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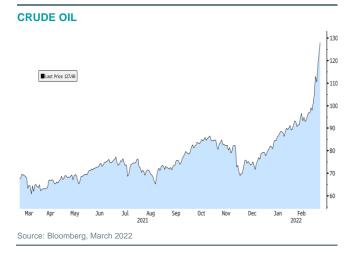
March 2022 / Investment Insights

Upward Oil Shock and Energy Credit Impact

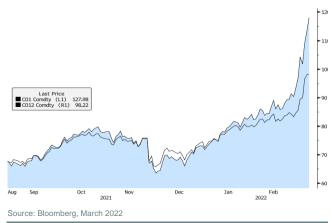
Forecasting "what's next" and assessing potential credit impact on investment-grade energy sector bonds.

What happened?

The meteoric rise in oil prices over the past few months reflects tighter physical market fundamentals as the post covid recovery in crude demand kept surprising to the upside, OPEC+ producing fewer barrels vs expectations and OECD crude stocks declining. The surge in oil prices also reflects fears about the potential spare production capacity in a rapidly worsening geopolitical environment amidst a higher possibility of output disruptions. The removal of Russian oil and gas volumes from the market is likely to send energy prices soaring, exacerbate alreadyhigh inflation, and slow economic growth globally, a move that would be detrimental to many nations outside of Russia. Volatility in oil prices has also been exceptional because the underlying demand and supply curves are inelastic. Demand is inelastic due to long lead times for right-sizing the levels of fuel-consuming inventory. Supply is inelastic in the short term because it takes some time to alter the production coming out of oil wells.



SUPER BACKWARDATION



According to EIA's latest estimates, the Brent price will average \$117/b in March, \$116/b in 2Q22, and \$102/b in 2H22. Finally, settling down around ~\$89/b in 2023. However, these estimates remain highly uncertain in the short term. Actual price outcomes will be dependent on the degree to which existing sanctions imposed on Russia, any potential future sanctions, and independent corporate actions affect Russia's oil production or the sale of Russia's oil in the global market. In addition, the degree to which other oil producers respond to current oil prices, as well as other macro developments.

Investors can see from the chart above that the oil market is currently in steep backwardation, where there is a premium for physical delivery of oil "now". Oil futures are signaling a very tight physical market and there is a 12-month backwardation of around \$30/b. Given the numerous market forces at play, the ultimate landing spot for prices is extremely difficult to determine.

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Current developments

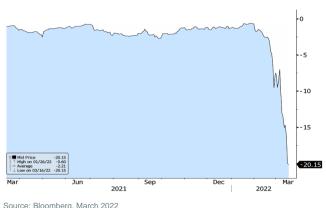
Russian oil embargo

Crude oil recently touched \$130/b (intraday), as the U.S. announced a Russian oil embargo. The U.S. imports less than 3% of crude oil from Russia and less than 8% when including all petroleum products. Russian production accounts for 10% of the world's oil (10 mmbd) and it is the 2nd largest exporter behind Saudi Arabia at 7-7.5 mmbd. Russia supplies around 4.5 mmbd (30%) of European demand and 1.7 mmbd (12%) of Chinese demand. Europe also relies on Russian natural gas for 30-40% of supply depending on the country. The key exportable oil grade is Urals blend, a medium sour crude.

Further oil disruption risks:

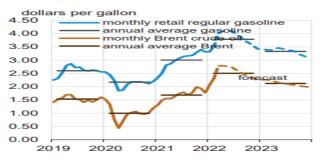
- Damage to infrastructure (pipelines, ports) including cyberattacks;
- Further sanctions and buyers shifting away from Russian crude and products, export frictions (access to letters of credit, insurance, higher tanker rates, tankers access to ports);
- Insurance companies refusing to cover freight shipping from/around the Black Sea región; and
- Energy supply could also be "weaponized" by Russia vs. nations supporting sanctions.

URALS VS BRENT



GASOLINE PRICES

U.S. gasoline and crude oil prices



As some exports of Russian crude oil are being avoided, it is driving massive discounts ~\$20/b for Urals vs. Brent and some unsold exports could struggle to find buyers.

Fundamentals

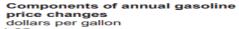
Demand – According to EIA's latest forecasts, global consumption of petroleum and liquid fuels will average 100.6 mmbd for all of 2022, up 3.1 mmbd from 2021. It forecasts that consumption will increase by 1.9 mmbd in 2023 to average 102.6 mmbd.

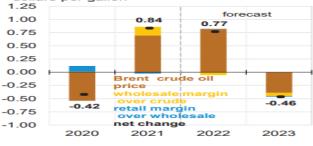
Supply – While global oil supply rose to 98.7 mmbd in January according to the IEA, the uptrend was slowed by a consistent OPEC+ under-performance vs targets. Some of the supply shortfall risks, could be reduced if producers in the Middle East with spare capacity were to compensate for those running out. A further 1.3 mmbd of Iranian crude supply could gradually be brought to market should sanctions be lifted.

According to EIA, recent crude oil price increases will push the U.S. average gasoline price to \$4.10/gal on average in 2Q22, which would be the first time that gasoline prices have reached at least \$4/gal since July 2008. Gasoline and diesel prices are closely tied to crude oil prices. The agency forecasts gasoline prices will average \$3.71/gal in 2H22 – with a big caveat – should things normalize. As such, risk remains to the upside where there could be higher costs for refiners (passed on to consumers), due to sourcing and shipping potential offsets to Russian crude.

Policy

Domestic production – we are yet to see anything meaningful or comprehensive from the Biden administration regarding increasing domestic energy production. E&P companies are hesitant to "stick their necks out" and start bringing sizeable production online without getting any assurances or guarantees in return from the government, since investing in "future capex" based on today's bubble-like prices can be a "recipe for disaster" down the road. Thus, any further investment has to be based on much lower \$/b.





Source: EIA, March 2022

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Windfall tax – Sen. Elizabeth Warren said she was working with Senate Democrats on a new tax proposal. The bill would target windfall profits, sudden and unusually large profits for oil companies, in light of the Russian invasion.

"Energy security" vs ESG – will be a major topic of debate across several nations, where "energy security" is likely to be prioritized over "climate change initiatives", at-least in the short-term. With the EU considering issuing a sizeable bond to finance energy and defense spending, it is vital to realize the likely "stickiness" of some of these policy shifts.

What's next?

Potential demand destruction remains in focus, as longerterm elevated commodities prices have an adverse demand impact, although it is too early to gauge demand elasticity at this point in the economic recovery.

Also, this crisis is likely to involve energy, metals and food and will be more severely felt in Europe vs. the U.S. While several countries are rapidly decoupling from Russian financial markets, it will take longer to decouple from Russia in physical markets. Commodity supply will likely remain restricted until the conflict is resolved/sanctions ease or until some flows are redirected into Asia.

We could also see increased self-sanctioning along the oil supply chain. Fears over further sanctions and ambiguity over banking sanctions has resulted in some market participants avoiding Russian crude, reflected in the widening differentials, Urals vs. Brent, rising insurance and shipping costs.

HOW HIGH CAN IT GO?

Bear case

Full disruption of Russian crude exports 5 mmbd by (U.S & Europe) countries backing the sanctions and/or weaponization of energy by Russia

Oil price - \$150-\$200/b

Base case

Partial disruption of Russian Crude and some flows re-directed into Asian markets

Oil price - \$100-\$150/b

Bull case

Cease fire and/or partial disruption of Russian crude offset by a combination of supply response from Gulf States/Iran/Venezuela/U.S.

Oil price - \$70-\$100/b



Using historical context, over the last 30 years, there have been only two instances where WTI prices breached \$120/b: 1) Leading up to the 2008 financial crisis, where crude prices crashed from \$145/b to \$37/b in less than 6 months, and 2) the current geopolitical crisis. It is extremely hard to say how this episode will end, but in DWS's view this volatility will drag on for a while and will likely get worse before it gets better.

Energy sector impact

Commodity price tailwinds – While E&P companies will continue to benefit the most from higher oil prices and the majority having shed their hedge books leaving full upside, the current price environment provides tailwinds for the entire energy sector. This should further strengthen companies' operating metrics and generate peak financial performance.

Refiners – Loss of Russian feedstocks will have a limited impact. The U.S. ban on Russian oil will require them to find alternative sources of crude and we expect that refinery utilization rates will remain largely intact. U.S. refiners should eventually benefit from increased export opportunities if Russia's oil and refined products exports continue to decline or even cease.

Impairments are likely for oil majors exiting Russia – Exxon, BP and Shell all announced that they will be exiting their assets in Russia following the invasion of Ukraine. These exits will lead to sizeable impairments in most instances given the uncertainty regarding the potential to recover any value from these assets. Nevertheless, these companies have very strong balance sheets and continued high oil prices should mitigate credit-negative effects.

Potential rating upgrades – In DWS's conversation with the agencies, we got the sense that any sector-wide upgrades are unlikely to materialize and will only happen on a case-by-case basis. As such, even though agencies anticipate that higher oil & gas price assumptions will lead to improved near-term leverage metrics at all rating levels, they remain focused on companies' financial policies and commitment to improving balance sheets through debt reduction; as such DWS does not expect any wholesale upgrades to the sector.

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