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A Closer Look

Changing Energy Market Dynamics

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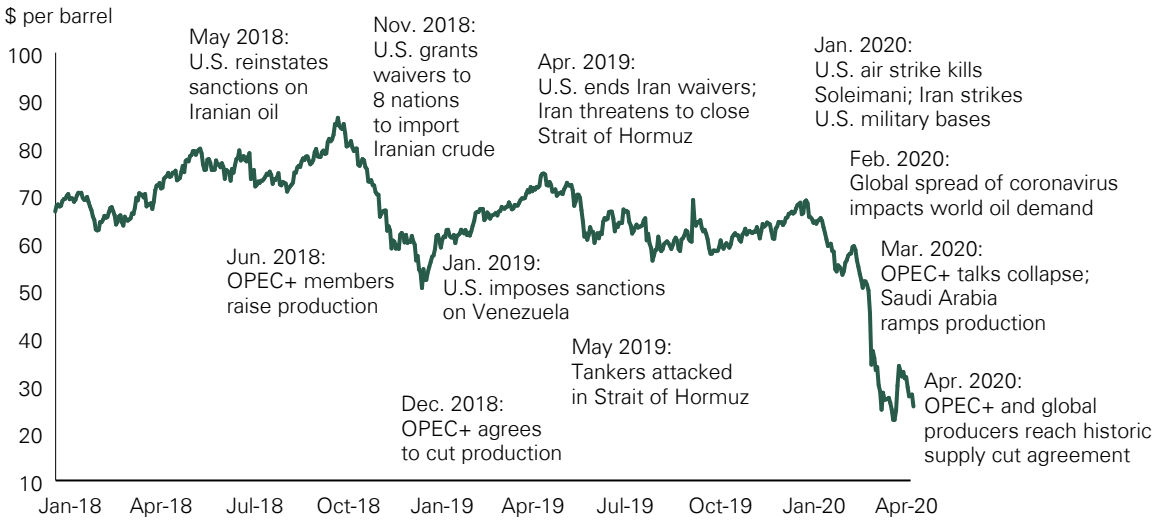
In Brief

- **Supply and demand shocks have roiled energy markets as production flooded markets suffering from a massive collapse in demand due to the global coronavirus pandemic.**
- **While oil prices may be under pressure in the near term, they are likely to rebound cyclically as demand recovers to some degree — though structural factors, including the growth of renewable energy, could influence future demand.**
- **Lower oil prices are a mixed bag for the U.S. economy as the benefit of depressed gasoline prices for the consumer is offset by the broader shock to the economy.**
- **While the energy sector has been a bottom performer year-to-date, it has seen some reversion. We view opportunities in the sector as selective rather than broad-based.**

2020 has already proven to be a historic year for energy markets, with dramatic OPEC (Organization of the Petroleum Exporting Countries) developments and significant price volatility in just a four-month window. In this *A Closer Look*, we discuss these developments and how Bessemer portfolios capitalize on opportunities created by changing market dynamics. Given recent market dislocations, interesting pockets of opportunity have emerged within the distressed energy sector; however, in our view, it is still not time to holistically add to the asset class.

Exhibit 1: Brent Crude Oil Prices



As of April 24, 2020.

Source: Bloomberg

Overview of Recent Market Movements

In January, oil prices spiked due to rising geopolitical tensions in the Middle East (Exhibit 1). Throughout February, concerns mounted regarding the effect of the spreading coronavirus on oil demand. By March, the energy market witnessed a near collapse in OPEC+ (OPEC and allies including Russia), the oil cartel that controls roughly one-third of global supply, which resulted in a flood of supply to a market already off balance from the coronavirus-driven demand hit. April brought a historic event as Saudi Arabia, Russia, and the U.S. led a multinational coalition to commit to some of the largest supply cuts ever enacted. Still, it remains unclear if these cuts will be enough to offset the massive decline in demand. In our view, the combination of a supply glut alongside a coronavirus-led demand shock is likely to keep downward pressure on oil prices in the near term.

Most recently, oversupply and a lack of storage capacity led the West Texas Intermediate (WTI) futures contract for May to settle in negative territory on April 20. WTI contracts are settled through physical oil delivery (i.e., the owner of the contract receives barrels of crude). With many investors unable to physically receive crude oil, they were under pressure to sell their forward contracts ahead of expiry to market participants that could accept delivery.

Eventually, oil prices are likely to see a cyclical rebound as demand recovers, though longer-term structural forces, including electric vehicle adoption and renewable energy, may affect future oil demand. Many of these structural influences have been priced in to public equity prices over time, which can be seen through the underperformance of the energy sector relative to the broader index; the S&P 500 energy sector has underperformed the broader index by more than 200% on a total return (including dividends) basis over the past 10 years.

If the oil price remains below U.S. producers' breakeven production costs for an extended period of time, there is a higher probability of bankruptcies in the sector. While equity and credit market prices have largely incorporated this consideration, and the Fed's credit-related backstops have provided stability in funding markets, a number of companies entered this unexpected shock with highly levered balance sheets. This is evident via high yield energy credit spreads, which reached a high of 23.1% on March 20. Excluding the energy sector, high yield credit spreads reached a high of 9.73% on March 23.

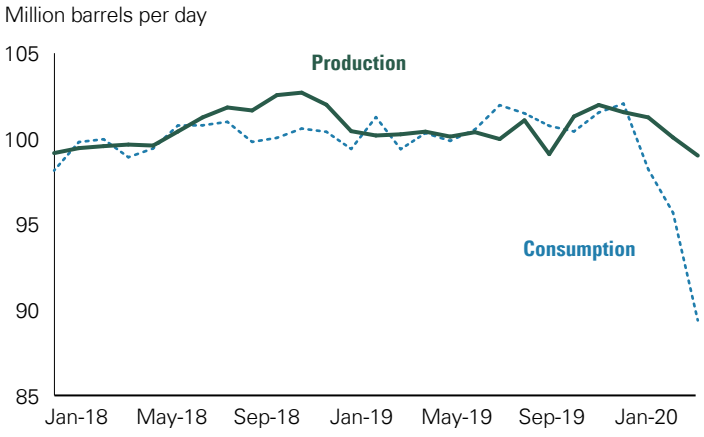
As the energy sector is extremely capital intensive and accounts for roughly 10% of the high yield credit market, higher oil prices are crucial for access to financing. Given the disparity across energy sector balance sheets, any exposure to the sector in Bessemer portfolios will remain actively managed; equity mandates are likely to maintain an underweight position relative to benchmarks in the near term.

A Coronavirus Demand Shock

After Brent crude oil prices briefly spiked above $68 per barrel in January due to flaring tensions in the Middle East, prices came under pressure as it became clear that the coronavirus-induced global lockdowns would stifle oil demand (Exhibit 2). Initial reports indicate that the coronavirus pandemic has taken out roughly one-third of global oil demand, a shock greater than those of September 11, the Global Financial Crisis (GFC), and even potentially the great

Exhibit 2: Global Oil Production and Consumption

Key Takeaway: Crude oil demand has fallen dramatically in response to the coronavirus pandemic.



As of March 2020.

Source: EIA Short-Term Energy Outlook

oil demand collapse of 1979 to 1983. Reports have indicated that the coronavirus could remove 20 to 35 million barrels per day (mbpd), or roughly 20% to 35% of global demand. Assuming a 100 mbpd oil market, this translates into a massive shock for an oil market typically accustomed to 1% to 2% imbalances.

An OPEC+ Supply Shock

The rapid growth of U.S. shale over the past few years has increasingly concerned Russia and Saudi Arabia and made it more difficult for OPEC to influence the oil market. OPEC production cuts aimed at stabilizing the market have often resulted in increased output and market share for U.S. shale producers (Exhibit 3).

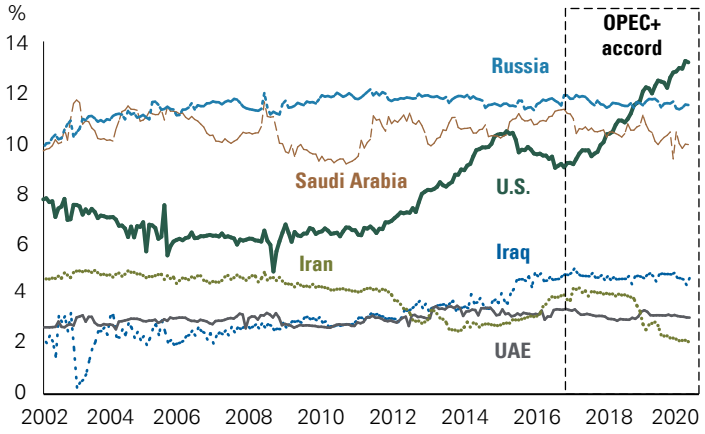
Prior to the coronavirus outbreak, OPEC+ was working under two assumptions: Global oil demand would expand sufficiently in 2020 and absorb much of the rising U.S. shale production, and the cartel's output restraints could still be effective in stabilizing markets. However, the coronavirus demand shock drastically changed that calculation and, in many ways, forced OPEC's hand.

In early March, OPEC+ declined to cut production in response to the impact of the coronavirus. Saudi Arabia had proposed cuts and was prepared to reduce supply, though it had made it clear that it would not carry the burden of balancing the market alone. Russia declined Saudi Arabia's proposal, noting that it wouldn't be effective to cut supply given the magnitude of the demand shock. Russia's decision was also likely driven in part by concerns that it would allow U.S. producers to increase their market share. While Russia might not be able to fully kill U.S. shale, a low-price environment could slow the growth of U.S. shale enough such that OPEC+ members could regain lost market share.

In an even more unexpected move, and in retaliation to Russia's unwillingness to participate in supply cuts, Saudi Arabia announced plans to cut oil prices and boost production, which opened the crude oil flood gates and launched a global oil price war. With the collapse of talks and these resulting actions, OPEC members pivoted from a price-targeting strategy to a market-share strategy beginning April 1.

Exhibit 3: Share of Global Oil Production

Key Takeaway: Over the last decade, the U.S. has gained an increasing share of the global oil market.



As of February 29, 2020.

Source: Bloomberg

Historical Precedent

The 2020 oil price crash is not wholly unlike the prior crashes of 2014 or 1985 (Exhibit 4). During these periods, supply rose from high-cost players and demand weakened due to specific events as well as shifting cyclical and structural factors. Saudi Arabia's recent actions are reminiscent of 2014, when it flooded the market and weakened prices in an attempt to gain market share and push U.S. shale producers out of business (see A Brief History of OPEC and the U.S. Shale Revolution, page 7).

Oil demand declined in the 1980s as nuclear energy and natural gas usage increased while geopolitical tensions decreased. At the time, OPEC attempted to maintain prices by cutting production from 10 mbpd in 1979 to 2.5 mbpd in June 1985. But given the massive drop in demand, OPEC was ultimately forced to adopt a market share strategy and increase supply, which drove prices down. Eventually, demand rebounded as oil prices became more competitive, non-OPEC supply slowed, and OPEC market share rose.

Exhibit 4: Historical Oil Price Moves

Key Takeaway: Supply and demand shocks have led to significant oil price movement throughout history.

As of April 24, 2020. Prices in 2014 dollars. 1861–1944 is U.S. Average, 1945–1983 is Arabian Light posted at Ras Tanura, 1984–2020 is Brent dated.

Source: BP, Goldman Sachs Research, Haver Analytics, NBER/Federal Reserve Bank of St Louis

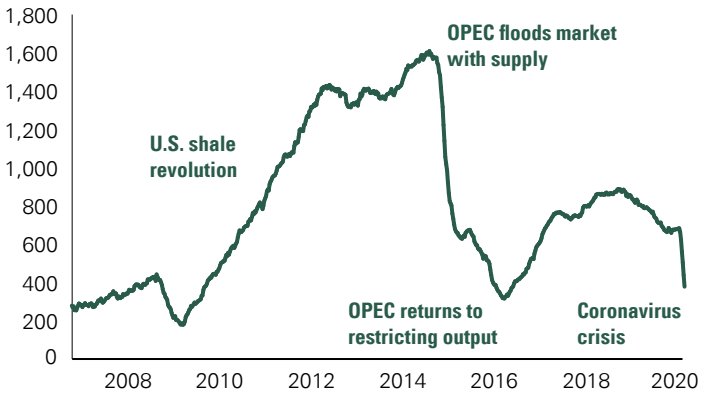
An OPEC+ Reversal

With oil prices in free fall after the significant supply and demand shocks, in April, key crude producers returned to the negotiating table in a historic show of global cooperation. In the final agreement, 23 countries pledged to withhold nearly 10 million barrels of oil from global energy markets, or roughly 10% of pre-crisis total demand. This amounted to a cut more than double the OPEC cuts during the GFC. The U.S., Brazil, Norway, and Canada have indicated they will likely reduce supply by four to five mbpd in the coming months. While the U.S. administration apparently does not plan on enforcing cuts, it has indicated that supply will decline due to market forces, which is already evident in the declining U.S. rig count (Exhibit 5). Incredibly, these production reductions may still not be enough to offset the coronavirus-induced decline in demand.

Given the size of the demand collapse and the time it will take to implement production cuts, oil prices are unlikely to return to the highs seen in January in the near term. With supply flooding the market amid a weaker demand backdrop, inventories have surged with supply outstripping demand. Furthermore, oil price volatility has increased dramatically as the market relies upon price to balance the physical market. Prices can plunge as the market nears storage capacity in an attempt to motivate suppliers to "shut in" production, as was evidenced by the negative WTI futures contract on April 20. Given the real prospect of storage space running out, there are indications that producers have started to cut output more aggressively as a result of storage constraints in addition to lower prices.

Exhibit 5: U.S. Rig Count

Key Takeaway: The number of U.S. rigs is declining rapidly as production attempts to match much lower consumption.



As of April 24, 2020.

Source: Baker Hughes, Bloomberg

Impact on U.S. Shale

The U.S. shale industry will be negatively impacted in aggregate as oil prices fall below the breakeven price for some producers. While each shale basin has its own economic ecosystem with unique breakeven costs that dictate profitability, breakeven production prices for many producers stand between $40 and $50 per barrel of WTI.

However, even with oil prices falling below the breakeven price for new wells, many producers have the ability to continue production from wells that have already been drilled with considerably lower cash costs. Ultimately, the ability to secure transportation and storage may be the deciding factor in "shutting in" wells.

As a result of the lower price environment, U.S. producers have announced reduced capital expenditures. The market pressure not to outspend is high, especially as capital markets are largely closed to energy companies. In the short term, some producers have hedged all or a portion of this year's expected production against lower oil prices, providing some degree of buffer. Nonetheless, if hedges expire and cannot be extended or producers are unable to fund growth, we would not be surprised to see some defaults, bankruptcies, or market consolidation if the low price environment persists.

Impact on U.S. Economy

A decade ago, the U.S. economy might have substantially benefitted from lower oil prices translating into lower gasoline prices. However, as the U.S. has become a major oil producer and global supplier over the past decade, extensive oil price weakness can increasingly hurt the U.S. economy through its negative impact on energy-related industries. From 1970 to 2007, there was a negative correlation between swings in oil prices and U.S. GDP; as oil prices fell (rose), U.S. GDP increased (decreased). However, today, the relationship is closer to neutral.

Importantly, the U.S. energy renaissance has supported the economy through additional job growth and capital expenditures. A 2017 API study found that the U.S. oil and gas industry supported almost 3 million jobs directly and nearly 10 million indirectly, or roughly 7% of U.S. total employment at the time.

Moreover, the windfall to consumers from the oil price collapse in 2014–2015 resulted in only a mild tailwind to growth because of the offsetting collapse in energy-related capital expenditures. Notably, energy-related capital expenditures can have a multiplier effect on other sectors, like machinery. The 2014 oil price drop pushed U.S. capital expenditure growth into negative territory when oil and gas investment dropped almost 70%.

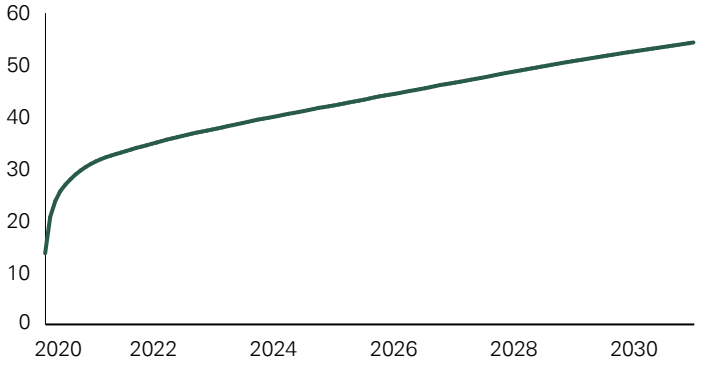
Longer-Term Outlook

Oil demand is likely to cyclically rebound as economies open again after the coronavirus, though longer-term structural factors like renewable energy may limit oil demand growth in the future. Cyclically, it is unlikely that prices will remain at these depressed levels once demand returns. The oil futures curve is supportive of this notion as the curve is currently in "contango," meaning the future price of oil is higher than the spot price (Exhibit 6).

In the long term, neither Saudi Arabia nor Russia can maintain its fiscal budget at current oil prices. Saudi Arabia's fiscal breakeven is projected to be around a Brent crude price of $60–$80 while Russia's is around $40–$50. Both, however, have some buffers to ride out the short-term pain from lower oil prices.

Exhibit 6: WTI Futures Curve

Key Takeaway: Oil futures indicate that prices are expected to increase as economies reopen.



As of April 22, 2020.

Source: Bloomberg

Russia has a more diverse economy (oil now accounts for less than one-third of its budget revenue), abundant currency and gold reserves, and an adaptable exchange rate. The free-floating ruble helps to protect the Russian oil industry as a weaker ruble reduces the domestic cost of production while Russia can still export oil in dollar terms. While Saudi Arabia's currency is pegged to the dollar, it has the lowest production costs of any major producer. Additionally, it has the ability to ramp up production quickly to offset lower prices with higher volume.

What will the future bring for U.S. shale? While lower prices may hurt the shale industry in the near term, shale has the advantage of being able to turn on and off its taps faster than many other producers in conventional oil fields. When demand eventually begins to recover and a global supply gap needs to be filled, producers like Saudi Arabia will be able to ramp up production to meet rising demand. But U.S. shale may emerge as a key swing producer as well given its ability to increase production relatively quickly.

The future of oil demand and U.S. shale has also been brought into question by the anticipated rise in electric vehicle adoption and considerable growth in renewable energy. As renewable energy costs have fallen exponentially in the past decade, alternative energy sources are increasingly competing on pure economics rather than relying on subsidies and tax credits. Declining lithium-ion battery costs have placed electric vehicles on track to soon be cheaper than combustion engine vehicles.

Given that transportation comprises over 50% of global oil demand, increased growth of the electric vehicle industry will have important ramifications. Still, it is likely that electric vehicle penetration will take time. While the global energy sector is becoming increasingly reliant on renewable energy, alternative energy sources are not yet at the competitive scale demanded by growing populations to render oil obsolete in the foreseeable future.

Bessemer Positioning

Bessemer equity portfolios have benefitted over the last several years from an underweight to the energy sector, which itself has also become a smaller percentage of the market. The energy sector now represents less than 3% of the S&P 500, down from over 25% in the 1980s. The sector has faced several headwinds that have limited its relative performance, including relatively weak earnings growth, poor return on capital, and also to some extent the proliferation of ESG-minded investors and an increase in fossil fuel divestments. Over $11 trillion in assets have been committed to divestment as investors around the world are shifting toward more socially responsible investing.

Bessemer portfolios have recently maintained an underweight to the energy sector given the limited opportunity set of companies positioned for long-term structural growth, a key tenet of Bessemer portfolio mandates. Still, Bessemer portfolio managers have found select energy investment opportunities, especially given the sector's attractive dividend profile. However, with dividends being called into question as a result of the latest oil price declines, emphasis on active management within the sector remains of paramount importance.

Given the degree of negative investor sentiment as well as relatively attractive valuations, we are continually monitoring the potential for buying opportunities within the energy sector, especially as ESG trends and poor financial returns have pressured the traditional energy industry to reform. Notably, equity portfolio managers have found select opportunities in companies focused on sustainable energy generation and distribution.

Bessemer's alternatives portfolios — Fifth Avenue Real Assets (RA) funds in particular — are also positioned to take advantage of longer-term opportunities created by moves in, and the transformation of, the energy market. Following the 2014 oil price collapse, RA 3 and, to a lesser extent, RA 4 took advantage of the market recovery. These funds invested alongside experienced managers who, together with their portfolio companies, were early movers in adopting innovative technologies to produce oil and natural gas or who specialized in providing critical infrastructure necessary to transport products to markets.

While managers sold some underlying investments prior to the onset of the global coronavirus pandemic, others continue to be held. To survive the current low oil price environment that is likely to persist, managers have undergone intensive reviews of their companies' operations

and capital needs, slashing expenses and deferring capital expenditures such as drilling. Some overextended companies lacking liquidity will not survive.

As coronavirus concerns ease and demand returns, managers with "dry powder," or uninvested capital, stand advantaged to capitalize from an environment of reset pricing and reduced service costs. In RA 5 (2020 vintage), we expect to continue to diversify away from oil, focusing more on how the energy ecosystem is evolving, including a move toward renewables and innovative technologies that make real assets more productive, among other themes.

With a special thank you to Anthony Liparidis for his contributions.

A Brief History of OPEC and the U.S. Shale Revolution

The Organization of the Petroleum Exporting Countries (OPEC) was formed in 1960 by Venezuela, Saudi Arabia, Kuwait, Iraq, and Iran. OPEC now also includes Algeria, Angola, Ecuador, Libya, Nigeria, Qatar, and United Arab Emirates. The oil cartel holds the majority of the world's oil reserves and controls roughly one-third of global oil production. Saudi Arabia has the majority of OPEC reserves, followed by Iran and Venezuela. Outside of OPEC, oil reserves are located in the North Sea, United States, Canada, Brazil's deepwater, and the Gulf of Mexico.

OPEC primarily serves to negotiate oil production and affect the price of oil. Recall the oil shock of 1973, when OPEC flexed its muscles by declaring an oil embargo, creating painful supply shortages and high oil prices, resulting in a major energy crisis around the world. Historically, the U.S. has seen OPEC as a threat to its supply of cheap energy, much of which came from the Middle East. However, in the past decade, the U.S. shale revolution and booming oil production have reshaped global oil markets and shifted the geopolitical landscape. The U.S. shale boom, driven by technological advances in unconventional oil production — such as horizontal drilling and hydraulic fracturing (fracking) — has lifted U.S. output to an all-time high and made the U.S. one of the world's top oil producers, regaining a position it lost in 1973.

In response to the U.S. shale revolution and OPEC's reduced market influence, Saudi Arabia tried to reassert its oil market authority against the emerging shale threat. In 2014, Saudi Arabia declined to cut production, thinking it could drive U.S. producers out by flooding the market with supply and pushing oil prices down. West Texas Intermediate (WTI) oil prices fell from $106 in June 2014 to under $30 in February 2016. The U.S. shale revolution came to a halt with such low energy prices. But the pressure from OPEC forced further innovation in the U.S. oil industry, and U.S. shale proved more resilient than expected with breakeven prices lower than originally predicted. Some wells in the core of the Permian Basin, the driver of U.S. production growth, were able to generate wellhead returns below $40 WTI, though reports indicate U.S. shale broadly requires about $50 WTI for profitability.

At the time, Saudi Arabia deemed the oil price required to push the U.S. out of the market not beneficial to Saudi Arabia or other oil-producing countries. After two years, OPEC members (joined with other key producers, including Russia, creating OPEC+) returned to restricting output, which led to a recovery in oil prices. With the return of higher oil prices in 2016, the U.S. asserted its newfound position as a major player on the global oil stage. Over the past decade, its share of total global production has more than doubled, moving from 6% to 13% (see Exhibit 3). Global exports also ramped up after the Obama administration's decision to lift the 1975 oil export ban in 2015. Last year, U.S. production notably exceeded that of Saudi Arabia and Russia; meanwhile, the U.S. also recently became a net exporter of oil and petroleum products for the first time in 70 years.

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