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Credit risk of junk-rated US oil and gas corporates increases amid supply and demand shock

by Anna Sophie Wupper

Ever since the outbreak of COVID-19 back in December, global economic outlook dimmed. After the initial outbreak in China, followed by a sequential expansion in Asia and later Europe, the US also started to report confirmed cases from Jan 21, 2020. As more cases are reported worldwide, the US stock market has seen its worst bear market since 2008 which is reflected by the drop of the S&P 500 by 18.75% from mid-Feb 2020 to early Mar 2020. Among the affected industries, the oil and gas industry is heavily hit as oil prices plunged by 49.07% in the past nine weeks. The NUS-CRI Aggregate 1-year Probability of Default (Agg PD), which is presented in Figure 1 below, shows that the Agg PD of US oil and gas corporates surged upwards to 262.52bps as oil prices slump.

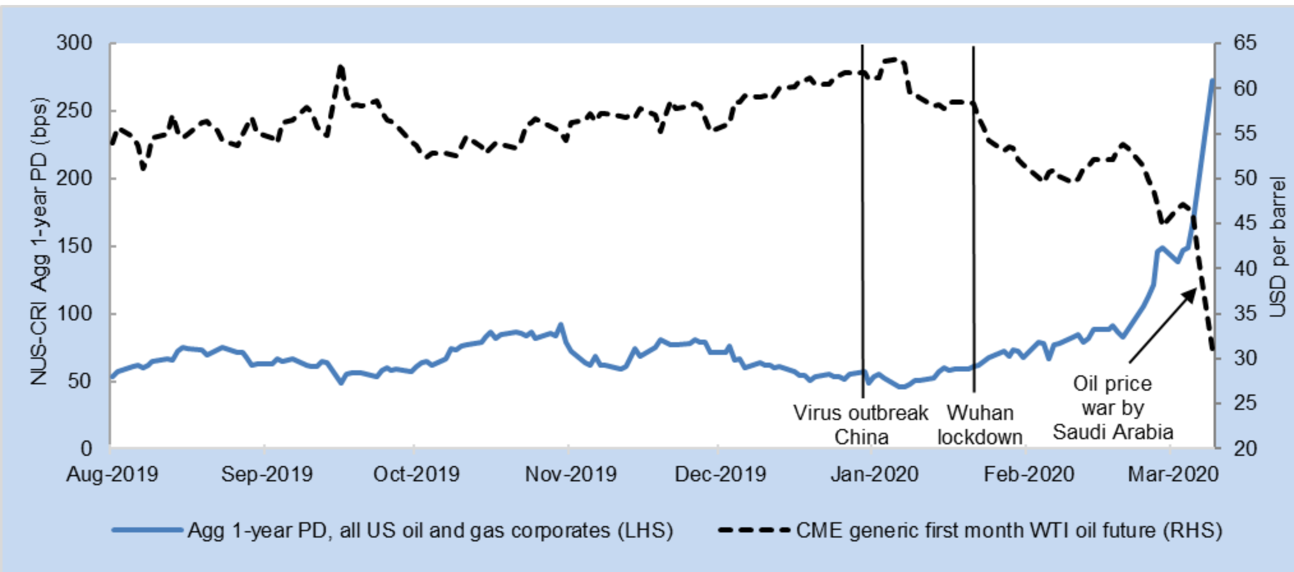

Figure 1: NUS-CRI Aggregate 1-year PD for US oil and gas corporates (LHS) and CME generic first month WTI oil future (RHS). *Source: NUS-CRI, Bloomberg.*

The slump in oil price can be attributed to both demand and supply shocks. In terms of demand, the emergence of COVID-19 has not only led to a significant decline in global trade and travel, but also put the manufacturing sector into a significant strain. This, in turn, has inevitably shrunk oil demand and depressed oil prices. In particular, the reduction of China's consumption as the world's largest oil importer and second-largest importer of liquefied natural gas has extensive impacts and was one of the main factors for the drop in oil price. As shown in Figure 1 above, oil prices began to decrease since the outbreak of the coronavirus while the risk of US oil and gas corporates increased. These trends became more pronounced with the lockdown of Wuhan, the city in the Chinese province Hubei where the first case of COVID-19 was reported.

Supply-wise, the OPEC (Organization of the Petroleum Exporting Countries) tried to force Russia to join them in production cuts, risking an oil price crash if the plan fails. As Russia refused to cut its production, Saudi Arabia started to launch an oil price war and plans to offer its crude oil at large discounts to win new customers. By now, oil prices dropped to USD 31.13 per barrel which amounts to the lowest price within the last four years and one third of the oil price drop since the beginning of 2020 only took place after the oil price war announcement.

Figure 2a below shows that the increase in US oil and gas corporates' Agg PD is driven by those corporates that hold a junk-rating (rated BB+ and lower) according to the NUS-CRI Probability of Default Implied Rating[1] (PDiR). Since the coronavirus outbreak, the Agg PD of junk-rated US oil and gas corporates has more than doubled and reached 730bps by now. This upward surge in credit risk is due to the companies' difficulties to refinance and repay their upcoming debt amid the slump in oil prices. In total, US oil and gas companies have more than USD 85bn of debt maturing until 2024, but junk-rated corporates will have an especially hard time to refinance as investors typically require to be compensated with higher interest rates to lend their money for such companies. Due to the coronavirus-based fears and negative market sentiments, investors pulled USD 4.2bn from US high yield corporate-bonds while pouring about USD 2.3bn into state and local government debt mutual funds in a bid to find safe havens. The average US high-yield energy bond's cost of borrowing was almost 11 percentage points above Treasury yields last Friday, which indicates that US high-yield energy bond is in "distressed" territory. On the contrary, the credit profiles of investment grade-rated US oil and gas were not heavily affected due to having easier refinancing possibilities than junk-rated corporates.

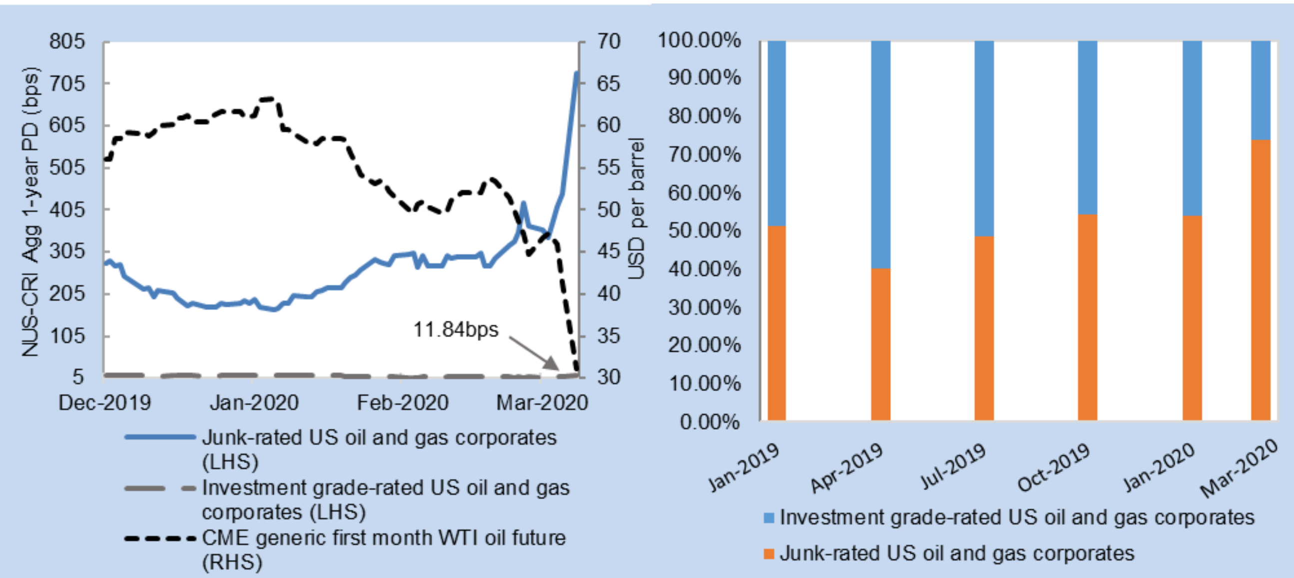

Figure 2a (LHS): NUS-CRI Aggregate 1-year PD for junk-rated and investment grade-rated US oil and gas corporates according to PDiR (RHS) and CME generic first month WTI oil future (RHS). Figure 2b (RHS): Composition of junk-rated and investment grade-rated US oil and gas corporates according to PDiR. *Source: NUS-CRI, Bloomberg*

According to a credit analysis that was carried out using iRAP[2], the PD increase of the US oil and gas corporates since Jan 2020 is mainly driven by two risk factors: The companies' market capitalization and their Distance-to-Default (DtD). The decrease of the companies' size relative to the median market capitalization of the corporates domiciled in the economy is accompanied by a higher risk. DtD is the expected difference between the asset value of a firm and the default point, after adjusting for the volatility of assets. A corporate with sound credit quality is expected to have positive and high DtD. As DtD decreases, the standard deviation to the default point gets smaller which results in a higher credit risk. Those risk factors lead to a PD increase which in turn causes a higher proportion of US oil and gas corporates to be considered as junk-rated. This can be seen in Figure 2b above, where the proportion of junk-rated US oil and gas corporates rose within the last three months from 54.21% to 73.83%. This means that by now only less than 30% of the US oil and gas companies can be considered as investment-grade rated according to PDiR.

[1] The NUS-CRI Probability of Default Implied Rating (PDiR) provides a more conventional interpretation of PDs – it translates NUS-CRI 1-year PDs to letter ratings by taking reference from the historical observed default rates of S&P's rating categories.
[2] The results were produced with iRAP (intelligent Risk Analysis Platform), which is a software developed by CriAT (https://www.criat.sg/) for conducting both firm-level and portfolio-level credit analysis. iRAP utilizes the NUS-CRI Probability of Default (PD) model and links to the live NUS-CRI database offering PDs on over 70,000 exchange-listed corporates globally.

Looking into the future, the market is bearish about next year's credit outlook for junk-rated US oil and gas companies. As shown in figure 3a, the Aggregate (median) Forward 1-year PD[3] (Forward PD) will worsen at a faster level compared to their investment grade-rated peers in the next eight months. At the peak in Jun 2020, today's market expects that a typical junk-rated US oil and gas corporate will have a probability of 7.77% to default in the next one year if it survives until May 2020. After surviving through Jun 2020, the credit risk will decrease and converge towards their investment grade-rated peer's Forward PD level until Mar 2025, implying that credit quality differences will be more pronounced in the short run and eventually decline.

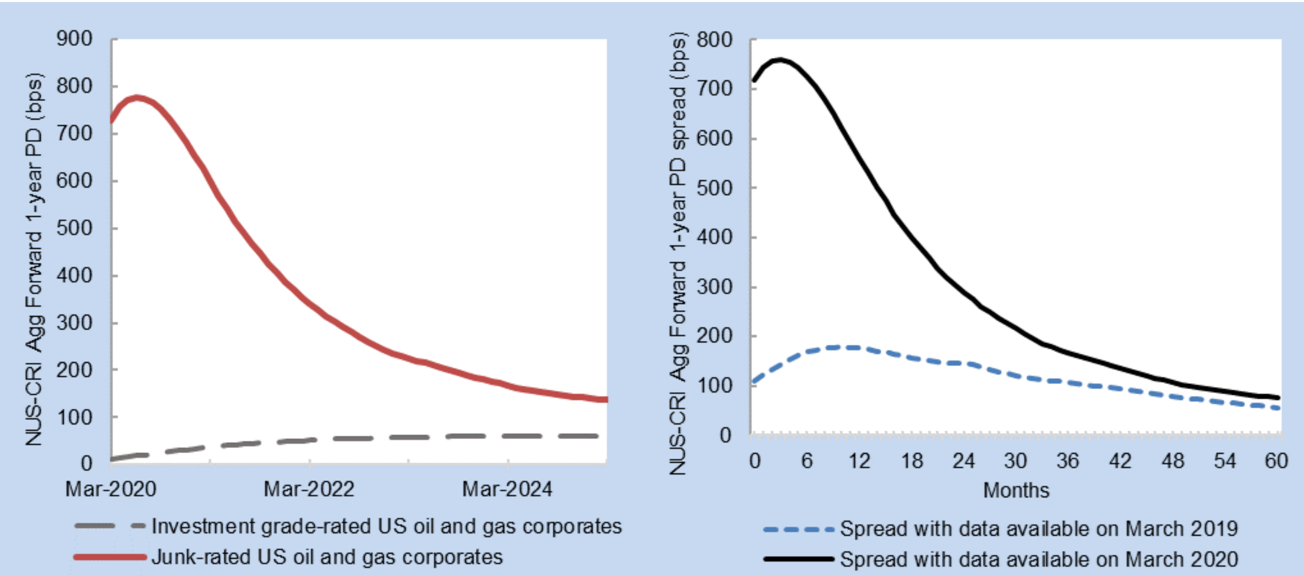

Figure 3a (LHS): NUS-CRI Forward 1-year PD of US oil and gas corporates based on information available in Mar 2020. Figure 3b (RHS): Spread between NUS-CRI Forward 1-year PD of junk-rated and investment grade-rated US oil and gas corporates according to PDiR based on information available in Mar 2019 and Mar 2020. *Source: NUS-CRI*

A comparison of the Forward PD spread between corporates that hold investment grade-ratings and junk ratings based on information available in Mar 2019 and Mar 2020 is shown in Figure 3b. While both spreads initially increased for the first few months, the spread with the Mar 2020 data showed a higher ascent and much stronger decline in Forward PD spread. The spread with the Mar 2020 information is also consistently above the one of last year, indicating a more negative expectation of today's market on the junk-rated corporates' credit outlook compared to the investment-grade rated peers in the US. In all, from both Forward PD graphs (Figures 3a and 3b) we can conclude that the markets expectation about the impact of the demand and supply shock for US junk-rated oil and gas corporates is most likely for the short-run instead of the long-run.

[3] The Forward PD estimates the credit risk of a company in a future period, which can be interpreted similar to a forward interest rate. For example, the 12-month Forward 1-year PD is the probability that the firm defaults during the period from 12 months onwards to 1 year plus 12 months, conditional on the firm's survival in the next 12 months.

Credit News

Biggest rescue of India bank will deepen lenders' funding woes

Mar 9. The Reserve Bank of India affirmed the safety of deposits in the wake of a decision to seize Yes Bank Ltd. and invite the nation's largest lender to make a confidence-building share purchase. It also announced an unprecedented move to permanently write down the bank's USD 1.2bn of additional tier 1 bonds. The actions are intended to avoid a disorderly collapse of India's fourth-largest private bank and reassure investors. However, the RBI's proposal may crimp banks' ability to raise the capital needed to fight the stressed loans, and it will pose challenges for smaller or weaker lenders to raise funds as investors turn averse to risk. (Bloomberg)

Oil price war spells danger for US junk bonds

Mar 8. Saudi Arabia's expected oil production rise is likely to threaten the US shale industry and imperil companies that are teetering on the brink of collapse. The average US high-yield energy bond's cost of borrowing was almost 11 percentage points above Treasury yields last Friday and prices of bonds issued by heavily indebted oil and gas producers have dropped sharply in recent weeks. A warm winter and falling global demand have also made natural gas prices lower, compounding the fallout from the declining oil price. Recently, bond markets have been closed to new sales from low-rated energy companies, cutting off a source of additional financing. Furthermore, the lower oil prices could put more pressure on cash flows and result in downgrades, further weighing on junk debt. (FT)

CLOs to warn investors coronavirus could impact performance

Mar 7. Collateralized Loan Obligation (CLO) managers warn investors that the fast-spreading coronavirus could impact the performance of the loans as production slowdowns weigh on earnings. Investment firms have considered adding the virus as a risk factor in US CLO documents. Not only the unknown long-term impact of the virus is causing significant uncertainty in both domestic and global financial markets, but it could also have material adverse effects on certain obligors of CLOs, including disruptions to their supply chains, closures of their facilities or decrease in demand for products and services. A mitigating factor for CLOs is the diversification of their collateral, and their final performance still depends on the operational flexibility of these companies and the manager's active management of portfolios. (Reuters)

Corporate debt markets fret over coronavirus effects

Mar 7. The iTraxx Crossover index, which measures the perceived risk of defaults by European companies with low credit ratings, leapt to its highest level in four years on Friday, suggesting that investors are bracing for a wave of defaults despite a plunge in government bond yields. The move comes amid a record-breaking bond rally, with growing fears over the effects of coronavirus sending investors scrambling for safe assets at the fastest pace since 2008. Companies with relatively high credit ratings were able to seize on moments of relative calm earlier this week to issue new euro-denominated bonds but choppy markets could slow down new bond sales in the coming days and weeks. (FT)

Coronavirus raises threat of China developer defaults

Mar 6. The rapid spread of coronavirus that originated in central China has raised the chance of Chinese property developers defaulting on their US dollar bonds as home sales suffer and access to cash dries up due to the coronavirus outbreak. Dealogic data indicated that developers must pay about USD 20bn in maturing US dollar bonds this year, and the total market for US dollar bonds issued by Chinese developers, via offshore financing centers like Hong Kong, is much larger. The Covid-19 epidemic has shut down economic activity across China and caused big problems for developers, many of which are highly indebted and need cash flows from property sales to pay debts. (FT)

Debt-default showdown looms as Lebanon freezes Eurobond payment (Bloomberg)

Investors' retreat to safety sees bonds hit new highs (FT)

Virus sends chill through risky European bank bonds (FT)

Regulatory Updates

Federal Reserve retools capital rules for largest US banks

Mar 4. The Federal Reserve (Fed) retooled capital rules for the largest US banks, marking one of the biggest changes to the rulebook for Wall Street after the financial crisis. The total number of big-bank capital requirements is reduced to 8 from 13 and the changes could be offset by a new "stress capital buffer", which would be calculated according to banks' annual stress-test results. Supporters of the overhaul in the Fed believe that it will simplify the post-crisis capital framework for banks while maintaining the strong capital requirements that are the hallmark of the framework. However, there are also concerns that the change will reduce banks' required capital levels and the amount they set aside as a buffer above their regulatory requirements. (WSJ)

Bank Indonesia to mitigate economic impact of Covid-19 outbreak

Mar 3. Indonesia's central bank has issued five policies to maintain monetary and financial stability during the outbreak of Covid-19. Bank Indonesia will try to minimize volatile escalation of the rupiah's exchange rate, and increase foreign exchange liquidity by lowering the statutory reserve requirement ratio on foreign exchange for conventional banks, Islamic banks and banks providing funding to export and import activities. The central bank would also expand the scope and type of underlying transactions to provide alternative hedging instruments for foreign investors. Global investors could enlist the help of both domestic and global custodial banks in their investment activities in Indonesia. (Jakarta Globe)

Turkish central bank changes reserve requirement to channel loans to productive sectors (Business Times)

Malaysia's central bank cuts key rate to 10-year low to mitigate virus impact (CNA)

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Contributing Editor: Anthony Prayugo