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Corporate credit markets after the initial
pandemic shock

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Corporate credit markets after the initial pandemic shock

Key takeaways

- *Corporate funding markets partially resumed after seizing up in mid-March 2020 – but at much higher spreads and with sharper sectoral differentiation.*
- *In March, wide spreads for highly rated energy firms pointed to significant downgrade risk.*
- *Post-GFC leverage build-up amplified the damaging effects of financial stress during the pandemic.*
- *The unusually broad impact of the pandemic shock on lower-rated firms threatens CLO structures, though not as much as the bursting of the housing bubble undermined CDOs.*

As the pandemic weighed on the economic outlook in March, dislocations multiplied across several financial markets. In corporate credit, issuance came to a virtual standstill, while spreads increased sharply and co-moved tightly across maturities, ratings and sectors. Forceful policy interventions mitigated investors' concerns and restored market functioning, but not pre-shock risk pricing in all industries. In this note, we review how corporate funding markets pivoted from overall exuberance in January to a mixed landscape of hectic and subdued activity after April, with generally higher credit spreads. We highlight how the economic disruption caused by the pandemic, if protracted, could pose significant challenges for some structured finance products, in particular collateralised loan obligations (CLOs).

As lenders took a more circumspect stance and borrowers contemplated sudden and persistent revenue declines, credit markets came under strain. Though no sector remained unscathed, there were clear losers. Oil and energy firms, which faced the consequences of a collapse in demand and of a poorly timed global price war, saw the largest increases in spreads. Service sectors that rely on close human contact (retail, entertainment, hospitality) trailed them closely. When bond issuance finally resumed for some segments in late March, borrowing costs rose steeply and highly rated energy companies paid yields only slightly lower than BBB-rated firms in less impacted sectors. The discrepancy indicated that the risk of further downgrades remained elevated in certain industries. By June, spreads improved markedly for oil companies, but remained rather high for all others, especially speculative credit.

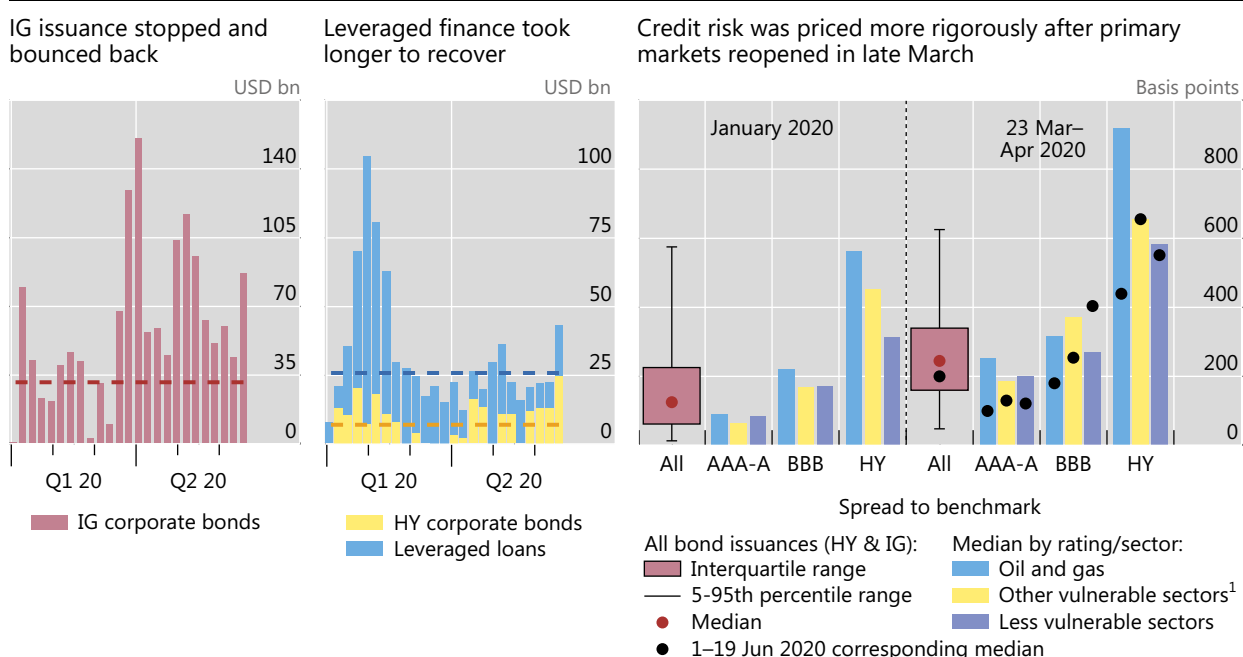
The unusual breadth of business stoppage caused by the Covid19 containment measures threatens to strain some structured finance products. The higher likelihood of clustered defaults among firms borrowing through leveraged loans, and the concomitant lower expected recovery rates, raise concerns about the more senior tranches of CLOs. Banks often hold AAA-rated CLO tranches, while insurance companies also invest in riskier, but still relatively senior, mezzanine tranches. The value of such tranches could be adversely affected by a perfect storm of higher losses-given-default and of higher probability and correlation of defaults. Unusually strong default-risk correlations, both in the investment grade (IG) and high yield (HY) spaces, also reflected the amplifying role of leverage, which had grown significantly over the previous ten years.

Troubled waters in corporate funding markets

Global corporate credit markets came to a sudden halt, briefly, in March. Early-2020 issuance had been on par with 2019 for IG and HY corporate bonds, while it had been noticeably stronger for leveraged loans (Graph 1, left-hand and centre panels). As the economic fallout of the pandemic became clear and liquidity dislocations spread through financial markets, issuance contracted sharply in late-February and almost vanished in some segments by early-March. Supported by policy interventions, activity resumed swiftly, but with a stark difference. On the one hand, IG flows ramped up quickly and, between late-March and end-April, volumes increased fourfold vis-à-vis the typical week in 2019. IG issuance remained strong through June. On the other hand, markets for lower rated credits remained relatively weak, with HY bond issuance halting for a month and half through late-April. Leveraged loan issuance stayed fairly subdued.

Corporate credit markets froze suddenly and thawed more slowly

Graph 1



The dashed horizontal lines indicate 2019 median values of weekly issuance.

¹ Other vulnerable sectors: aerospace, auto/truck, computers and electronics, consumer products, dining and lodging, finance, leisure and recreation, metal and steel, mining, retail and transportation.

Sources: Dealogic; authors' calculations.

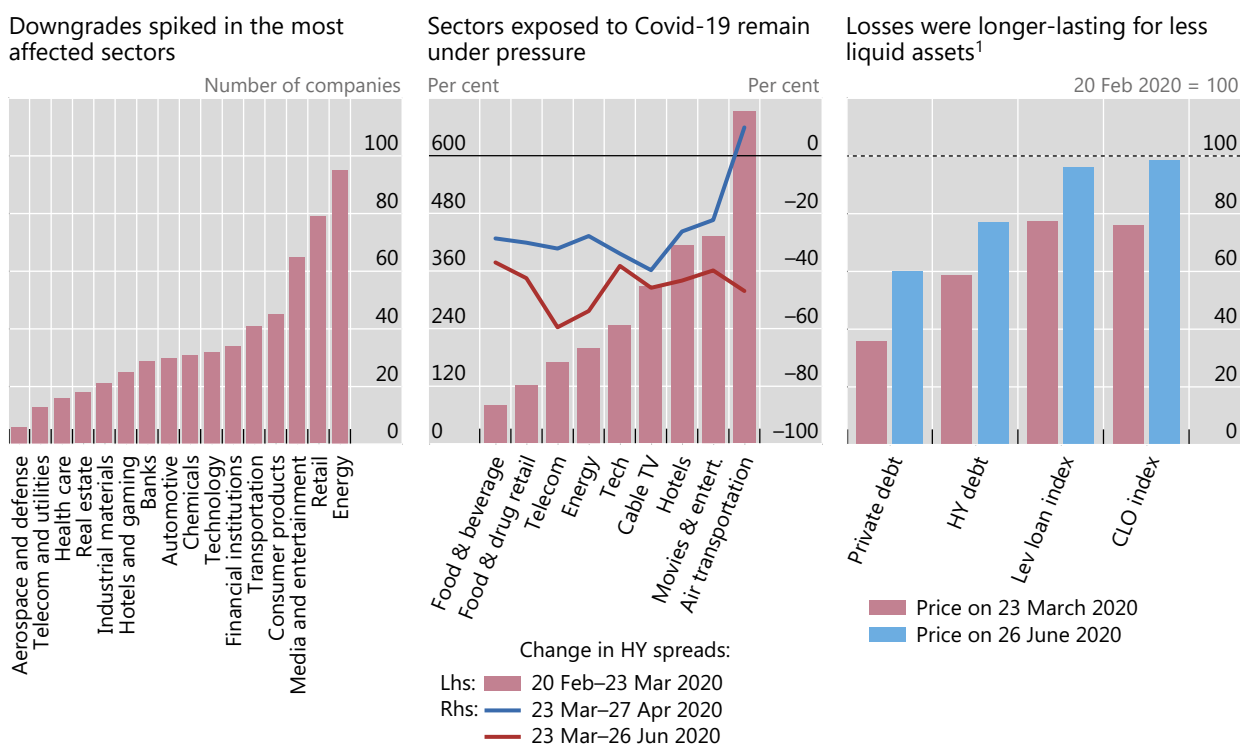
The rebound in primary market activity came with significantly higher bond spreads. The median spread-to-benchmark nearly doubled to 245 basis points for new issues between January and the period from late March through end-April. Among companies rated AAA, spreads were comparable across industries in January (Graph 1, right-hand panel, left half). Two months later, however, the exposure of the energy sector to lower demand and to oversupply issues meant that AAA-rated energy companies paid spreads nearly as high as firms rated BBB in less affected sectors (right half). The deals that went through in the HY segment were costly for borrowers, with firms in the most vulnerable sectors pricing typically above the 90th percentile. Once again, oil and gas companies saw the highest spreads. By June, spreads-to-benchmark had dropped materially for all oil companies, and less markedly for IG credit. Spreads remained mostly unchanged for high-yield borrowers.

In line with the uneven expected effect of the pandemic across businesses, rating downgrades were concentrated in the energy, retail, and entertainment sectors. Estimates put the oil loans default rate in 2020 to as much as 18%. Rating agencies also reassessed the outlook for many companies in retail and

entertainment (Graph 2, left-hand panel). The number of firms downgraded from IG to HY (fallen angels) rose in late March and stood at about 40 by end-May, representing only a small fraction of the IG space.

Downgrades rose amid large valuations losses in less liquid securities

Graph 2



¹ Private debt includes Business Development Company funds managed by KKR and The Carlyle Group. HY debt includes broad HY funds managed by Apollo Global Management, Blackstone GSO, and KKR. The CLO index is the Palmer Square CLO Debt index. The leveraged loan index is the S&P/LSTA US Leveraged Loan 100 index.

Sources: Refinitiv; S&P; authors' calculations.

Sectors most affected by the pandemic saw bond yields rise the most in March and fall the least in April. Bond spreads widened sharply in the month to 23 March, especially for industries facing strong headwinds, like travel and entertainment. In the following month, a clear split emerged. For the least affected industries, policy support appeared enough to counter investors' unease and the drop in bond spreads was proportional to the initial increase. For the most affected industries, however, sharp spread increases in March were met with muted declines in April, pointing to lingering uncertainty about future company viability even in the presence of extensive public support. In June, spreads compressed further, especially for energy and air-transportation firms (Graph 2, centre panel).

After growing rapidly over the past ten years, debt instruments issued by leveraged companies suffered significant losses after the outbreak of the pandemic. Relatively liquid US leveraged loans dropped more than 20% in the month to 23 March, before recovering substantially to a loss of 4% as of end-June (Graph 2, right-hand panel). A broad-based CLO index also declined by nearly 25% through March, but retraced nearly all of the initial loss even as lingering questions over CLO portfolio performance rose: the share of CCC loans in CLOs doubled to about 10%. Fixed-income assets managed by private capital managers (private equity firms that expanded to corporate credit markets) suffered the steepest price losses. Funds investing in the broad high-yield sector shed 40% of their value between 20 February and 23 March, while those focused on private debt – mostly loans to small companies with little bank coordination – lost 65% of their mid-February prices. Even with a substantial recovery through June, the value of private debt funds stood at only 60% of the pre-pandemic high.

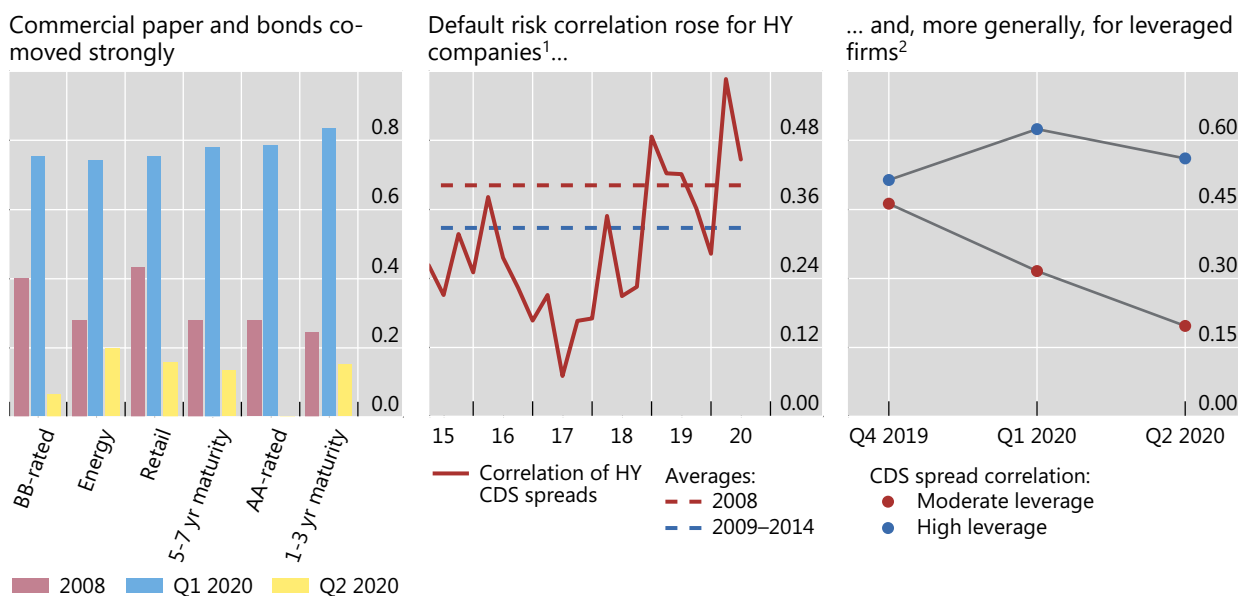
Correlations rose as the pandemic fallout proved far-reaching

Price dynamics in credit markets pointed to structural fragilities. In particular, spread co-movement rose to highly unusual levels in several segments, underscoring the sweeping effect of the pandemic across many sectors. Since April, as asset prices recovered after policy interventions allayed investors' concerns, correlations fell but remained elevated in the riskier corners of corporate credit markets.

Rising correlations cast a shadow on credit risk

Correlation coefficients

Graph 3



¹ The panel shows within-quarter rank correlation of daily changes in CDS spreads for constituents of the CDX.NA.HY Series 34 CDS index. ² Among US public companies with total assets in excess of \$25 billion, we selected those with the highest leverage (total debt to total assets) and with available CDS spreads within the fifth leverage decile (moderate leverage) and tenth leverage decile (high leverage).

Sources: Refinitiv; authors' calculations.

Co-movement between short- and long-term credit rose to unprecedented levels. Correlations between changes in bond and non-financial commercial paper (CP) spreads are normally very low, hovering just above zero: the longer-term credit risk issues that typically sway bond spreads bear little imprint on short-term CP, which mostly reflects liquidity conditions. In the first quarter of 2020, however, as bond issuance came to a brief halt and CP markets were strained by the prospect of prime MMF redemptions and deteriorating corporate liquidity positions, these correlations rose quickly to between 70% and 80%, or double the levels observed in 2008. The increase in correlation with CP spreads was particularly pronounced for short-maturity and highly rated bonds, which share similar issuers and investors as CP, but it was broad-based across industries, maturities and ratings (Graph 3, left-hand panel). In the second quarter of 2020, as a series of policy actions in support of credit markets were rolled out, correlations declined rapidly to below the values seen in 2008.

Expected correlations rose sharply in the HY space, and more generally for leveraged firms. For current constituents of the main US HY CDS index, average correlation in CDS spreads rose to nearly 60% in the first quarter of 2020, well past 2008 levels (Graph 3, centre panel). Leverage, rather than HY status in itself, contributed to rising default-risk correlations. For many companies, the combination of high debt loads and limited cash holdings led to a dash for cash at the onset of the pandemic, as doubts about their ability to service short-term debt grew (Banerjee et al (2020)). Indeed, the share of corporate assets financed with debt had increased markedly between 2010 and 2019. Aggregate cash holdings had also risen over that period, but they were overly concentrated in a relatively small fraction of firms (Graham and Leary (2018)).

Against this backdrop, the rapid deterioration of financial conditions in March 2020 accentuated balance sheet fragilities across the board. As a result, default risk correlation rose for highly leveraged (mostly IG) companies, even though it decreased for those with less gearing. Once again, correlations declined after policymakers intervened to support credit markets, but the large gap that opened between the correlations of highly and moderately leveraged firms did not go away (Graph 3, right-hand panel).

A perfect storm for CLOs?

In the event of a prolonged economic slowdown, CLOs could suffer high losses. CLOs invest in pools of leveraged loans and issue notes of different seniority against the cash-flows of the pool. Notes scheduled to absorb credit losses last typically attain AAA credit ratings. These more senior CLO notes, often held by banks and insurance companies, are considered relatively safe investments, even though they are backed by risky loans, because default correlations among low-grade firms are normally small enough that junior tranches, usually held by hedge funds and other institutional investors, offer a sufficient loss-absorbing buffer. However, the economic damage induced by the pandemic could be widespread enough to potentially upend historical correlation patterns.

Default correlation is a key determinant of losses borne by AAA-rated tranches. We illustrate the role of default risk and correlation on typical CLO tranches using a model that builds on the insights of Vasicek (1991).¹ The model estimates expected losses by assuming values for some key parameters: default risk, loss-given-default (LGD), and default correlation. We consider two main parameter sets. The baseline case represents conditions prevalent in the first half of 2018. The stressed scenario reflects conditions prevalent during the GFC. In the baseline case, only the equity tranche is expected to bear meaningful losses (Graph 4, first panel). In the stressed scenario, however, all tranches lose some principal in expectation, with investors in the AAA note foregoing slightly more than 5% of their capital. But it is correlation that drives AAA losses: even with high default risk and high LGD, reducing correlation to the baseline level fully erases AAA impairment (second panel). In fact, as the correlation level increases, AAA losses grow at a quicker pace (third panel). Since the broad-based fallout of the pandemic has precisely the effect of synchronising losses across sectors and firms, it could end up being relatively costly for AAA tranches.

Even if default correlations among HY companies were to rise and remain elevated, a repeat of the CDO debacle is unlikely. GFC-era CDOs, whose senior notes shouldered some \$325 billion in losses (Cordell et al (2019)), invested in relatively subordinated tranches of mortgage-backed securities (MBS). As house prices fell across the board, these MBS notes were wiped out and magnified the effect of mortgage default correlation on all CDO tranches (Aramonte and Avalos (2019)). This intermediate securitisation effectively reduced the benefit of diversification for senior tranches (Antoniades and Tarashev (2014)). Indeed, the losses experienced by AAA CDOs were much higher than those recorded by AAA MBS tranches, which invested directly in loans – even risky ones like subprime or Alt-A – and not in securitisation tranches (Graph 4, fourth panel). CLOs invest directly in leveraged loans, without an additional layer of tranching securitisations that can amplify the effect of default correlation. In this sense, CLOs resemble MBS more closely than they do CDOs, and the historical loss rate on MBS during the 2008 crisis is, in fact, of the same order of magnitude as the expected loss rate from our simplified model.

Still, several factors might exacerbate possible strains in the CLO market. First, errors in assessing key parameters could lead to unexpectedly large losses. As highlighted by Antoniadou and Tarashev (2014), variation in realised default rates mostly affects losses on mezzanine tranches, while fluctuations in default

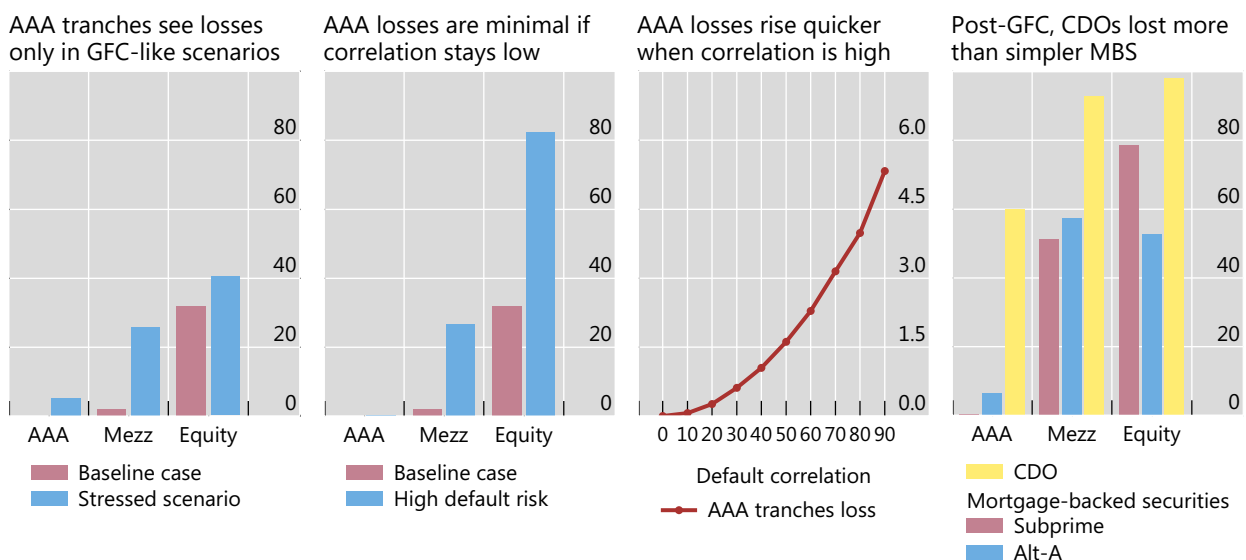
¹ We simulate losses on a portfolio of 100 companies, each with the same default probability PD over the next period and the same loss given default, LGD . Each company defaults if the value of its assets falls below that of its debt. In each simulation, we calculate losses incurred by three hypothetical CLO tranches: AAA, with attachment point equal to 37%; mezzanine, with attachment point equal to 7%; and the residual equity tranche (see Graph B in Aramonte and Avalos (2019) for the choice of attachment points). Expected loss is the average loss incurred by each tranche across the simulations. We choose simulation parameters based on academic and industry research. For the baseline (respectively, stressed) scenario, we set default probability, LGD, and default correlation to 4% (20%), 30% (60%) and 25% (90%).

correlations are particularly relevant for AAA tranches. Second, the balance sheet structure of certain investors could magnify the effect of unexpected CLO losses. Insurance companies, which hold large amounts of AAA and mezzanine CLO notes, could have difficulties offsetting cash flow shortfalls generated by capital and income losses. Even if shortfalls were relatively small compared to their portfolios, asset-liability matching could limit the amount of assets effectively available for sale (Foley-Fisher et al (2019)). Hedge funds also hold small but meaningful amounts of mezzanine tranches, and a relatively large share of equity tranches. Hedge-fund leverage – often provided by banks through prime brokerage – has increased considerably over the past five years.

Limited CLO complexity is likely to dampen the effect of rising default correlation

In per cent

Graph 4



CDO = collateralized debt obligation; Mezz = mezzanine.

¹ The panels show expected losses suffered by hypothetical CLO tranches with attachment and detachment points representative of post-GFC CLOs. Losses are simulated on the basis of several scenarios for portfolio default risk, LGDs, and default correlation.

Sources: Cordell et al (2019); authors' calculations.

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