 4.5 billion barrels by Rystad Energy (independent energy research and consultancy firm). This level represents 80% of the world's storage capacity. The strategic level of oil stocks for countries has been largely reached and the storage costs are only increasing, with a level of supply surplus having never reached before. The evolution of this surplus will depend on the deal between various oil producing countries, but one thing is certain: under current conditions, this surplus will only increase. In February, oil supply fell by 580 kb/d, as Libya's production reduced. The deadlock between Saudi Arabia and Russia, and the matter of flooding the market with oil supply, should end by April 09. OPEC announced a reduction of 10mb/d during May and June, with a further reduction of 8mb/d for the rest of 2020. In 2020–2021, the reduction is estimated to be around 6mb/d. We suggest that this supply figure is an appropriate outlook for this crisis.

Oil refinery industry

The coronavirus outbreak has led to drastic measures being taken in various countries, affecting the international supply chain, and reducing transportation and individual mobility to limit the spread of the virus. For the first quarter of 2020, the reduction in consumption of oil products led to the downward revision of refining intake by 1.2 mb/d, primarily because of China. February runs are estimated at 10.1 mb/d, down 2.7 mb/d, year-on-year. We expect that the margins of the second quarter of 2020 will be around those of February, supported by the oil price reduction in March 2020. With oil prices below $30 a barrel, companies have no choice but to reduce their investment and cut additional jobs.

Oil outlook discussion

The oil outlook will depend on the commitment of governments and their policies to contain the coronavirus outbreak. However, it is worth highlighting the characteristic of the oil market in that there is no global governance of the price per barrel. In addition to the law of supply and demand, there is a balance of power between producer countries, which has a direct impact on prices. Moreover, the cost of production is not the same for all producer countries. The U.S. has a higher production cost than Russia, and both have a production cost that is almost twice that of Saudi Arabia. Therefore, the challenge is to find a level of production that will allow convergence towards the fair price of oil; that is the level that will ensure the profitability of production investments without killing the demand for oil. The oil demand will surely be below the level of 2019, as some behaviors and routines will be changed indefinitely, especially regarding production systems, offshoring industries, trade, and traveling. Today, we are experiencing a high level of uncertainty caused by the outbreak of this pandemic, and there seems to be little clarity in this uncertainty. Perhaps the only certainty that we have at the moment is that life will be transformed into a completely different shape and structure after this outbreak is controlled, and nobody knows for sure what the new normal will be like.

Footnote

1 For more details on the theoretical transmission channels between oil and stock markets, please see Stavros Degiannakis, S., Filis, G., Arora, V. 2018. Oil Prices and Stock Markets: A Review of the Theory and Empirical Evidence. Energy Journal 39 (05), 85-130.

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