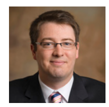
Oil Market Volatility Likely to Continue

Opportunities among high-quality commodity producers

March 2020

KEY INSIGHTS

- Oil prices could see further short-term weakness amid plunging demand and rising OPEC output, prompting producers to slash investment and shut in some wells.
- We worry less about the duration and more about the depth of the fall in oil prices, given the commodity's self-healing properties (high base decline rate).
- Although we believe oil is in a cyclical and structural bear market, we are finding compelling investment opportunities created by near-term dislocations.



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Growing concerns about an upsurge in global oil inventory due to both a historic weakness in underlying demand because of the coronavirus outbreak, and a breakdown in OPEC dynamics have resulted in significant volatility in oil markets, causing prices to plunge toward levels that incentivize producers to shut in existing wells.

The collapse in talks between OPEC and Russia, which prompted Saudi Arabia to announce plans to ramp up output to more than 11 million barrels per day by April from 9.7 million barrels per day, has increased the pressure on all oil producers, particularly higher-cost, non-OPEC oil operators, including those in the U.S. and Canada.

In such a rapidly evolving situation, it is difficult to know the ultimate magnitude of the coronavirus-driven demand destruction, but it is clear that the current reductions are having a meaningful and accelerating effect. It appears that we are now in for a 2008-style demand shock, which, coupled with the supply shock created by Saudi Arabia, creates an environment in which we could see spot oil prices plummet through the top of the industry's operating cost curve, or the level at which producers consider shutting in some of their wells. For West Texas Intermediate (WTI) crude oil, we believe the top of the operating cost curve is between USD 25 and USD 30 per barrel.

Staying Ahead of the Curve

We have found it useful to anchor our analysis of the oil market and participants' behaviors in an understanding of where spot prices are relative to the operating cost curve and the incentive cost curve.

At the lower bound, the operating cost curve represents the commodity price range where capital investment exits the market and oil producers temporarily shut in existing wells. On the opposite end, the incentive cost curve is the price range where operators are prompted to invest in incremental production. Oil prices historically have spent about 90% of the time above the incentive curve, as the base decline rate in global oil output requires ongoing development and incremental production to keep pace with demand growth.

Our research shows that how productivity shifts in these two cost curves tends to drive prices over the long term. Understanding these dynamics aligns with our investment time horizon and can be especially useful in identifying opportunities when near-term market dislocations occur.

Lessons of the (2014–2015) Fall

The rise of U.S. shale oil and gas production, with its attendant productivity gains as these companies have pushed technology and built scale, has continued to pressure the industry's incentive cost curve and spurred efficiency gains in oil production operations. The shorter development timelines associated with shale oil and gas wells likewise have helped these players to take market share. As such, we would not be surprised if "USD 45 per barrel is the new USD 50 per barrel for WTI" when we reemerge from this downturn as productivity gains continue to accrue.

However, wells in shale formations exhibit much steeper decline rates than those in the deepwater and other conventional developments. When shale players cut their capital expenditures and reduce their drilling and well completion activities, the decline curve kicks in much more quickly, resulting in a faster production response on the downside. We saw this phenomenon play out during the supply-driven downcycle in crude prices that took place in 2014 and 2015, after surging hydrocarbon output from U.S. shale players and OPEC's decision not to cut supply swelled oil inventories.

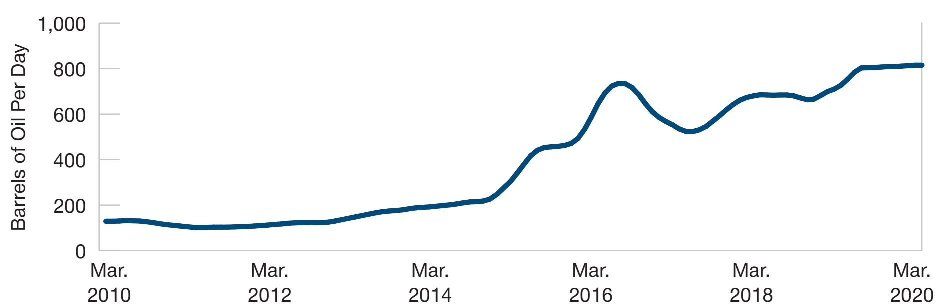
We would expect this process to play out in response to the recent demand and supply shocks, with the supply adjustment in U.S. onshore plays helping to rebalance the market relatively quickly. We would also expect shorter-cycle offshore developments that tie in new wells to existing infrastructure to slow down, while investment decisions on longer-cycle offshore developments will likely be pushed back.

U.S. Oil Patch Faces Pressure

As it stands, we find the current price of crude oil to be relatively reasonable, given the unprecedented and simultaneous supply and demand shock. These low prices will not only chase capital away from the sector—the number of active rigs in the U.S. is likely to drop as much as 50% from February 2020 levels—but we should see existing wells shut in in

Productivity Gains Pressure Cost Curve

Oil output per drilling rig, Permian Basin, West Texas



As of March 1, 2020.
Source: U.S. Energy Information Administration (March 16, 2020).

> Once again, low oil prices should be the cure for low oil prices.

response to oil prices below USD 30 per barrel. In fact, the material drop in demand levels requires these well shut-ins and reduced drilling activity to rebalance the market and prevent a total fill of inventories.

The good news is that, while oil prices will be meaningfully challenged in the near term, it should not take long to rebalance the market. Even with Saudi Arabia's elevated levels of oil production, we expect a V-shaped recovery as we move into 2020, similar to the price collapses that occurred in 1986, 1988, 1998, 2008–2009, and 2014–2015. Once again, low oil prices should be the cure for low oil prices.

With oil prices plunging toward the operating cost curve for the second time in five years, we are likely to see a reduction in the flow of capital to the oil patch. Valuation multiples for U.S. shale oil and gas producers had already come under pressure in recent years, reflecting the market's concerns about these companies' returns on capital and terminal values in a future where environmental concerns and growing adoption of electric vehicles could dampen demand. In the current state, we would expect to see an increase in bankruptcies among the weakest exploration and production and oil field service companies, primarily those with lower-quality assets, weak balance sheets, and near-term debt maturities.

However, these challenges could contribute to necessary changes that would put the industry on better footing, including a shift in focus from growth at any cost to improving investor returns and free cash flow generation. Industry consolidation also appears likely over the coming years, as scale becomes increasingly important to control costs and increase operational efficiency.

Identifying Opportunities

Our team's extensive research into cost curves in oil and other commodity markets helps us to identify compelling, long-term investment opportunities created by near-term market dislocations. We believe these resources give us an edge in times of crisis.

The evolution of the operating and incentive cost curves over time can have profound implications for commodity prices as well as the returns generated by producers. We believe that the oil market will remain mired in a cyclical bear market as productivity gains related to technological and process enhancements continue to pressure the incentive cost curve and the profit margins on invested capital.

Despite this bearish long-term outlook and environmental, social, and governance (ESG) considerations compressing valuation multiples in the energy sector, instances where commodity prices plunge into the operating cost curve have usually created compelling investment opportunities.

However, selectivity is critical. Among oil and gas producers, we gravitate toward names that offer high relative return potential, cogent business strategies, trustworthy management teams, competitive cost structures, and clean balance sheets. These qualities should aid survival in a long bear market and position these companies to emerge stronger on the other side. We also seek to avoid companies with "hidden leverage" that could breach their loan covenants or experience other liquidity challenges as their hydrocarbon output flattens and lower commodity price realizations pressure their revenue.

We prefer investments in industries in which a rising incentive cost curve can pull commodity prices higher, potentially improving operators' profit margins. With the broad-based sell-off in cyclical sectors, we are also finding ample opportunities among high-quality commodity producers that operate in markets with these qualities. In some instances, the energy-intensive nature of their operations means that the sharp downdraft in oil prices could provide a tailwind.

WHAT WE'RE WATCHING NEXT

We continue to monitor oil inventories in developed economies, a key metric for assessing near-term fundamentals in the oil market. With the coronavirus outbreak weighing heavily on the global economy, we are also tracking estimates of the hit to global oil demand. On the supply side, we're monitoring the U.S. rig count and capital expenditure announcements from individual oil and gas companies.

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ID0003092 (03/2020)
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