Global Leveraged Finance Handbook, 2022-2023

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Foreword

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Dear reader,

We've seen resilience from the global economy so far in 2023 amid slowing economic growth, persistent but cooling inflation, and ongoing geopolitical risk. However, credit quality has not fared as well. We expect speculative-grade default rates will double in the next 12 months to 4.25% in the U.S. and 3.6% in Europe. Risks remain weighted to the downside. Cash flow deficits are the most significant concern for lower rated credits, given our expectations of higher interest rates for longer. For example, more than half of 'B-' rated issuers have cash flow deficits.

Lower rated entities with loan-only capital structures are especially vulnerable amid higher interest rates, which may persist for some time. Leverage metrics and cash flow are likely to deteriorate as a result, and companies may encounter liquidity constraints and challenges refinancing debt as it nears maturity. In particular, sectors like consumer goods, retail, media, and real estate are increasingly at risk for negative rating actions.

With more than $700 billion of speculative-grade nonfinancial debt maturing through 2025, the availability of capital will be a key consideration for borrowers. Large banks have pulled back on lending following recent market volatility and regional bank failures, and nonbank lenders are stepping in to fill the void. Private credit has grown into a $1.5 trillion asset class, with direct lenders eyeing larger transactions and expanding beyond sponsor-led deals.

In the collateralized loan obligation (CLO) segment, new issuance remains muted relative to 2022, partially due to the scarcity of new loans, pull back of some 'AAA' buyers (U.S. banks), and tighter arbitrage opportunities. Nevertheless, middle-market CLO activity has been robust with year-to-date issuance at approximately $10.7 billion compared to a total of around $12 billion in 2022. CLOs are the largest buyers of leveraged loans issued by entities at the lower end of the credit rating spectrum.

In this edition of S&P Global Ratings' Leveraged Finance handbook, our analysts provide insights on the topical credit issues facing the leveraged finance market. We hope that you find this issue interesting and enlightening.

Andrew Watt
Managing Director
Regional Practice Leader, Corporate Ratings - Americas

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Foreword

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Dear reader,

Over the past year, credit markets have been remarkably resilient in the face of slowing economic growth, sticky inflation, and tighter financing conditions. However, while rising tides may raise all ships, receding tides reveal the rocks and sandbars lurking beneath the surface. Credit markets' liquidity has retreated over the past year--and investors have had their first glimpses of the rocky shoals that lie beneath.

Market participants continue to confront challenging credit headwinds. While we've achieved the majority of "higher," we're in the early stages of "longer". The impact of much higher costs of funding has still yet to be digested by the market.

The higher-for-longer dynamic is more difficult for a market heavily weighted toward 'B-' rated companies, as they're especially vulnerable to the impact of the aggressive terms and pricing of the past decade. The market's acceptance of this riskier cohort has been propelled over the last decade by collateralized debt obligations (CLOs), which have supported the growth of the leveraged loan market (many new issuers rated 'B-' use leveraged loans for funding) as their largest buyer. As we navigate the second-half of 2023, downgrade risks are intensifying and pose stress for highly leveraged issuers--especially as a significant 27% of U.S. nonfinancial corporate issuers are rated 'B-' or below as of this month. And the shocks from rising interest rates and persistent inflation on profitability and EBITDA could send the share of speculative-grade issuers generating negative free operating cash flow soaring, according to our high-stress scenario analysis.

Amid such stormy seas, investors will continue to demand higher risk premiums as the ratings performance outlook darkens.

Most U.S. speculative-grade corporate issuers already cannot come close to achieving the EBITDA projections presented in their marketing materials at deal inception, and the rising risk of downgrades will make it more difficult for those ships to set sail. As the cycle has turned, we identified 87 U.S. and Canadian corporate entities that we downgraded to the 'CCC' category from 'B-' between Jan. 1, 2022 and mid-March 2023, including 58 private equity-owned companies. Risk is evident across regions. In Europe, consumer products and media and entertainment companies continue to have the highest number of risky credits (those in the 'CCC' category or rated 'B-' with a negative outlook or CreditWatch), and migration to 'CCC+' and below is starting to pick up in other sectors. Meanwhile, in a separate scenario analysis of 25 EMEA-based retail and restaurant companies, 52% of issuers rated 'BB-' or lower are exposed to higher interest rates.

Time isn't on these companies' side. The longer it takes for the economy to regain its footing, the more likely it is that the default rate will gain momentum. We project the leveraged loan default rate could rise to its long-term average of 2.5% by March 2024 (from 1.42% in April of this year) amid these cloudy credit conditions.

The prevailing uncertainty raises questions over whether the market will be able to weather the potential adverse effects that tighter financing conditions may have on CLO credit performance and ratings moving forward. Market resilience will be truly tested following the loss of LIBOR floors' cushioning last year and as the support of the long-dated maturity wall steadily becomes less of a cushion over 2023 and 2024.

Overall, investors will be forced to wait and see how borrowers transition to the new norm of "higher for longer" with limited liquidity. The impact will be more visible as we work through the upcoming wave of refinancing over the next three years, the difficulty of which may be exacerbated by further deteriorating credit conditions and spreads remaining high or increasing further. The only way out to safer shores is through the swell of the storm.

Ruth Yang
Global Head of Thought Leadership
Credit Research & Insights

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Market Acceptance Of 'B-' Ratings Has Created A Feedback Loop That May Be Challenged

June 7, 2022

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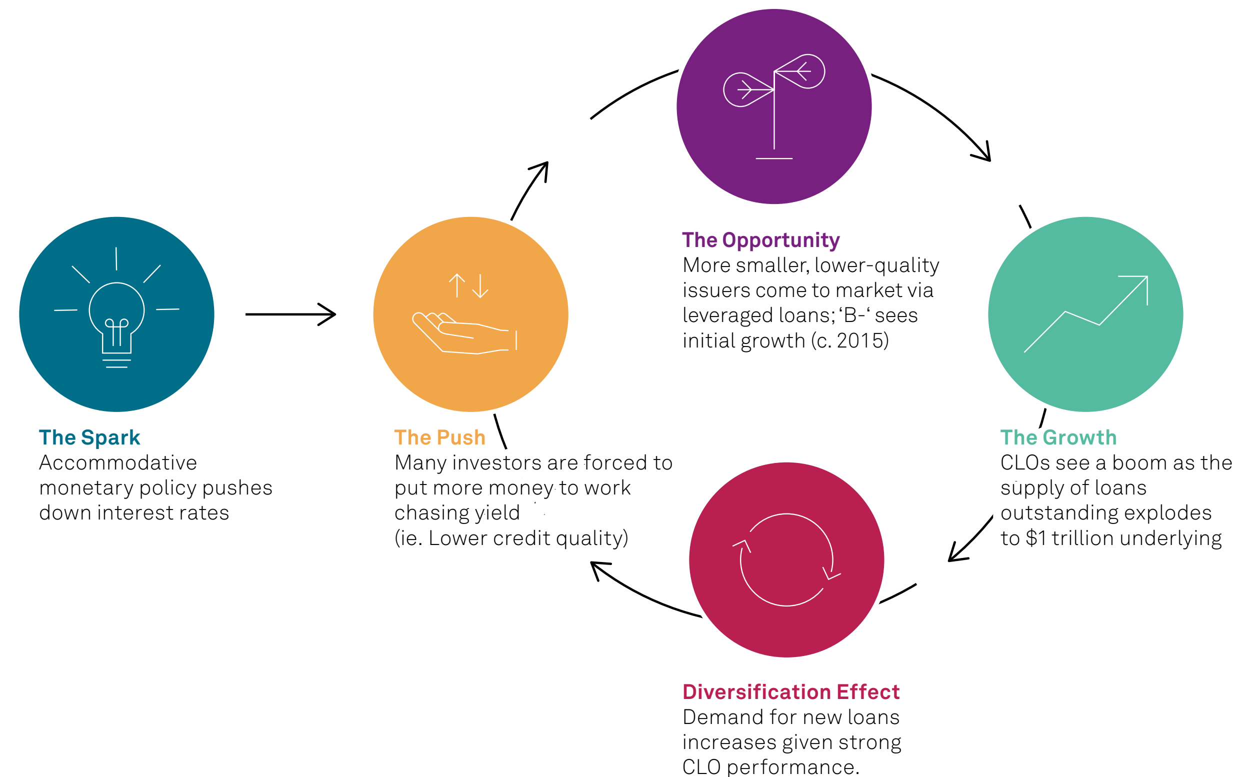
The Growth Of 'B-' Has Been Supported By And Contributed To A Self-Supporting Feedback Loop

Over time, the U.S. speculative-grade market has seen a gradual increase in the proportion of issuers with a 'B-' rating. This proportion has reached new highs since about 2017, during a benign macroeconomic period with relatively few defaults (until 2020) and as more private equity-owned firms have entered the rated universe. We posit that ultra-low yields prompted by years of monetary stimulus as well as the growth and performance of the CLO market have created a feedback loop that allows for strong investor returns with relatively low risk. This has created more debt options for issuers via demand for leveraged loans (see chart 1).

Previously, increases in the proportion of 'B-' issuers have tended to coincide with economic downturns and increased downgrades ahead of larger default cycles (see chart 2). To date, markets have appeared very accepting of this much higher proportion of riskier credits.

Chart 1 | Feedback Loop Supporting Market Acceptance Of Issuers Rated 'B-' In Recent Years



CLO = collateralized loan obligation.
Source: S&P Global Ratings.
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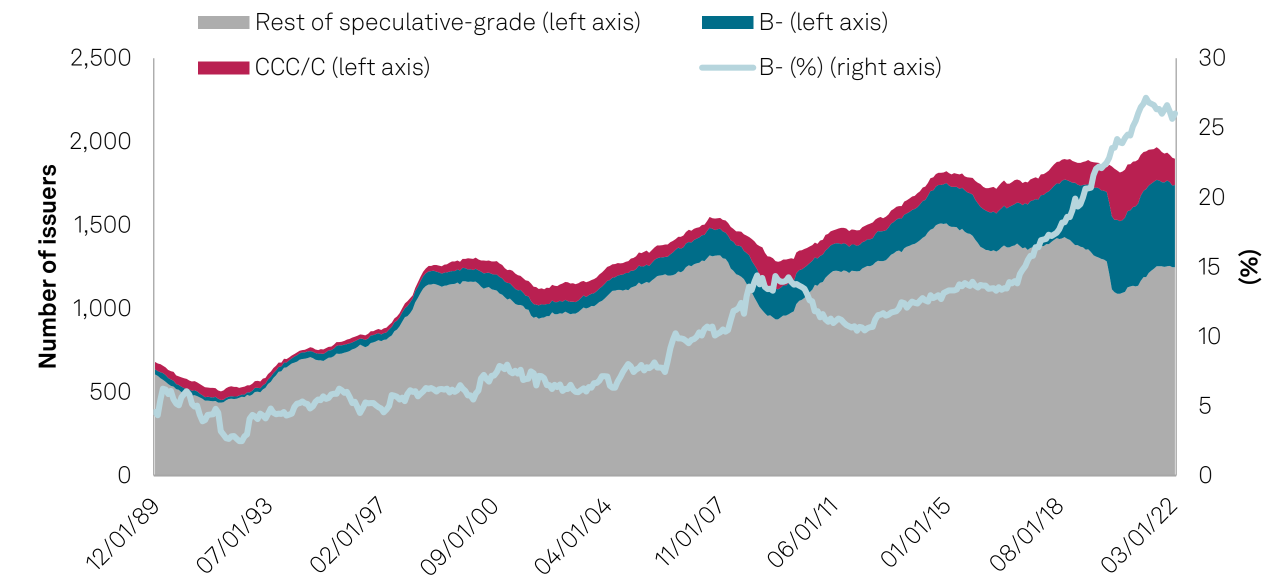
Chart 2 | Markets Have Become More Comfortable With B- Over Time



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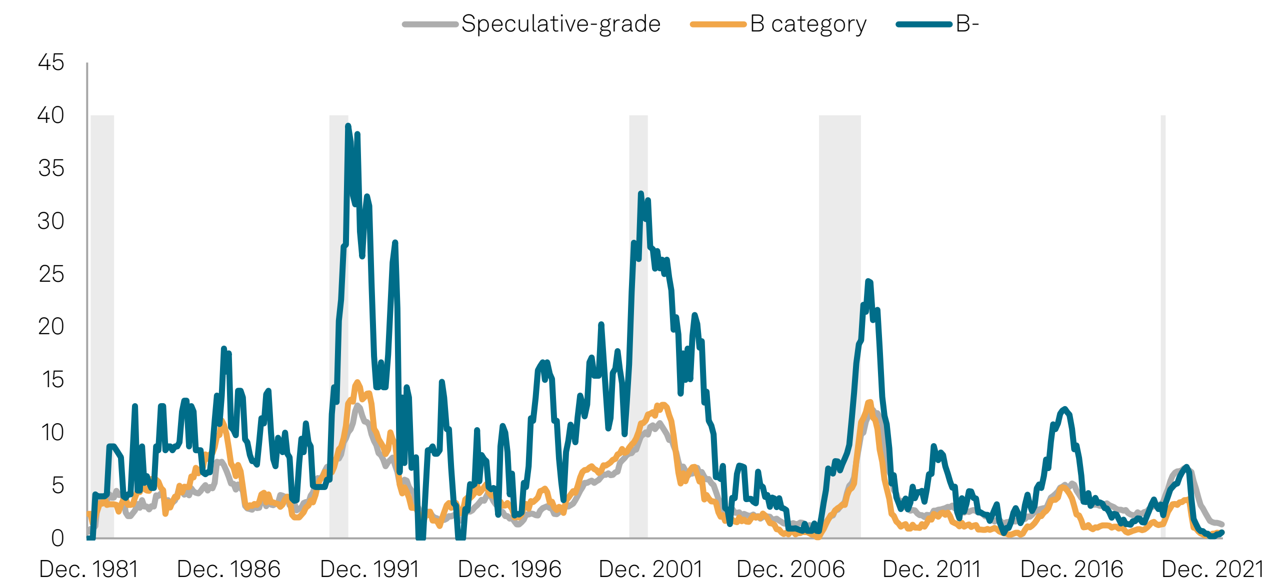
'B-' Ratings Have Performed Well Over Time

Issuers rated 'B-' in the U.S. have experienced less credit deterioration over time through lower default and downgrade rates (see charts 3 and 4). While the 'B-' default rate remains high, following the same cyclical trend as the larger speculative-grade market, it has peaked lower with each subsequent default cycle . In fact, during 2020, the peak default rate for 'B-' was the same as the overall speculative-grade peak of 6.6% at the end of 2020.

Chart 3 | The 'B-' Default Rate Has Declined Over Time (%)



Shaded areas indicate periods of recession as defined by the National Bureau of Economic Research.
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The default and downgrade rates of issuers rated 'B-' are both significant for CLOs.. Most broadly syndicated loan (BSL) CLOs haircut the value of assets from 'CCC' rated obligors once they exceed 7.5% of the collateral pool. This haircut of "CCC excess" assets makes it more likely that the CLO's par coverage tests will fail and divert interest away from the CLO equity holders and (if things get bad enough) to the junior rated CLO tranches as well. That said, the combined default and downgrade rate of 'B-' issuers recently hit a 20-year low of 2.9% in the 12 months ended January (see chart 4). This has allowed for equity tranches of many CLOs to continue enjoying healthy returns given historically few new entries into 'CCC/C'.

Chart 4 | 'B-' Credit Deterioration Is At Its Lowest In The 21st Century (%)

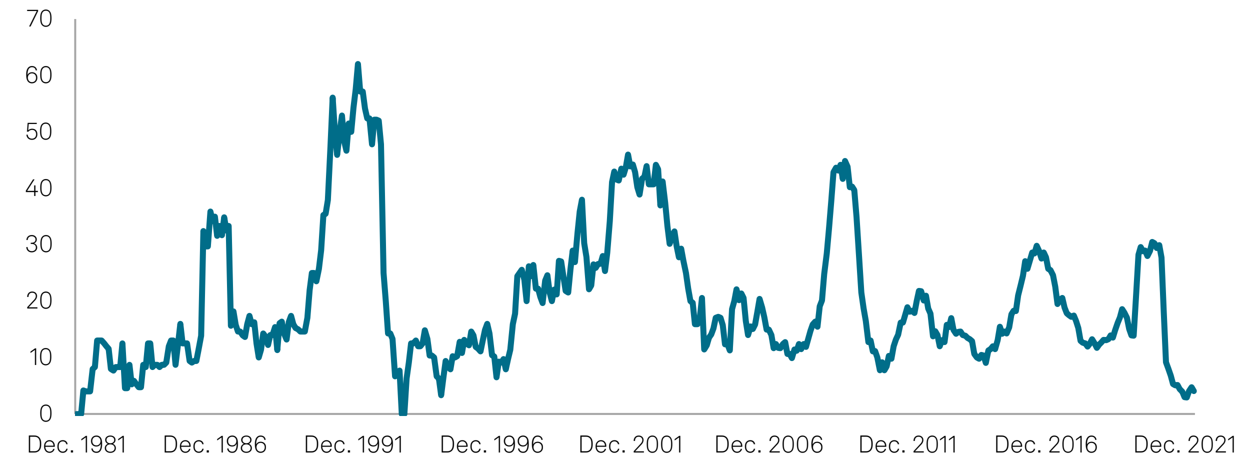

Chart shows the combined downgrade and default rates for 'B-' issuers over the trailing 12 months.
Sources: S&P Global Ratings Research; S&P Global Market Intelligence's CreditPro®.
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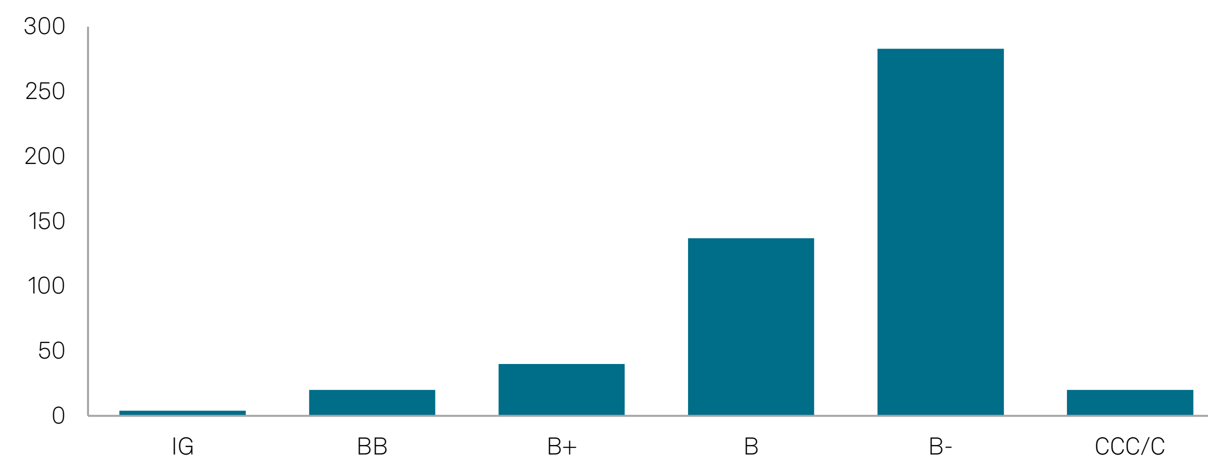
At an issuer level, the stability of 'B-' ratings may be most notable through recent years' relative lack of downgrades. In fact, over half of all entities currently rated 'B-' in the U.S. started with that rating (see chart 5). Adding those that started with a 'B' rating accounts for about 83% of all issuers currently rated 'B-'. Less than 1% of issuers currently rated 'B-' started with an investment-grade rating and only 4% were upgraded from 'CCC'/'C'. Additionally, the current "age" (or time since first rating) of 'B-' issuers in the U.S. is about 1.75 years, which is slightly longer than the historical average of just under 1.5 years.

Chart 5 | Over Half Of Current 'B-' Ratings Started There

B-' population by initial rating (number of issuers)



IG = investment-grade.
Sources: S&P Global Ratings Research; S&P Global Market Intelligence's CreditPro®.
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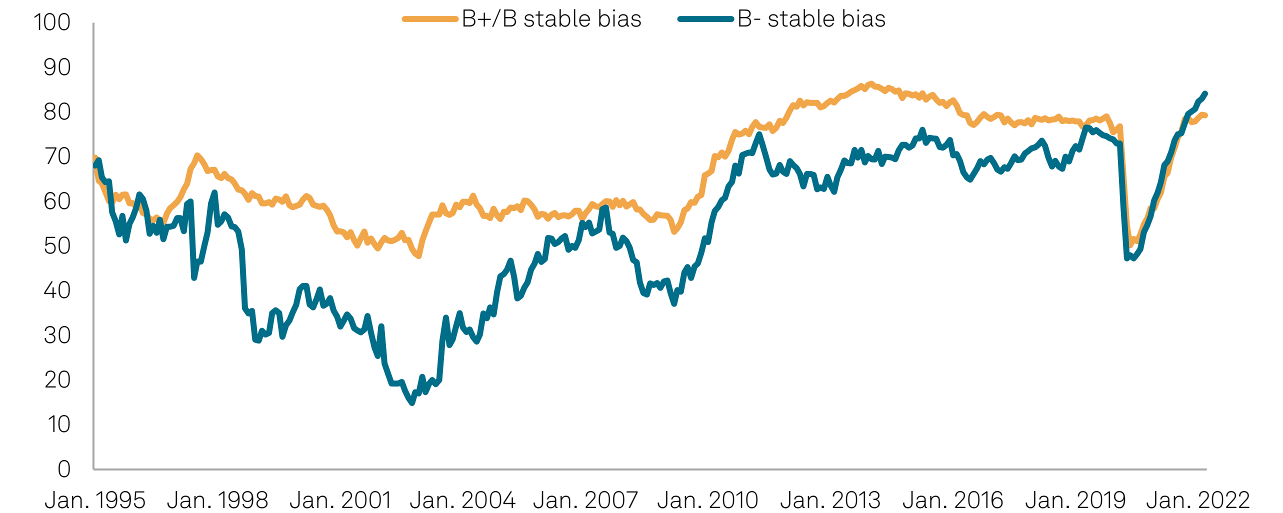
We expect much of this observed stability to continue (see chart 6). As of the end of March, the 'B-' population in the U.S. with a stable outlook hit its all-time highest proportion (85%)--even higher than the rate of stable outlooks for 'B+'/'B' issuers. This is not due to more positive outlooks for 'B+'/'B': Through March, the negative bias for 'B-' rated issuers was 6.2%, compared to 9.5% for issuers rated 'B+'/'B'.

Chart 6 | The Stable Bias Of 'B-' Ratings Hits A New High (%)



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Market Demand Has Been Particularly Robust

Over time, the share of 'B-' ratings in the speculative-grade total has increased. In addition, raw debt issuance--particularly of leveraged loans--at the 'B-' level has expanded even faster, especially since the COVID-19 pandemic and resultant monetary stimulus (see chart 7). Total 'B-' leveraged loan volume in the three months ended March 2021 reached a record $86 billion. Though a boon for issuers who generally were able to come to market at lower rates and secure longer maturities last year, some risks have unsurprisingly built up because of this spree. Much of the loan debt issued at the lowest rating levels since 2020 has come with historically low LIBOR floors, which may make these issuers more vulnerable to the quickly rising rates seen thus far in 2022, particularly if rates continue to rise.

Chart 7 | 'B-' Debt Issuance Enters An New Age In 2021 ($B)

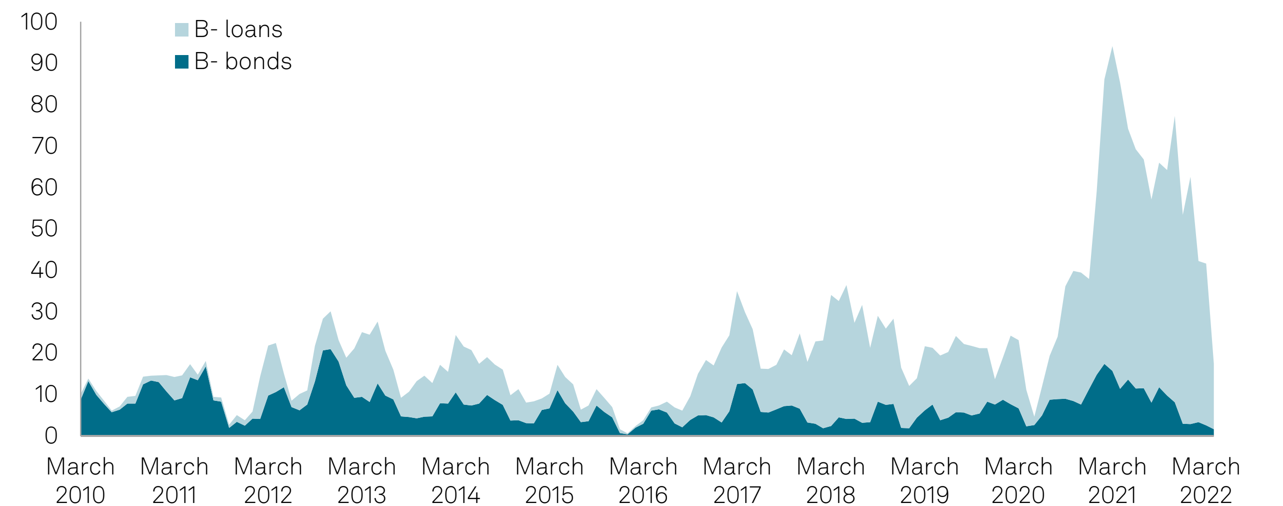

Chart displays rolling three-month totals.
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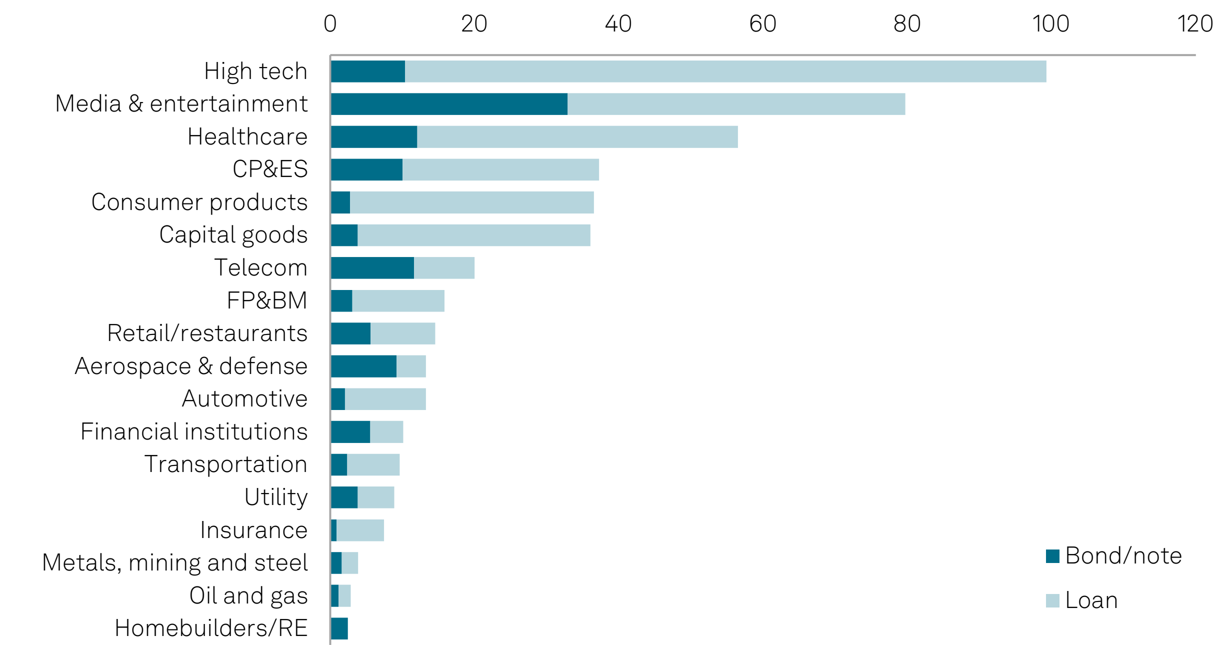
Chart 8 | Outstanding 'B-' Debt By Sector ($B)



Data as of Jan. 1, 2022.
CP&ES = chemicals, packaging and environmental services; GP&BM = forest products and building materials.
Source: S&P Global Ratings Research.
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Interestingly, much of this lower-rated debt is concentrated in a handful of sectors (see chart 8). The high tech sector has led the way, with roughly $100 billion in outstanding 'B-' rated debt, $88 billion of which is in loans. Prior to the global financial crisis, the high tech sector had the smallest proportion of issuers at 'B-' or lower. At 44.6% today, it is only 0.16 percentage points lower than chemicals, packaging, and environmental services, the leading sector.

CLOs Are Helping To Drive The Feedback Loop As The Dominant Buyer Of Leveraged Loans

As mentioned earlier, the feedback loop that has existed thus far for borrowers and investors has been supported by CLOs, which are the dominant buyers of leveraged loans (see chart 9). In recent years, CLOs have picked up around two-thirds to three-quarters of most newly issued loans, supporting their growth to what is now a $1.3 trillion asset class by outstanding debt.

CLOs have also seen strong growth in the past five years. Despite such a large proportion of their underlying assets carrying very low ratings, CLO notes have demonstrated strong rating performance: the power of collateral diversification as well as credit protections for the rated notes in CLO structures. Often comprised of loans from hundreds of individual issuers, defaults among the asset pool of most CLO portfolios have had little negative impact on the overall structure's chance of default. In fact, CLOs have been especially strong in terms of default remoteness (see chart 10).

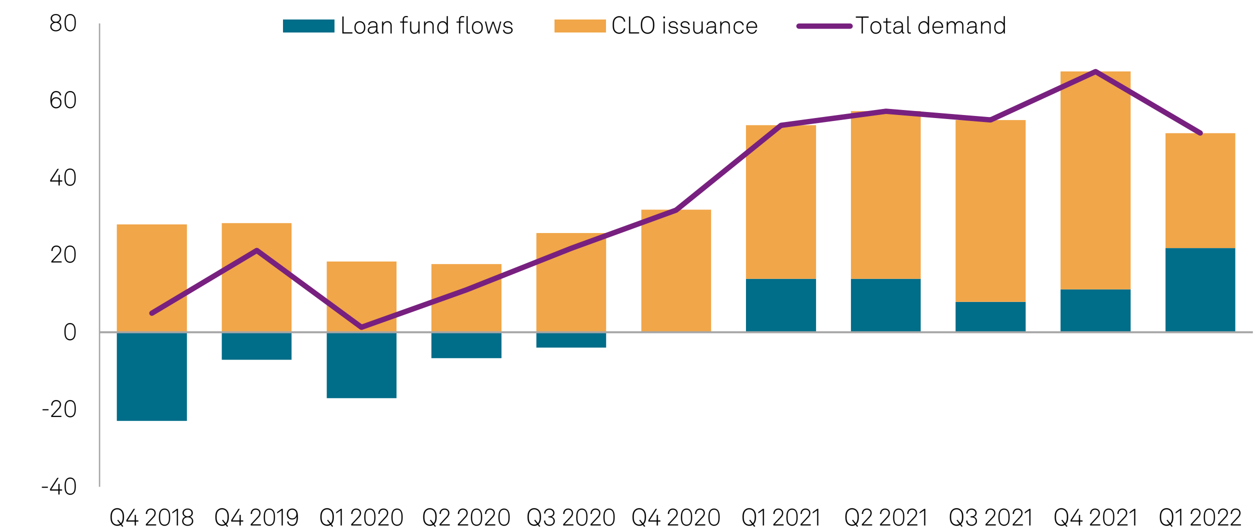
Our criteria for rating CLOs is dynamic and responds to changes in the credit risk of the underlying CLO loan portfolio. All else being equal, our criteria would require greater credit enhancement (for example, higher subordination at a given rating level) for a collateral pool with more 'B-' loans.

Since 2001, the highest recorded annual default rate among CLO notes in the U.S. was 0.43% in 2002, which came alongside a speculative-grade corporate default rate of 7.25%. Even in the years following the global financial crisis, when the speculative-grade corporate default rate hit 11.8% in 2009, the CLO default rate peaked in 2011 at a mere 0.31%. In over half of the years observed, the CLO default rate was zero.

These factors have arguably contributed to a growing population of new speculative-grade issuers, the great majority of which are within the 'B' category and roughly one-third of which are rated 'B-' (see chart 11). This proportion of 'B-' issuers has skyrocketed since 2015, roughly in line with the expansion of leveraged loan issuance.

More often than not, issuers with low ratings tend to be smaller and/or more heavily leveraged. The strong performance of CLOs has supported continued investor demand, which has in turn supported strong demand for the underlying loans. Thus far, investors have benefited from the diversification effect and credit protections of CLO structures and the issuers of these loans have benefited from access to the institutional loan market, which may not have been as open to them previously. While this has certainly been a benefit for funding access and perhaps business and economic growth in recent years, it has not come without its risks.

Chart 9 | U.S. Leveraged Loan Market — Measurable Investor Demand ($B)



Source: LCD, an offering of S&P Global Market Intelligence.
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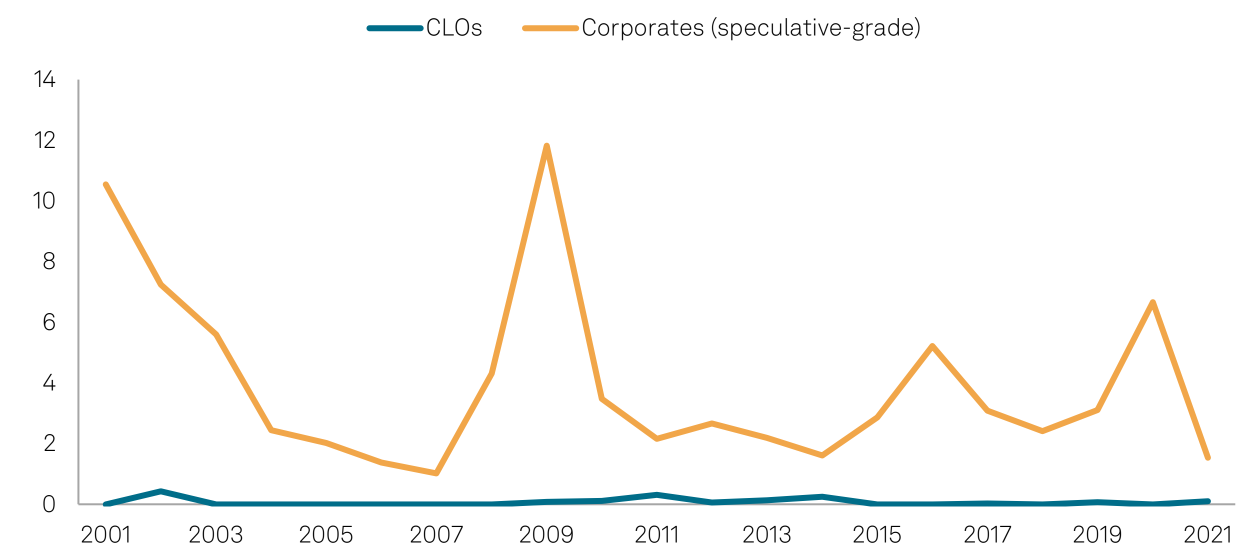
Chart 10 | Annual U.S. Default Rates (%)



CLOs = collateralized loan obligations.
Default rates for CLOs and corporates include all rated entities. Corporate (speculative-grade) includes only companies rated 'BB+' and below.
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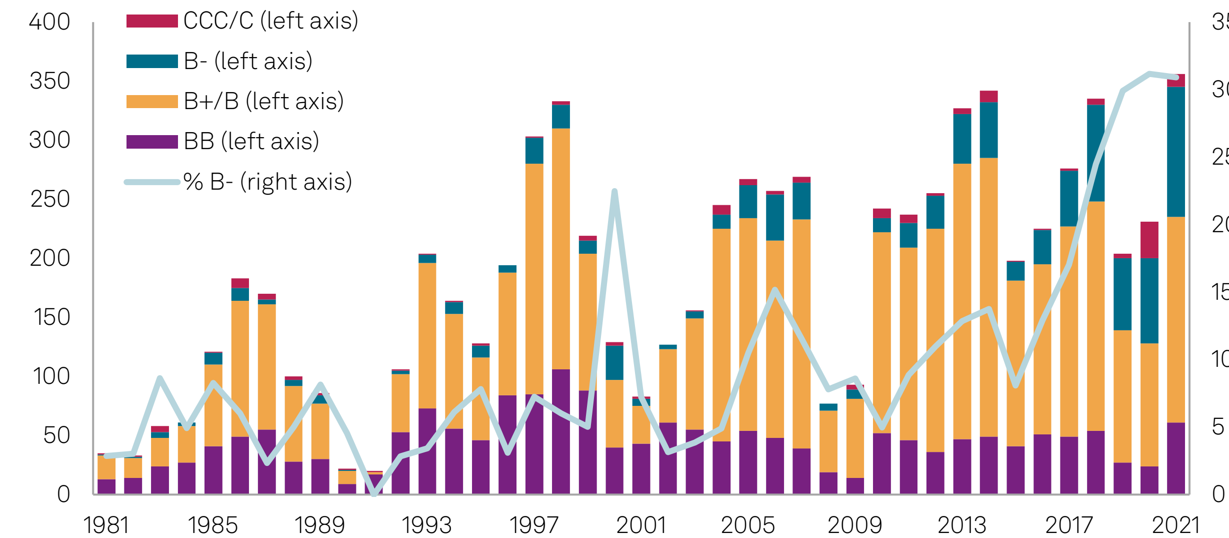
Chart 11 | New Speculative-Grade Issuers Over Time



Excludes re-emergences from prior defaults.
Sources: S&P Global Ratings Research; S&P Global Market Intelligence's CreditPro®.
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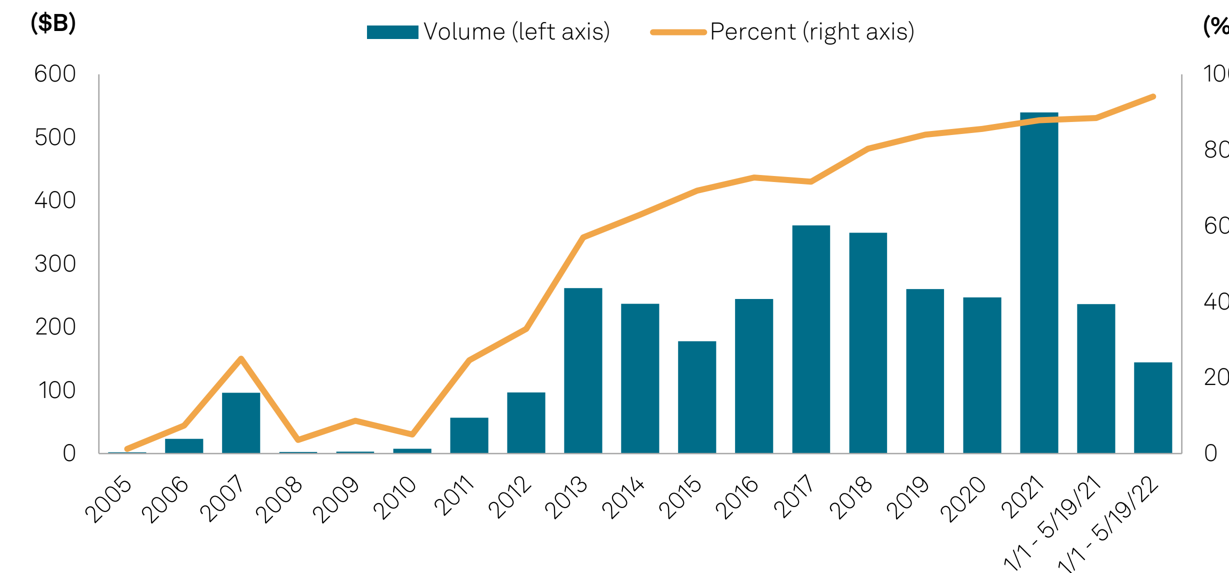
All That Glitters May Not Be Gold...

'B-' ratings carry higher risk of default or downgrade than higher ratings--even if those figures have been trending down in recent years. Additionally, the riskiness of the underlying loans has been building for some time. The weakening ratings mix reflects a higher default likelihood than in 2016, roughly when this increase in 'B-' ratings began. Alongside building risk, underlying factors will also likely reduce recovery prospects in the event of a default.

Chart 12 | New Issue First-Lien Covenant-Lite Loans



Excludes existing tranches of add-ons, amendments, and restatements with no new money. These numbers comprise loans denominated in all currencies, converted to USD, and are subject to revision as LCD collects additional data.
Source: LCD, an offering of S&P Global Market Intelligence.
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Leverage and debt cushion are key factors that drive recovery rates on leveraged loans, along with whether or not a given loan is 'covenant-lite.' To start, nearly all new issue first-lien leveraged loans in the U.S. are covenant-lite, a growing trend in recent years (see chart 12). Covenant-lite term loan structures are term loans that don't have financial maintenance covenants. This reduces the ability of term loan lenders to negotiate with the borrower for tighter protections (or increased compensation) when a borrower's financial performance deteriorates from the expectations at loan origination.

Based on S&P's survey of 65 first-lien term loans that emerged from bankruptcy from 2015 to 2020, covenant-lite first-lien term loans recovered on average about 68% of par, over 10 percentage points below the 79% recovered by non-covenant-lite first-lien term loans. Additionally, looser covenants in credit agreements provide latitude for the issuers (or sponsors) in distress to raise liquidity--using the ample flexibility (to raise incremental debt, sell assets, etc.) that is widely present in broadly syndicated loan documents--which has consequences for the recovery rates of existing lenders.

Another consideration underlying recent loan structures is a relative lack of debt cushion for first-lien debt in recent years. To keep debt costs low, we are seeing heavy reliance on first-lien debt leverage (which is cheaper than junior debt) and thinner debt cushions in cases where junior debt was a part of the debt structure. In aggregate, higher debt leverage and shrinking cushions of junior debt suggest lower future first-lien debt recoveries given default relative to what we have observed historically, as more first-lien debt seeks recovery from the same collateral. This has already shown itself to be true since the pandemic (see charts 13 and 14).

The outlook for future recoveries continues to worsen based on these structural trends in recent loans (see chart 15). The average expected recovery has declined from over 70% in early 2017, recently hovering in the low- to mid-60% range.

Recovery expectations at the issuer level in North America have also been declining in recent years (see chart 16). Though not as pronounced as the fall in expected recovery rates on new issues, recoveries at the issuer credit rating level have been declining across nearly all rating levels. Combined with the increase in 'B-' ratings relative to the total speculative-grade population, this marks a clear decline in overall recovery expectations to complement the falling expectations on new issues.

Chart 13 | More First-Lien Term Loans Emerging From Default Before 2020 Had Debt Cushions Above 25%

Emergence prior to 2020
Number of loans

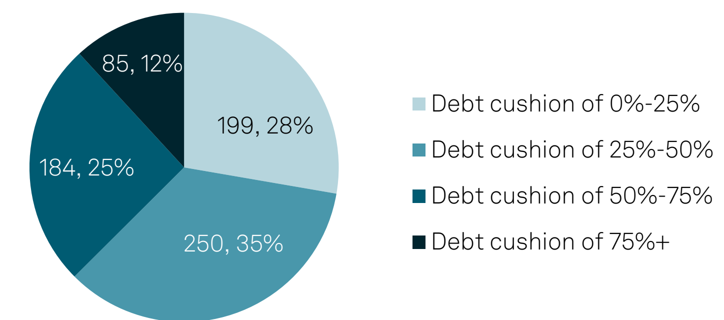
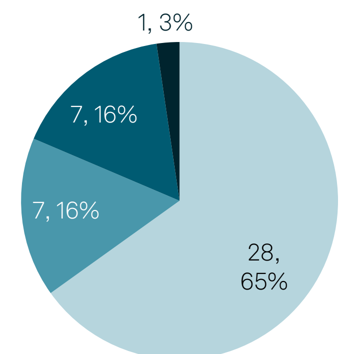


Chart 14 | First-Lien Term Loans Emerging From Default In 2020-2021 Showed Noticeably Thinner Debt Cushions

Emergence 2020-2021
Number of loans



Includes only first-lien term loans that defaulted from U.S. issuers and emerged from 1987 through third-quarter 2021. Debt cushion measures the percentage of the debt capital structure that is junior to the term loan.
Sources: S&P Global Market Intelligence's CreditPro®; S&P Global Ratings Research.
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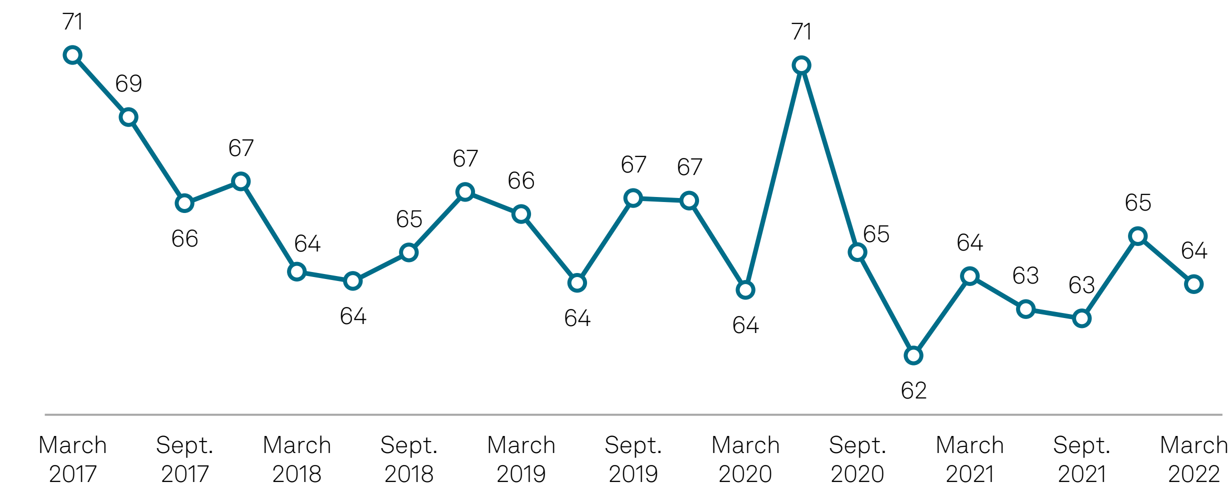
Chart 15 | Expected Recovery On New-Issue North American First-Lien Debt (%)



Source: S&P Global Ratings.
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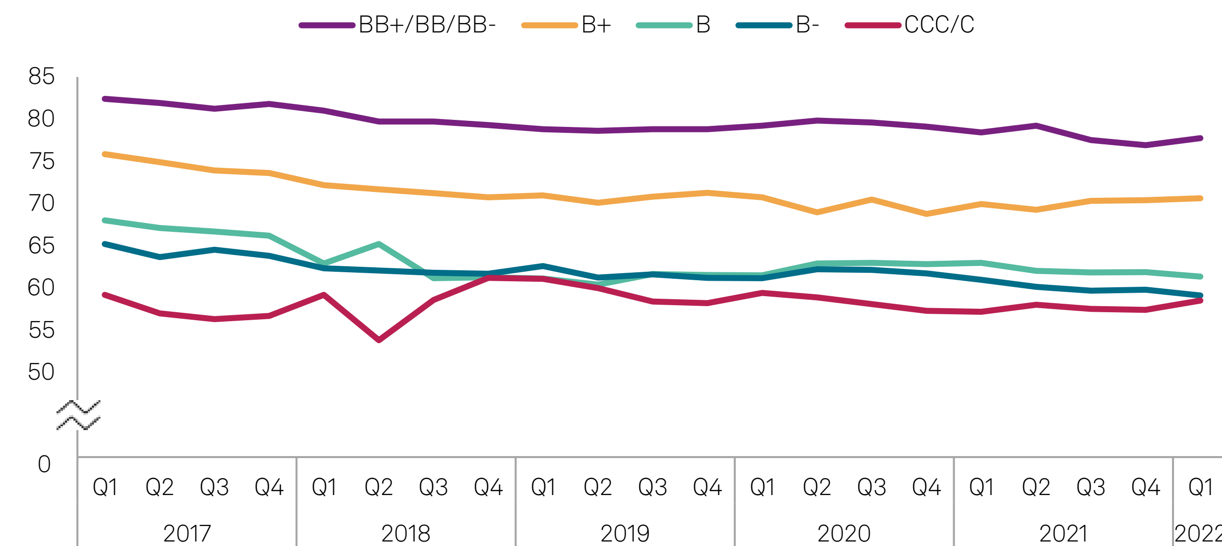
Chart 16 | Average Expected Recovery Rates By Issuer Credit Rating (%)



North American issuers.
Source: S&P Global Ratings.
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...Some Tarnish Is Likely On The Way

Current and potential stressors could start to test these issuers soon, with the potential to slow this feedback loop if sustained. While we don't anticipate a major default wave in our current base case default rate projection, we do believe defaults will rise from their very low levels (to roughly 3% through March 2023). As rates increase, we'd normally expect floating-rate loans to be very popular among investors. However, leveraged loan issuance is down roughly 30% from 2021, through April. The combination of growing recession fears, rising market volatility and CLO tranche spreads, along with the additional challenge for CLOs to adjust to a new interest rate (with the cessation of LIBOR) is presenting headwinds for new CLO issuance and therefore demand for leveraged loans. The cost of existing debt may become higher earlier for recent leveraged loan issuers as LIBOR floors on existing loans have fallen (see table 1). Combined with the current three-month LIBOR rate rising quickly this year and now at 1.5%, rising rates will arguably become a burden sooner than in recent years, which saw little in terms of rising rates.

Table 1 | Low LIBOR Floors May Cause Lower-Rated Issuers To Face Higher Interest Rates Soon (%)

	BB	B+/B	B-	CCC/C	Total
Electronics/electric (16.6%)	22.44	42.86	47.06	53.47	42.61
Health care (10.6%)	46.67	43.4	50.61	42.11	45.58
Business equipment and services (10.2%)	36.9	39.52	69.51	58.82	50.18
Industrial equipment (5.5%)	35	48.08	36.11	62.5	42.76
Chemical/plastics (5.3%)	31.82	49.07	37.5	78.57	43.92
Building and fevelopment (3.8%)	17.65	58.33	65.38	50	46.7
Leisure (3.6%)	34.38	42.5	54.17	37.5	40.5
Telcommunications (3%)	28.13	47.62	53.13	40	44.05
Automotive (3%)	27.78	55.36	48.21	87.5	50
Retailers (other than food/drug) (2.7%)	46.15	53.85	50	50	50
Insurance (2.6%)	37.5	28.03	0		27.78
Utilities (2.6%)	50	61.11	68.75	75	55.56
Financial intermediaries (2.4%)	38.89	50	31.25	0	38.24
Food products (2.4%)	30.56	43.75	60	53.57	47.06
Hotels/motels/inns and casinos (2.4%)	30	56.82	65	37.5	44.7
Total	**32.99**	**46.58**	**51.8**	**52.85**	**45.32**

Table displays average LIBOR floors. Numbers in parentheses represent sector's contribution to the total LSTA index.
Sources: S&P Global Ratings Research; LCD.
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This report does not constitute a rating action.

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Searching For Stress Fractures: Evaluating The Impact Of Interest Rate And EBITDA Stresses On U.S. Speculative-Grade Corporates

May 25, 2022

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To better understand the potential effects of changing economic and operating conditions on U.S. speculative-grade credit ratings, we present our findings and insights from various stress tests to our 2022 forecasts. Below we explore the credit impact of a greater-than-expected rise in interest rates and inflation-induced profit squeeze and which sectors are most vulnerable to these risks.

Higher Rates And Inflation Pose Credit Risk For Highly Leveraged Corporate Issuers

Economic conditions are unraveling in the backdrop of a highly leveraged corporate America. There are two critical macroeconomic headwinds for U.S. issuers with speculative-grade ratings. The first is the expectation for a meaningful rise in the benchmark interest rates given the Fed's path to normalize policy rates (three months LIBOR was 0.2% at the start of the year and is at 1.52% now). The second is inflation and the potential deceleration in earnings because of higher costs and slowing demand. The combination of higher benchmark rates and spreads started putting pressure on funding costs after the Fed announced its intentions to tighten monetary policy in December 2021. It worsened with the start of the Russia-Ukraine conflict in February, which has had a severe impact on commodity prices and further stressed global supply chains. As a result, we saw higher inflation, worsening financing conditions, and deteriorating consumer sentiment. Expected increases in the Fed funds policy rate push it to around 3% by year-end 2022. The issue is further compounded by the Fed's impending plan to unwind its balance sheet, which may further disrupt financial markets.

Our rating distribution of nonfinancial corporate issuers has shifted considerably and now our most vulnerable issuers (rated 'B-' and below) account for 35% of all speculative-grade ratings. Additionally, the increase in first-lien debt because of easy financing conditions over the last two years indicates lower recovery rates in the event of a default. Nevertheless, many issuers have been able to pass higher costs to consumers, given high consumer savings and healthy demand. Companies began the year with healthy revenue and profits, an extended debt maturity wall (more than 85% of the leveraged loans in the LCD index mature in 2025 or later), and limited financial maintenance covenants giving them significant flexibility to avoid credit events and preserve liquidity. However, we expect profit margins to erode as the Fed attempts a soft landing. We currently estimate the likelihood of a recession within the next 12 months is within the 25% and 35% range.

Stress test methodology and assumptions

For this stress test, we obtained 2022 financial forecasts for about 1,600 U.S. speculative-grade issuers. On a median basis, our projections were from November 2021. We then increased cash interest costs by multiplying the stress rate increase by the last-12-month (LTM) reported debt balance. We stressed reported EBITDA margins on a percentage basis (for example, 5% stress to an EBITDA margin of 20% results in a margin of 19%). Aside from EBITDA and interest, we held all other 2022 assumptions constant and utilized median cash and reported credit measures to assess the credit impact.

Stress scenarios implemented:

- Modest: Increase cash interest 1%, 1.5%, 2.0%, and 2.5% (forecasted EBITDA margins held flat).
- Moderate: Increase cash interest 1.5% and reduce forecasted EBITDA margins 5%.
- High: Increase cash interest 2% and reduce forecasted EBITDA margins 15%.

Summary findings

In our modest-stress scenarios, there is limited rating impact in 2022. Risks increase in 2023 as higher interest costs take an increasingly larger bite of free cash flow.

Table 1 | Modest Stress Scenarios And The Impact On Credit

Stress to 2022 forecast*	Portfolio credit impact^
1a: 1% interest rise	EBITDA cash interest coverage falls 0.58x to about 3.04x
	FOCF to debt falls 1% to 5.4%
	Share of issuers with FOCF or EBITDA cash interest coverage deficits increases 3.7%
	Median cash interest costs rise to 6.4% up from 5.1% (LTM)
1b: 1.5% interest rise	EBITDA cash interest coverage falls 0.8x to 2.83x
	Reported FOCF to debt falls to 4.9%
	Share of issuers with FOCF or EBITDA cash interest coverage deficits increases 6.5%
	Median cash interest costs rise to 6.9%
1c: 2% interest rise	EBITDA cash interest coverage falls about 1x to 2.63x
	Reported FOCF to debt falls to 4.4%
	Share of issuers with FOCF or EBITDA cash interest coverage deficits increases 8.6%
	Median cash interest costs rise to 7.4%
1d: 2.5% interest rise	EBITDA cash interest coverage falls 1.16x to about 2.47x
	Reported FOCF to debt falls to 3.9%
	Share of issuers with FOCF or EBITDA cash interest coverage deficits increases 11.4%
	Median cash interest costs rise to 7.9%

* The median date for the 2022 forecasts used in the stress test was November 2021. Reported free operating cash flow (FOCF) is GAAP cash from operations less capital expenditures.
^ Reflects median estimates and reported credit measures.
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In our moderate-stress scenario, there is moderate rating impact in 2022, with increasing risk for 'B-' and lower issuers through 2022 and 2023.

Table 2 | Moderate Stress Scenario And The Impact On Credit

Stress to 2022 forecast*	Portfolio credit impact^
1.5% interest rise; EBITDA margins fall 5% below 2022 forecasts	EBITDA cash interest coverage falls 0.93x to 2.7x
	Reported FOCF to debt falls by 2.5% to 3.9%
	Reported leverage increases about 0.26x to about 5.2x
	Share of issuers with FOCF deficits increases to 23% from about 15%
	EBITDA margins fall by 0.8% to 15.7% (Still above LTM median levels)

* The median date for the 2022 forecasts used in the stress test was November 2021. Reported free operating cash flow (FOCF) is GAAP cash from operations less capital expenditures.
^ Reflects median estimates and reported credit measures.
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In our high-stress scenario, there is pressure on the ratings across all categories and downgrades are more likely in 2023.

Table 3 | High Stress Scenario And The Impact On Credit

Stress to 2022 forecast*	Portfolio credit impact^
2% interest rise; EBITDA margins fall 15% below 2022 forecasts	EBITDA cash interest coverage falls 1.4x to 2.2x
	Reported FOCF to debt falls 4.8% to 1.5%
	Reported leverage increases about 0.9x to 5.8x
	Share of issuers with FOCF deficits increases to 39%
	Median EBITDA margins fall to 14% (Just above 2019 median levels)

* The median date for the 2022 forecasts used in the stress test was November 2021. Reported free operating cash flow (FOCF) is GAAP cash from operations less capital expenditures.
^ Reflects median estimates and reported credit measures.
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Data observations

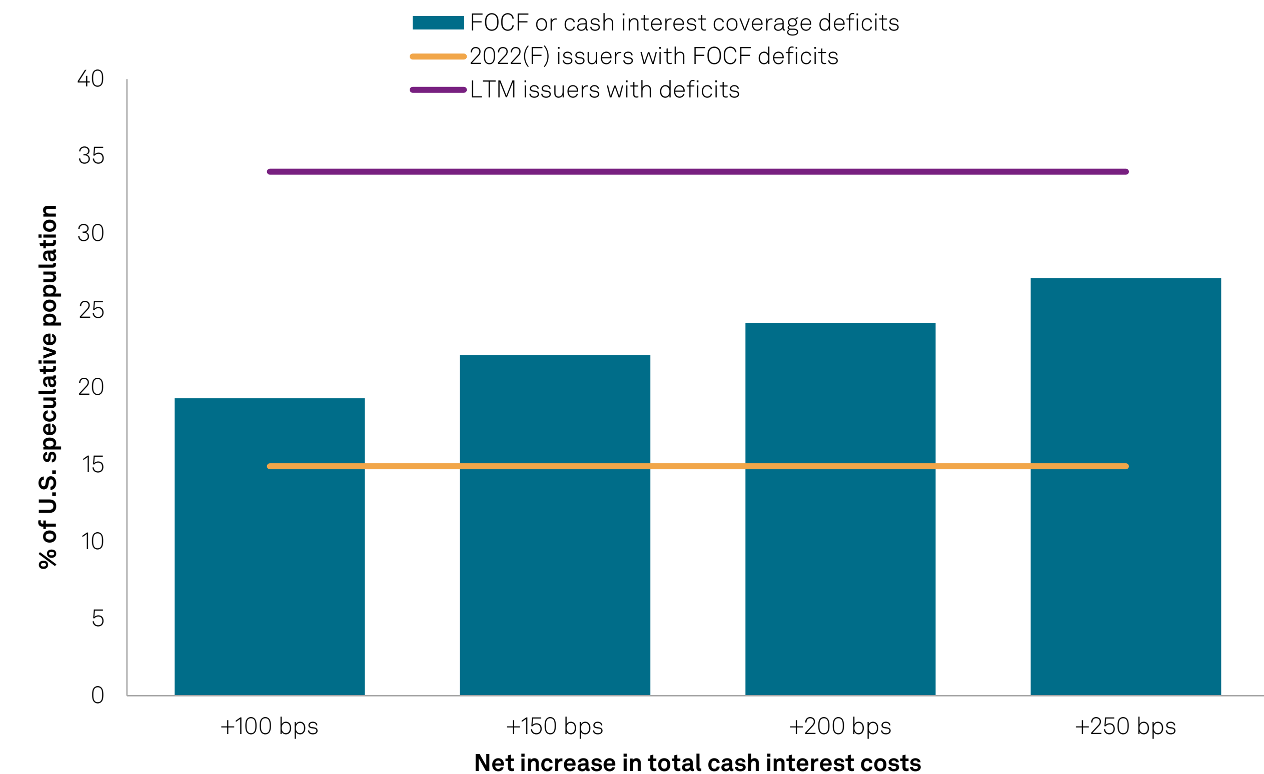
- Given the limitations of our data set and our simplified stress scenarios, we believe the relative change in credit measures provides more information value than the absolute measures. In reality, we expect management to reduce risk-taking and costs to partially offset the expected economic and monetary impact of tighter financial conditions.
- Our summary conclusion utilizes median estimates and reported credit measures. We rate about 60% of our issuers 'B' and below, which results in a downward skew to our median results.
- The 1% increase in interest rates test within our modest stress scenario could be a reasonable proxy for how higher interest rates might move our 2022 interest expense forecast. It reflects the age of our data of 2022 forecasts, which on a median basis was from November 2021 when three-month LIBOR rates were less than 0.3%. Assuming LIBOR floors between 0.5% and 0.75% and a 1.4% average annual LIBOR rate in 2022, we expect an additional cash interest impact of between 0.6% and 0.9% than previously contemplated in our 2022 forecasts. Alternatively, using 4.8% as the average 'B' rating spread for new issuance over the last year plus annualized LIBOR rate of 1.4% in 2022, an all-in-yield of about 6.2% is below the median estimate of 6.5% in the 1% stress case.
- The actual cash interest rate impact will depend on the floating versus fixed interest debt proportions, expected tax shield, and any benefits from interest rate hedges. We note that many issuers rated 'B' or lower often only have floating-rate debt, maintain modest, if any, interest rate hedges, and are structured as LLCs that tax the company at a shareholder level. In addition, in 2022, the tax-deductibility of interest will decrease to 30% of EBIT compared with 30% of EBITDA in previous years, which could diminish the interest tax shield.
- Our interest rate stress reflects the expected rise in the benchmark rate but not the credit spreads that also widened sharply since our projections, which could increase pressure on speculative-grade issuers looking to raise new debt this year.
- On a median basis in our moderate stress scenario, the reported EBITDA margin of 15.7% is still higher than LTM levels of 14.7%. Accordingly, we expect our issuers will continue to benefit from the good cost pass through and lower one-time costs embedded in our 2022 projections.
- On a median basis, our high-stress scenario reported EBITDA margins are approximately 14%, about 4.8% or 70 basis points below LTM levels and just above 2019 levels. This scenario could provide insights into the 2023 impact if profit margins continue to roll over and the higher run-rate effect of interest rates.

Rate Increases Alone Will Not Lead To Significant Downgrades

Holding all other forecast assumptions unchanged, interest rates increases of 1%, 1.5%, 2%, and 2.5%, as a result of benchmark rate increases, are unlikely to present a significant risk to rating stability in 2022. Rate increases result in declining cash flow and the share of issuers with FOCF or EBITDA cash interest coverage deficits. However, our expectation for business growth and lower one-time costs partially offset the credit impact. In our most extreme case, where we increase interest rates 2.5%, we expect about 27% of issuers to experience negative FOCF up from our 2022 base-case expectation of about 15% but below LTM levels of 34%. In this case, median cash interest coverage falls to about 2.5x from 3.6x under our 2022 forecast.

Chart 1 | The Impact Of Higher Interest Rates

The percentage of issuers with FOCF or EBITDA cash interest coverage deficits based on various interest rate stresses on our 2022 forecasts



Based on median estimates. Data through April 22, 2022. The increase in interest rates was applied to our 2022 forecasts, holding other things constant. On a median basis, 2022 forecasts are from November 2021 and generally do not reflect the shift in interest starting in February 2022.
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We expect the Fed will manage its policy rate between 2.75% and 3% at year-end 2022. We believe the impact is limited in 2022, with most of the risk likely pushed into 2023, given the pace of the expected hikes and the cumulative effect of a rising interest rate curve. Benchmark rates increases of more than 2.5% for 'B-' and lower-rated issuers become more concerning if there are significant refinancing needs since credit spreads have also increased. However, most issuers face limited refinancing walls until 2024. The median FOCF to debt for the 'B-' rating category could fall to 1.5% from 3.8% if the total interest cost increases 2.5%. 'CCC+' and lower-rated issuers will face the more significant risks, given our view that many of these issuers have unsustainable capital structures and depend on favorable economic and business conditions to service debt. These issuers represent more than 8% of our speculative-grade rating portfolio, and we estimate the FOCF-to-debt ratio for many of these issuers could fall between -2.4% and -4% if interest rates increase 2.5%.

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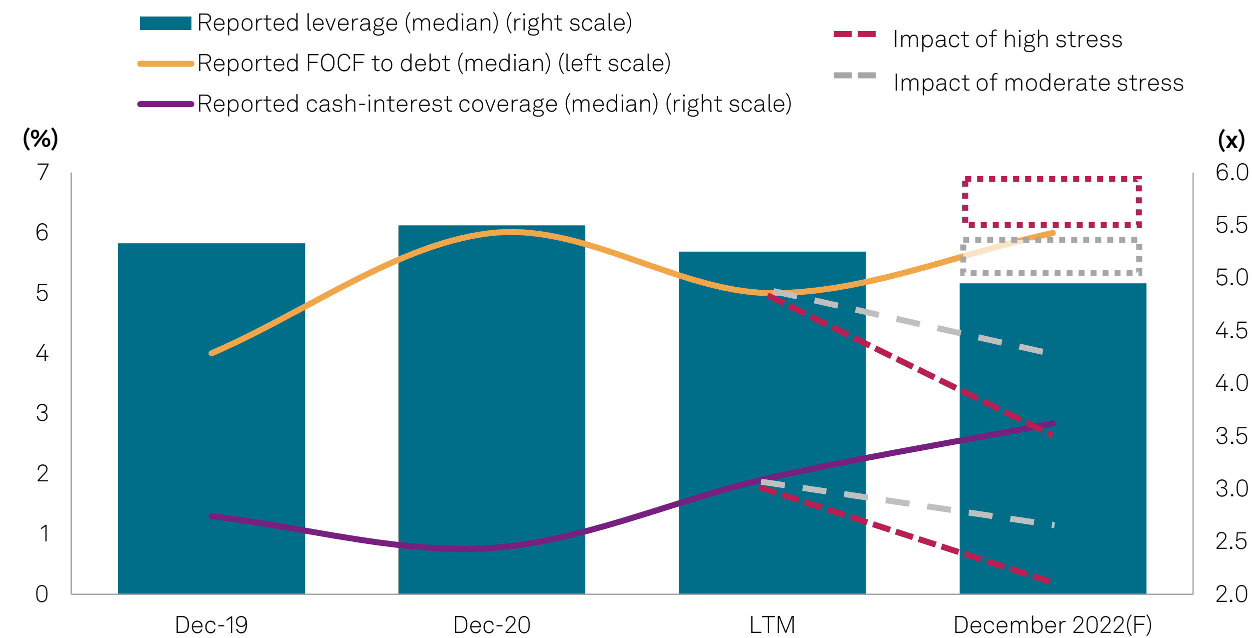
Rating Pressure Will Build Into Early 2023

In our moderate stress scenario, we increase cash interest 1.5% and decrease 2022 projected EBITDA margins 5%. This scenario assumes profitability improves from the last-12-month (LTM) levels, but less than previously expected because of an inability to pass through cost. This results in leverage increasing to about 5.2x (generally in line with LTM levels and up 0.26x from our forecast), and EBITDA cash interest coverage falling to 2.7x (down 0.93x). This implies the positive rating momentum among speculative- grade issuers over the last 17 months will likely stabilize or reverse. In this scenario, we would not expect many downgrades and believe issuers will have time to adapt their business and financial plans. In our high-stress scenario, we step up cash interest 2% and decrease 2022 EBITDA margins 15%. This scenario assumes issuers face significant difficulty passing through higher costs and EBITDA margins fall to just above 2019 levels. It results in reported leverage increasing to about 5.8x (up 0.9x from our forecast) and EBITDA cash interest coverage decreasing to 2.2x (down 1.4x). In this scenario, FOCF to debt drops notably below both LTM and 2019 levels.

Chart 2 | The Impact Of A Moderate And High Stress On Our 2022 Forecasted Key Credit Measures Of U.S. Speculative-Grade Issuers



Based on median estimates. Data through April 22, 2022. Scenario 2 (moderate stress) increased cash interest costs by 1.5% and reduced 2022 forecasted EBITDA margins by 5%. Scenario 3 (high stress) increases cash interest costs by 2% and reduces 2022 forecasted EBITDA margins by 15%.
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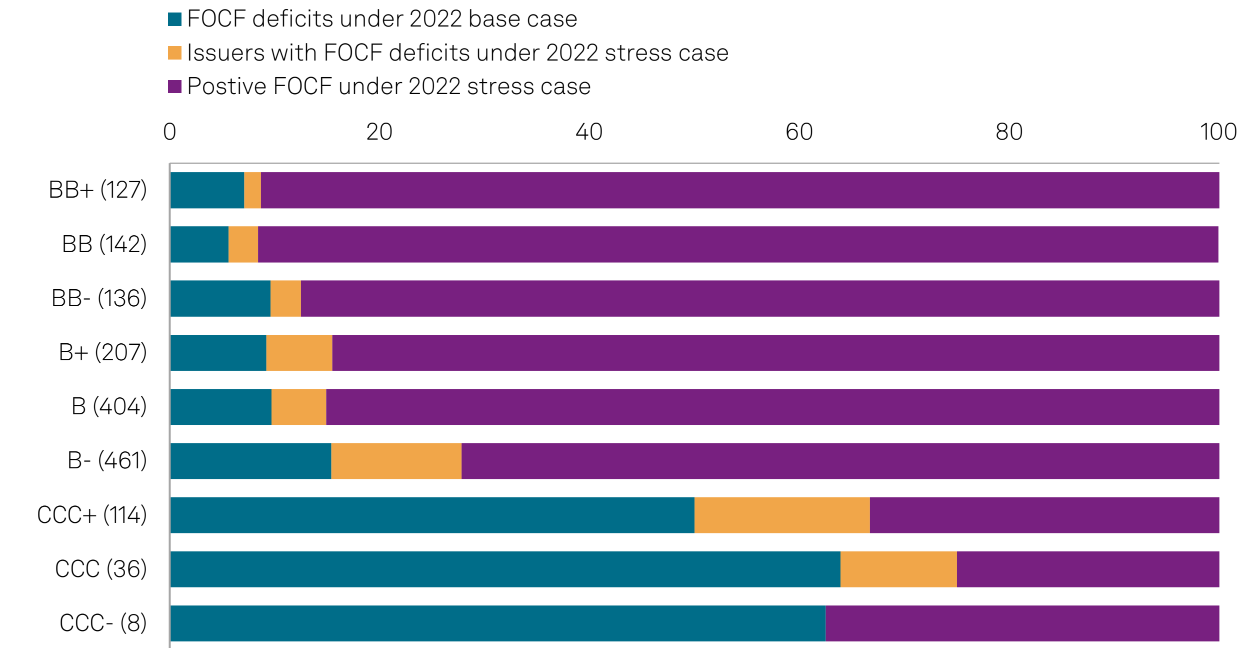
'CCC' Category Is Most Vulnerable In A Modest Stress Scenario, But Downgrade Risks Are More Broad In A High-Stress Scenario

In our moderate stress scenario, 'CCC' category issuers and, to a lesser extent, our 'B-' issuers are most vulnerable to downgrades. 'B-' and lower issuers represent more than a third of the speculative-grade portfolio, and often has a high debt burden, modest liquidity profiles, and limited operating flexibility to offset cost pressures. We observed liquidity pressures in more than 60% of our 'CCC' category issuers and about 28% of 'B-' issuers. We would expect defaults to rise over the next 12 to 24 months if cash flow deficits persist as 'CCC' category issuers often depend on favorable business, financial, and economic conditions to meet their financial commitments.

In a high-stress scenario, the total number of issuers generating FOCF deficits could rise to 39%, up from about 22.5% in our moderate stress scenario and about 15% under our 2022 base-case forecasts. Weakness becomes more pronounced among our higher-rated issuers. Specifically, the

Chart 3 | Moderate Stress (Scenario 2): Percentage of U.S. Speculative-Grade Issuers By Rating Expected To Report FOCF Deficits (%)



Based on median estimates. Data as of April 22, 2022, and Median Forecast as of November 2021. The number is parentheses reflects the total number of issuers. Scenario 2 (moderate stress) increased cash interest costs by 1.5% and reduced 2022 forecasted EBITDA margins by 5%. Scenario 3 (high stress) increases cash interest costs by 2% and reduces 2022 forecasted EBITDA margins by 15%.
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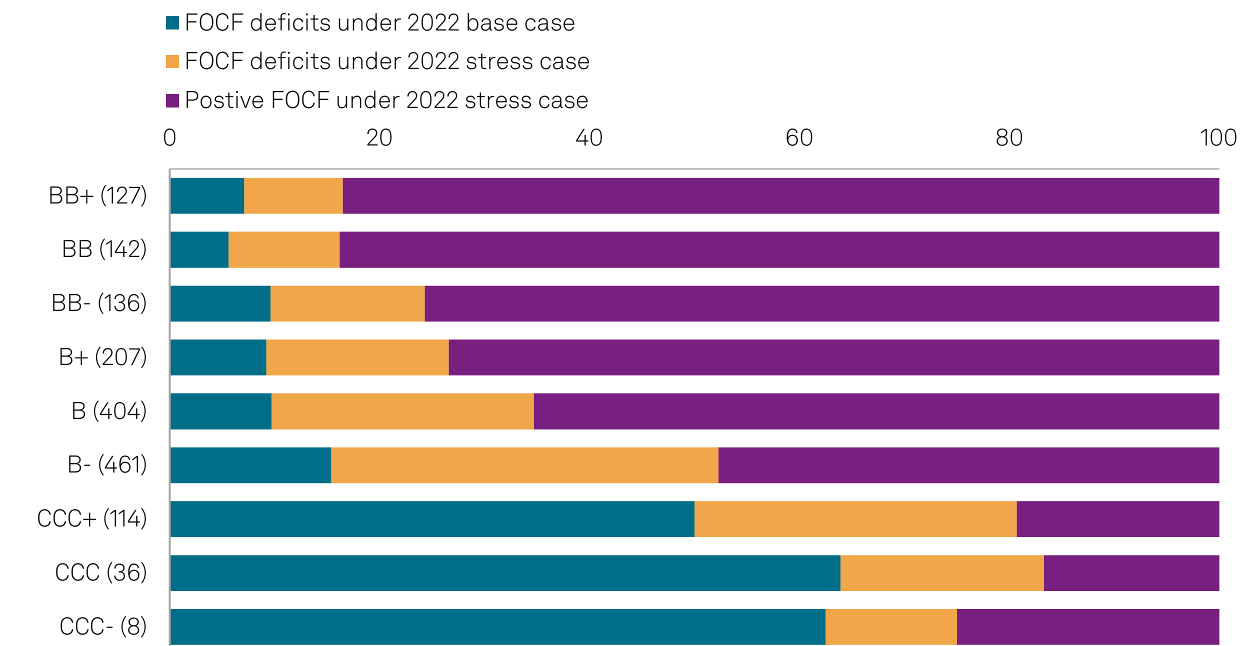
Chart 4 | High Stress (Scenario 3): Percentage of U.S. Speculative-Grade Issuers By Rating Expected To Report FOCF Deficits (%)



Based on median estimates. Data as of April 22, 2022, and Median Forecast as of November 2021. The number is parentheses reflects the total number of issuers. Scenario 2 (moderate stress) increased cash interest costs by 1.5% and reduced 2022 forecasted EBITDA margins by 5%. Scenario 3 (high stress) increases cash interest costs by 2% and reduces 2022 forecasted EBITDA margins by 15%.
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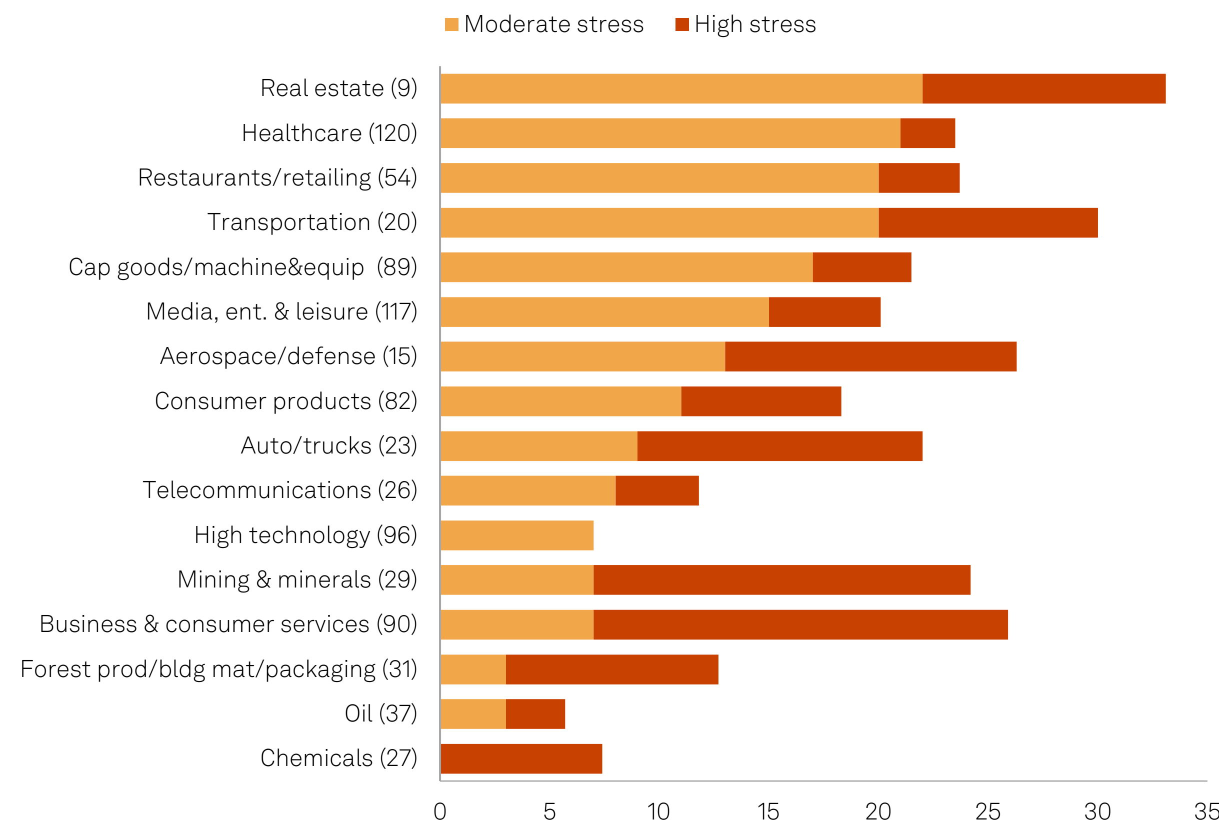
share of issuer rated 'BB', 'BB-', and 'B+' that generate FOCF deficits increases 10.6%, 14.7%, and 17.4%, respectively, compared with our 2022 expectations. These issuers with cash flow deficits account for about 7% of the speculative-grade portfolio. Nevertheless, higher-rated issuers often have better competitive positions and liquidity profiles and have the flexibility to reduce their cost structures or adjust their operating, capital budgets, and financial policies (share repurchases and dividends) to offset shortfalls. The percentage of 'B' and 'B-' rated issuers expected to realize FOCF deficits jump to about 35% and 52%, respectively.

Cash balance serves as a strong cushion against downgrades, potentially reducing downgrade risk for 'B' and 'B-' issuers with projected FOCF deficits by roughly half in moderate and high stress scenarios.

The chart below shows the percentage of at-risk 'B' and 'B-' rated issuers as a percentage of all similarly rated issuers within the sector. To determine an at-risk cohort, we removed issuers with current cash balances more than three times expected cash flow shortfalls. The population decreased to about 12% from 26% of all 'B' and 'B-' with expected FOCF deficits in the moderate risk and 19% from 39% in the high-risk scenario.

Chart 5 | At-Risk 'B' Or 'B-' Issuers By Sector With FOCF-To-Debt Deficits Under Moderate And High Stress



Based on median estimates. Data through April 22, 2022. The number in parentheses is the number of 'B' and 'B-' issuers in the respective sector. Moderate (Scenario 2) increased cash interest costs by 1.5% and reduced 2022 forecasted EBITDA margins by 5%. High (Scenario 3) increases cash interest costs by 2% and reduces 2022 forecasted EBITDA margins by 15%. At-Risk defined as 'B-' or 'B-' issuers with FOCF defiicts that are more than three times current cash balances.
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Consumer-Facing Issuers Are Most at Risk In Our Stress Tests

Within the broader health care sector, health care services represent the most significant proportion of at-risk issuers. Currently, many of these companies face high wage pressure costs, limited access to qualified employees, and/or a difficult reimbursement rate environment. Restaurants and retailing at-risk issuers are primarily food services, restaurants, and miscellaneous retailers. Food services and restaurants have seen supply chain bumps, rapidly rising inflation, and labor shortages. We believe it is difficult for health care services, restaurants, and retailers to pass through costs, and we could see profit margins fall slightly in 2022. The media and entertainment at-risk group include issuers who could benefit from changing consumer preferences following COVID-19 lockdowns. For example, the at-risk group consists of many hotels and lodging issuers that are generally recovering since the omicron variant and as hotel average daily rate improves. Miscellaneous media and entertainment issuers, such as out-of-home entertainment, could see profit margins rise moderately as consumers purchase more services and entertainment experiences. Additional COVID-19 lockdowns could slow the expected improvements. The TV and radio at-risk group face secular pressure as consumers adopt streaming alternatives. The consumer products issuers include miscellaneous consumer products, consumer services, and food and kindred products issuers. These issuers face higher costs and supply chain issues like restaurants and retailers.

Applying These Findings

We believe the best way to use these findings is to combine our key insights with bottom-up fundamental issuer credit analysis. Although our stress scenarios are simplistic and bluntly applied to existing projections, they offer some insights into where the risks are highest and could provide a potential starting point for further fundamental analysis. Additionally, we could use them to quickly assess incoming economic and financial performance data and its broader impact on ratings. Finally, the findings offer an alternative benchmark to gauge alternative investor stress cases to see if they are roughly in line, somewhat more optimistic, or more pessimistic.

This report does not constitute a rating action.

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New Study Finds U.S. Speculative-Grade Issuers Most Vulnerable To Higher-For-Longer Interest Rate Environment

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New Study Finds U.S. Speculative-Grade Issuers Most Vulnerable To Higher-For-Longer Interest Rate Environment

March 27, 2023

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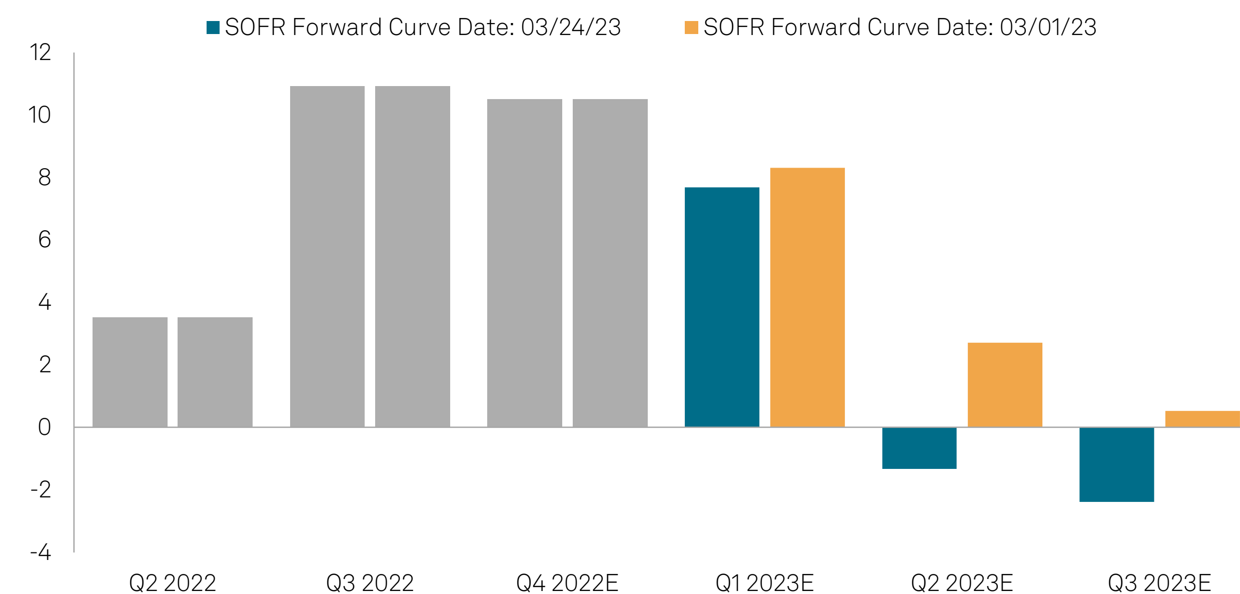
A new study by S&P Global Ratings finds that lower-rated speculative-grade U.S. corporate issuers are most vulnerable to a higher-for-longer interest rate environment. Specifically, we expect the sharp rise in debt service costs, weak interest rate hedging policies, and ongoing free operating cash flow deficits to narrow liquidity cushions for many 'B' and 'B-' rated issuers in 2023.

This study utilizes a sensitivity analysis on more than 1500 speculative-grade issuers to various interest rate and EBITDA margin scenarios to estimate interest coverage shortfall risk. Our observations are founded on understanding the correlation between the change in benchmark interest rates (e.g., LIBOR, SOFR) and reported interest expense in the third quarter of 2022 (2022 Q3). Additionally, we reviewed interest rate hedge disclosures within the financial statements of 173 speculative-grade issuers (slightly more than 10% of the speculative grade portfolio) to corroborate our assumptions. Our analysis recasts 2022 Q3 financial results to estimate the proportion of issuers at risk and sectors with elevated rating pressure.

Chart 1 | Median Quarter Over Quarter Percentage Change In Reported Interest To Debt (%)
U.S. Corporate Speculative Grade Issuers



E = estimate.
The analysis uses the last 12-month financials as of Sept. 30, 2022 and the 3-month LIBOR/SOFR forward expectations as of March 1, 2023.
Refinancing transactions that could result in different credit spreads are excluded from the analysis.
Source: S&P Global Ratings.
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The lagged impact of higher benchmark interest rates will take an increasingly greater bite out of cash flows this year.

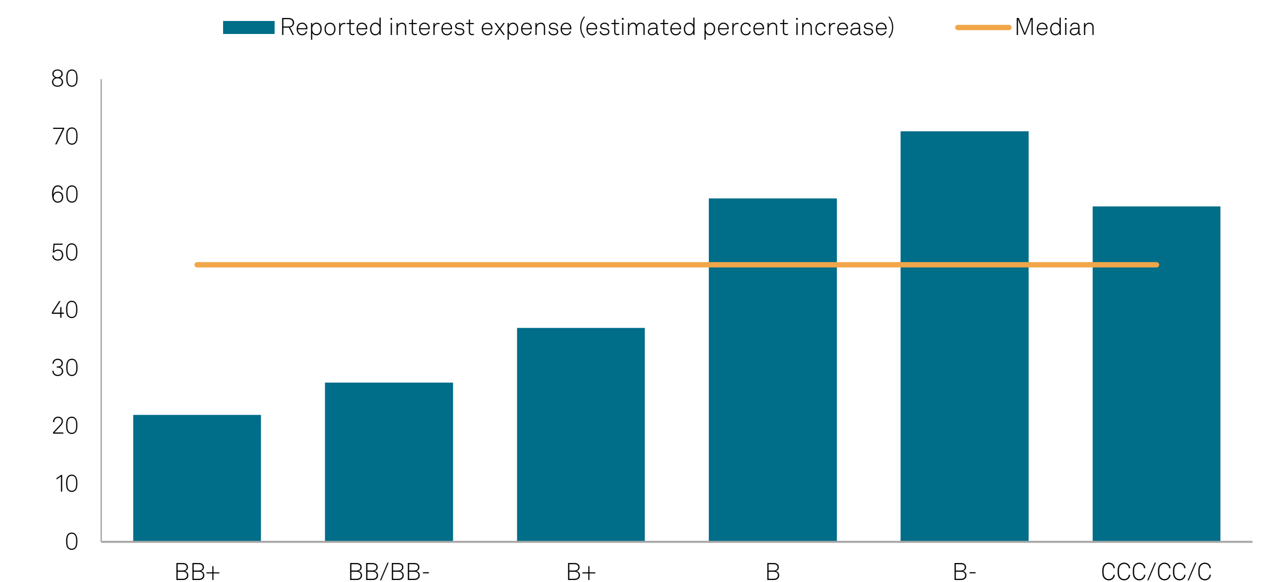
We expect the lagged effects of the sharp tightening of monetary policy to be increasingly realized quarter-over-quarter (QoQ) through mid-2023. Despite market expectations that benchmark rates will decline modestly by May 2023, the U.S. speculative-grade portfolio will likely see higher QoQ debt service cash outflows through the second quarter since interest is often paid at the end of the period. If benchmark rates are similar to Federal Reserve Board members' 2023 central tendency projections (proxied by the March 1, 2023, SOFR forward curve), we could see higher QoQ cash outflow through year-end (Chart 1).

U.S. speculative-grade issuers saw a 10.9% median percentage increase in generally accepted accounting principles (GAAP)-reported interest expense to debt QoQ in 2022 Q3. On an annualized basis, the portfolio median reported interest expense to debt grew to 6.74%. 'B-' and 'B'-rated issuers saw a 14.5% and 12.9% rate of change increase, respectively. Accordingly, it could pose a downside risk to the ratings of these issuers because a significant number of these issuers have continued to realize cash flow deficits through 2022. The higher rate of increase primarily reflects modest hedging policies and high exposure to floating rate debt compared to higher rated issuers.

For each 100 basis points (bps) increase in the benchmark interest rates, we expect approximately 60 bps-80 bps passthrough of costs for 'B' and 'B-' rated issuers.

Our estimate is based on the triangulation of two distinct datasets. In 2022 Q3, the U.S. corporate speculative-grade portfolio saw a median passthrough of interest expense of about 48 bps for every 100 bps of benchmark rate increases. 'B-' issuers saw the highest passthrough at 71 bps while 'B' issuers saw 59 bps (Chart 2). Issuers rated 'B+' and higher are better positioned to weather higher rates given their higher percentage of fixed-rate debt capitalization and better hedging policies.

Chart 2 | Median Change In Reported Interest Per 100 Basis Point Increase In LIBOR/SOFR (bps)
Q3 2022



The analysis uses the increase in reported interest coverage in 3Q 2023 and 3-month LIBOR/SOFR at the start of the quarter.
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To corroborate our passthrough estimate and better understand why the impact differs for issuers in different speculative-grade rating categories, we reviewed the financial statements of a random sample of 173 speculative-grade issuers to quantify the exposure to rising interest rates. The results for issuers rated 'B+' and higher are generally similar; however, we see more variability with issuers rated 'B-' or in the 'CCC/CC' category (Table 1). Accordingly, in our following stress tests, we used an average of our two studies, 75 bps benchmark rate flow-through for 'B-'issuers.

Table 1 | Implied Higher Benchmark Rate Passthrough By Rating Category

Rating Category	Sample Size	% With Interest Rate Hedge?	If Hedged, % Floating Debt Hedged	% Floating Rate Debt Capitalization	Implied Benchmark Rate Passthrough (%)
BB+	14	50.0	49.9	26.8	20.1
BB/BB-	23	47.8	58.3	40.2	29.0
B+	30	50.0	63.3	53.1	36.3
B	46	37.0	52.2	76.8	62.0
B-	43	18.6	64.7	90.2	79.4
CCC/CC/C	17	23.5	62.6	90.5	77.2

Based on a random sample of 173 U.S. speculative-grade issuers. Document review to determine the level of interest rate hedges included an analysis of 2021 annual or 2022 quarterly financial statements.
Source: S&P Global Ratings.
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'B' and 'B-' issuers could see a 0.50x-0.75x decline in reported EBITDA interest coverage ratios if EBITDA margins remain unchanged and the benchmark rates remain in the 4%-6% range.

In Table 2 we detail the results of our study, where we stress reported EBITDA margins and the annualized benchmark rate to assess their impact on reported EBITDA interest coverage ratios for 'B' and 'B-' issuers. The analysis assumes revenues remain unchanged and excludes refinancing transactions that result in higher credit spreads. For example, assuming reported median EBITDA margins remain the same at 14.4% (as of 2022 Q3), a 60% and 75% benchmark rate flow-through for 'B' and 'B-' issuers (respectively), and 4% annualized benchmark rates, we estimate a 0.52x (2.21x minus 1.69x) reduction in interest coverage. In this scenario, the percent of 'B' and 'B-' issuers with reported interest coverage less than 1x increases to 22% from 15% in 2023 Q3.

Table 2 | 'B' and 'B-' Issuers Reported Interest Coverage Impact Of "Higher-For-Longer" Benchmark Rates

		Reported EBITDA margin stress						
		15%	10%	5%	0%	-5%	-10%	-15%
	Sample size: 820	(16.5% median margin)	(15.8%)	(15%)	(14.4%)	(13.6%)	(12.9%)	(12.2%)
Benchmark rate (3-month LIBOR or SOFR)	1.1% (LTM Q3 2022)	2.55x	2.43x	2.32x	2.21x LTM	2.10x	1.99x	1.88x
	2.8% (annualized Q3 2022)	2.19x	2.10x	2.00x	1.91x	1.81x	1.71x	1.62x
	3%	2.14x	2.04x	1.95x	1.86x	1.76x	1.67x	1.58x
	4%	1.95x	1.86x	1.78x	1.69x	1.61x	1.53x	1.44x
	5%	1.78x	1.70x	1.63x	1.55x	1.47x	1.39x	1.32x
	6%	1.64x	1.57x	1.50x	1.43x	1.36x	1.29x	1.21x

Improvement | <= 0.25x decline | > 0.25x-0.5x decline | > 0.5x-0.75x decline | >= 0.75x decline

The hypothetical analysis uses the last 12-month financials as of Sept. 30, 2022, as the starting point and assumes that revenue remains unchanged.
For this study, we use the average of the higher benchmark rate flow-through from table 1 and chart 2 (approximately 60% for 'B' issuers and 75% for 'B-' issuers).
In the column headers, the numbers in parentheses are the median reported EBITDA margin after applying the EBITDA margin stress.
Source: S&P Global Ratings.
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Table 3 | 'B-' Issuer Industry Sector Impact Of "Higher-For-Longer" Benchmark Rates

		Annualized benchmark rates (LIBOR/SOFR)					
Industry sector	Count	1.1% (LTM Q3 2022)	2.80%	3%	4%	5%	6%
Healthcare equipment and services	60	1.42x	1.17x	1.15x	1.04x	0.95x	0.88x
Software and services	68	1.69x	1.28x	1.25x	1.14x	1.04x	0.95x
Commercial and professional services	62	1.50x	1.33x	1.31x	1.22x	1.11x	1.02x
Media and entertainment	25	1.82x	1.60x	1.57x	1.42x	1.30x	1.19x
Technology hardware and equipment	13	1.73x	1.61x	1.58x	1.43x	1.31x	1.21x
Consumer services	22	1.72x	1.62x	1.59x	1.45x	1.33x	1.24x
Telecommunication services	12	2.24x	1.64x	1.61x	1.46x	1.34x	1.24x
Food, beverage and tobacco	15	2.08x	1.70x	1.66x	1.47x	1.34x	1.24x
Materials	47	2.13x	1.70x	1.67x	1.52x	1.40x	1.30x
Capital goods	45	1.93x	1.71x	1.67x	1.52x	1.40x	1.30x
Automobiles and components	9	2.04x	1.83x	1.80x	1.65x	1.52x	1.41x
Retailing	21	2.38x	1.95x	1.90x	1.71x	1.55x	1.42x
Transportation	11	2.94x	2.12x	2.07x	1.86x	1.69x	1.55x
Consumer durables and apparel	16	2.68x	2.22x	2.17x	1.96x	1.78x	1.64x
Energy	11	10.09x	10.11x	9.94x	9.22x	8.59x	8.04x

The percentage of issuers with reported interest coverage less than 1x
1%-10% | >10%-20% | >20%-30% | >30%-40% | >40%-50% | >50%-60%

The hypothetical stress analysis used the starting point of the last 12-month financials as of Sept. 30, 2022 and assumes reported EBITDA remains unchanged.
For this study, we use the average of the higher benchmark rate flow-through from table 1 and chart 2 (approximately 60% for 'B' issuers and 75% for 'B-' issuers). GICS Industry groups with less than five 'B-' issuers were removed from the table.
Source: S&P Global Ratings.
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Alternatively, a 10% decline in reported EBITDA margins and 4% annualized benchmark rates could result in a 0.68x reduction (2.21x minus 1.53x) in reported interest rate coverage ratios with the percentage of 'B' and 'B-' issuers with negative interest coverage ratios rising to 25%. In the worst-case stress scenario (EBITDA margins fall 15% and 6% annualized benchmark rates), the percentage of issuers with negative interest coverage ratios rises to 35%.

In a higher-for-longer interest rate environment, the most vulnerable 'B-' issuers are in the Health Care Equipment and Services, Software and Services, and Commercial and Professional Services industry groups.

To identify industry sectors with increased 'CCC' category downgrade risk, we stressed reported interest coverage for 'B-' issuers assuming that reported EBITDA for the 12 months ended Sept. 30, 2022 remains unchanged. The color scale in the chart below reflects the percentage of issuers with reported interest coverage of less than 1x. For example, in a scenario where the annualized benchmark rate is 4%, we could see more than 30% of 'B-' issuers in the six vulnerable industry sectors with negative interest coverage ratios.

Issuers rated 'B' and 'B-' with less than $75 million EBITDA report weaker interest coverage ratios.

We believe smaller issuers have underperformed larger issuers because they have struggled to pass through high input costs and manage supply chains. Furthermore, smaller-scale issuers will likely be the first to realize earnings stress in a declining macroeconomic environment.

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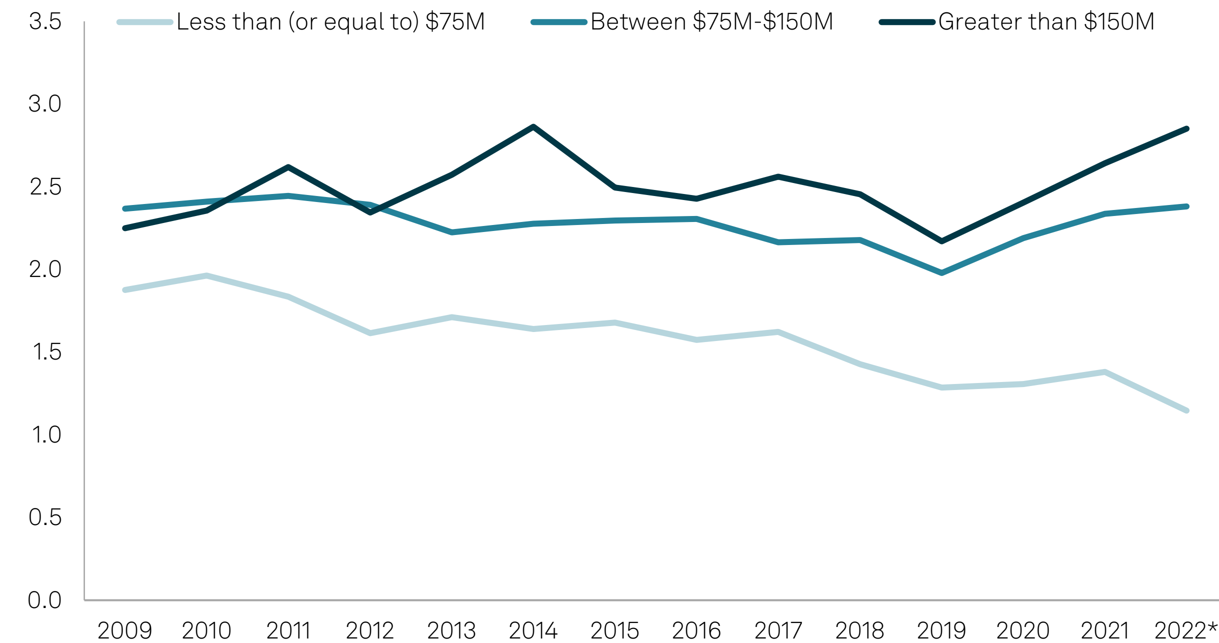
Chart 3 | 'B' and 'B-' Reported Interest Coverage By EBITDA Size (%)



* Data through Q3.
Source: S&P Global Ratings.
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Data and Methodology

We use last 12 months (LTM) GAAP-reported income and interest expense data for U.S. and Canadian corporate speculative-grade issuers.

The study emphasizes the importance of reported cash flow generation given these issuers' relatively weak liquidity profiles and underemphasizes the expected performance improvement in our rating assessment. Furthermore, we apply the same stress level to each issuer regardless of offsetting factors.

Reported financial statements typically include transaction fees and restructuring expenses as operating costs, which may significantly reduce EBITDA. Additionally, LTM operating results may not include a full year's contribution from acquisitions made in the prior 12 months but do include all debt financings. Lastly, our stresses do not account for companies' ability to reduce costs and manage cash flow pressures over the coming periods.

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Leveraged Loan Market Could Feel The Pinch Of Higher Benchmark Rates And Risk Premiums For A While

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Leveraged Loan Market Could Feel The Pinch Of Higher Benchmark Rates And Risk Premiums For A While

Aug. 10, 2022

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The U.S. leveraged loan market has grown significantly in the last two decades. Based on the Morningstar LSTA Leveraged Loan Index, a proxy for outstanding institutional loans, the market has expanded to almost $1.4 trillion currently from about $100 billion in 2000. This growth has been fueled by the demand for broadly syndicated CLOs, which have attracted a lot of interest (and capital) due to their relatively rich spreads.

Investors' thirst for yield during a protracted period of low interest rates--coupled with a history of CLO performance--helped spur the growth of the asset class. U.S. CLOs have grown to roughly $850 billion from about $200 million in 2006, and they are estimated to account for over 60% of the loan market today compared to 40% during the Great Financial Crisis (GFC).

Leveraged Loans' Deteriorating Credit Profile

In the last few years, leveraged loan investors have stretched their threshold for risk tolerance, as the decline in the credit quality of issuers demonstrates. Of the names carried in the LSTA Leveraged Loan Index, the proportion of companies rated 'B-' by S&P Global Ratings went up by 174% to over 30.35% at the end of second-quarter 2022 from 11.09% in August 2016. Over the same period, the proportion of companies rated 'B+' and above, which had constituted about 41% of the index, has dropped to 34.12%.

The decline in the credit profile of companies has stemmed from the change in the dynamics of the market, with an increase in number of highly leveraged private equity-owned companies. CLOs and other loan investors provide a receptive market for highly leveraged loans typically issued for buyouts, M&As, dividend recapitalizations, or debt refinancing.

Related to the decline in issuer credit quality is a downward trend in recovery levels and recovery expectations. Based on a recovery study we conducted of companies that have emerged from bankruptcy since the GFC, recovery for first-lien debt among companies that emerged from 2018 to the first half of 2021 has averaged 70%, almost a 10-percentage-point decline from the recovery rates for the same debt category from companies that emerged between 2008-2017. The increase in the proportion of first-lien debt, which is cheaper to fund, and an erosion in level of subordinated or junior debt (the debt cushion available to senior lenders) have contributed to the expectation of reduced recoveries. The increase in covenant-lite loan structures is another factor contributing to our expectation of lower recoveries. Based on Pitchbook LCD data, 85% of the loans in the BSL market currently have a covenant-lite loan structure.

Low Interest Rates And Credit Risk Premiums Keep A Lid On Funding Costs

Traditionally, loans as an asset class have been an attractive investment, especially when interest rates are rising, as they are indexed to a reference rate (mostly LIBOR and--more recently--SOFR). U.S. LIBOR and SOFR track Federal Reserve policy rates, set by the Fed to keep inflation and employment at its target levels. Since the GFC, the three-month LIBOR breached 200 basis points (bps) in only six quarters--from the second quarter of 2018 to third-quarter 2019. Given the extended periods of low rates, the loan issuers often provided a floor, typically ranging from 50 bps-100 bps, that was the guaranteed minimum benchmark rate used to determine loan facility interest levels.

Credit spreads offered over the floating benchmark rate is the added risk premium that leveraged loan lenders command. Credit spreads are typically a function of macroeconomic conditions and generally reflect the level of credit and economic risk for which the lenders need to be compensated.

The chart at the end depicts the average three-month LIBOR (after consideration of floors, also averaged) and the quarterly average of term loan B spreads (as a proxy for credit premiums) based on LCD data going back to 2006 and through the second quarter of 2022. For the first two quarters in 2022, we have used three-month term SOFR averages, as most of the loans were priced off that given the change in ruling around the use of LIBOR. The SOFR rates, like the LIBOR rates, have been trending up. In the majority of the quarters for the period that we have tracked LIBOR and credit spreads, the two have moved in opposite directions. These divergent trendlines between the benchmark and loan spreads have helped to keep the cost of funding a loan in check (the two have a correlation of negative 0.5). The highest level of total interest observed since the GFC was in the first quarter of 2019, when the aggregate of average benchmark and credit spread was about 6.9% (4.25% credit spread over the 2.68% three-month LIBOR rate); this was one of the few quarters when the two moved up in tandem. This generally negative relationship is somewhat intuitive: A simple explanation is that in any economy buoyed by liquidity with high levels of risk capital, there is easy access to finance (for even low-rated issuers). The increase in availability of capital and the dynamics of demand will invariably lead to lenders willing to accept lower credit spreads, and the Fed will likely intervene to slow things down and remove the proverbial punch bowl through its regulation of policy rates.

In the data set that we reviewed, credit spreads were the lowest through the second half of 2007 in a heated market leading up to the GFC, at a time when Fed raised rates to slow the pace of the economy. Conversely, when there are macroeconomic concerns and financing conditions become a challenge, investors command a higher credit spread for the risk taken. The Fed will accordingly have an accommodating monetary policy and look to raise aggregate demand by reducing policy rates. The most recent example of this was in the second quarter of 2020, when the pandemic struck. The risk premium went up to 560 bps (a level last seen in 2009), while policy rates were lowered all the way to zero.

Leveraged Loan Issuers' Challenges Today And With New Issues

Based on headline inflation numbers this year, the Fed's view has turned more hawkish, causing it to accelerate rate hikes and signal more to come. The benchmark rates have responded accordingly, and the three-month LIBOR shot up to 2.8% now from 0.2% at the start of the year, while the three-month term SOFR rates are at 2.64%, up from under 0.1% at the start of the year. These rates will go up further given the Fed's aggressive tone regarding combating inflation. We expect the Fed Funds rate to go up to about 3.6% by the second quarter of 2023 (from 2.25%-2.5% today), with LIBOR (and SOFR) likely to shoot up similarly.

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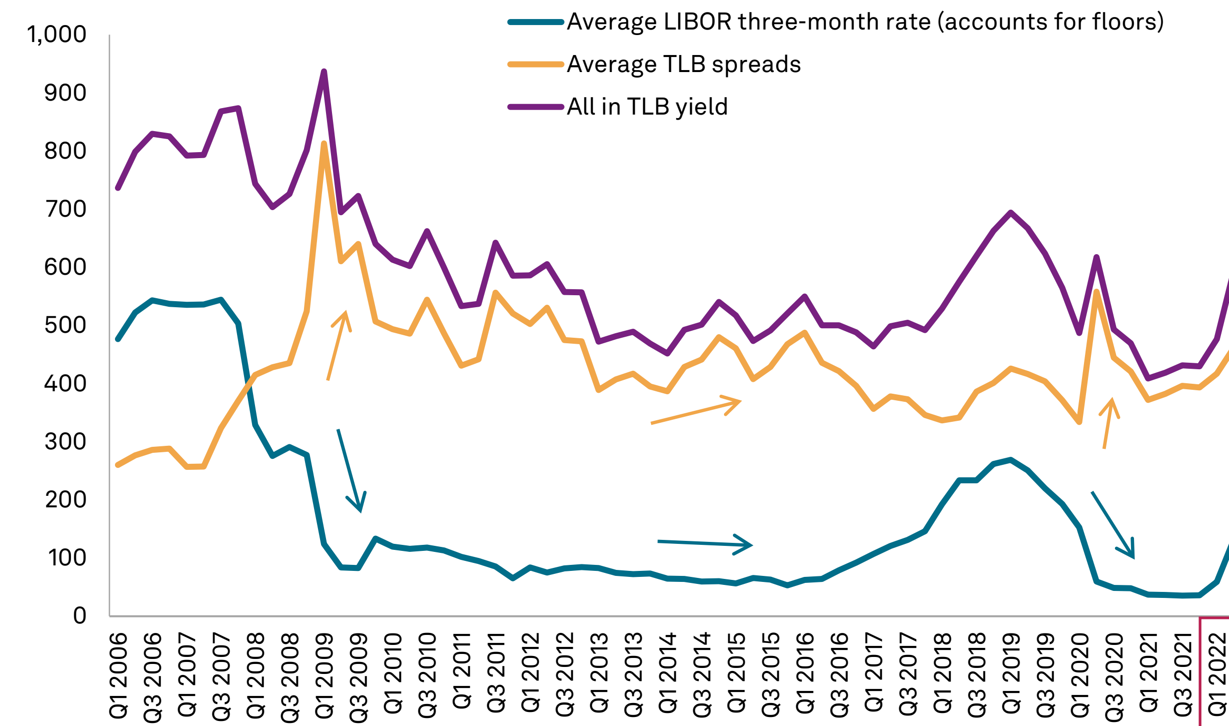
The Increase In Risk Premiums

The Russia-Ukraine conflict, which has put additional upward stress on already high commodity prices, coupled with China's economic shutdown has aggravated supply and cost pressures and cemented the view that inflation is persistent. The onset of high inflation and the expectation that it will continue have worsened financing conditions and consumer sentiment. Presently, concerns about rate hikes have amplified into more broad-based worries. In addition to earnings decelerating because of higher input costs, select sectors--such as retail and consumer discretionary--are feeling the result of slowing demand, as consumers are pulling back. Based on our quarterly review of the financial statements of speculative-grade companies since 2019, average earnings peaked in the second quarter of 2021, and growth has since slowed on average and turned negative for a few sectors, such as consumer products. The issue is compounded by the Fed's impending plan to unwind its balance sheet, which may further disrupt financial markets.

Investors will continue to demand higher risk premiums given the economic uncertainties. Benchmark rates and credit spreads have moved up in tandem in the last two quarters. It is likely that they will continue to move up given the uncertain economic environment and the trajectory of inflation. This combination will add significantly to funding costs for leveraged loan issuers.

Chart 1 | Average LIBOR Versus TLB Spread (bps)



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Fifth Annual Study Of EBITDA Addbacks Finds Management Continues To Regularly Miss Projections

Feb. 16, 2023

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S&P Global Ratings' fifth annual analysis of EBITDA addbacks further substantiates that most U.S. speculative-grade corporate issuers cannot come close to achieving the earnings, debt, and leverage projections presented in their marketing materials at deal inception. Our study is a reminder that, in general, EBITDA adjustments do not provide an accurate picture of future earnings.

Our updated analysis consists of two main components:

- First, we added a new cohort of large M&A and LBO transactions that originated in 2019 (the fifth cohort of transactions in our dataset) to assess the validity of the addbacks in company forecasts. Consistent with our prior studies, we compared issuers' projected adjusted EBITDA at deal inception with actual reported EBITDA for the two calendar years following the year of origination. This accounts for the lag in measuring performance data. Given the difficulty and limited visibility in the earnings breakout, we did not parse out the specific components of addbacks to determine individual line-item realizations. As we have noted in our earlier studies, a portion of the difference between management projected and reported EBITDA could simply be on account of factors such as unmaterialized growth or unforeseen operational issues. The pandemic was particularly important for the 2019 cohort as it includes almost two full years of COVID-impacted results, 2020 and 2021.
- Second, we examined a broader set of data from deal inception for transactions originated from 2015-2021 to measure the magnitude and distribution of company-projected addbacks across major categories over time. This allows us to track and quantify the evolution of addbacks.

Our Ratings and Financial Risk Analysis metrics are derived from our own projections and judgments. While our findings serve as a reminder of the potential perils of taking overly optimistic management forecasts at face value, our ratings are based on S&P Global Ratings projections of a company's expected earnings, their capacity and appetite for debt repayment, and our analysis and assessment of business and financial factors such as management and board governance, projected synergies, or operating efficiencies.

All told, marketing leverage and the language around addbacks--as defined in debt agreements--are not determinants of our view of credit risk (other than in assessing covenant headroom when reviewing debt instruments containing financial maintenance covenants).

Part 1: The Validity And Accuracy Of EBITDA Addbacks

Do addbacks present a realistic picture of future profitability and risk, and do companies typically hit their forecast?

Deal arrangers, sponsors, and management teams continue to raise the bar in engineering and selling what qualifies as an addback. This has led to an increase in the number, types, and ultimately the magnitude of adjustments. For example, the COVID crisis created a whole new category of adjustments related to cost and revenue impacts stemming from the pandemic and related mitigation measures. In many of these cases, S&P Global Ratings views the ever-expanding definition of management-adjusted EBITDA as an inflation of profitability and an artificial deflation of leverage that contributes to understated valuation multiples, thereby improving the marketability of a transaction. The absence of a standardized definition of EBITDA is of critical importance here. In practice, it is and has always been a negotiated definition, varying from agreement to agreement.

While it is fine for individual investors to make their own judgments about how best to gauge EBITDA (and leverage, for that matter), it is still critical to understand the magnitude and persistence of the shortfall in marketing versus actual EBITDA. Further, investors should understand that an expansive definition of EBITDA in a company's debt agreements typically presents incremental event risk because it often provides additional headroom under negative covenants and restricted payments (including dividends, debt, investments, and lien allowances).

Summary of findings:

It is highly unusual for management teams to paint their projections as anything but conservative when marketing a transaction. But how do PitchBook projections translate compared to 10-K's or annual reports? Across all five cohorts in our study, only 4% of companies met or exceeded their earnings projections on a reported basis in the year following deal inception. Harkening back to our original study ("When The Credit Cycle Turns: The EBITDA Add-Back Fallacy", published Sept. 24, 2018), this "addback fallacy" has become institutionalized. In the latest cohort, we found yet again that both anticipated EBITDA and deleveraging expectations fell materially short of issuer projections for the two years that we tracked companies' performance after transaction origination (see Table 1). We repeated the performance gap analysis for M&A and LBO transactions that originated in 2015-2018, along with the 2019 transactions that we reviewed this year. Our analysis of the 2019 cohort showed that the magnitude of the misses was among the highest of the five cohorts in our study.

For the 2019 cohort of deals, 80% of the companies missed their EBITDA targets by at least 25% in the first full calendar year following inception (2020), decreasing to 60% in 2021. The median miss on earnings in 2020 and 2021 were 41% and 35%, respectively. We chose median metrics for comparison because we observed a fair amount of variation within each cohort and across the five sets of cohorts. However for the year 2020, we are cognizant of the setback companies had in realizing their EBITDA projections due to the pandemic.

Table 1 | Transactions Originated During 2019

Company Projected vs Net Reported

EBITDA*			Debt			Leverage^		
	2020	2021		2020	2021		2020	2021
% exceed proj.	3%	23%	% exceed proj.	57%	37%	% exceed proj.	10%	27%
% missed >0%	97%	77%	% missed > 0%	43%	63%	% missed >0x	90%	73%
% missed >=10%	93%	70%	% missed >=10%	23%	50%	% missed >=1x	83%	67%
% missed >=25%	80%	60%	% missed >=25%	10%	27%	% missed >=2x	47%	53%
% missed >=33.3%	63%	60%	% missed >=33.3%	7%	27%	% missed >=3x	30%	43%
% missed >=50%	27%	33%	% missed >=50%	7%	23%	% missed >=5x	23%	23%
Average miss	39%	30%	Average miss	1%	11%	Average miss	4.1x	4.5x
Median miss	41%	35%	Median miss	1%	11%	Median miss	1.8x	2.7x

* Company's projections are adjusted EBITDA.
^ Leverage calculation based on average of debt to EBITDA of each company in sample.
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Table 2 | Transactions Originated During 2018

Company Projected vs Net Reported

EBITDA*			Debt			Leverage^		
	2019	2020		2019	2020		2019	2020
% exceed proj.	4%	15%	% exceed proj.	46%	38%	% exceed proj.	19%	19%
% missed >0%	96%	85%	% missed > 0%	54%	63%	% missed >0x	81%	81%
% missed >=10%	88%	77%	% missed >=10%	31%	52%	% missed >=1x	75%	77%
% missed >=25%	73%	67%	% missed >=25%	17%	25%	% missed >=2x	60%	54%
% missed >=33.3%	54%	60%	% missed >=33.3%	13%	23%	% missed >=3x	44%	38%
% missed >=50%	29%	35%	% missed >=50%	15%	23%	% missed >=5x	27%	23%
Average miss	38%	39%	Average miss	4%	22%	Average miss	4.6x	3.5x
Median miss	36%	39%	Median miss	2%	11%	Median miss	2.5x	2.3x

* Company's projections are adjusted EBITDA.
^ Leverage calculation based on average of debt to EBITDA of each company in sample.
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Table 3 | Transactions Originated During 2017

Company Projected vs Net Reported

EBITDA*			Debt			Leverage^		
	2018	2019		2018	2019		2018	2019
% exceed proj.	7%	12%	% exceed proj.	37%	24%	% exceed proj.	10%	5%
% missed >0%	93%	88%	% missed >0%	63%	76%	% missed >0x	90%	95%
% missed >=10%	83%	78%	% missed >=10%	32%	59%	% missed >=1x	80%	85%
% missed >=25%	56%	54%	% missed >=25%	17%	29%	% missed >=2x	61%	63%
% missed >=33.3%	49%	49%	% missed >=33.3%	12%	24%	% missed >=3x	39%	39%
% missed >=50%	15%	24%	% missed >=50%	12%	20%	% missed >=5x	10%	24%
Average miss	27%	30%	Average miss	11%	25%	Average miss	2.8x	3.3x
Median miss	32%	30%	Median miss	3%	12%	Median miss	2.6x	2.7x

* Company's projections are adjusted EBITDA.
^ Leverage calculation based on average of debt to EBITDA of each company in sample.
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Table 4 | Transactions Originated During 2016

Company Projected vs Net Reported

EBITDA*			Debt			Leverage^		
	2017	2018		2017	2018		2017	2018
% exceed proj.	0%	6%	% exceed proj.	32%	26%	% exceed proj.	19%	10%
% missed >0%	100%	94%	% missed >0%	68%	74%	% missed >0x	81%	90%
% missed >=10%	90%	84%	% missed >=10%	32%	52%	% missed >=1x	71%	71%
% missed >=25%	65%	55%	% missed >=25%	13%	39%	% missed >=2x	42%	65%
% missed >=33.3%	48%	52%	% missed >=33.3%	3%	39%	% missed >=3x	29%	42%
% missed >=50%	32%	32%	% missed >=50%	3%	16%	% missed >=5x	16%	23%
Average miss	35%	35%	Average miss	6%	40%	Average miss	3.1x	3.3x
Median miss	30%	35%	Median miss	3%	11%	Median miss	1.9x	2.5x

* Company's projections are adjusted EBITDA.
^ Leverage calculation based on average of debt to EBITDA of each company in sample.
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Table 5 | Transactions Originated During 2015

Company Projected vs Net Reported

EBITDA*			Debt			Leverage^		
	2016	2017		2016	2017		2016	2017
% exceed proj.	6%	13%	% exceed proj.	44%	25%	% exceed proj.	16%	13%
% missed >0%	94%	88%	% missed >0%	56%	75%	% missed >0x	84%	88%
% missed >=10%	78%	75%	% missed >=10%	25%	59%	% missed >=1x	72%	75%
% missed >=25%	56%	69%	% missed >=25%	16%	31%	% missed >=2x	50%	63%
% missed >=33.3%	50%	63%	% missed >=33.3%	13%	31%	% missed >=3x	38%	53%
% missed >=50%	13%	31%	% missed >=50%	6%	16%	% missed >=5x	19%	31%
Average miss	29%	34%	Average miss	7%	19%	Average miss	2.9x	3.6x
Median miss	33%	39%	Median miss	1%	12%	Median miss	2.1x	3.5x

* Company's projections are adjusted EBITDA.
^ Leverage calculation based on average of debt to EBITDA of each company in sample.
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The following table is a composite of the five cohorts in our study. For the aggregate sample, we followed the same methodology of measuring projection performance for each of the individual cohorts--looking at the two full years following deal inception to measure the accuracy of management projections and the magnitude of the misses.

Table 6 | Transactions Originated During 2015-2019

Company Projected vs Net Reported

EBITDA*			Debt			Leverage^		
	Year 1	Year 2		Year 1	Year 2		Year 1	Year 2
% exceed proj.	4%	14%	% exceed proj.	43%	30%	% exceed proj.	15%	14%
% missed >0%	96%	86%	% missed > 0%	57%	70%	% missed >0x	85%	86%
% missed >=10%	86%	77%	% missed >=10%	29%	54%	% missed >=1x	76%	76%
% missed >=25%	66%	61%	% missed >=25%	15%	30%	% missed >=2x	53%	59%
% missed >=33.3%	53%	57%	% missed >=33.3%	10%	28%	% missed >=3x	37%	42%
% missed >=50%	23%	31%	% missed >=50%	8%	15%	% missed >=5x	19%	25%
Average miss	34%	34%	Average miss	6%	24%	Average miss	3.56x	3.6x
Median miss	36%	37%	Median miss	2%	12%	Median miss	2.3x	2.6x

* Company's projections are adjusted EBITDA.
^ Leverage calculation based on average of debt to EBITDA of each company in sample.
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Our review methodology:

To assess the realization of addbacks, we compared marketing EBITDA presented at deal inception with actual reported EBITDA. We compared at the aggregate level, given the difficulty in evaluating the various individual components of addbacks. For example, a company often does not disclose the actual achievement of a particular type of cost savings in its financials. Further, in the "new normal" covenant-lite loan environment, there is a lack of compliance certificates that can provide details on addback realization. We include two years of actual performance data--allowing time to gauge whether the company could achieve anticipated synergies--to permit certain cost addbacks (such as transaction fees and expenses and restructuring costs) to roll off.

Further, just like in our earlier reviews, we eliminated companies that underwent a material M&A or LBO transaction within two years of deal inception. This enabled us to remove distortion following subsequent transformative events (new debt issuance, earnings colored by subsequent acquisitions, etc.), which would render initial projections irrelevant. It also lets us cleanly compare reported EBITDA, debt, and leverage with what was projected by these companies at deal inception.

Lastly, we cannot disclose company names because management projections are confidential.

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EBITDA still fell well short of management projections.

If companies performed in accordance with their marketing projections, one could expect to see a convergence between management projected and actual reported results as companies realize their anticipated earnings, one-time items fall away, and synergies are achieved. In actuality, we saw a material divergence. The deviation indicates unmaterialized growth projections, operating challenges, and unrealized synergies or unattained cost savings. The 2019 cohort had the highest average leverage miss at 4.5x in year two (2021) in the history of our study. The pandemic-induced recession was undoubtedly a contributing factor in the magnitude of the miss.

Management failed to reduce debt as projected.

Failure to meet projected debt levels also contributed to the significant miss of managements' projected leverage, but to a much lesser extent than EBITDA misses. Virtually all issuers present a deleveraging story to the market at deal inception, stating intentions to sweep surplus cash to reduce debt. The latest two cohorts performed better and showed significant improvement over the prior three cohorts, where about 75% of companies missed their debt projections in year two, versus approximately 67% in the latest two cohorts (see Table 5).

Chart 1 | EBITDA Divergence

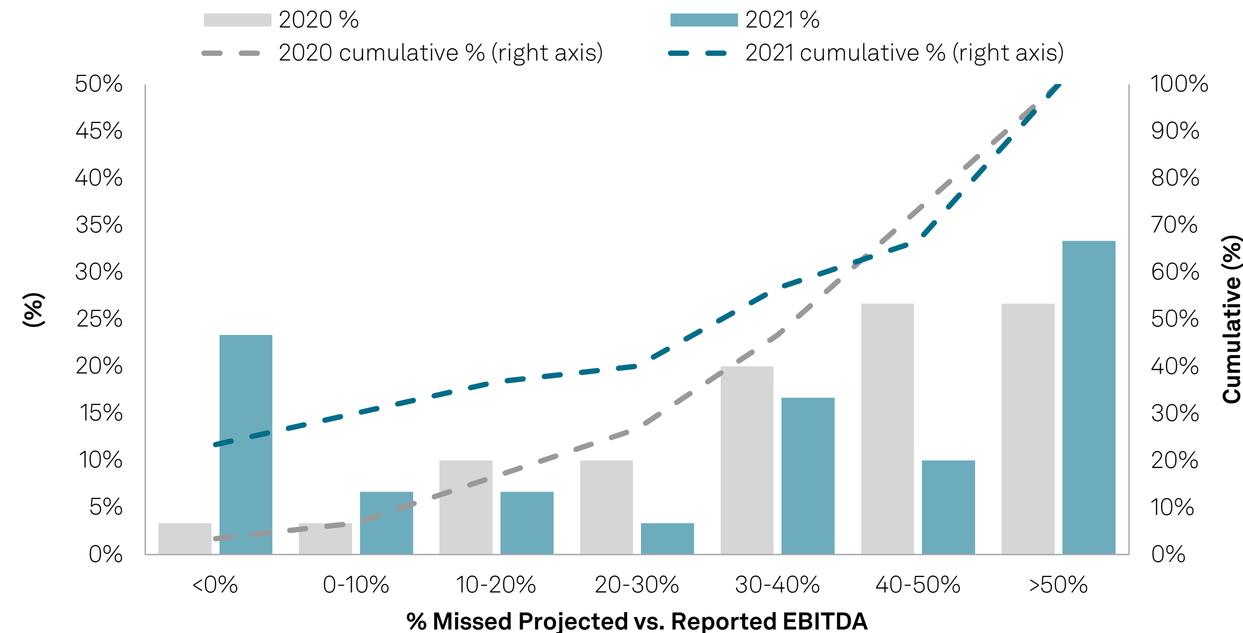

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Chart 2 | Net Debt Divergence

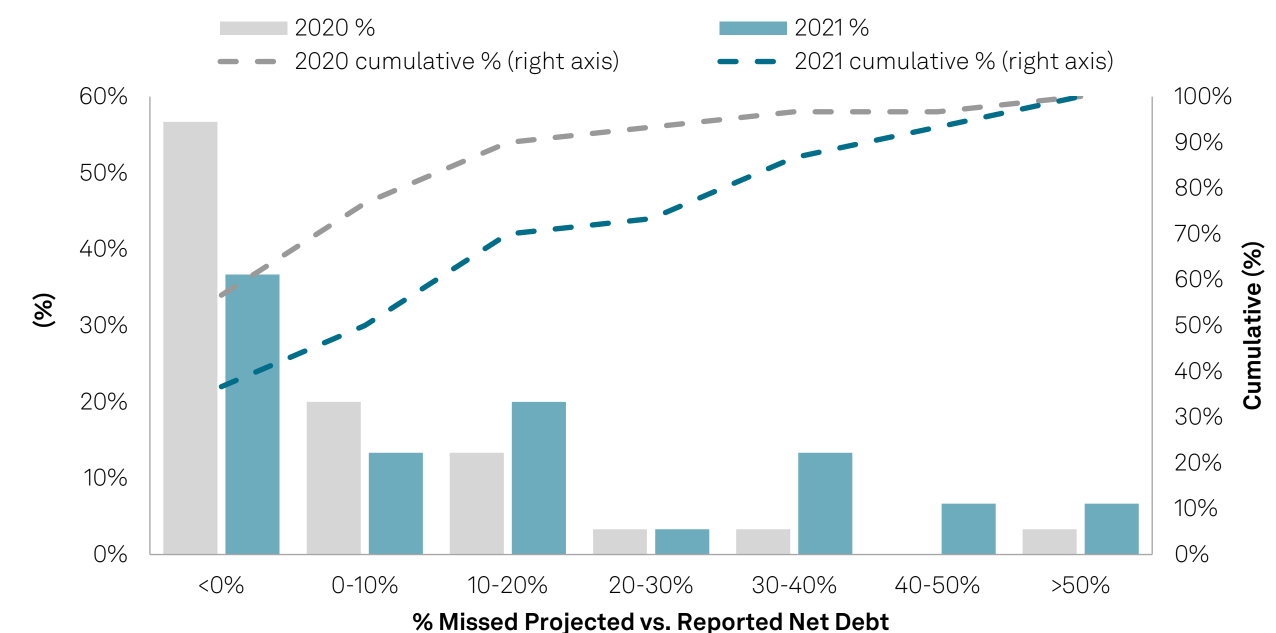

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Table 7 | Company Projected Versus Actual Reported EBITDA

	2019 Cohort		2018 Cohort		2017 Cohort		2016 Cohort		2015 Cohort	
	2020	2021	2019	2020	2018	2019	2017	2018	2016	2017
Average miss	39%	30%	36%	39%	27%	30%	35%	35%	29%	34%
Median miss	41%	35%	38%	39%	32%	30%	30%	35%	33%	39%
Highest miss	83%	90%	97%	81%	83%	79%	70%	77%	83%	74%
Total count	30	30	48	48	41	41	31	31	32	32
# exceed proj.	1	7	2	7	3	5	0	2	2	4
% exceed proj.	3%	23%	4%	15%	7%	12%	0%	6%	6%	13%
# missed > 0%	29	23	46	41	38	36	31	29	30	28
% missed > 0%	97%	77%	96%	85%	93%	88%	100%	94%	94%	87%
# missed >=10%	28	21	42	37	34	32	28	26	25	24
% missed >=10%	93%	70%	88%	77%	83%	78%	90%	84%	78%	75%
# missed >=25%	24	18	35	32	23	22	20	17	18	22
% missed >=25%	80%	60%	73%	67%	56%	54%	65%	55%	56%	69%
# missed >=33.3%	19	18	26	29	20	20	15	16	16	20
% missed >=33.3%	63%	60%	54%	60%	49%	49%	48%	52%	50%	63%
# missed >=50%	8	10	14	17	6	10	10	10	4	10
% missed >=50%	27%	33%	29%	35%	15%	24%	32%	32%	13%	31%

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Table 8 | Company Projected Versus Actual Reported Net Debt

	2019 Cohort		2018 Cohort		2017 Cohort		2016 Cohort		2015 Cohort	
	2020	2021	2019	2020	2018	2019	2017	2018	2016	2017
Average miss	1%	11%	4%	22%	3%	12%	6%	40%	7%	19%
Median miss	1%	11%	2%	11%	11%	25%	3%	11%	1%	12%
Highest miss	60%	108%	93%	614%	181%	195%	149%	339%	101%	119%
Total count	30	30	48	48	41	41	31	31	32	32
# exceed proj.	17	11	22	18	15	10	10	8	14	8
% exceed proj.	57%	37%	46%	38%	37%	24%	32%	26%	44%	25%
# missed > 0%	13	19	26	30	26	31	21	23	18	24
% missed > 0%	43%	63%	54%	63%	63%	76%	68%	74%	56%	75%
# missed >=10%	7	15	15	25	13	24	10	16	8	19
% missed >=10%	23%	50%	31%	52%	32%	59%	32%	52%	25%	59%
# missed >=25%	3	8	8	12	7	12	4	12	5	10
% missed >=25%	10%	27%	17%	25%	17%	29%	13%	39%	16%	31%
# missed >=33.3%	2	8	6	11	5	10	1	12	4	10
% missed >=33.3%	7%	27%	13%	23%	12%	24%	3%	39%	13%	31%
# missed >=50%	1	2	5	7	5	8	1	5	2	5
% missed >=50%	3%	7%	10%	15%	12%	20%	3%	16%	6%	16%

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Chart 3 | Leverage Divergence

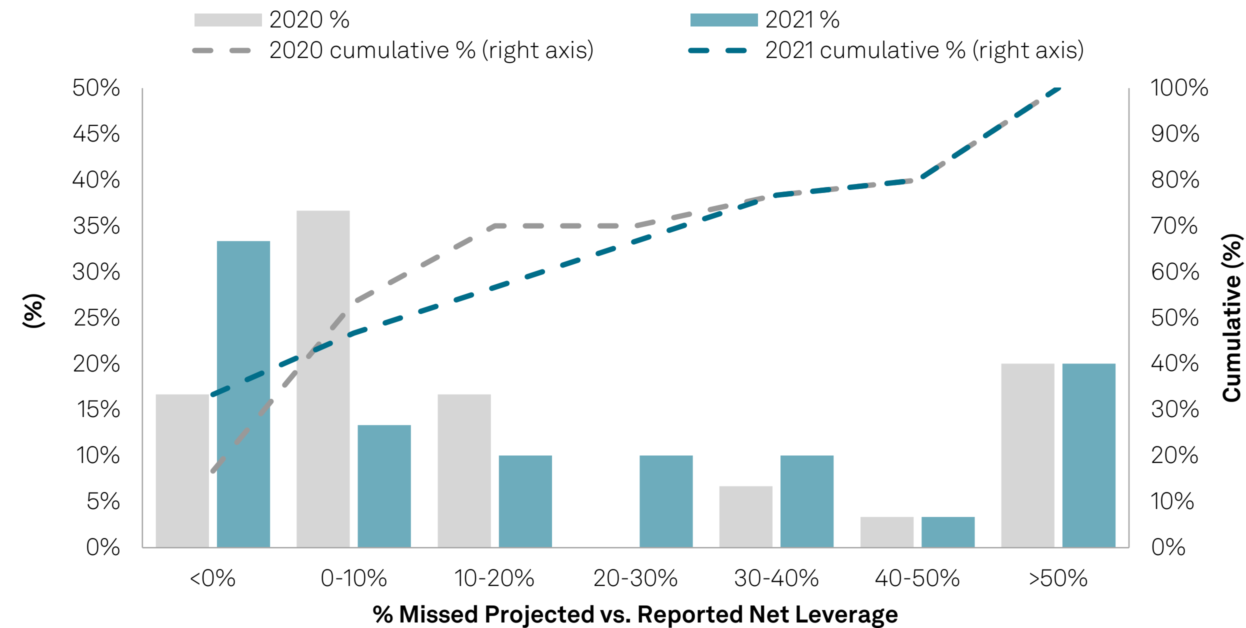

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Table 9 | Company Projected Versus Actual Reported Net Leverage

	2019 Cohort		2018 Cohort		2017 Cohort		2016 Cohort		2015 Cohort	
	2020	2021	2019	2020	2018	2019	2017	2018	2016	2017
Average miss (x)	4.1	4.5	4.6	3.5	2.6	2.7	3.1	3.3	2.9	3.6
Median miss (x)	1.8	2.7	2.5	2.3	2.8	3.3	1.9	2.5	2.1	3.5
Highest miss (x)	22.4	37.6	30.3	21.5	17.0	10.9	15.2	19.4	20.9	10.0
Total count	30	30	48	48	41	41	31	31	32	32
# exceed proj.	3	8	9	9	4	2	6	3	5	4
% exceed proj.	10%	27%	19%	19%	10%	5%	19%	10%	16%	13%
# missed >1x	25	20	36	37	33	35	22	22	23	24
% missed >1x	83%	67%	75%	77%	80%	85%	71%	71%	72%	75%
# missed >=2x	14	16	29	26	25	26	13	20	16	20
% missed >=2x	47%	53%	60%	54%	61%	63%	42%	65%	50%	63%
# missed >=3x	9	13	21	18	16	16	9	13	12	17
% missed >=3x	30%	43%	44%	38%	39%	39%	29%	42%	38%	53%
# missed >=5x	7	7	13	11	4	10	5	7	6	10
% missed >=5x	23%	23%	27%	23%	10%	24%	16%	23%	19%	31%
Average Projected Leverage (x)	4.3	3.5	4.3	3.5	4.2	3.5	3.8	3.0	4.2	3.3
Average Actual Leverage (x)	8.4	8.0	8.8	7.0	7.1	6.7	6.8	6.3	7.1	7.0
Median Projected Leverage (x)	4.3	3.5	4.6	3.8	4.3	3.6	3.9	3.1	4.2	3.4
Median Actual Leverage (x)	6.7	6.1	7.6	6.4	7.0	6.4	5.7	5.9	6.1	6.5

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In short, companies' intentions to apply surplus cash to pay down debt appear to be infrequently executed. Indeed, companies rarely, if ever, pay down debt to the extent indicated. All five vintages displayed a similar pattern: roughly two-thirds of companies kept debt levels in check (by keeping debt levels below their projections, or within 10% of their targets for projected debt) in the first year following origination. That share quickly deteriorated to less than half (average of 45%) by the end of the second year across all cohorts. We netted reported cash balances against reported debt to compute debt and leverage divergence for comparability, which was especially important in 2020 and 2021 as many companies retained high cash balances as a cushion against uncertainty during the COVID pandemic.

Actual leverage far exceeds initial projections.

As a result, there is a material discrepancy between projected and reported leverage across the aggregate data set. We see a company's projections become increasingly aspirational on both ends, building a significant leverage cushion and presenting a case that does not necessarily represent credit realities. By averaging the median gap across the five vintages, companies under-projected leverage by an average of over two turns (2.2x) in the first year, increasing to 2.9 turns by the end of year two (see Table 6).

The pandemic had an impact.

While the table above shows improvement year over year (YOY) for the 2018 cohort, with the leverage miss improving in 2020, our leverage calculations are based on net debt. When looking at reported (gross) debt figures for the 2018 cohort, the average projected debt miss went from 17% in 2019 to 73% in 2020 compared to 19% and 35% for the 2017 cohort. We believe this is due partly to COVID-related cash hoarding during the last the three quarters of 2020.

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Part 2: The Magnitude And Composition Of EBITDA Addbacks

The data set for this part of our review is more extensive, encompassing 541 M&A and LBO transactions originated between 2015 and 2021 with deal sizes exceeding $50 million. It includes S&P Global Ratings-rated transactions and is limited to those where management provided us with a detailed bridge from reported EBITDA to marketing EBITDA (as is typically the case). This data set is larger than the set for Part 1 for two reasons: one, it includes transactions for 2020 and 2021 where we don't yet have enough operating results to gauge performance relative to management projections, and two, it includes transactions from prior years that we did not use for part one of this study because of a subsequent transformative transaction. Of the total sample, 56% were M&A transactions and 44% LBO transactions, and 87% by deal count were rated in the 'B' category at inception, with the remaining 13% in the 'BB' rating category. With the expansion of the data set to include transactions from 2021, the proportionate share of 'B' category ratings continues to grow, reflecting the erosion of credit quality in the broader leveraged finance market. Three-quarters of the transactions in the sample were sponsored and the remainder non-sponsored.

Chart 4A | Breakdown Of Data Sample By Transaction Type

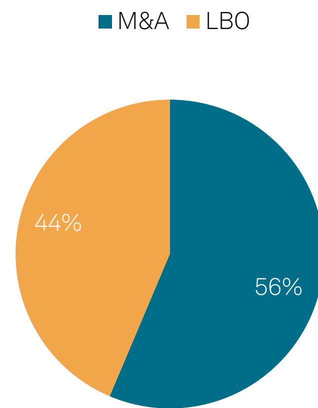

Chart 4B | Breakdown Of Data Sample By Initial Issuer Credit Rating

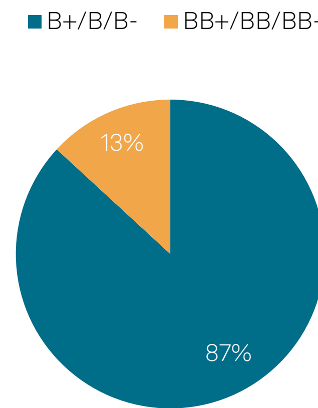

Chart 4C | Breakdown Of Data Sample By Sponsorship Status

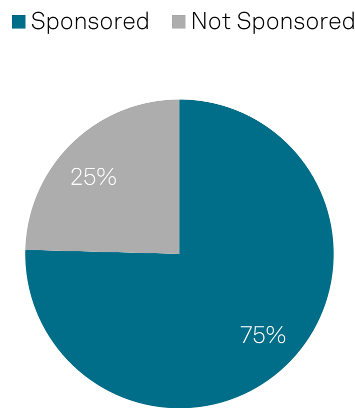

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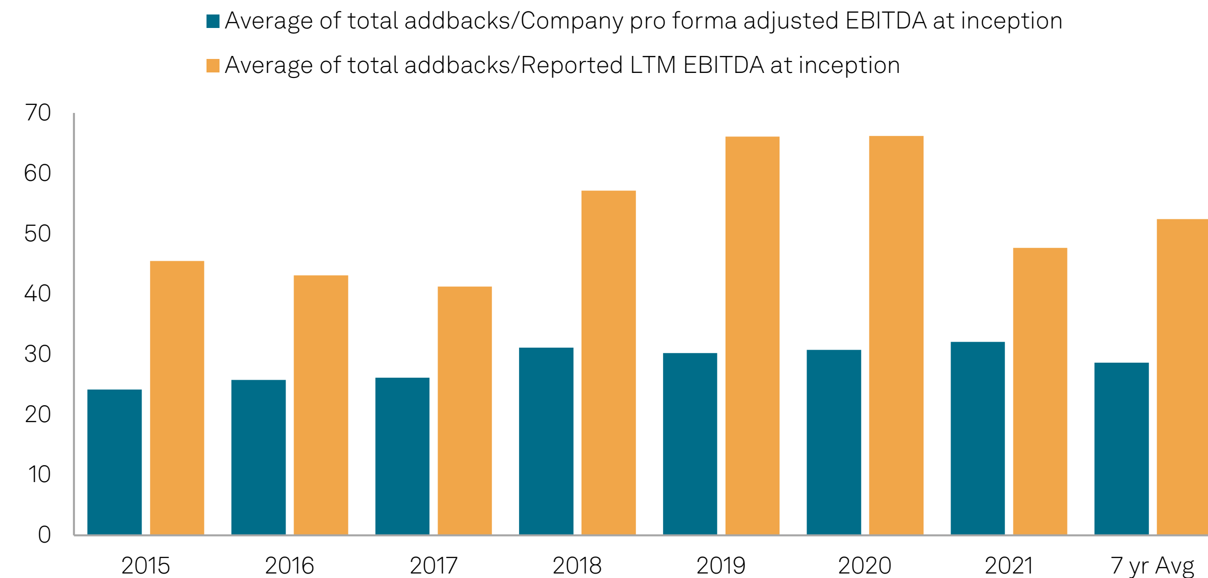
Chart 5 | EBITDA Addback Trends, 2015–2021 (%)



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We measured the magnitude of addbacks as a percentage of management's marketing EBITDA and pro forma LTM EBITDA excluding any addbacks, as presented at transaction inception. On average, over the past seven years, addbacks made up over 29% of marketing EBITDA, and over 52% of LTM reported EBITDA (see Chart 5). Over the period, this forward-looking measure of addbacks as a percent of marketing EBITDA has grown marginally each year, exceeding 30% in 2018 and beyond from 24% in 2015.

Across the seven-year sample, the ratings distribution has shifted toward 'B' rated issuers. We found that regardless of transaction type, 'B' category credits led their higher-rated 'BB' counterparts in the average adjustment amount.

Synergies and cost savings made up about a third of total addbacks.

Expected synergies and cost savings continue to be the largest components of addbacks. Chart 6 sorts the general addback adjustments into six broad categories. Each year, synergies and cost savings led over other adjustment types. It peaked in 2016 at nearly 39%, with a seven-year average of 29%. Synergies are often the most difficult of the common addbacks to project accurately. As mentioned earlier, we rarely factor the full amount of management-anticipated synergies into our projections. Instead, we have detailed discussions with management teams and their advisors regarding expected synergies and adjust for what we believe to be achievable and when such achievement is likely. It often depends on the source of synergy and, when relevant, whether a company or sponsor has a demonstrated track record in realizing similar synergies or cost savings from past transactions. While some are easier to execute--such as eliminating overlapping corporate overhead to achieve labor savings--others fall outside management's control. Pro forma saving on procurement offers one example, as it requires contract negotiations with various third-party vendors. Lastly, some synergies are costly to implement, requiring an upfront expense, such as severance pay.

Restructuring costs are another area of disparity in treatment. We generally treat ongoing restructuring charges as operating costs because most companies need to restructure their operations to adapt to changing environments and remain competitive. Similarly, as stated in our approach to EBITDA, management fees constitute a cash operating cost and are treated as such in our analysis. For this reason, we do not add back restructuring costs or management fees in our calculation of adjusted EBITDA. In addition, this body of data demonstrates how far off companies' original assumptions tend to be about the future realization of addbacks.

Chart 6 | Breakdown By Type Of Addback, 2015–2021 (%)

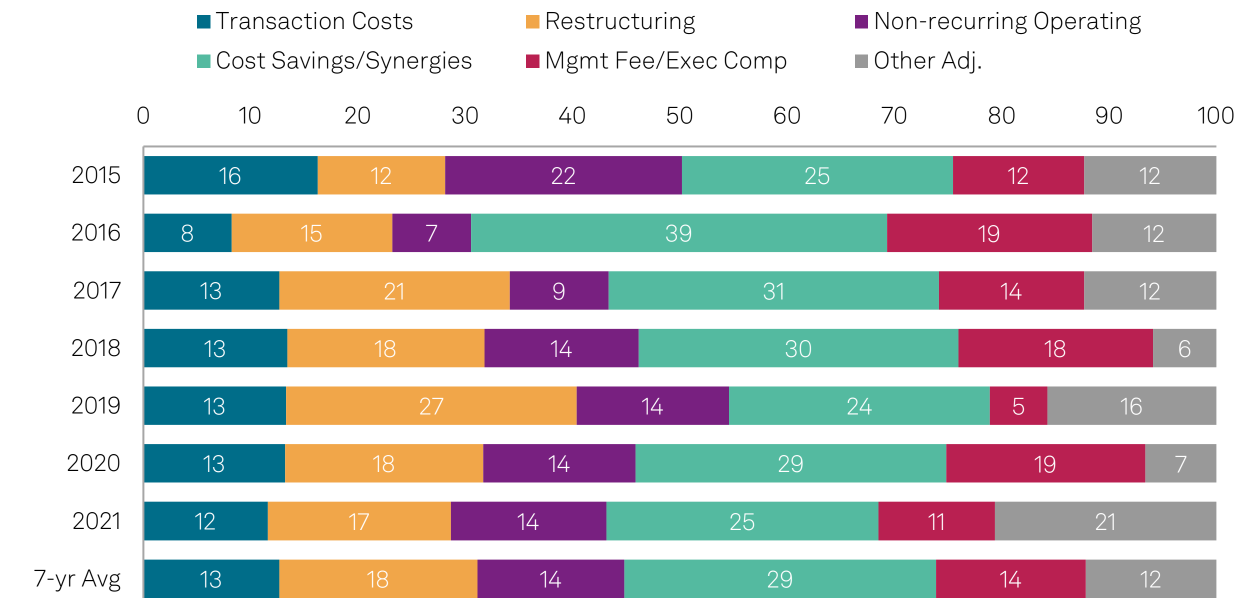

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Table 10 | Average Addbacks By Sector

Sector	No. of companies	Average of total addbacks/ reported LTM EBITDA at inception (%)	Average of total addbacks/Company pro forma adjusted EBITDA at inception (%)
Technology	110	66.1	36.3
Healthcare	72	62.6	34.7
Media, entertainment & leisure	55	44.7	34.7
Telecommunications	6	62.6	34.6
Chemicals	13	68.9	33.6
Insurance services	10	67.3	31.8
Finance company	3	48.8	29.7
Transportation	15	49.9	29.2
Auto/trucks	12	38.0	27.1
Cap goods/machine&equip	64	68.8	26.3
Consumer products	47	67.3	25.2
Oil	1	30.4	23.3
Leisure and sports	1	29.2	22.6
Business and consumer services	56	35.4	22.3
Restaurants/retailing	24	39.3	22.2
Aerospace/defense	15	40.8	21.9
Energy - oil and gas	1	25.8	20.5
Forest prod/bldg mat/packaging	29	24.0	18.0
Mining and minerals	6	22.4	17.7
Materials	1	12.2	10.9
Grand total	**541**	**54.6**	**29.4**

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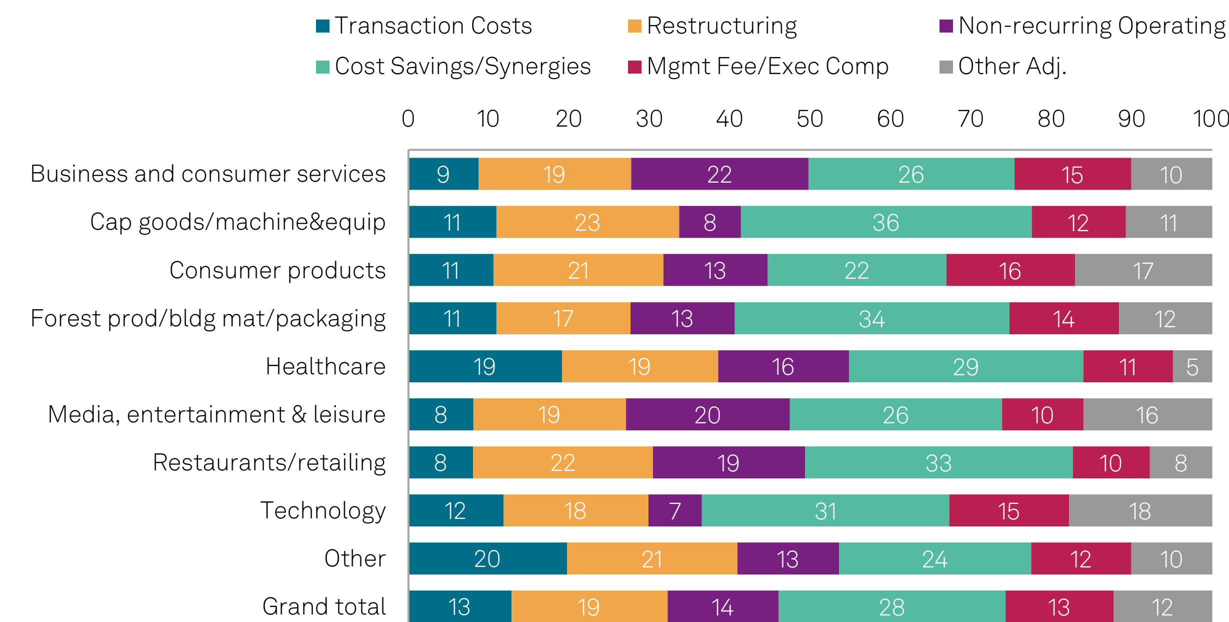
Chart 7 | Addback Types By Sector (%)



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Technology and health care had the highest addbacks as a percentage of marketing EBITDA.

The Technology, Healthcare, and Media, Entertainment, and Leisure sectors had the most addback-inflated EBITDA when comparing the seven-year average of total addbacks to company marketing EBITDA at deal inception at 36%, 35%, and 35%, respectively. Those three sectors buoy the entire sample, representing 44% of the deal count.

The degree of EBITDA addbacks at inception impacts magnitude of projection miss.

Our data show there appears to be a positive correlation between the magnitude of EBITDA addbacks at deal inception and the severity of management misses of projected leverage versus actual reported leverage. We consolidated the five cohorts of data in Part 1 of this analysis, providing a sizeable sample of close to 180 transactions. For the aggregate sample, we followed the same methodology of measuring projection performance for each of the individual cohorts--looking at the two full years following deal inception to measure the accuracy of management projections and magnitude of the misses. We then mapped the magnitude of addbacks to each of those transactions on the intuitive supposition that the greater the addbacks, the bigger the miss. Charts 8 and 9 below map this relationship for year 1 and year 2; respectively. Focusing on the two extremes in both years of performance data (leverage miss of <1x and >5x), which comprise a significant portion of the sample, our data shows that addbacks were approximately double for the worst performing transactions.

Chart 8 | Year 1 (%)

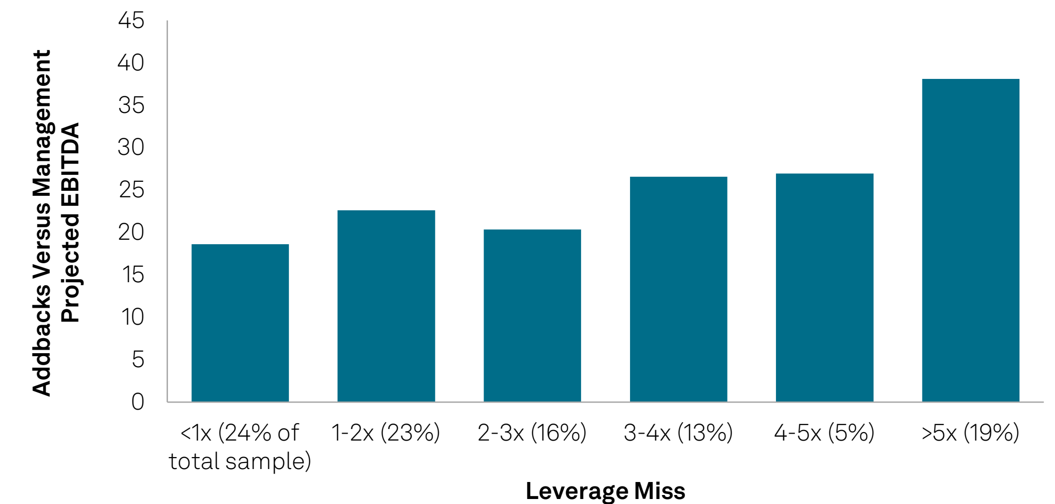

Chart 9 | Year 2 (%)

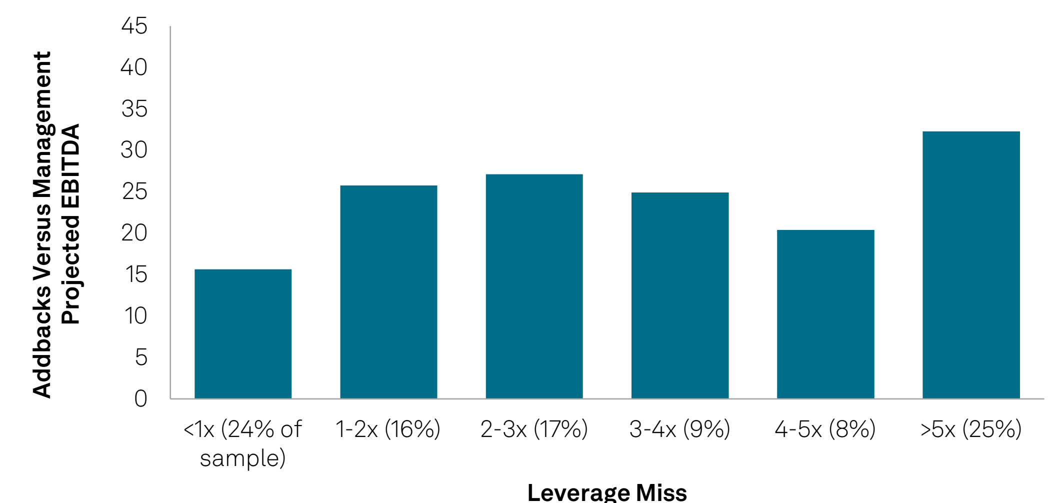

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Table 11 | Addbacks types by transaction type and issuer credit rating and ownership

Avg % share of total addbacks

	Count	Transaction Costs (%)	Restructuring (%)	Non-recurring operating (%)	Cost Savings/ Synergies (%)	Mgmt Fee/ Exec Comp (%)	Other Adj (%)
B+/B/B-	469	14	20	15	27	12	12
BB+/BB/BB-	71	6	18	6	36	23	12
NR	1	0	37	32	18	6	7
Total/Avg	541	13	19	14	28	13	12
LBO	236	12	20	18	25	13	13
M&A	305	14	19	11	31	14	12
Total/Avg	541	13	19	14	28	13	12
Not Sponsored	133	9	20	10	32	19	10
Sponsored	408	14	19	15	27	11	13
Total/Avg	541	13	19	14	28	13	12

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'B'-rated companies typically include more addbacks than 'BB'-rated companies.

In our sample of 541 transactions originated between 2015 and 2021, 87% were rated in the 'B' category. Our study shows that these companies have consistently underperformed 'BB' category credits ('BB-', 'BB', and 'BB+') in projecting earnings. The need for aggressive adjustments to make a deal marketable is likely lower for 'BB' rated companies as their pro forma leverage is typically lower, so it is probable that the addbacks tend to be less aggressive or aspirational. In addition, an intuitive view could be that lower-rated credits tend to be smaller and have higher earnings volatility, making projections more difficult. Also, financial sponsor ownership is more common among lower-rated entities than those in the 'BB' category and our data detailed below show that sponsor-owned companies tend to be more aggressive, particularly when projecting earnings.

For the 'B' category credits in our latest cohort, the median reported leverage is 2.6 turns higher than projected in 2020, with the gap widening to 2.7 turns in 2021. 'BB' category credits performed better, missing by 1.6 turns in 2020, increasing to 1.8 turns in 2021. This analysis further reinforces the significant credit disparity between 'B' and 'BB' credits.

Table 12 | Average Addbacks By Issuer Credit Rating (%)

	Addback/Marketing EBITDA	Addback/Reported
B+/B/B-	30.4	56.2
BB+/BB/BB-	22.7	44.4
NR	23.1	30.1
Avg	29.4	54.6

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Chart 10 | Average Leverage Divergence 'B' Vs. 'BB' (x)

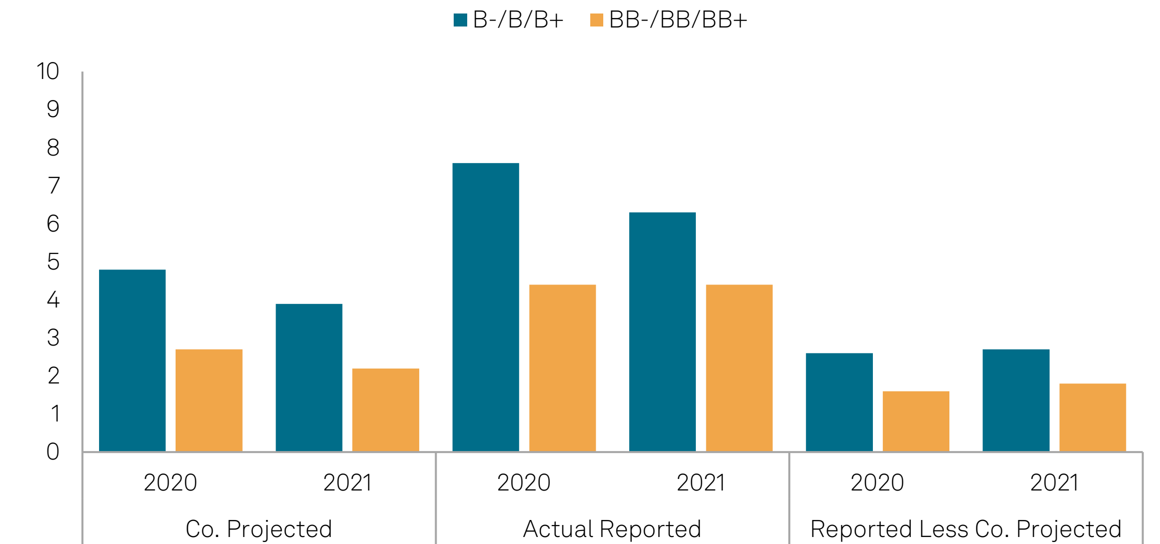
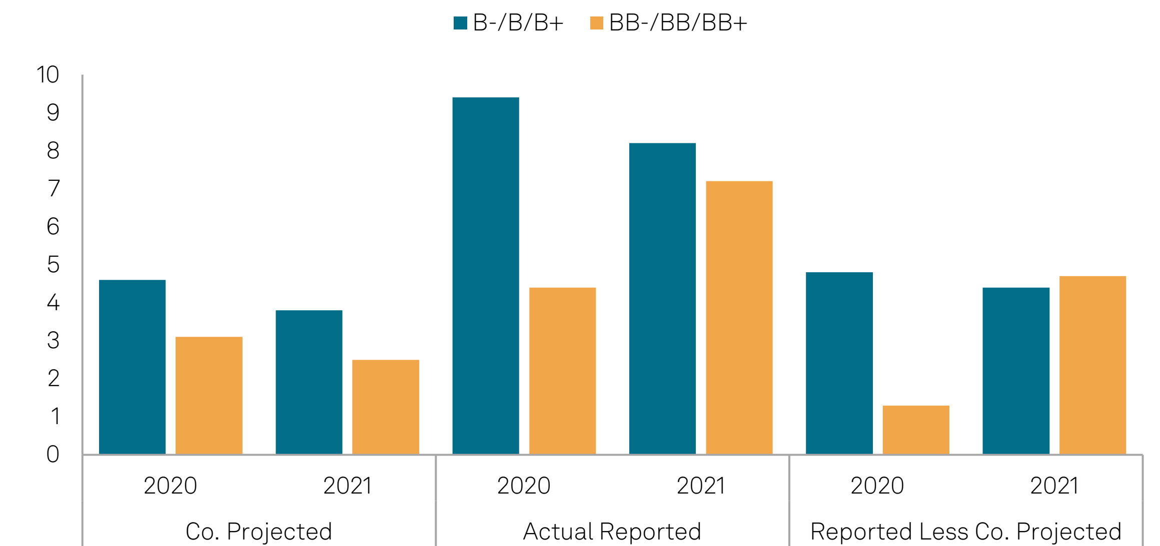


Chart 11 | Median Leverage Divergence 'B' Vs. 'BB' (x)



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LBO transactions show bigger leverage projection misses than M&A transactions.

Consistent with our prior studies, LBO and M&A transactions are comparable in the amount of addbacks as a percentage of marketing EBITDA, at 27% and 30%, respectively. However, the distribution of addbacks differs. As one would expect, M&A transactions showed above-average addbacks for synergies and cost savings as these are often a selling point of the transaction, accounting for about 30% of addbacks versus 27% for LBOs.

Regarding projection performance, LBO transactions have consistently underperformed M&A deals in terms of projecting leverage for every cohort in our study. In the latest cohort, M&A transactions missed by 1.7x in 2020 and 2.3x in 2021, and LBOs missed by 2.7x and 2.8x. For comparison, within our financial risk categories, the difference between the midpoints of two different categories (significant and aggressive, for example) is 1.0 turn of leverage.

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Table 13 | Average Addbacks By Transaction Type (%)

	Addback/Marketing EBITDA	Addback/Reported
LBO	27	51
M&A	30	56
Avg	28	54
Avg	29.4	54.6

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Chart 12 | Average Leverage Divergence By Transaction Type (x)

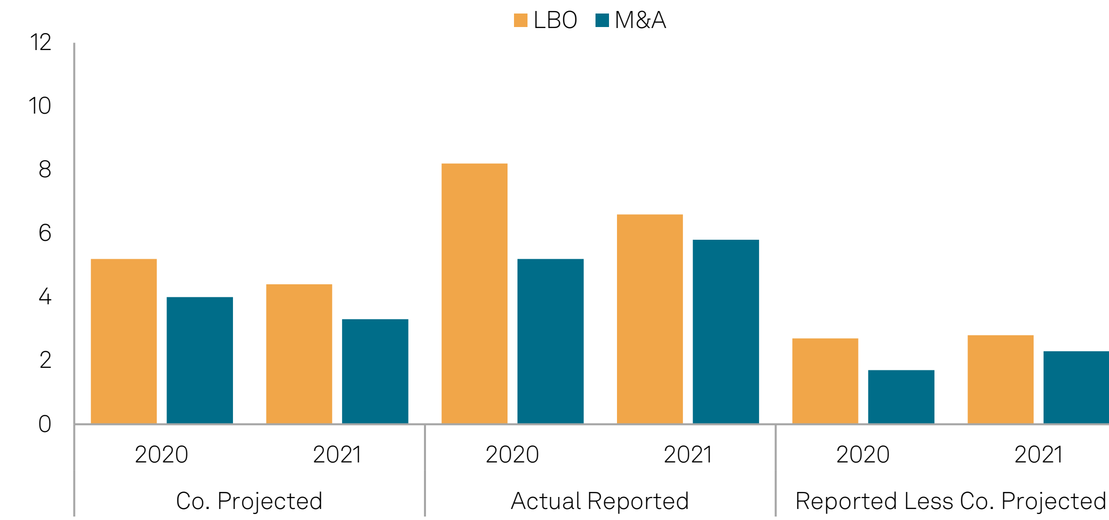
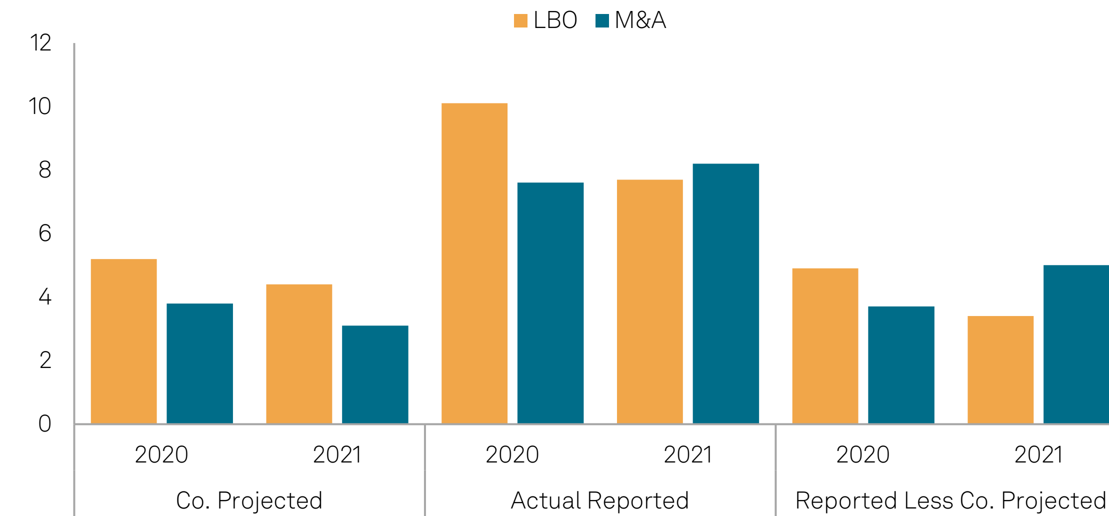


Chart 13 | Median Leverage Divergence By Transaction Type (x)



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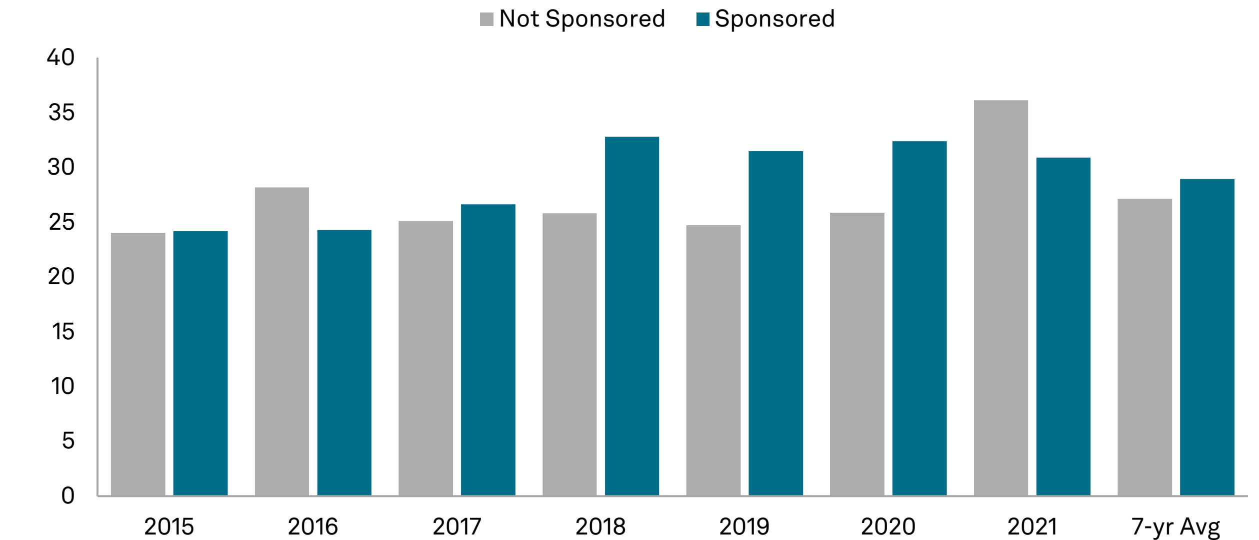
Sponsored transactions underperform nonsponsored transactions.

Our study of over seven cohorts over the years on the magnitude and composition of addbacks shows that sponsored transactions tend to be more aggressive with addbacks versus nonsponsored deals, but not by a significant margin. The seven-year average for sponsored deals was 29% versus 27% for non-sponsored. Nonsponsored deals were generally about 25% each year with little fluctuations, except for deals originated in 2021 when non-sponsored transactions averaged 36% versus 31% for sponsored. Of the 541 transactions in our data set, 407 were sponsored, 134 were not.

We also noted a significant disparity by sponsor in terms of their aggressiveness in the use of addbacks. We looked at the 39 sponsors that had done at least 4 transactions in our data set. Of those, the 10 most "aggressive" firms (accounting for 74 transactions) had addbacks averaging 44% of marketing EBITDA. Conversely, the 10 least aggressive sponsors (accounting for 55 of the transactions) averaged 16%.

Chart 14 | Addback/Marketing EBITDA (%)



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Tables 14 and 15 show that sponsored transactions significantly underperformed nonsponsored transactions in the accuracy of their projections at deal inception. For the 2019 cohort, the median leverage miss for sponsored deals in 2020 was 2.6 turns, increasing to 2.7 turns in 2021. For nonsponsored deals the median miss was 1.7 turns in 2019 and 1.8 turns in 2021.

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Table 14 | Company-Projected Versus Actual Reported Net Leverage (Sponsor-Owned)

	2019 Cohort		2018 Cohort		2017 Cohort		2016 Cohort		2015 Cohort	
	2020	2021	2019	2020	2018	2019	2017	2018	2016	2017
Average miss	5.1x	4.6x	4.9x	3.9x	3.2x	4.2x	3.6x	3.5x	3.5x	4.3x
Median miss	2.6x	2.7x	3.0x	2.3x	2.8x	3.2x	2.0x	3.6x	2.7x	4.2x
Highest miss	22.4x	37.6x	30.3x	21.5x	17.0x	10.9x	14.8x	6.5x	21.1x	10.4x
Total count	20	20	33	33	28	28	18	18	30	30
# exceed proj.	1	5	6	7	1	0	2	0	1	2
% exceed proj.	5%	25%	18%	21%	4%	0%	11%	0%	3%	7%
# missed >0x	19	15	27	26	27	28	16	18	29	28
% missed >0x	95%	75%	82%	79%	96%	100%	89%	100%	97%	93%
# missed >1x	17	15	25	25	25	25	15	15	23	23
% missed >1x	85%	75%	76%	76%	89%	89%	83%	83%	77%	87%
# missed >=2x	11	11	22	18	20	22	8	14	17	22
% missed >=2x	55%	55%	67%	55%	71%	79%	44%	78%	57%	73%
# missed >=3x	8	9	16	13	12	15	6	9	14	17
% missed >=3x	40%	45%	48%	39%	43%	54%	33%	50%	47%	57%
# missed >=5x	6	4	10	9	3	10	4	5	6	11
% missed >=5x	30%	20%	30%	27%	11%	36%	22%	28%	20%	37%
Projected Leverage (avg.)	4.8x	4.1x	4.6x	3.9x	4.5x	3.8x	4.4x	3.6x	4.3x	3.4x
Actual Leverage (avg.)	9.9x	8.6x	9.5x	7.7x	7.7x	7.9x	8.0x	7.1x	7.8x	7.7x
Projected Leverage (med.)	5.0x	4.3x	4.8x	4.0x	4.8x	3.9x	4.6x	3.7x	4.4x	3.7x
Actual Leverage (med.)	7.8x	6.3x	3.1x	2.4x	7.3x	7.1x	6.7x	6.9x	7.2x	7.3x

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Table 15 | Company-Projected Versus Actual Reported Net Leverage (No Sponsor)

	2019 Cohort		2018 Cohort		2017 Cohort		2016 Cohort		2015 Cohort	
	2020	2021	2019	2020	2018	2019	2017	2018	2016	2017
Average miss	2.3x	4.3x	4.3x	2.5x	2.0x	1.3x	2.3x	3.1x	1.0x	1.3x
Median miss	1.7x	1.8x	1.8x	1.7x	1.3x	1.6x	1.4x	1.2x	1.0x	1.3x
Highest miss	10.2x	12.8x	29.3x	11.2x	10.1x	3.3x	15.2x	19.4x	1.8x	2.4x
Total count	10	10	13	13	13	13	13	13	2	2
# exceed proj.	2	3	2	2	3	2	4	3	0	0
% exceed proj.	20%	30%	15%	15%	23%	15%	31%	23%	0%	0%
# missed >0x	8	7	11	11	10	11	9	10	2	2
% missed >0x	80%	70%	85%	85%	77%	85%	69%	77%	100%	100%
# missed >1x	8	5	10	10	8	8	7	7	1	1
% missed >1x	80%	50%	77%	77%	62%	62%	54%	54%	3%	3%
# missed >=2x	3	5	6	6	5	4	5	6	0	1
% missed >=2x	30%	50%	46%	46%	38%	31%	39%	46%	0%	3%
# missed >=3x	1	4	4	4	4	1	3	4	0	0
% missed >=3x	10%	40%	31%	31%	31%	8%	23%	31%	0%	0%
# missed >=5x	1	3	3	2	1	0	1	2	0	0
% missed >=5x	10%	30%	23%	15%	8%	0%	8%	15%	0%	0%
Projected Leverage (avg.)	3.2x	2.5x	3.3x	2.6x	3.6x	2.9x	4.4x	3.6x	3.0x	2.6x
Actual Leverage (avg.)	5.4x	6.8x	7.2x	5.2x	5.6x	4.2x	8.0x	7.1x	4.0x	3.8x
Projected Leverage (med.)	3.0x	2.3x	3.2x	2.6x	3.5x	3.0x	4.6x	3.7x	3.0x	2.6x
Actual Leverage (med.)	4.6x	4.4x	5.6x	5.0x	5.4x	3.7x	6.7x	6.9x	4.0x	3.8x

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Conclusion: Buyer Beware

Our five-year study paints a compelling portrait of the dubious nature of addbacks and use of company-adjusted EBITDA as a proxy for future profitability. Our substantial dataset makes it clear that management teams and equity sponsors regularly miss their projections by a large margin, and that the magnitude of the misses are positively correlated with the level of addbacks and negatively correlated with the company's issuer credit rating (misses are larger for lower-rated firms). This suggests that inflated addbacks may help companies with higher financial risk get deals done. We hope this information is useful to investors in their own due diligence and credit committees. The track record of management teams and sponsors is an important consideration by our sector analysts in constructing our own independent projections.

It's also important to understand that larger addbacks may also create higher future event risk because company-adjusted EBITDA often defines the size and flexibility companies have to take actions under debt agreements, which may weaken credit quality (through various free and clear baskets and incurrence tests that define a company's ability to add debt, pay dividends, transfer assets, etc. as well as by weakening the springing financial maintenance tests on revolving credit facilities).

This report does not constitute a rating action.

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May 4, 2023

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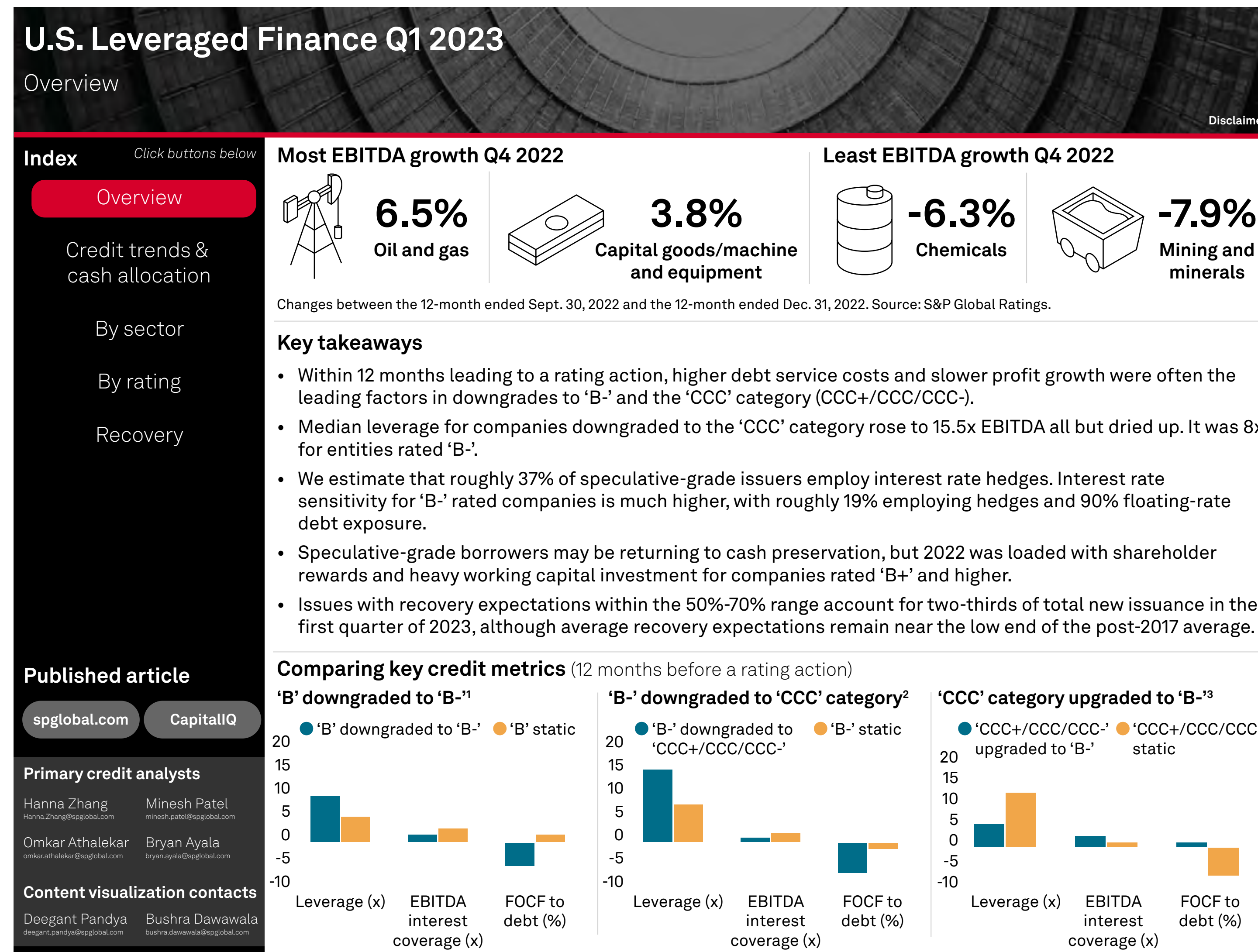
The rise of debt service costs and deceleration of profit growth led to more credit issues for U.S. corporates with an uptick in negative rating actions, especially among borrowers at the lower end of speculative grade. To provide context in this report, we examine the credit metrics for the 12 months before downgrades to ‘B-’ and the ‘CCC’ category (CCC+/CCC/CCC-) as well as for upgrades from the ‘CCC’ category. We took these actions between the start of 2022 and mid-March 2023.

We also analyze use of cash in 2022. Despite significant market volatility and economic and business uncertainty, dividends and share repurchases accelerated for companies rated ‘B+’ and higher by deploying the solid cash reserves accumulated following the strong post-COVID-19 rebound. Finally, we continue to track trends in recovery estimates for first-lien new issues and the credit patterns of North American speculative-grade corporate borrowers dating to the pre-pandemic year of 2019.

Here, access all the charts and tables in an interactive format:



As of May 3, 2023.
FOCF = free operating cash flow.
EBITDA is defined as revenue minus operating expenses plus depreciation and amortization.
1 All metrics are as reported in financial statements and without any adjustment from S&P Global Ratings, including 81 downgrades from ‘B’ to ‘B-’ for which the 12-month financials before the downgrade are available. ‘B’ static in the chart represents 147 entities that maintained a ‘B’ issuer rating between Jan. 1 2022, and March 13, 2023. For the ‘B’ static cohort, we used their most recent 12-month period.
2 All metrics are as reported in financial statements and without any adjustment from S&P Global Ratings, including 87 downgrades to the ‘CCC’ category from ‘B-’ for which the 12-month financials before downgrade are available. ‘B’ static in the chart represents 180 entities that maintained a ‘B-’ issuer rating between Jan. 1 2022, and March 13, 2023. For the ‘B-’ static cohort, we used their most recent 12-month period.
3 All metrics are as reported in financial statements and without any adjustment from S&P Global Ratings, including 41 upgrades from the ‘CCC’ category to ‘B-’ for which the 12-month financials before the upgrade are available. ‘CCC+/CCC/CCC-’ static in the chart represents 64 entities that maintained a ‘CCC’ category issuer rating between Jan. 1 2022, and March 13, 2023. For the ‘CCC+/CCC/CCC-’ static cohort, we used their most recent 12-month period.
Source: S&P Global Ratings.
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'B-' Downgraded To The 'CCC' Category

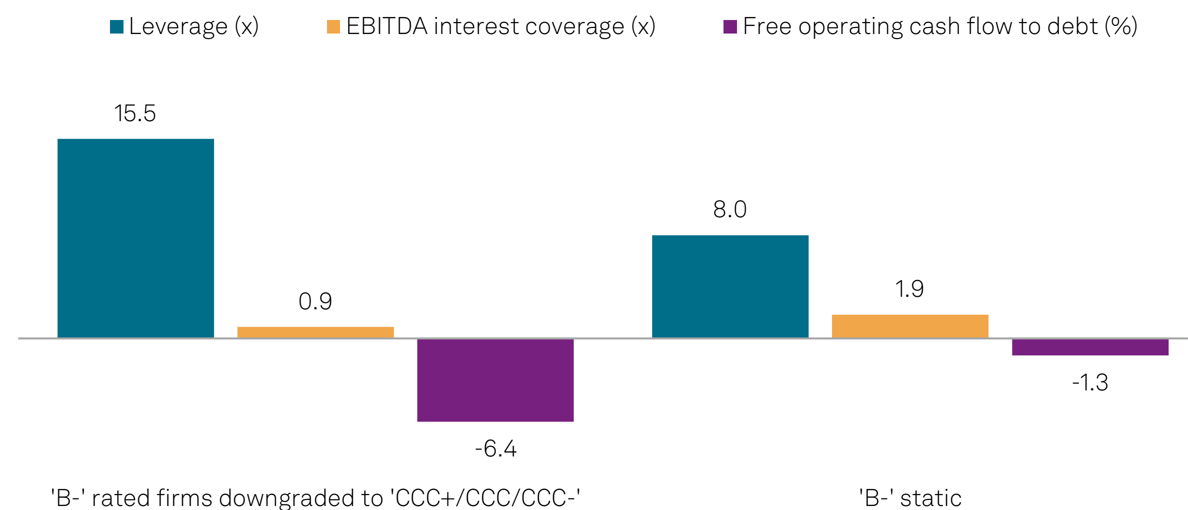
We identified 87 U.S. and Canadian corporate entities that we downgraded from 'B-' to the 'CCC' category between Jan. 1, 2022, and mid-March 2023, including 58 private equity owned companies. Chart 1 compares the key credit metrics of these entities in the 12 months leading up to the downgrade against those that remained rated 'B-' (hereafter the 'B-' static cohort) in the same period. Specifically, we looked at the median reported leverage (total gross debt to EBITDA), EBITDA interest coverage, and free operating cash flow (FOCF) to debt. We illustrate the medians of the two groups.

Near-term liquidity or sustainability of capital-structure-related concerns typically drive our assignment of 'CCC' category ratings, which reflects at least a 1-in-2 likelihood of default. Accordingly, the downgrade triggers and analysis often focus on free cash flow generation, interest coverage, current and near-term debt maturities, and/or the sustainability of the capital structure over the mid- to longer term.

Median leverage for the companies downgraded to the 'CCC' category shot up to 15.5x as EBITDA all but dried up before the rating action. This decidedly exceeds the already high 8x for the 'B-' static cohort. While FOCF languished in the red for both cohorts, the severity and persistence of negative cash flow were often key downgrade considerations. When concluding that a company has an unsustainable capital structure, cash flow shortfalls could be viewed as structural, meaning it's not a momentary setback that will likely be resolved in the near future. In fact, we expect cash uses will eventually exhaust the company's liquidity. Comparing the two ratings categories, we believe companies rated 'B-' have room to enhance liquidity by scaling back on capital spending or improving operating performance, while we would not view this as a viable option for companies rated in the 'CCC' category. Absent a substantial business and economic recovery, 'CCC' rated companies will need to raise external capital to shore up liquidity and/or refinance pending maturities to avoid a near-term cash shortfall. Syndications are tough to execute in today's risk-off environment given the general sentiment.

We estimate that only 19% of 'B-' rated entities employ interest rate hedges (based on a random sample of 173 speculative-grade issuers, from the report " ", published March 27, 2023). With the step-up in the U.S. federal funds rate, companies with EBITDA interest coverage below 1x (generally observed for 'CCC' category entities and the level generally associated with distress) will likely increase through 2023.

Chart 1 | Comparing Key Credit Metrics
For the 12 months before a downgrade



All metrics are as reported in financial statements and without any adjustment from S&P Global Ratings, including 87 downgrades to the 'CCC' category from 'B-' for which the 12-month financials before downgrade are available. 'B-' static in the chart represents 180 entities that maintained a 'B-' issuer rating between Jan. 1, 2022, and March 13, 2023. For the 'B-' static cohort, we used their most recent 12-month period. EBITDA is defined as revenue minus operating expenses plus depreciation and amortization.
Source: S&P Global Ratings.
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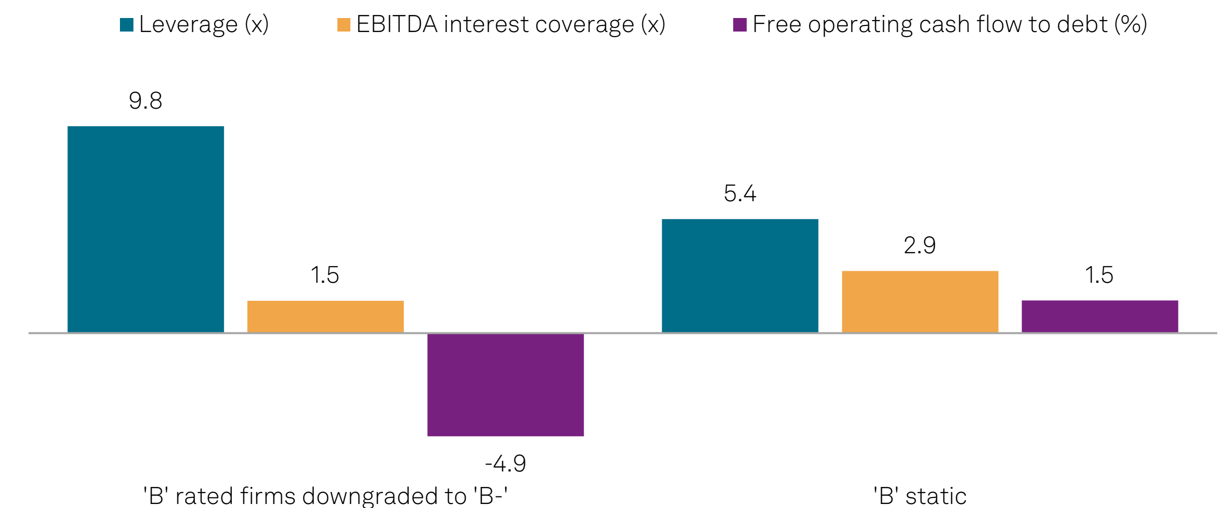
Weaker-than-expected operating performance was often cited as the driving factor behind deteriorating financial metrics for downgrades. Other business downgrade drivers are idiosyncratic in nature: for example, delayed projects, springing covenant breaches, and sizable capital expenditure (capex) leading to a funding gap. Our economists forecast a shallow recession in the U.S. with modest GDP growth of 0.7% in 2023 and 1.2% in 2024. Furthermore, we expect a federal funds rate of 4% (or higher) until late 2024, which lowers odds of a substantial recovery in credit metrics or business conditions.

'B' Downgraded To 'B-'

Moving up the credit rating scale, companies rated 'B' generally are better positioned than those rated 'B-' to withstand less favorable operating conditions or a sustained rise in debt service costs. This resilience generally reflects relatively lower leverage, higher cash balances, more resilient business models, or less sensitivity to higher interest rates. For example, we estimate that for 'B' rated companies, roughly 37% employ interest rate hedges and exposure to floating rate debt represents about 77% of their debt on average. For 'B-' rated companies, roughly 19% employ hedges and 90% floating-rate debt, respectively, based on a sample of 173 speculative-grade issuers). Pressure that could lead to a downgrade from 'B' to 'B-' may stem from deteriorating profitability, willingness to take on incremental debt, or insufficient capacity to reduce leverage following acquisitions. We expect companies to adopt a more disciplined approach in light of economic pressures and uncertainty during a downturn.

Chart 2 | Comparing Key Credit Metrics
For the 12 months before a downgrade



All metrics are as reported in financial statements and without any adjustment from S&P Global Ratings, including 81 downgrades from 'B' to 'B-' for which the 12-month financials before the downgrade are available. 'B' static in the chart represents 147 entities that maintained a 'B' issuer rating between Jan. 1, 2022, and March 13, 2023. For the 'B' static cohort, we used their most recent 12-month period. EBITDA is defined as revenue minus operating expenses plus depreciation and amortization.
Source: S&P Global Ratings.
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We noticed a rapid deterioration of credit quality of companies downgraded to 'B-'. Their median leverage of 9.8x was almost double that of the 'B' static cohort, while their EBITDA interest coverage was nearly halved. Additionally, their FOCF to debt underperformed the 'B' static cohort by more than six percentage points. These findings highlight the weaker financial performance of entities downgraded to 'B-' from 'B', although actual downgrades (and rating triggers) primarily reflect our forward expectations.

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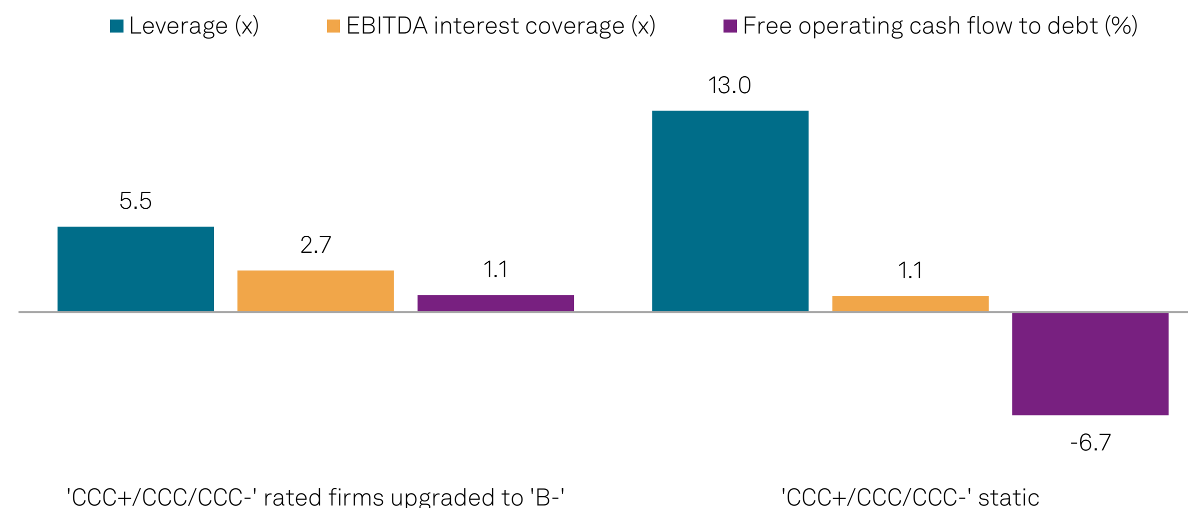
Judging by the median, these downgraded 'B-' issuers have collectively performed even worse than the existing 'B-' credits in terms of leverage (9.8x versus 8x), interest coverage (1.5x vs. 1.9x), and FOCF to debt (negative 4.9% versus negative 1.3%, comparing chart 1 and chart 2). The possibility of a negative trend in ratings suggests that enduring industry headwinds or secular decline would influence credit quality of downgraded 'B-' entities, leaving these companies vulnerable to further downgrades if they cannot alleviate these pressures. Our base-case assumption of a shallow recession suggests that their leverage will likely remain high over the next 12 months due to a weaker economic backdrop.

'CCC' Category Upgraded To 'B-'

We identified 41 corporate entities that we upgraded out of the 'CCC' category to 'B-' since the beginning of 2022, with 11 (27%) from the media, entertainment, and leisure sector, followed by five (12%) in either oilfield services or oil and gas exploration and production. Median credit metrics are illustrated in chart 3 alongside those for companies we kept in the 'CCC' rating category--the 'CCC' static cohort, which excludes companies that we downgraded to or upgraded from 'SD' (selective default) during the same period. Depending on company-specific attributes such as end-market profile and seasonal patterns, the range exists on both sides of the median is fairly wide. However, in general, 'CCC' category companies that we upgraded have taken steps such as refinancing, extending maturities, or selling assets to repay debt, which we viewed as positive developments that reduce the risk of default. Additionally, improving demand in no small part helped their bounce-off from the bottom rating tier. For example, apparel, dining out, business aviation, and our favorable view of commodity prices each have a unique credit story to tell.

As chart 3 also shows, the bar is set high to some extent for us to upgrade an 'CCC' entity. An uptick in revenue or a successful amendment of a covenant breach doesn't necessarily resolve our concerns about the sustainability of the capital structure. We often need a demonstrated track record of some level of business or earnings profit stability before an upgrade. We monitor how a business evolves, but most important whether that translates into meaningful cash flow and a fundamental improvement in its ability to service debt. The upgraded group indicates this collectively with notably stronger credit metrics than both the 'CCC' group and the 'B-' group. Most notably, FOCF of the upgraded entities is positive, surpassing at least half of the companies in the 'B-' group. It reflects the need for a track record of business improvement, given that many 'CCC' category issuers often have vulnerable business profiles or face high execution risk.

Chart 3 | Comparing Key Credit Metrics
For the 12 months before a downgrade



All metrics are as reported in financial statements and without any adjustment from S&P Global Ratings, including 81 downgrades from 'B' to 'B-' for which the 12-month financials before the downgrade are available. 'B' static in the chart represents 147 entities that maintained a 'B' issuer rating between Jan. 1, 2022, and March 13, 2023. For the 'B' static cohort, we used their most recent 12-month period. EBITDA is defined as revenue minus operating expenses plus depreciation and amortization.
Source: S&P Global Ratings.
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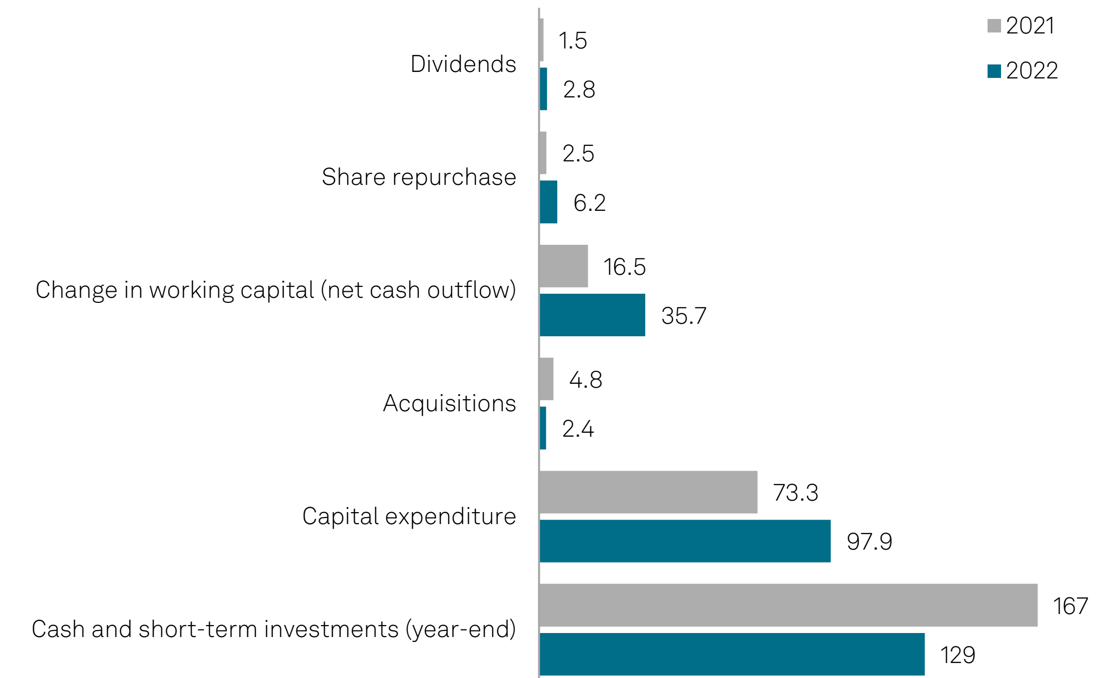
Speculative-Grade Borrowers May Be Returning To Cash Preservation, But 2022 Was Loaded With Shareholder Rewards And Heavy Working Capital Investment

A strong 2021 bolstered by pent-up demand has left companies with more cash on hand (including cash equivalents such as short-term investments) by the end of 2021, based on more than 900 speculative-grade corporate borrowers. But growth reversed in 2022, with capital deployed and profit growth decelerating. At $129 million, the year-end 2022 cash balance was a 23% decline from $167 million at year-end 2021.

Chart 4 shows how capital was allocated in 2022 versus the prior year. We urge readers to focus on the rate of change rather than the values. In 2022, there was a pivotal shift as sustained high inflation and the rising cost of capital threatened the top-line revenue expansion (the top line improved overall year over year--most were able to sell, though not all could pass costs) and/or interest coverage and FOCF, prompting companies to preserve cash as the year played out. Still, there were more shareholder reward activities in 2022 as dividends and share repurchases surpassed the prior year. Median dividends were $2.8 million and share repurchases $6.2 million, though bustling activities among sectors such as oil and gas and chemicals featured significantly higher numbers. Median increases in dividends and share repurchases (calculated by taking the median of changes on a company-by-company basis) are dominated by companies rated 'B+' and higher, with medians for lower rated companies declining.

More investments were poured into working capital in the last year, resulting in cash outflows. Highly leveraged 'B-' companies needed additional working capital to sustain operations or continual investment to grow into their balance sheets. Masked by the median figures, however, are some large cash inflows, most notably in the retail and restaurants and real estate (including homebuilders and REITs) sectors. Managing working capital needs has proven more difficult than expected in the face of inflation and supply chain challenges. In some cases, losses were made owing to the large inventory overhang. We expect inventory reduction in retail and restaurants this year, turning working capital into a modest source of cash.

Chart 4 | Median Cash Allocation, 2021 vs. 2022 ($M)



All metrics are as reported in financial statements and without any adjustment from S&P Global Ratings. Data is sourced from 904 speculative-grade nonfinancial corporate issuers rated in the U.S. and Canada.Global Ratings.
Source: S&P Global Ratings.
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Similarly, uncertainty about future demand might have deterred companies from making large spending decisions in the second half. But in the full year 2022, more capex has been invested in growing businesses. The median increase in spending (again calculated taking the median of changes on a company-by-company basis) was 27% on an aggregate basis, with increases relatively balanced across rating categories of 'B-' and higher. On a sector basis, higher spending was most significant for oil and gas (62% year-over-year growth) and forest products/building materials companies (43%). For 'B-' companies, capex increased on a median basis, but cash uses for all other categories (dividends, share repurchases, working capital, and acquisitions) were lower.

As we expected, leveraged buyouts, mergers, and acquisitions dropped precipitously from the 2021 high, but a steady stream of small tack-on acquisitions remains that we expect to continue, albeit at a fraction of its peak. Median acquisitions decreased 50% in 2022. Heavy reliance on access to the capital market is one reason acquisition spending was on a different trajectory from other accounts of capital deployment.

First-Lien Recovery Prospects Started 2023 At The Lower End Of The Post-2017 Range

Chart 5 illustrates quarterly trends of our recovery expectations for first-lien new issues, measured by the average recovery point estimates. Buyers of leveraged loans and secured notes are behaving more conservatively, and there was little new-issue activity in the second half of 2022. Risk aversion culminated in the last quarter, when the average recovery reached the highest level of 66% over two years. Some risk appetite returned in the first two months of 2023 before it was cut short by the collapse of Silicon Valley Bank. Still, new issues doubled in the first quarter, and average recovery estimates retreated to 63%, in line with the quarterly average since June 2020. The past decade marked a period of declining first-lien recoveries from the historical average. Based on data collected from North American companies that exited Chapter 11 bankruptcy, actual recovery of first-lien debt averaged 78% in 2008-2019 and 68% from 2020 to the second quarter of 2021.

Breaking down trends by recovery rating category, the share of '3' recovery ratings (which implies 50%-70% recovery in the event of payment default) remains the largest category, accounting for two-thirds of total new issuance in the first quarter (chart 6) and is led by issuance from the media, entertainment, and leisure sector. Caesars Entertainment Inc. placed a $2.5 billion term loan B and $2 billion of 7% seven-year senior secured notes in January as part of a refinancing effort to push out 2024-2025 maturities. Higher recovery assessment of '1' (recovery expectations of 90%-100%) and '2' (70%-90%) represented a quarter of total new issuance, including a $1.75 billion, seven-year term loan B for Uber Technologies Inc.

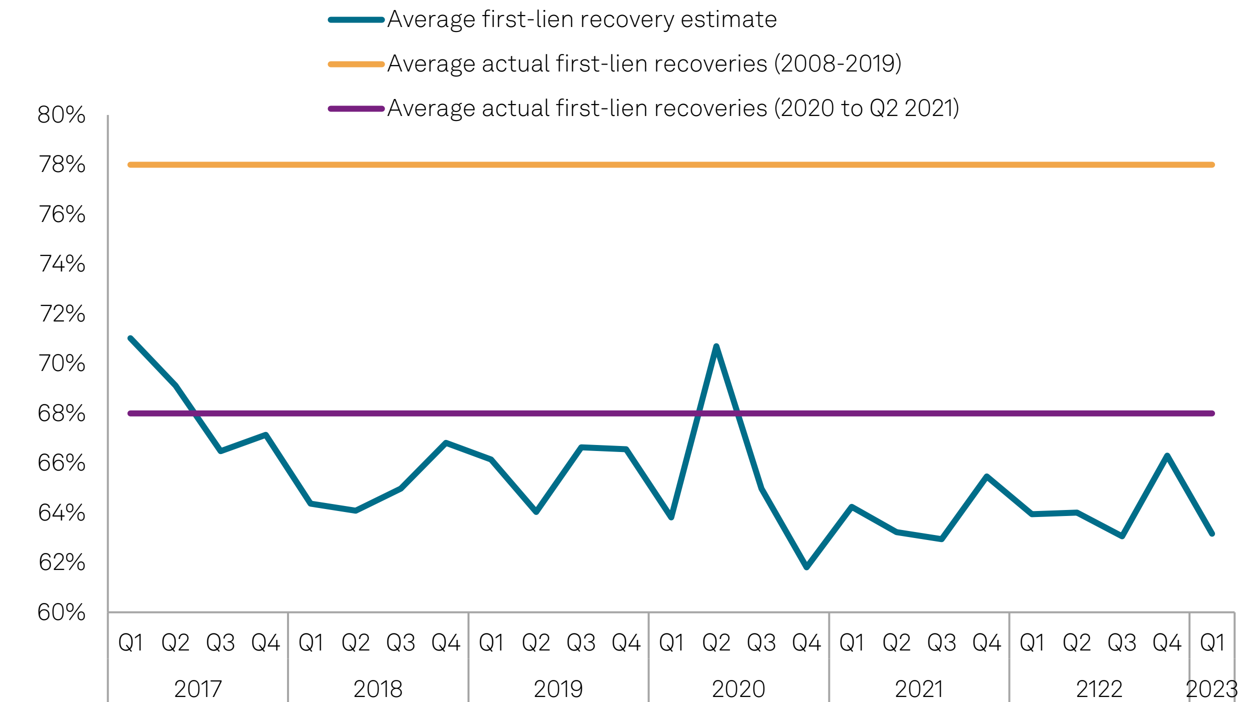
First-lien recovery is mathematically affected by leverage and the size of the junior cushion, and this would be evident if looking at a specific debt instrument. However, a fairly large range can depend on other factors coming into play, such as the timing of bankruptcy and emergence, complexity of debt structure, the presence of prenegotiated restructuring plans, or protective provisions in the credit agreement. These factors can influence the magnitude of the ultimate recovery.

Appendix: EBITDA Growth, Interest Coverage, Leverage, And FOCF Trends

Below, we summarize key credit trends, including interest coverage, FOCF to debt, profit growth, and leverage. We review how these metrics have transitioned over time through rolling-12-month windows (last-12-months or LTM) that ended on each quarter-end. We compare these LTM metrics' quarter-over-quarter change to track the transition of EBITDA growth. The sample covers 755 public and private companies that we rate in the U.S. and Canada. More details on how we built the sample are in Data Used In This Report section below. Due to the time lag in filing annual reports, the sample is smaller than usual and less robust. The companies in this data set skew towards companies that file public financial statements which tend to be larger and more highly rated. Similarly, concentrations of larger and more highly rated companies will skew median statistics in the breakdowns by sector. As a result, we refrain from drawing conclusions from the data at this time, but still thought the information might be of interest to readers.

This report does not constitute a rating action.

Chart 5 | Average Recovery Estimate Of First-Lien New Issues (U.S. And Canada)



Source: S&P Global Ratings. Data on the actual recoveries are sourced from the report "Recovering From COVID-19: Why The Timing Of Bankruptcy And Emergence Matters For Debt Recovery", Feb. 7, 2022.
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Chart 6 | Recovery Rating Distribution Of First-Lien New Issues (U.S. And Canada)

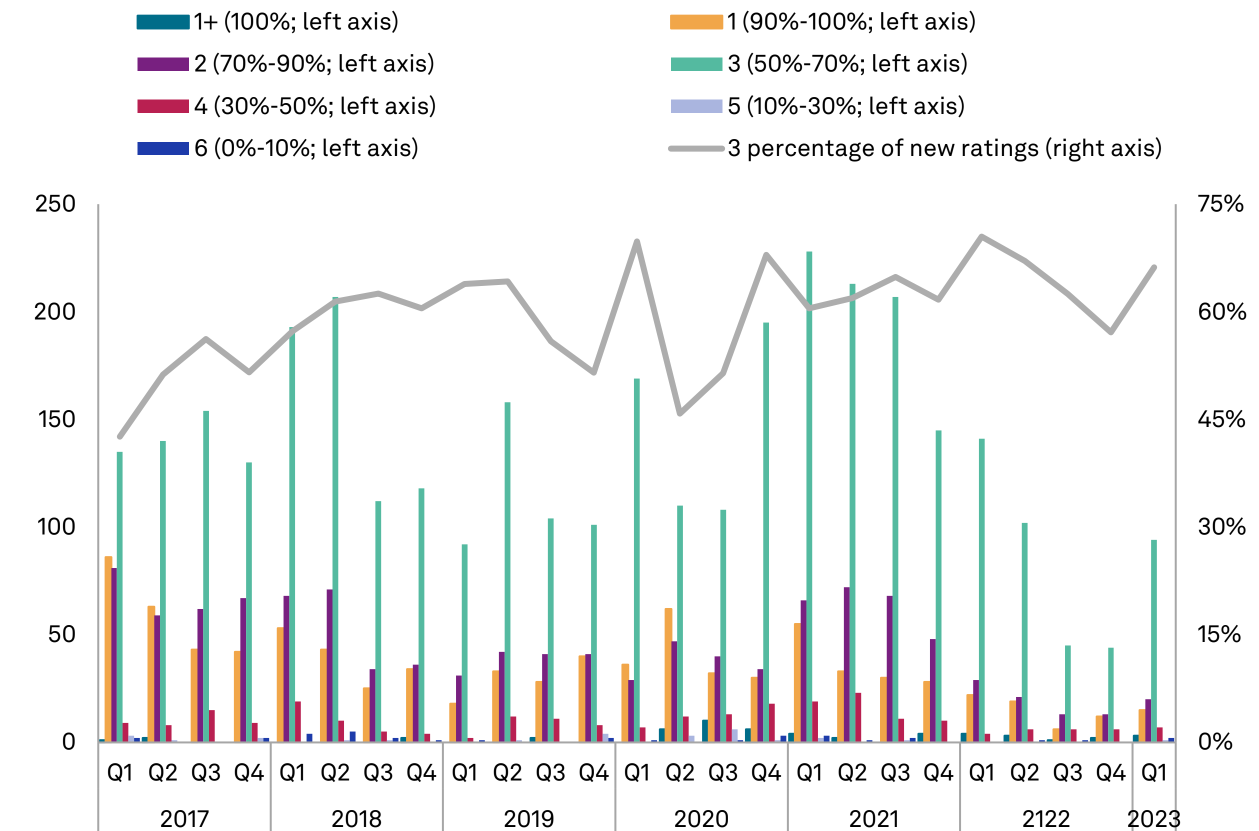

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Table 1 | Median EBITDA Growth By Industry

		Reported last 12 months, QOQ (%)							
Industry	**Entities**	**Ended March 31, 2021**	**Ended June 30, 2021**	**Ended Sept. 30, 2021**	**Ended Dec. 31, 2021**	**Ended March 31, 2022**	**Ended June 30, 2022**	**Ended Sept. 30, 2022**	**Ended Dec. 31, 2022**
Aerospace/defense	17	-2.0	9.9	3.7	7.6	-1.2	-0.3	1.5	1.9
Autos/trucks	20	18.7	29.5	5.0	8.1	5.7	4.9	1.9	3.7
Business and consumer services	45	3.0	7.1	2.7	2.7	2.7	3.5	1.4	0.0
Capital goods/machine and equipment	76	4.1	3.9	0.9	0.5	2.7	4.0	5.2	3.8
Chemicals	19	10.3	9.7	10.0	4.9	5.1	3.1	-3.2	-6.3
Consumer products	66	6.2	8.6	1.9	0.7	-1.6	1.5	0.0	0.1
Forest products/building materials/packaging	34	7.7	10.8	2.0	0.6	8.5	10.2	3.9	1.6
Healthcare	49	9.1	6.4	3.0	0.9	-2.6	-1.7	-2.2	-1.6
Media, entertainment and leisure	121	3.2	27.6	10.8	5.8	4.7	3.0	1.3	2.4
Mining and minerals	40	8.1	22.3	13.1	12.1	12.3	6.5	-0.9	-7.9
Oil and gas	60	7.4	38.0	28.1	36.3	18.7	27.7	18.0	6.5
Restaurants/retailing	69	6.7	30.3	2.7	5.1	0.5	-0.6	-0.9	0.0
Real estate	19	3.4	6.9	4.8	5.4	4.4	5.4	4.4	2.7
Technology	67	6.6	4.9	5.1	2.9	2.6	0.2	0.2	1.5
Telecommunications	33	2.3	2.7	1.2	0.0	0.1	-2.2	-1.3	-0.1
Transportation	20	-8.0	32.3	22.8	19.9	1.5	1.0	3.1	2.6
Total	**755**	**5.0**	**11.6**	**5.2**	**4.3**	**3.1**	**2.9**	**1.5**	**1.1**

Reported EBITDA without adjustment by S&P Global Ratings. The sample in this study is rebalanced each quarter following selection criteria, as detailed in the Data Used In This Report" section.
Source: S&P Global Ratings.
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Table 2 | Median EBITDA Growth By Rating

		Reported last 12 months, QOQ (%)							
Rating*	**Entities**	**Ended March 31, 2021**	**Ended June 30, 2021**	**Ended Sept. 30, 2021**	**Ended Dec. 31, 2021**	**Ended March 31, 2022**	**Ended June 30, 2022**	**Ended Sept. 30, 2022**	**Ended Dec. 31, 2022**
BB+	101	5.1	11.9	5.5	5.4	4.8	2.6	1.7	0.0
BB	115	5.8	10.6	5.9	2.4	2.2	3.0	0.3	0.2
BB-	93	5.7	16.5	4.6	5.1	3.1	0.3	1.5	0.4
B+	138	5.4	13.4	7.3	8.0	4.1	1.9	1.4	1.9
B	127	5.0	10.2	6.2	4.4	3.2	6.6	2.6	3.3
B-	117	5.0	10.2	4.3	3.2	2.2	3.2	1.9	0.8
CCC+	50	1.3	4.4	-1.5	0.1	1.2	4.9	1.5	2.2
CCC	NM	NM	NM	NM	NM	NM	NM	NM	NM
CCC-	NM	NM	NM	NM	NM	NM	NM	NM	NM
CC	NM	NM	NM	NM	NM	NM	NM	NM	NM
Total	**755**	**5.0**	**11.6**	**5.2**	**4.3**	**3.1**	**2.9**	**1.5**	**1.1**

* As of April 10, 2023.
NM = not meaningful due to small sample size.
Reported EBITDA without adjustment by S&P Global Ratings. The sample in this study is rebalanced each quarter following selection criteria, as detailed in the Data Used In This Report section.
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Table 3 | Median EBITDA Interest Coverage By Industry

		Reported last 12 months (x)									
Industry	Entities	Ended Dec. 31, 2019	Ended Dec. 31, 2020	Ended March 31, 2021	Ended June 30, 2021	Ended Sept. 30, 2021	Ended Dec. 31, 2021	Ended March 31, 2022	Ended June 30, 2022	Ended Sept. 30, 2022	Ended Dec. 31, 2022
Aerospace/defense	17	4.9	4.0	2.8	3.1	4.0	4.4	5.2	5.2	5.4	5.5
Autos/trucks	20	4.8	2.7	3.2	4.3	4.6	5.2	5.4	5.5	5.3	5.5
Business and consumer services	45	3.1	3.0	3.5	3.7	3.2	4.2	4.3	4.6	4.2	3.7
Capital goods/machine and equipment	76	4.1	3.4	3.4	3.9	4.2	4.1	4.1	3.9	4.1	3.8
Chemicals	19	3.8	3.5	3.7	4.7	5.5	5.9	6.4	7.6	7.9	7.7
Consumer products	66	3.2	3.0	3.4	4.1	3.9	3.8	4.0	4.0	4.0	3.7
Forest products/building materials/packaging	34	3.8	4.6	4.7	5.0	4.7	5.3	5.1	5.1	5.8	5.6
Health care	49	2.4	2.2	2.5	2.7	2.9	3.0	3.3	3.3	3.1	2.7
Media, entertainment, and leisure	121	3.3	1.7	1.8	2.2	2.5	2.9	3.2	3.2	3.3	3.2
Mining and minerals	40	4.9	3.6	4.1	5.3	6.5	7.6	9.3	8.7	9.2	9.4
Oil and gas	60	5.9	2.6	2.8	3.9	4.8	6.3	7.7	10.7	14.1	16.1
Restaurants/retailing	69	4.0	2.6	3.0	3.9	4.0	4.2	4.6	5.1	4.7	4.7
Real estate	19	3.5	3.3	3.2	3.2	3.1	3.5	3.8	3.4	3.7	3.9
Technology	67	2.6	4.0	4.2	4.9	4.3	4.7	5.1	5.4	4.8	4.6
Telecommunications	33	3.2	4.3	4.6	4.6	4.8	4.9	5.0	5.4	5.4	5.0
Transportation	20	5.4	2.0	1.8	2.2	2.5	2.7	3.2	3.4	3.1	3.1
Total	**755**	**3.7**	**2.8**	**3.1**	**3.7**	**4.0**	**4.2**	**4.3**	**4.6**	**4.7**	**4.5**

Coverage calculated as reported EBITDA over reported interest expense, without adjustment by S&P Global Ratings. The sample in this study is rebalanced each quarter following selection criteria, as detailed in the Data Used In This Report section.
Source: S&P Global Ratings.
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Table 4 | Median EBITDA Interest Coverage By Rating

		Reported last 12 months (x)									
Rating*	Entities	Ended Dec. 31, 2019	Ended Dec. 31, 2020	Ended March 31, 2021	Ended June 30, 2021	Ended Sept. 30, 2021	Ended Dec. 31, 2021	Ended March 31, 2022	Ended June 30, 2022	Ended Sept. 30, 2022	Ended Dec. 31, 2022
BB+	101	6.4	6.0	7.1	7.9	8.8	8.9	9.6	9.7	9.8	9.2
BB	115	5.6	5.1	5.8	6.1	6.7	7.4	7.9	8.4	7.9	6.8
BB-	93	4.6	4.5	4.6	5.5	5.8	6.2	6.5	6.3	5.8	5.5
B+	138	3.1	2.8	3.1	3.5	4.0	4.4	4.2	4.5	4.7	4.6
B	127	2.8	2.4	2.5	2.4	2.6	2.9	3.2	3.3	3.4	3.1
B-	117	2.0	1.7	1.7	1.8	1.8	2.0	2.0	2.1	2.1	2.0
CCC+	50	1.6	1.2	1.1	1.6	1.4	1.2	1.1	1.1	1.1	1.2
CCC	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CCC-	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CC	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Total	**755**	**3.7**	**2.8**	**3.1**	**3.7**	**4.0**	**4.2**	**4.3**	**4.6**	**4.7**	**4.5**

* As of April 10, 2023.
NM = not meaningful due to small sample size.
Coverage calculated as reported EBITDA over reported interest expense, without adjustment by S&P Global Ratings. The sample in this study is rebalanced each quarter following selection criteria, as detailed in the Data Used In This Report" section.
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Table 5 | Median Gross Leverage By Industry

		Reported last 12 months (x)												
	Entities	Ended Dec. 31, 2019	Ended March 31, 2020	Ended June 30, 2020	Ended Sept. 30, 2020	Ended Dec. 31, 2020	Ended March 31, 2021	Ended June 30, 2021	Ended Sept. 30, 2021	Ended Dec. 31, 2021	Ended March 31, 2022	Ended June 30, 2022	Ended Sept. 30, 2022	Ended Dec. 31, 2022
Better: Improved or deleveraged compared to year-end 2021														
Aerospace/defense	17	2.9	3.3	5.1	3.7	4.8	4.4	4.8	4.5	4.1	3.9	3.8	3.7	3.7
Autos/trucks	22	3.4	4.2	6.6	6.2	5.9	5.0	3.8	3.7	3.9	3.9	3.7	3.6	3.5
Capital goods/machine and equipment	77	5.2	5.2	5.4	5.2	4.8	4.8	4.4	4.5	4.9	4.7	4.8	4.3	4.4
Media, entertainment, and leisure	126	4.8	6.2	8.8	8.4	8.5	9.1	6.8	6.1	5.8	5.6	5.3	4.9	4.9
Oil and gas	64	2.9	3.0	4.2	5.5	5.2	5.6	4.1	3.0	2.0	1.9	1.2	0.9	0.9
Real estate	28	7.1	8.7	8.2	8.4	7.7	5.8	5.5	5.7	5.7	5.4	4.9	4.5	4.2
Transportation	20	3.3	3.9	6.5	8.4	10.0	11.4	8.9	6.5	6.2	5.4	5.4	5.9	5.5
Worse: Leverage increased from year-end 2021														
Consumer products	67	5.5	6.0	5.6	5.6	5.7	4.8	4.7	5.3	4.9	4.7	4.8	5.0	5.6
Health care	51	6.0	6.2	6.5	5.9	6.0	5.2	5.0	5.7	5.1	5.0	5.7	5.8	6.1
Technology	69	5.7	5.8	6.0	5.9	6.1	5.5	5.4	5.6	5.6	5.8	5.4	6.4	6.1
Leverage remained relatively flat since year-end 2021														
Business and consumer services	48	5.2	5.6	6.2	6.2	5.7	5.6	5.2	5.2	5.2	4.8	4.6	4.9	5.1
Chemicals	19	4.9	5.5	5.7	5.6	5.0	4.6	3.7	3.6	3.6	3.1	3.0	2.7	3.6
Forest products/building materials/packaging	35	4.7	4.7	3.9	4.2	4.3	4.0	4.0	3.6	3.5	4.1	3.4	3.0	3.1
Mining and minerals	38	2.9	3.4	3.7	3.6	3.9	4.1	2.8	2.4	2.0	1.9	1.6	1.7	1.8
Restaurants/retailing	69	3.8	4.6	6.5	5.9	5.6	4.6	3.5	3.5	3.3	3.4	3.1	3.4	3.5
Telecommunications	33	4.8	4.7	4.6	4.5	4.3	4.1	4.3	3.8	4.3	4.5	4.4	4.4	4.2
Total	**783**	**4.6**	**5.1**	**6.0**	**5.8**	**5.5**	**5.3**	**4.7**	**4.5**	**4.4**	**4.2**	**4.1**	**4.0**	**4.1**

Leverage calculated as reported gross debt over reported EBITDA, without adjustment by S&P Global Ratings. The sample in this study is rebalanced each quarter following selection criteria, as detailed in the Data Used In This Report section.
Source: S&P Global Ratings.
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Table 6 | Median Gross Leverage By Rating

		Reported last 12 months (x)												
Rating*	Entities	Ended Dec. 31, 2019	Ended March 31, 2020	Ended June 30, 2020	Ended Sept. 30, 2020	Ended Dec. 31, 2020	Ended March 31, 2021	Ended June 30, 2021	Ended Sept. 30, 2021	Ended Dec. 31, 2021	Ended March 31, 2022	Ended June 30, 2022	Ended Sept. 30, 2022	Ended Dec. 31, 2022
BB+	103	3.2	3.3	3.7	3.5	3.3	3.4	2.9	2.6	2.8	2.7	2.6	2.5	2.7
BB	119	3.3	3.6	4.1	4.1	3.8	3.8	3.2	3.1	3.1	3.0	2.9	3.1	3.3
BB-	98	4.0	4.3	4.6	4.5	4.1	4.0	3.3	3.2	3.4	3.4	3.4	3.2	3.3
B+	143	4.8	5.1	5.5	5.5	5.7	5.4	4.7	4.3	4.1	4.0	3.8	3.8	3.9
B	135	5.3	6.3	6.9	6.8	7.1	6.2	5.8	5.6	5.5	5.3	4.8	4.6	4.9
B-	119	6.8	7.1	8.0	8.3	8.9	9.3	8.1	8.1	7.7	7.6	7.6	7.5	7.5
CCC+	52	8.2	8.8	13.2	11.8	10.5	10.3	10.5	13.4	12.5	12.9	12.5	10.9	10.7
CCC	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CCC-	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CC	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Total	**783**	**4.6**	**5.1**	**6.0**	**5.8**	**5.5**	**5.3**	**4.7**	**4.5**	**4.4**	**4.2**	**4.1**	**4.0**	**4.1**

* As of April 10, 2023.
NM = not meaningful due to small sample size.
Leverage calculated as reported gross debt over reported EBITDA, without adjustment by S&P Global Ratings. The sample in this study is rebalanced each quarter following selection criteria, as detailed in the Data Used In This Report section.
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Table 7 | Median Free Operating Cash Flow To Debt By Industry

		Reported last 12 months (%)									
Industry	Entities	Ended Dec. 31, 2019	Ended Dec. 31, 2020	Ended March 31, 2021	Ended June 30, 2021	Ended Sept. 30, 2021	Ended Dec. 31, 2021	Ended March 31, 2022	Ended June 30, 2022	Ended Sept. 30, 2022	Ended Dec. 31, 2022
Aerospace/defense	17	11.0	14.8	22.0	21.2	17.7	12.7	10.5	8.6	8.9	4.7
Autos/trucks	20	9.0	14.9	15.6	15.2	4.5	0.4	0.0	0.6	1.9	7.4
Business and consumer services	45	7.4	9.0	9.2	9.4	10.7	6.9	7.6	6.6	6.0	4.8
Capital goods/machine and equipment	76	4.9	8.9	10.8	8.1	4.7	3.4	0.3	0.3	-0.5	0.6
Chemicals	19	6.5	7.4	8.5	12.4	12.8	8.3	9.0	7.3	6.6	7.1
Consumer products	66	7.4	12.1	10.1	8.4	7.0	7.3	4.6	2.7	0.1	1.5
Forest products/building materials/packaging	34	11.7	14.6	15.2	10.7	6.3	3.7	2.1	4.9	3.8	7.4
Health care	49	3.3	8.6	8.8	5.7	4.9	4.5	3.5	2.5	0.7	0.9
Media, entertainment, and leisure	121	7.4	5.3	5.4	8.6	7.0	6.0	5.5	6.7	5.6	6.5
Mining and minerals	40	6.5	6.7	9.2	5.5	5.0	9.5	11.7	12.4	14.8	17.1
Oil and gas	60	0.0	0.9	3.8	4.9	6.3	9.9	12.9	22.8	34.9	44.9
Restaurants/retailing	69	6.1	15.7	16.4	16.5	13.6	11.6	7.4	3.3	3.4	3.3
Real estate	19	5.9	6.7	9.9	8.7	5.6	-0.7	-0.1	3.5	3.2	7.2
Technology	67	6.5	14.1	15.8	14.6	13.9	12.3	11.2	8.9	7.9	6.5
Telecommunications	33	6.3	6.1	7.9	6.7	7.3	6.2	5.8	8.1	6.5	4.9
Transportation	20	-1.8	-16.5	-14.0	-0.1	-2.2	0.1	0.8	-2.9	-4.0	-5.6
Total	**755**	**6.4**	**8.2**	**8.6**	**8.6**	**7.5**	**6.4**	**5.9**	**5.1**	**4.3**	**4.8**

Free operating cash flow, as reported and without adjustment by S&P Global Ratings. The sample in this study is rebalanced each quarter following selection criteria, as detailed in the Data Used In This Report section.
Source: S&P Global Ratings.
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Table 8 | Median Free Operating Cash Flow To Debt By Rating

		Reported last 12 months (%)									
Rating*	Entities	12-month ended on Dec. 31, 2019	12-month ended on Dec. 31, 2020	12-month ended on March 31, 2021	12-month ended on June 30, 2021	12-month ended on Sept. 30, 2021	12-month ended on Dec. 31, 2021	12-month ended on March 31, 2022	12-month ended on June 30, 2022	12-month ended on Sept. 30, 2022	12-month ended on Dec. 31, 2022
BB+	101	12.4	17.9	21.9	20.8	20.1	18.7	16.9	12.9	13.0	12.9
BB	115	13.2	16.4	16.4	17.2	17.2	14.4	14.5	12.4	13.9	9.7
BB-	93	10.1	15.2	18.2	14.7	13.4	11.5	8.8	9.1	7.6	7.1
B+	138	6.6	7.7	7.9	8.5	8.7	7.7	6.3	6.3	7.1	7.4
B	127	4.4	5.7	6.3	5.1	1.7	3.3	1.4	2.0	1.5	3.1
B-	117	1.8	3.5	2.3	2.1	0.8	0.9	0.9	-0.2	-0.6	0.0
CCC+	50	-3.0	0.3	1.2	-1.4	-2.4	-3.3	-4.5	-5.5	-6.3	-5.1
CCC	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CCC-	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
CC	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
Total	**755**	**6.4**	**8.2**	**8.6**	**8.6**	**7.5**	**6.4**	**5.9**	**5.1**	**4.3**	**4.8**

* As of April 10, 2023.
NM = not meaningful due to small sample size.
Free operating cash flow as reported and without adjustment by S&P Global Ratings. The sample in this study is rebalanced each quarter following selection criteria, as detailed in the Data Used In This Report section.
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Risky Credits: Europe’s Q1 Fall Masks The Full Story

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Risky Credits: Europe's Q1 Fall Masks The Full Story

Apr. 28, 2023

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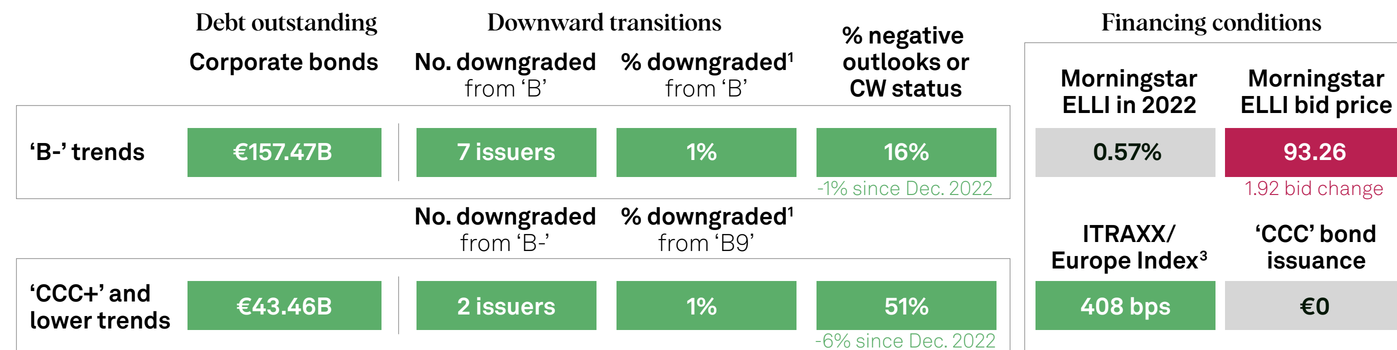
European risky credits March 2023



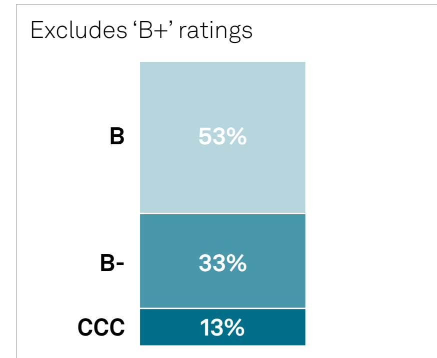
	Debt outstanding: Corporate bonds	Downward transitions: No. downgraded from 'B'	Downward transitions: % downgraded[1] from 'B'	% negative outlooks or CW status
'B-' trends	€157.47B	7 issuers	1%	16% (-1% since Dec. 2022)

	Debt outstanding: Corporate bonds	No. downgraded from 'B-'	% downgraded[1] from 'B9'	% negative outlooks or CW status
'CCC+' and lower trends	€43.46B	2 issuers	1%	51% (-6% since Dec. 2022)

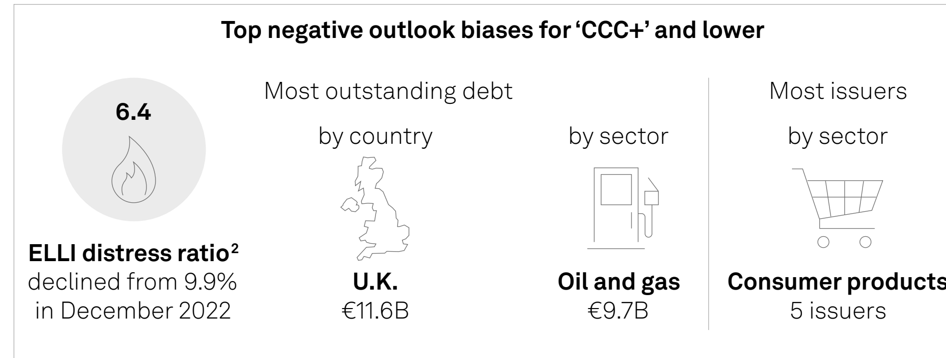
Financing conditions	
Morningstar ELLI in 2022	Morningstar ELLI bid price
0.57%	93.26 (1.92 bid change)
ITRAXX/ Europe Index[3]	'CCC' bond issuance
408 bps	€0

Risk increasing | Risk decreasing | No movement

'B' and 'CCC+' and lower rating population



Risk insights



Data as of March 31, 2023.
[1] Three-month weighted average to March 31.
[2] The percent of performing loans trading below 80.
[3] Comprises 45 equally weighted single company credit default swaps.
All risk indicators are measured against last quarter's report.
Sources: S&P Global Ratings Credit Research and Insights; S&P Global Market Intelligence. Leveraged loan data sources: Leveraged Commentary and Data (LCD) from PitchBook, a Morningstar company; Morningstar European Leveraged Loan Index (ELLI).
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No relief for issuers rated 'CCC+' and below

As of March 31, 2023, 48 issuers were rated 'CCC+' and below, down from 54 on Dec. 31, 2022 (chart 1). Despite this seemingly positive trend, the reality is somewhat different with the reduction in numbers primarily due to defaults (five issuers) and withdrawals (five issuers).

From a positive standpoint, there were only five new additions to the risky credits cohort in first-quarter 2023 (chart 2) compared with 15 new additions in fourth-quarter 2022. Most of the downgrades to risky credit status in first-quarter 2023 were attributable to refinancing risk (three issuers), and weak operating performance (two issuers), in particular for lower-rated companies.

It is also notable that only one issuer was upgraded from 'CCC+' or below compared with three entities a quarter earlier. This issuer was upgraded to 'B-' due to stronger-than-expected performance in first-quarter 2023.

Downward rating migration to 'CCC+' and below is spreading to more sectors

Consistent with the theme of 2022, consumer products and media and entertainment continue to lead the tally of risky credits with 18 issuers in the first quarter. However, the rating migration to 'CCC+' and below has been gradually spreading to other sectors such as health care and telecommunications, each of which contributed one issuer to the total.

Multinotch downgrades to 'B-' and below remain elevated

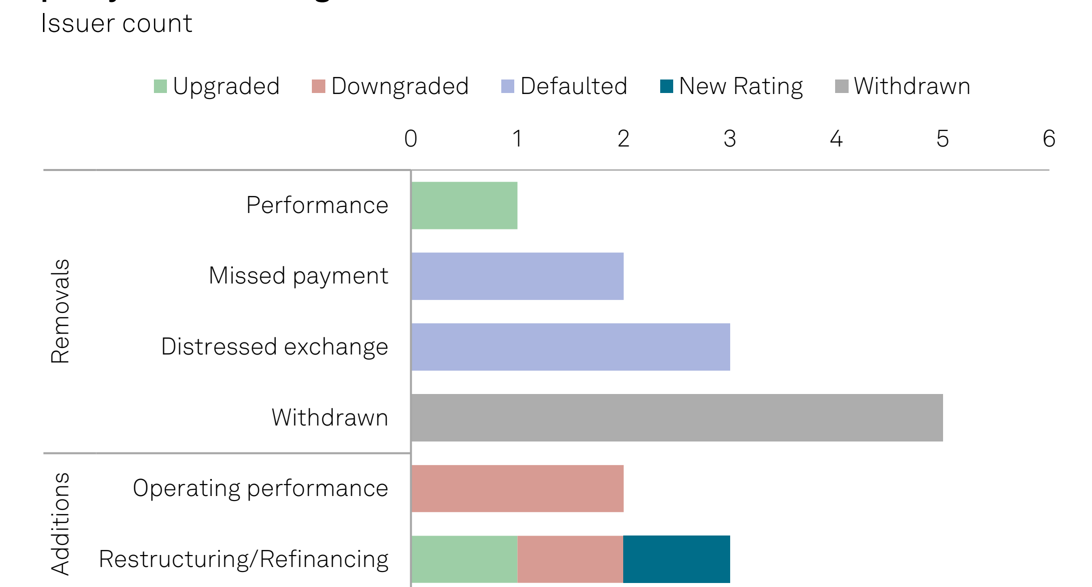
In the first quarter of 2023, the share of multinotch downgrades (two notches or more) to 'B-' and below represented close to 36% of all downgrades to 'B-' and below. This is one of the highest ratios since the start of the pandemic although the absolute number of multinotch downgrades (five issuers) is still below figures in first-quarter 2022 (eight issuers) and in second-quarter 2020 (16 issuers).

The default count is growing, primarily due to selective defaults, which accounted for six out of seven defaults in the first quarter of 2023

Distressed exchanges (four defaults) and missed principal payments (three) were the reasons behind corporate defaults in first-quarter 2023.

Chart 1 | The number of risky credits declined in first-quarter 2023, partly because of higher defaults and withdrawals

Issuer count



Data as of March 31, 2023.
Tally in this chart includes 'CC' and 'C' rated issues.
Source: S&P Global Ratings Credit Research & Insights.
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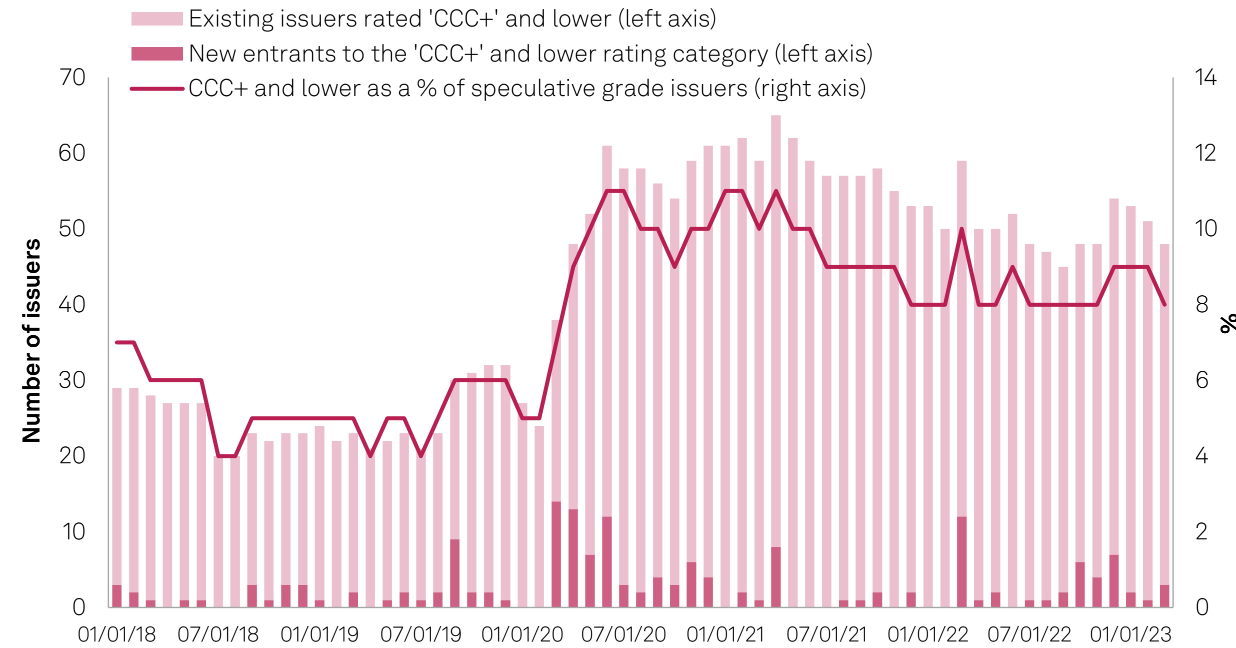
Chart 2 | Decline in issuers rated 'CCC+' and below is not all positive



Data as of March 31, 2023.
Tally in this chart includes 'CC' and 'C' rated issuers.
Source: S&P Global Ratings Credit Research & Insights.
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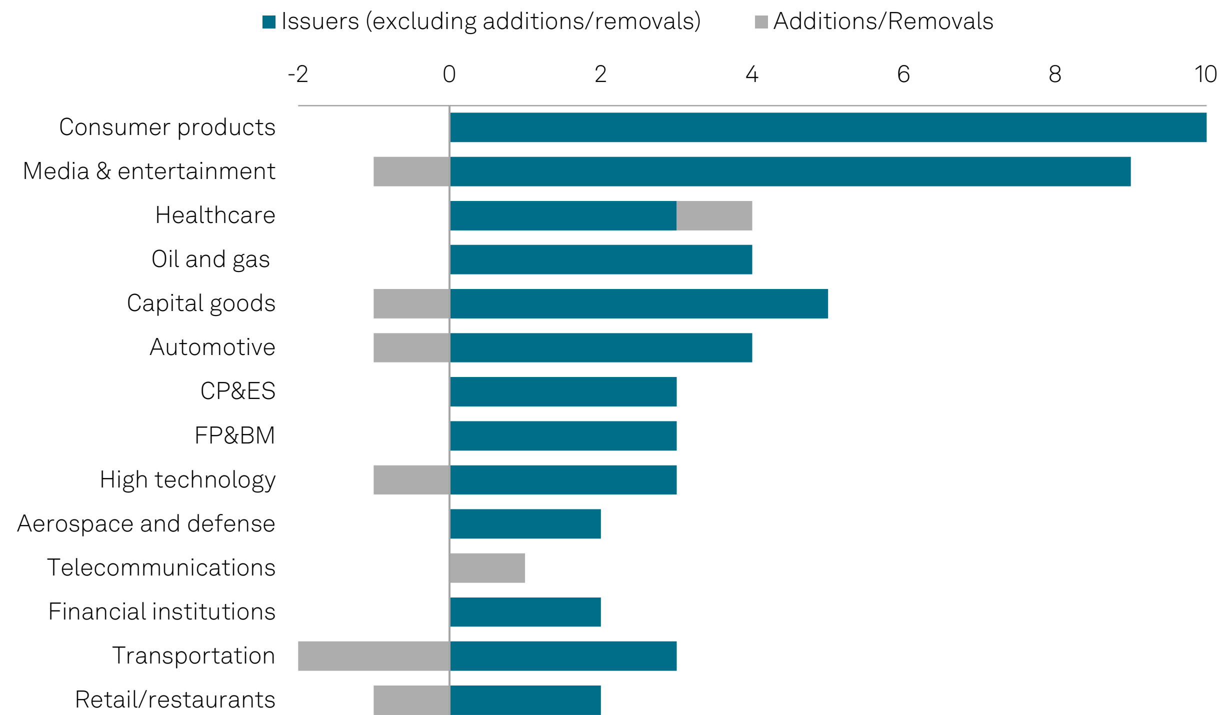
Chart 3 | Top-3 sectors comprise 42% of risky credits in first-quarter 2023



Data as of March 31, 2023.
CP&ES = chemicals, packaging, and environmental services; FP&BM = forest products & building materials.
Source: S&P Global Ratings Credit Research & Insights.Tally in this chart includes 'CC' and 'C' rated issuers.
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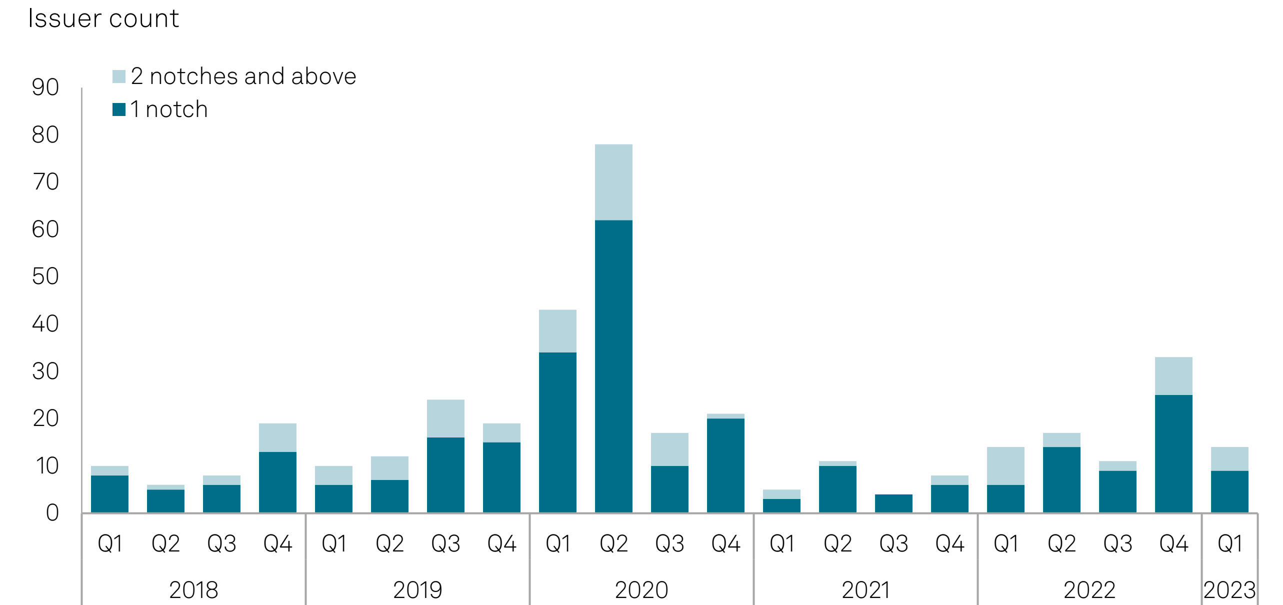
We expect the European speculative-grade corporate default rate to rise to 3.25% by December 2023 from 2.2% in December 2022 as slowing economic growth and elevated interest rates and input costs weigh on profit margins (see "Default, Transition, and Recovery: The European Speculative-Grade Corporate Default Rate Could Rise To 3.25% By December 2023, Amid Uncertain Backdrop," published Feb. 16, 2023, on RatingsDirect).

Chart 4 | Multinotch downgrades to 'B-' and below fall but remain elevated in first-quarter 2023

Issuer count



Data as of March 31, 2023.
Source: S&P Global Ratings Credit Research And Insights.
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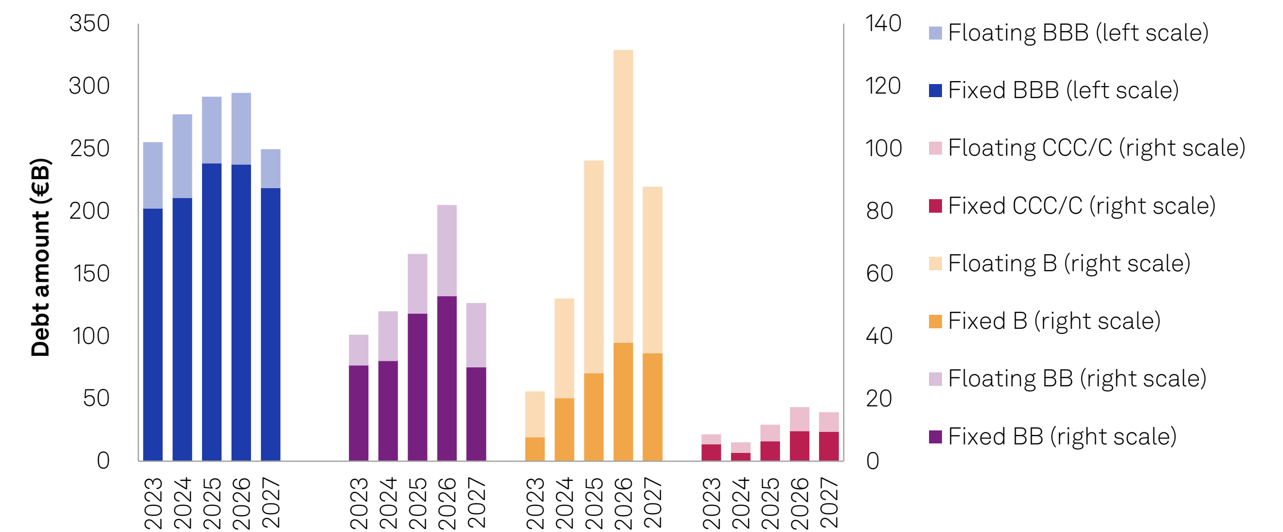
Chart 5 | Estimated annual maturities



Data as of Jan. 1, 2023.
Includes bonds, loans, and revolving credit facilities that are rated by S&P Global Ratings.
Source: S&P Global Ratings Credit Research and Insights.
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Tightening financing conditions remain a risk for issuers rated 'CCC+' and below

This will both affect new financing requirements and make it more challenging for issuers to refinance outstanding debt with an immediate focus on forthcoming 2023 and 2024 maturities. Floating-rate issuers will feel this pressure more acutely and these entities account for 67% of debt rated in the 'B' category and 43% of debt in the 'CCC' category. Telecommunications, media and entertainment, and CP&ES (chemicals, packaging, and environmental services) are the three sectors with the highest amount of speculative-grade nonfinancial corporate debt maturing in 2023 and 2024.

Debt volume of risky credits remains broadly unchanged

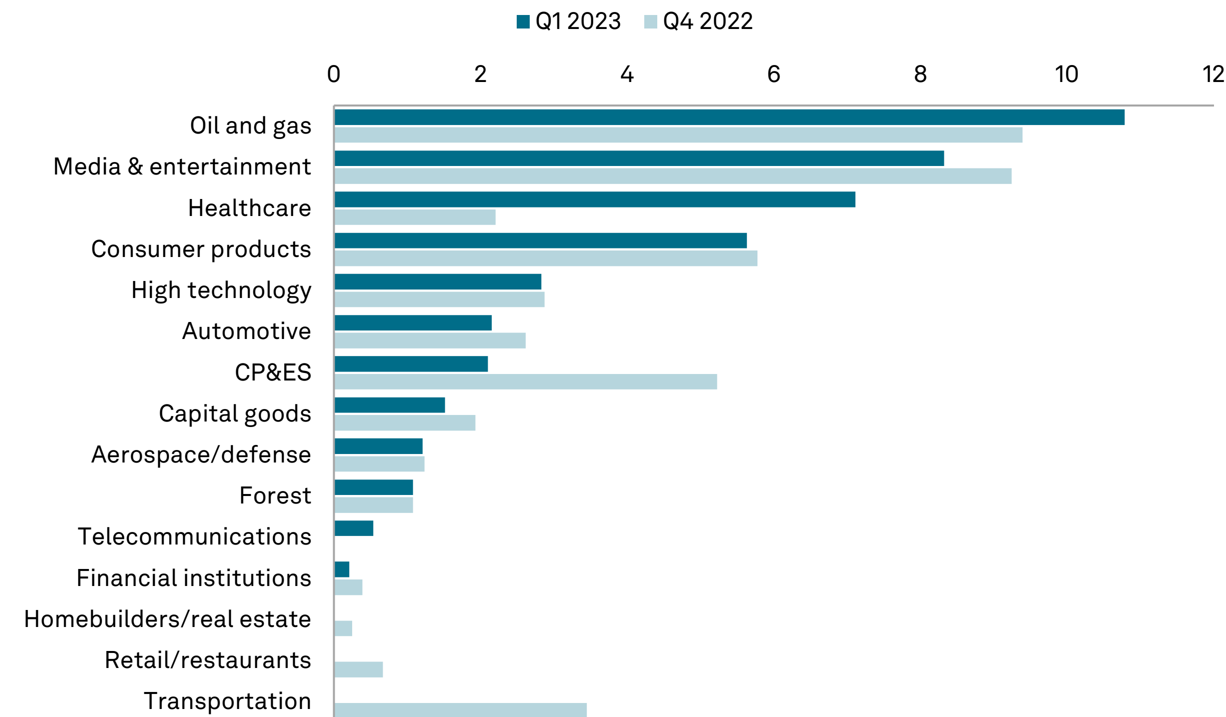
In first-quarter 2023, the volume of risky credit debt dropped by close to €10 billion due to rating withdrawals and defaults while new inflow added €9.5 billion to the total volume.

The oil and gas sector continues to have the highest debt volume among risky credits with debt rising to €10.8 billion as of March 31, 2023, from €9.4 billion as of Dec. 31, 2022 (chart 6). The increase was primarily due to new debt issuance by Transocean Inc. (CCC/Negative/--), Cayman Islands-based subsidiary of Transocean Ltd., in January 2023. Though it shows that debt markets started the year on a better footing, this momentum may be difficult to sustain in the future. The market turbulence has led to more deals being put on hold. So far in April there has been no issuance by 'CCC' rated companies, due to investors' risk aversion.

This report does not constitute a rating action.

Chart 6 | Oil and gas continues to lead with highest level of 'CCC+' and below rated debt outstanding

Debt amount (€B)



Data as of March 31, 2023.
CP&ES = chemicals, packaging, and environmental services; Forest = forest products and building materials.
Tally in this chart includes 'CC' and 'C' rated issuers with an outlook/creditwatch status as negative, stable, and positive. Debt amount includes the rated debt of subsidiary and the parent.
Source: S&P Global Ratings Credit Research & Insights.
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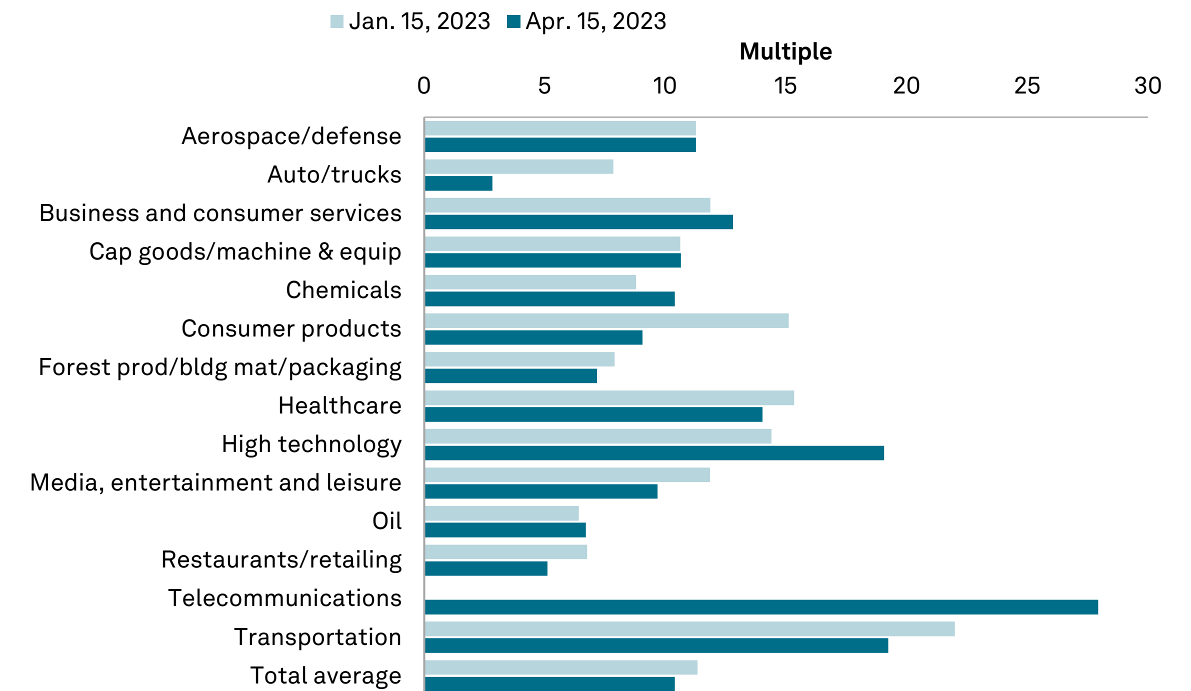
Chart 7 | Average debt-to-EBITDA ratios

'CCC+', 'CCC', and 'CCC-' rated issuers in Europe



Data as of April 15, 2023.
Source: S&P Global Ratings Credit Research and Insights.
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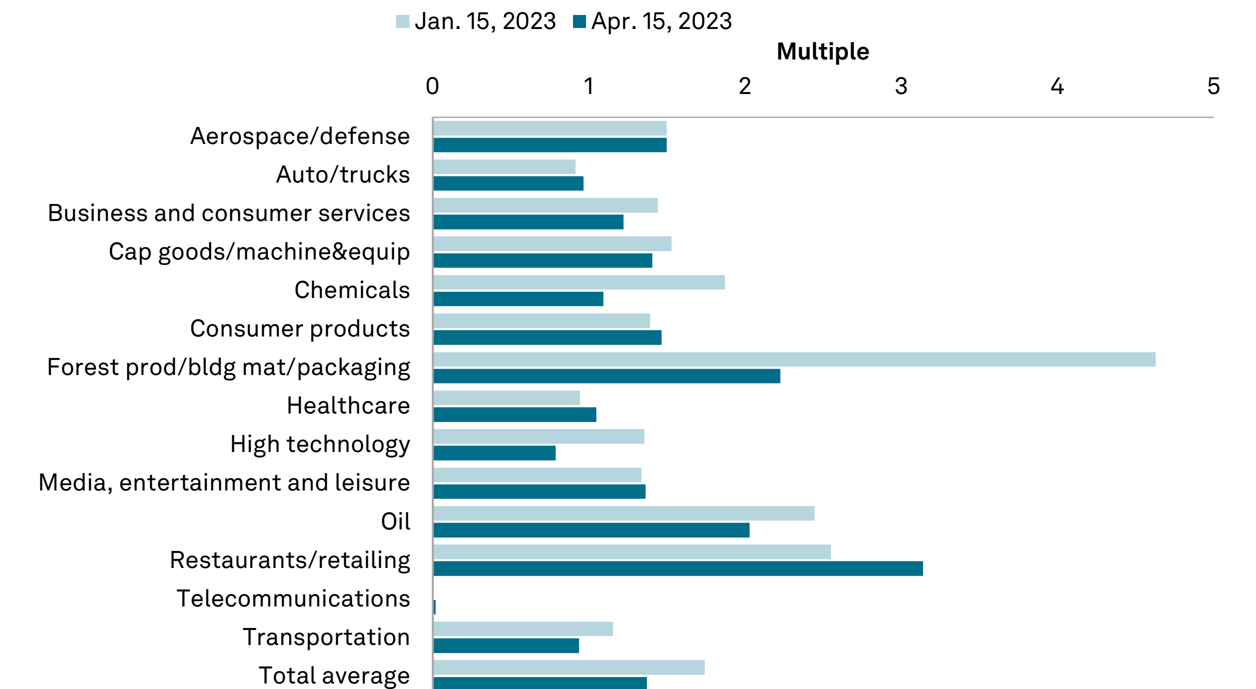
Chart 8 | Average interest cover ratios

'CCC+', 'CCC', and 'CCC-' rated issuers in Europe



Data as of April 15, 2023.
Source: S&P Global Ratings Credit Research and Insights.
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Table 1 | Current gross leverage comparison by type of owner (median)

Business risk profile	Rating	Number	Debt to EBITDA	Interest cover	% of total #
Fair	CCC+	5	11.4x	1.9x	11%
	CCC	1	7.0x	1.8x	2%
Weak	CCC+	31	10.9x	1.5x	66%
	CCC	4	4.5x	0.2x	9%
	CCC-	1	10.7x	NM	2%
Vulnerable	CCC+	5	11.9x	1.4x	11%
		47	**11.3x**	**1.7x**	

Data as of April 15, 2023.
NM = not meaningful.
Source: S&P Global Ratings Credit Research and Insights.

Table 2 | 'CCC' and below rated issuers in Europe as of March 31, 2023

Company	Sector	Debt amount (€M)	Rating	Outlook/ CreditWatch	Outlook or CreditWatch	Country
Transocean Ltd.	Oil & gas	9,742	CCC	Negative	OL	Switzerland
Casino Guichard - Perrachon SA	Retail/restaurants	9,687	CCC+	Developing	OL	France
Mallinckrodt PLC	Healthcare	4,929	CCC	Negative	OL	Ireland
Keter Group BV	Consumer products	3,252	CCC	Developing	CW	Netherlands
HNVR Midco Ltd.	Media & entertainment	2,406	CCC+	Positive	OL	U.K.
Castle Intermediate Holding V Ltd.	Media & entertainment	2,149	CCC+	Negative	OL	U.K.
Mitel Networks (International) Ltd	High technology	2,058	CCC+	Negative	OL	U.K.
Venator Materials PLC	Chemicals, packaging & environmental services	1,794	CCC-	Negative	OL	U.K.
Richmond UK Holdco Ltd.	Media & entertainment	1,529	CCC+	Negative	OL	U.K.
Aston Martin Lagonda Global Holdings PLC	Automotive	1,307	CCC+	Stable	OL	U.K.
Covis Finco S.a r.l	Healthcare	1,142	CCC+	Stable	OL	Switzerland
Selecta Group BV	Consumer products	1,083	CCC+	Stable	OL	Netherlands
CGG	Oil & gas	1,043	CCC+	Positive	OL	France
F-Brasile S.p.A	Aerospace & Defense	929	CCC+	Negative	OL	Italy
Lernen Bondco PLC	Consumer products	880	CCC+	Stable	OL	U.K.
Biscuit Holding SAS.	Consumer products	802	CCC+	Negative	OL	France
Bock Capital Bidco BV	High technology	772	CCC+	Stable	OL	Netherlands
Comet Bidco Ltd.	Media & entertainment	743	CCC+	Negative	OL	U.K.
Vue Entertainment International Ltd	Media & entertainment	740	CCC+	Stable	OL	U.K.
Amphora Intermediate II Ltd.	Consumer products	682	CCC+	Negative	OL	U.K.
Wittur International Holding GmbH	Capital goods	652	CCC+	Negative	OL	Germany
BVI Holdings Mayfair Ltd.	Healthcare	603	CCC+	Negative	OL	U.K.
Journey Personal Care Holdings Ltd.	Consumer products	598	CCC+	Negative	OL	U.K.
McLaren Group Ltd.	Automotive	570	CCC	Negative	CW	U.K.
eDreams ODIGEO SA	Media & entertainment	553	CCC+	Positive	OL	Spain
Mangrove Luxco III Sarl	Capital goods	545	CCC+	Negative	OL	Luxembourg
Mavenir Private Holdings II Ltd.	Telecommunications	538	CCC+	Negative	OL	U.K.

Continue to next page...

Data as of March 31, 2023.
OL = Outlook; CW = CreditWatch.
Source: S&P Global Ratings Credit Research And Insights.
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Table 2 | 'CCC' and below rated issuers in Europe as of March 31, 2023

Company	Sector	Debt amount (€M)	Rating	Outlook/ CreditWatch	Outlook or CreditWatch	Country
Takko Fashion S.a.r.l.	Consumer products	508	CCC-	Negative	OL	Luxembourg
Pro.Gest SpA	Forest products & building materials	498	CCC+	Stable	OL	Italy
Labeyrie Fine Foods SAS	Consumer products	453	CCC+	Stable	OL	France
GHD Verwaltung GesundHeits GmbH Deutschland GmbH	Healthcare	438	CCC+	Stable	OL	Germany
Haya Holdco 2 PLC	Consumer products	367	CCC+	Stable	OL	Spain
Ideal Standard International SA	Forest products & building materials	324	CCC+	Negative	OL	Luxembourg
Praesidiad Group Ltd.	Capital goods	316	CCC+	Negative	OL	U.K.
adapa GmbH	Chemicals, packaging & environmental services	305	CCC+	Stable	OL	Germany
MB Aerospace Holdings II Corp.	Aerospace & Defense	281	CCC+	Stable	OL	U.K.
Standard Profil Automotive GmbH	Automotive	274	CCC+	Negative	OL	Germany
Frigoglass SAIC	Consumer products	259	CC	Negative	OL	Greece
Lecta Ltd.	Forest products & building materials	255	CCC+	Stable	OL	Luxembourg
Altisource Portfolio Solutions SA	Financial Institutions	209	CCC+	Stable	OL	Luxembourg
Odyssey Europe Holdco S.a r.l	Media & entertainment	200	CCC+	Positive	OL	Luxembourg
Amigo Loans Ltd.	Financial Institutions	57	CCC	Developing	OL	U.K.
PGS ASA	Oil & gas	-	CCC+	Positive	CW	Norway
gategroup Holding AG	Transportation	-	CCC+	Stable	OL	Switzerland
Arvos LuxCo S.a.r.l.	Capital goods	-	CCC	Negative	OL	Luxembourg
Ignition Topco BV	Chemicals, packaging & environmental services	-	CCC+	Stable	OL	Netherlands
Promotora de Informaciones SA	Media & entertainment	-	CCC+	Stable	OL	Spain
DTEK Renewables BV	Oil & gas	-	CCC-	Negative	CW	Netherlands

Data as of March 31, 2023.
OL = Outlook; CW = CreditWatch.
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European Secured Debt Recovery Expectations Second-Half 2022 Update: Downgrades Drive Rising 'B-' Debt

Jan. 30, 2023

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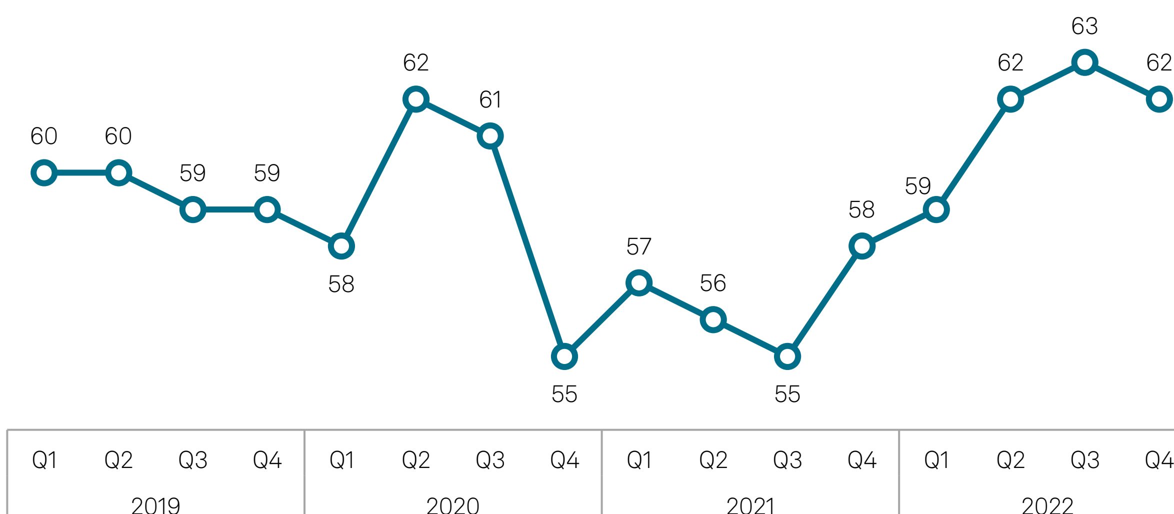
New First-Lien Speculative-Grade Issuance

Senior secured expected recovery rate slightly up since issues were limited, but came from large, well-positioned companies.

The average expected recovery rate for newly rated first-lien debt increased marginally to 62% in second-half 2022 (see chart 1), driven by a relatively small sample size (only 73 tranches) and the fact that debt tranches were overwhelmingly issued by large, well-positioned or asset-intensive issuers, which contributed to robust recovery expectations at hypothetical default.

Chart 1 | Expected Recovery On Newly Issued European Speculative-Grade First-Lien Debt Remained Robust In Fourth-Quarter 2022

Average estimated recovery (%)



Rated by S&P Global Ratings, by quarter since January 2019
Source: S&P Global Ratings.
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Nearly half (35 tranches) of the number of tranches issued or approximately €20 billion equivalent raised, carried a recovery rating of 60% or 65%. Five issuers--Formula One (Delta 2 Alpha Topco), VMED O2 UK Holdco, INEOS Finance PLC, Poseidon Bidco, and Nomad Foods--were responsible for nearly half of the amount issued in this recovery rating bracket. Poseidon Bidco, an Apollo-backed carve-out of a payment terminal provider subsidiary from Worldline SA, was the only new issuer. The remaining four were refinancing existing debt.

The average recovery rate for new issuers during the last two quarters was propped up by 11 tranches that carried recovery ratings above 70%. The main contributor was U.K. grocery retailer Morrison's (Market Bidco) that issued five senior secured loans and bonds with a recovery rating of 80%. The strong recovery prospects were supported by floating charges on all assets of the guarantors, including material real estate properties and overall, a sizable freehold estate. In addition, the senior secured debt benefits from an unsecured debt cushion.

The share of new debt with an expected recovery rating of 50% or below was negligeable, at €2 billion equivalent issued (eight tranches). Slightly higher in volume was debt with an expected recovery rating of 55%, at €8 billion equivalent issued, via 20 tranches.

Euro-denominated debt comprised 59% of total new issuance in the second half, compared with US dollar-denominated debt at €11 billion equivalent, or 29% of total new issuance. Given the challenging macro backdrop in the U.K., exacerbated by a 45-day long political crisis, sterling transactions were few and far between. Only four issuers raised sterling-denominated debt tranches, including Morrison's (Market Bidco Ltd.), Ekaterra (Cuppa Bidco B.V.), VMED O2 UK Holdco 4 Ltd., and Kellogg Brown & Root Ltd.

Refinancing activity will likely continue to be the main source of activity at the beginning of 2023 as the pipeline of acquisitions and add-ons will take a while to find its bearings in the context of a challenging macroeconomic environment, plunging valuations, volatile financing rates, and new issuance windows.

The recovery for 'BB' category loans has been substantial, given limited prior-ranking liabilities, which has led to issue ratings in the investment-grade category for Flutter Financing B.V., Crown European Holdings S.A., and Kellogg Brown & Root Limited, with all debt tranches by issuers in this rating category expected to recover 65% of par in the event of default.

Table 1 | Rated First-Lien New Issuance, By Rating Category And Type Of Debt

H2 2022 average estimated recovery

	Average recovery (%)		
	Loans (excl. RCF)	Senior secured notes	All issuance
'B' category rated tranches	61	55	60
'BB' category rated tranches	68	80	71

RCF = revolving credit facility.
Source: S&P Global Ratings.
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Analysis Of Total Outstanding European First-Lien Speculative Grade Debt

The average recovery rate on all rated senior secured debt issued by European obligors remains stable at 58%.

The overall composition changed in fourth-quarter 2022, as the proportion of debt with expected recovery at 60% and 65% rose. As of Dec. 31, 2022, we rated €911 billion equivalent of speculative-grade debt from 752 unique European obligors. We rated €650 billion equivalent of outstanding speculative grade senior secured debt, including loans, bonds, and committed revolving credit facilities (RCFs) from 597 first-lien senior secured debt obligors. The average estimated recovery rate for all rated first-lien senior secured facilities (loans and bonds) remained broadly unchanged at 58% over 2022 (see chart 2).

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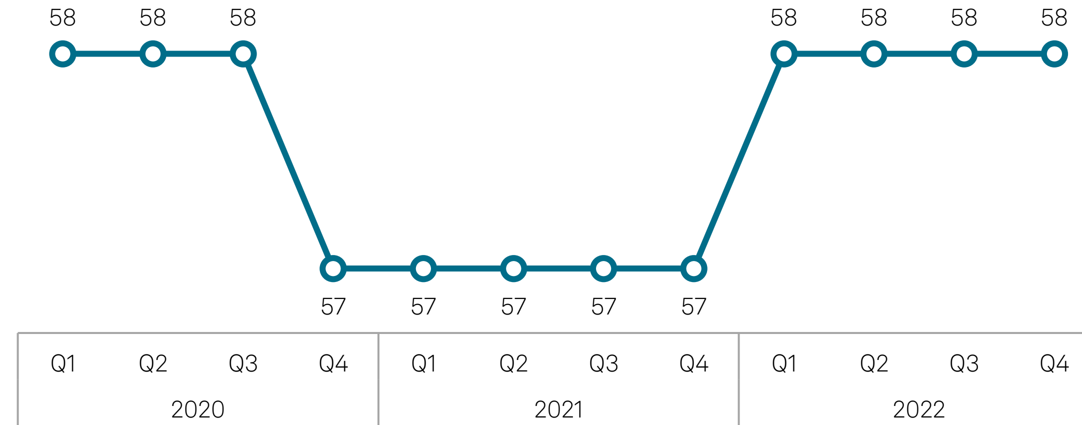
Chart 2 | Total Rated* European Speculative-Grade Average Recovery Rates Were Stable In 2022

Average estimated recovery (%)



* Rated by S&P Global Ratings.
Source: S&P Global Ratings.
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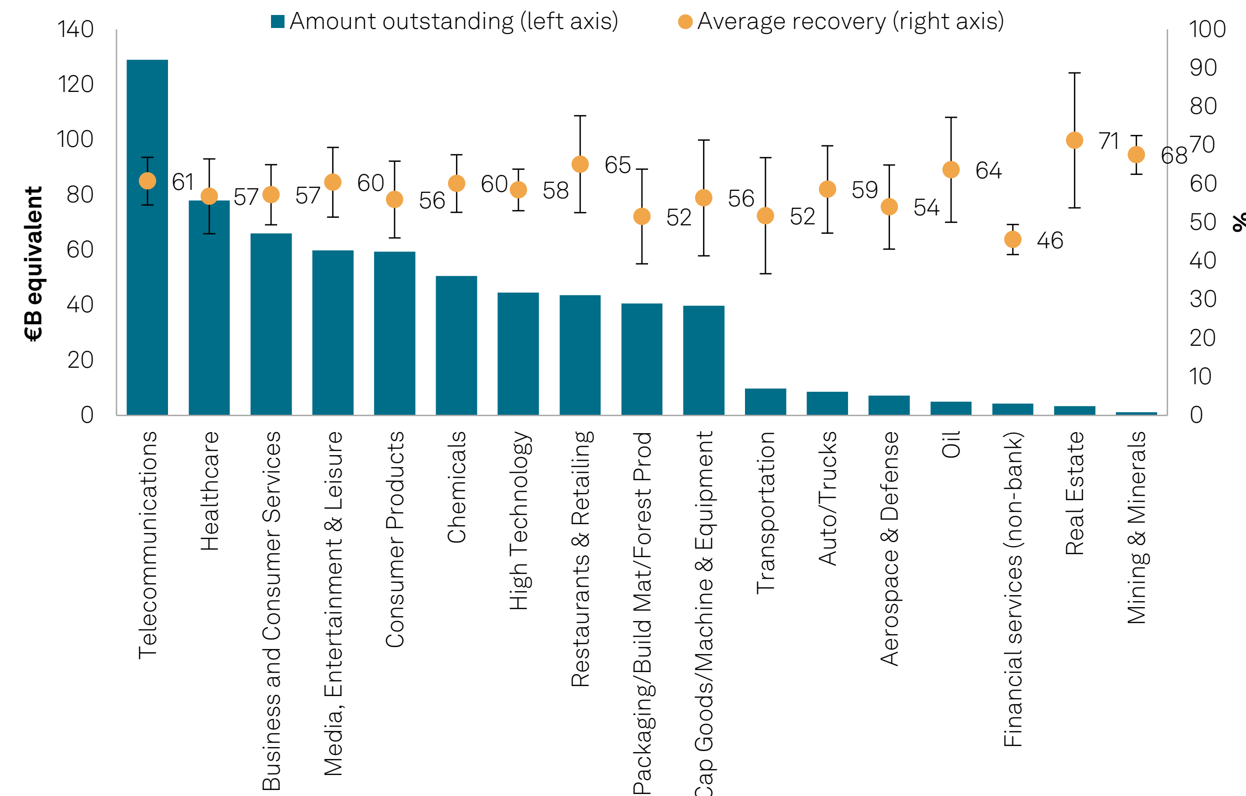
Our expected recovery rate remains on average much lower than the actual average first-lien recovery rate of 73% over 2003-2021 (see "European Corporate Recoveries 2003-2021: Stability Prevails Despite The Pandemic," published May 31, 2021, on RatingsDirect).

Chart 3 | By Industry, Telecoms Remained The Largest Contributor To European First-Lien Debt In Second-Half 2022*



* Rated by S&P Global Ratings.
Source: S&P Global Ratings.
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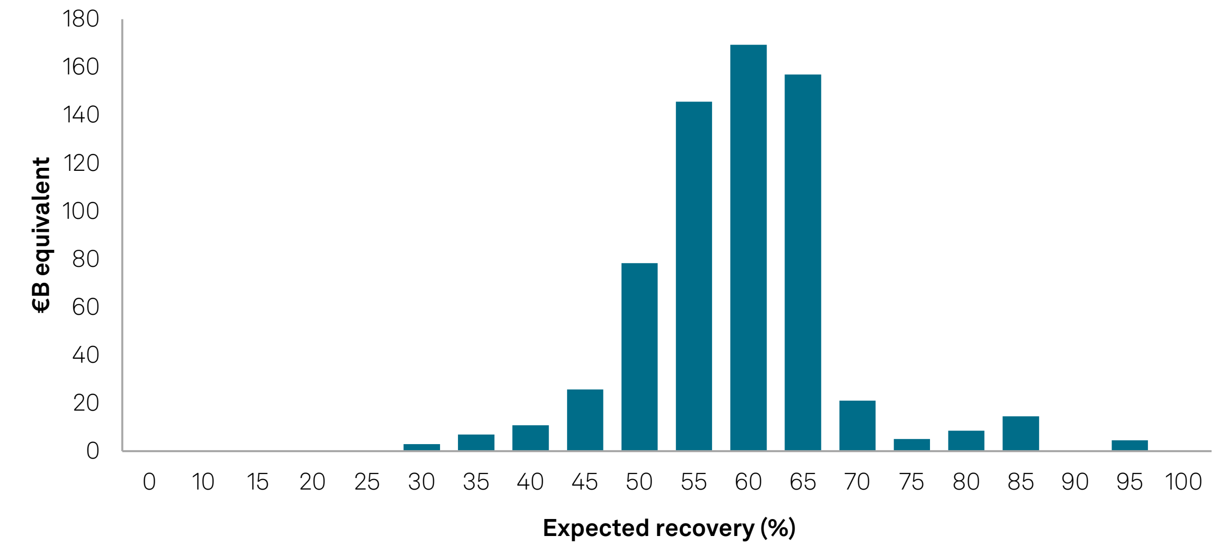
By sector, telecoms is the largest contributor to rated European speculative-grade senior secured debt

The next largest sectors are media and entertainment, health care, and business and consumer services. The contribution of the consumer products sector has decreased, driven largely by the exclusion of Waterlogic, which repaid its debt after being acquired by Osmosis (see chart 3).

Healthcare, telecommunications, consumer products, and business and consumer services remained the most prominent sectors at the 50% or 55% recovery level, with €137 billion of first-lien debt. Telecommunications, chemicals, technology, and media, entertainment and leisure were the most prominent at the 60% or 65% expected recovery level, with €191 billion of first-lien debt rated.

A recovery rating of '3', indicating our expectation of a recovery rate of 50%-70%, remains the most common recovery rating for first-lien speculative-grade debt in Europe. Within the recovery rating category of '3' which comprises of over 84% of our recovery ratings, expected rounded recoveries of 50% or 55% account for 34% of the total senior secured rated debt, while expected recoveries of 60% or 65% constitute 50% (or €326 billion equivalent) of the total rated senior secured debt (see chart 4).

Chart 4 | European Speculative-Grade Senior Secured Debt Outstanding Debt Per Expected Recovery Estimate



As of Dec. 31, 2022.
Source: S&P Global Ratings.
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Expected recoveries for loans continue to be higher than for bonds.

Table 2 | Rated European First-Lien Debt Recovery, By Rating Category And Type Of Debt

On Dec. 31, 2022, by value and average estimated recovery

	'CCC+ or below' rated tranches*		'B' category rated tranches		'BB' category rated tranches	
	Amount outstanding (€B)	Average recovery (%)	Amount outstanding (€B)	Average recovery (%)	Amount outstanding (€B)	Average recovery (%)
Loans (excl. RCF)	14.4	51	314.6	58	104.2	63
Bonds	9.2	49	129.5	55	50.4	63
Total	24.6	50	465.7	57	160.5	64

* Excluding 'CC' and 'D/SD'.
RCF = revolving credit facility.
Source: S&P Global Ratings.
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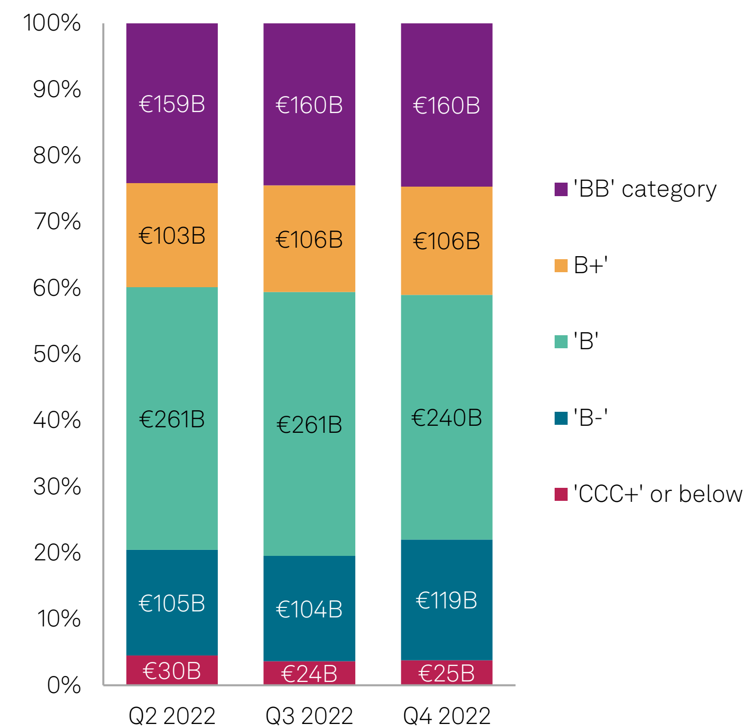
Breakdown by credit quality: A rising proportion of debt is rated 'B-'

First-lien secured debt per rating category saw a significant change in the 'B' and lower rating category in the fourth quarter of 2022, with 'B-' rated debt increasing in line with the drop in the 'B' rated debt because of rating downgrades amid deteriorating economic and credit conditions (see "Weakest Links Are Expected To Continue Rising In 2023," published Dec. 12, 2022, on RatingsDirect). 'CCC' category rated first-lien debt decreased by 20% (€5 billion) over the second half of 2022, partially due to upgrades in to 'B-', as well as downgrades to 'D'.

There were a handful of large contributors to the rise in 'B-' senior secured debt due to downgrades. Arxada (Herens Midco S.a.r.l.) contributed €3.3 billion equivalent of additional 'B-' senior secured debt as the company was downgraded due to higher leverage than expected as a result of ongoing separation costs from Lonza Group Ltd. coupled with a delay in material recovery in credit metrics as the company faces headwinds going forward. Keter Group B.V. contributed an additional €2.4 billion equivalent 'B-' rated loans as the company's metrics deteriorated amid high cost-inflation, ongoing demand pressures, and a rapidly approaching maturity wall in 2023. Healthcare software provider Dedalus Healthcare Systems Group SpA and auto-supplier Grupo Antolin contributed €1.7 billion each to the rising 'B-' rated loan volume, after downgrades due to weaker credit metrics and negative free cash flow generation.

Upgrades into 'B-' were less numerous and with smaller debt tranches outstanding. Most of the upgrades were from the entertainment and leisure sector, as issuers are beginning to emerge from the long shadow cast by the pandemic-related restrictions in 2020.

Chart 5 | European Speculative-Grade First-Lien Debt Outstanding By Credit Quality
Changes by quarter



Figures in bars represent €B equivalent.
Source: S&P Global Ratings.
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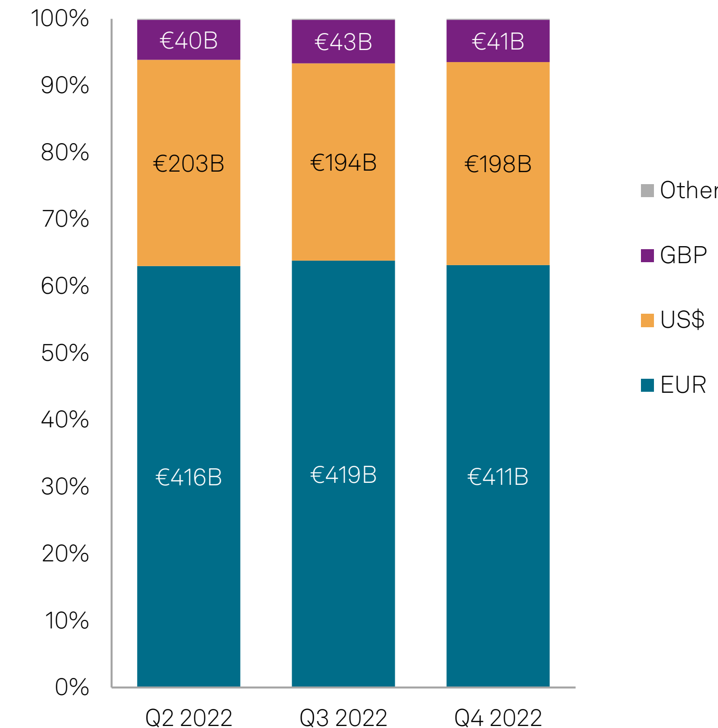
Chart 6 | European Speculative-Grade First-Lien Debt Outstanding By Currency
Changes by quarter



As of Oct. 20, 2022.
Figures in bars represent €B equivalent.
Source: S&P Global Ratings.
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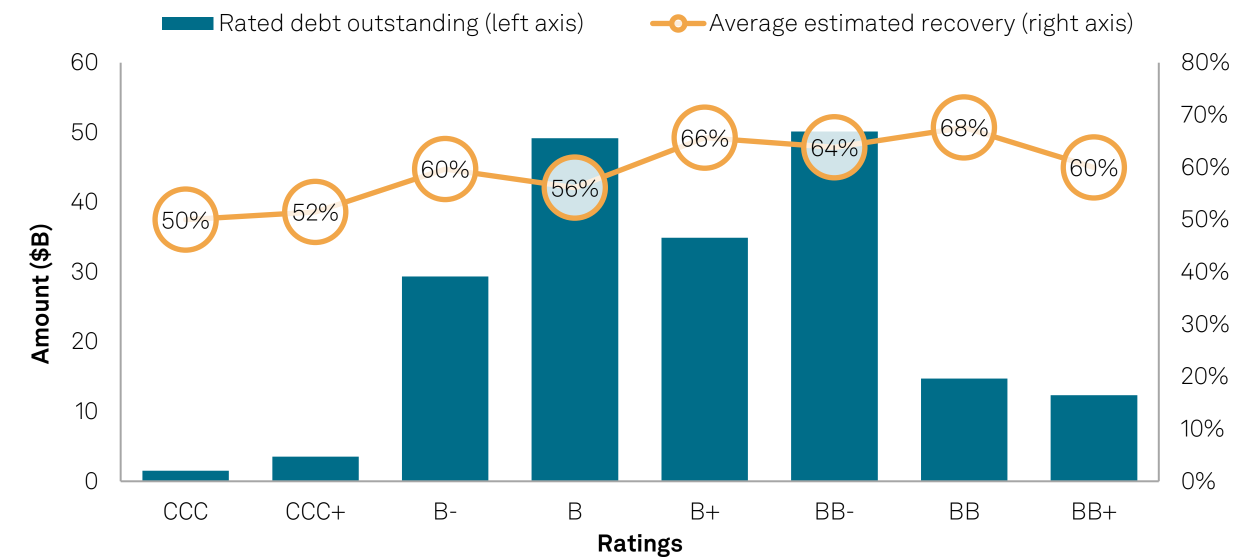
Chart 7 | European Speculative-Grade First-Lien Debt Outstanding By Currency
Changes by quarter



As of Oct. 20, 2022.
Figures in bars represent €B equivalent.
Source: S&P Global Ratings.
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Breakdown by currency

Using exchange rates as of Oct. 31, 2022, which is midpoint for the second and fourth quarters, debt in the 'B+' and 'BB' category rated tranches broadly remained unchanged if we exclude currency effects. Compared with second-quarter 2022, U.S. dollar-denominated debt has declined because Bright Bidco and Crown Finance defaulted while Avast Software has been acquired. Notably almost 40% of the debt issued in the fourth quarter was dollar-denominated, broadly in the 'BB' category, with Formula One (Delta 2 Alpha) taking the lead in terms of volume.

This report does not constitute a rating action.

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Scenario Analysis: Higher Rates Threaten The Credit Quality Of 13 EMEA Retail And Restaurant Companies

Feb. 28, 2023

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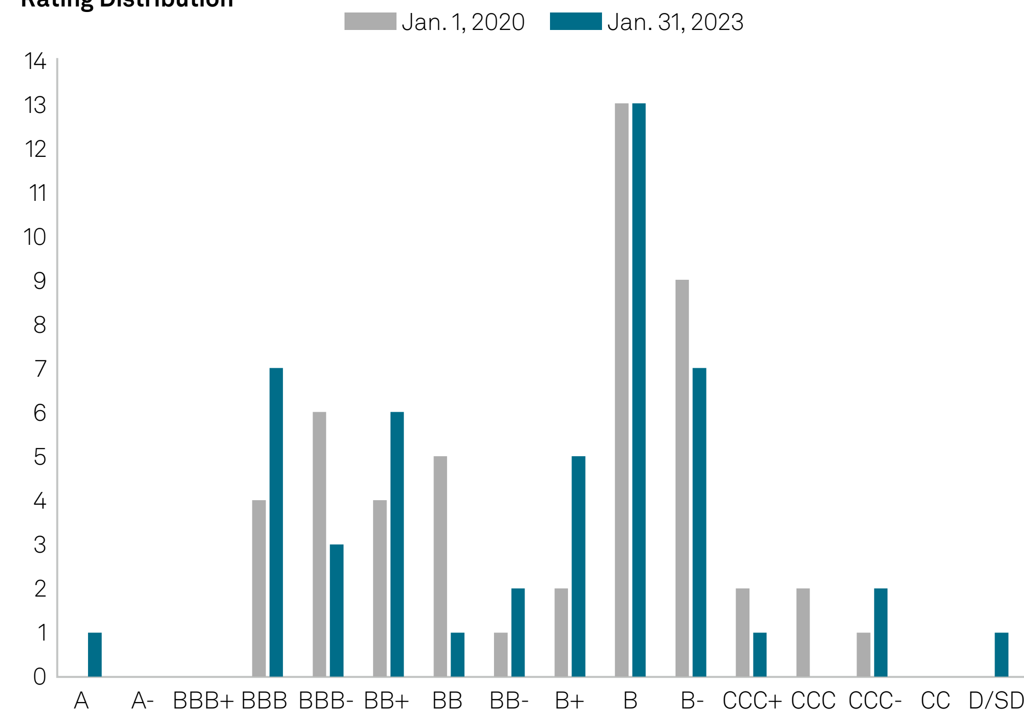
Key Takeaways

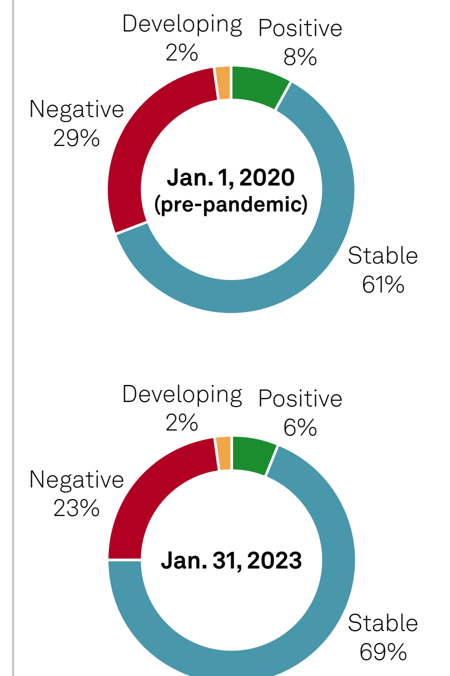
- Soaring costs and shrinking consumer budgets have depressed the earnings of sub-investment-grade retail and restaurant companies since the start of 2022 and severely threaten their credit quality.
- Rising interest rates and a potential downturn are particularly concerning for heavily indebted companies, especially those with unhedged floating-rate debt instruments.
- In our view, although refinancing risk is muted, as the debt of most issuers we rate is due after 2025, a sharp deterioration in profitability and demand would leave highly leveraged issuers exposed.
- Of 25 EMEA-based retail and restaurant companies, we identified 13 issuers rated 'BB-' or lower that are exposed to higher interest rates and concluded that in the event of further interest rate rises, 16% face significant risk of a negative rating action, 23% face a moderate risk, and 61% face low risk.
- Rising interest rates are exacerbating the difficult operating conditions that many EMEA restaurant and retailers are navigating. Higher cost of living pressure is squeezing consumers' disposable income, which, in S&P Global Ratings' view, combined with leveraged capital structures, could translate in weakening credit quality. That said, the picture differs across the issuers that we rate, partly depending on what, if any, actions they have taken to mitigate the effects of future rate rises. Under our scenario analysis detailed below, we stress tested 25 issuers that we rate at 'BB-' or lower. We outline the potential outcomes in various rate rise scenarios.

Navigating The New Dynamics

Since the second half of 2022, high inflation and declining consumer confidence have eroded customers' purchasing power, resulting in declining sales volumes for many retailers and restaurant companies in EMEA. The 2022 drop in volumes was especially stark for grocers and DIY and home equipment retailers because of their strong trading results in 2021, when easing pandemic-related measures led to a major boost in sales while home consumption remained strong. Following very strong pricing actions throughout 2022, given the ongoing squeeze on household budgets, companies' ability to protect their margins by passing rising costs on to consumers has gradually diminished. At the same time, weaker volumes will lead to swings in working capital that willweaken the cash generation of some rated issuers.

Charts 1&2 | EMEA Retail And Restaurant Sector Rating And Outlook Distribution
Jan. 1, 2020 versus Jan. 31, 2023





EMEA = Europe, Middle East and Africa.
Source: S&P Global Ratings.
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We note that in 2020 and 2021, the amenable market conditions enabled many issuers to take on more financial debt at appealing rates. They did this either to boost shareholder distributions--as done by Picard and Prosol (ZF Invest)--or to pursue transformative M&A transactions, as in the case of Arcaplanet (Shiba Bidco Spa), RBI (Elvis UK Holdco Ltd.), and Morrisons (Market Holdco 3 Ltd. (UK)). Since rates have begun to steadily climb, issuers may find they have less agility to navigate the negative effects on operating performance and debt capital market volatility. In our view, the current combination of weaker consumer demand and increasing rates will mean issuers have less capacity to service debt. Accordingly, in our scenario analysis we do not factor in material acquisitions or significant increases in capital expenditure. That said, our analysis shows variation; more than half of the issuers we rate should endure these evolving conditions through continued pricing actions, operating measures, and more prudent financial policy.

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Higher Interest Rates Could Prove A Major Hurdle

The retail and restaurant sector has attracted numerous investments by private equity sponsors. This was due to the low interest rates and abundant liquidity promoted by central banks' non-standard monetary policies. As a result, many of these issuers have levered their balance sheet, either to fund shareholder returns or to partly fund M&A transactions. Of the EMEA-based retail and restaurant companies that we rate, 43% are primarily owned by financial sponsors and approximately 60% of our rated issuers are rated 'B+' or below. Of these, as of Jan. 31, 2023, the S&P Global Ratings median adjusted debt to EBITDA was 5.9x and the median adjusted free operating cash flow (FOCF) to debt was 6.5%, with a median adjusted EBITDA margin of 15.6%. We believe that a tough operating environment, coupled with a slowdown in consumer spending, could challenge these companies' ability to sustain their highly leveraged capital structures, although each company's individual resilience will determine the potential impact on their credit ratings.

On top of difficult macroeconomic conditions, higher interest rates could also weaken the credit quality of retail and restaurant companies, reducing cash flows and an issuer's ability to refinance their debt instruments at attractive conditions.

Both the Bank of England and the European Central Bank (ECB) have recently announced a 50 basis-point increase of their policy rates, lagging the U.S. Federal Reserve Bank. We could see the ECB benchmark deposit rate remaining above 3% into 2024.

Table 1 | Short-Term Rate Scenarios For 2023 And 2024 (%)

	Base rate	+100 basis points	+200 basis points
Euribor three months	2.80	3.80	4.80
SONIA three months	3.40	4.40	5.40
SOFR three months	4.60	5.60	6.60

Source: S&P Global Ratings.
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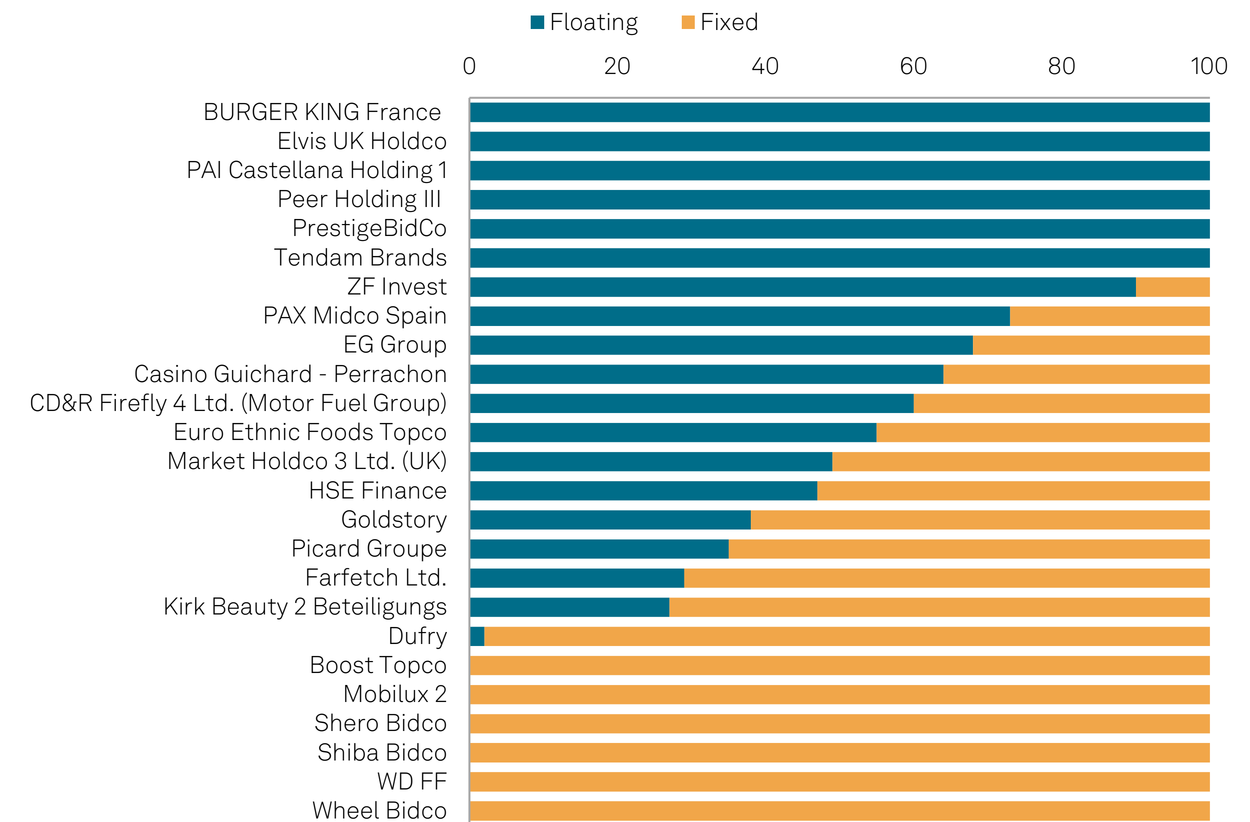
Scenario Analysis

To test how rated retail and restaurant companies at the lower end of the rating spectrum would cope with rising interest rates, we conducted a scenario analysis on 25 issuers rated 'BB-' and below to determine their ability to absorb a higher cash interest burden. For our analysis, we focused on three credit metrics: the absolute amount of FOCF after leases, FOCF to debt, and EBITDA interest coverage. While the EBITDAR coverage ratio is a key coverage ratio for the retail and restaurant sector, it has not been used in this exercise because it can be influenced by the individual rent coverage strategy of each company, although it moves broadly in line with EBITDA interest coverage. Our base case rates were based on January 2023-circa forward curve, which we then stressed in 100 basis-point increments.

Some companies only have fixed-rate debt instruments in their capital structure, which provide a natural hedge against rising interest rates. For these companies, the main risk lies in the refinancing of fixed instruments at much higher rates. That said, most of the maturity wall in our portfolio is concentrated in 2025, 2026, and 2027, giving time for these companies to build a comfortable cash cushion and partially redeem debt instruments to keep the debt service burden in check.

Some companies have arranged interest rate caps and swaps to hedge the risk of rising interest rates, on a portion or on the total amount of their variable debt instruments. These contracts expire either within the next two years or beyond. In our analysis, we have incorporated the impact of these hedging strategies, which offer a significant cushion from rising interest rates. Of the 19 companies with floating-rate debt instruments, eight have not partially or fully covered their exposure.

Chart 3 | Distribution Of Fixed And Floating Rate Debt Instruments For EMEA Retail And Restaurants Rated 'BB-' And Below (%)



Source: S&P Global Ratings.
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A Mixed Bag

Our stress analysis of 25 companies rated 'BB-' or below identified 13 issuers with limited rating cushion for rising interest rates. For the majority, our downside rating threshold considers FOCF after leases generation as an important parameter in determining the company's resilience during stress periods, alongside a prudent leverage amount. We also looked at fixed-charge coverage ratios, using EBITDA interest coverage as a mean to determine the long-term sustainability of these companies' capital structures.

Here are our key findings:

- FOCF after leases: the median haircut on reported FOCF after leases due to rising interest rates was about 13%-15% for a 100 basis-point increase in the base rate, and 25% for a 200 basis-point increase in the base rate. Some of these companies already report thin FOCF after leases and they will be subject to more pressure in the new interest-rate environment;
- FOCF to debt: the median FOCF to debt for these 13 companies weakened by 0.4 and 0.8 percentage points in 2023, and by 0.4 and 0.5 percentage points in 2024, for a 100 and 200 basis point increase in the base rate, respectively;
- EBITDA interest coverage: the median EBITDA interest coverage ratio for these 13 companies was more resilient, with a limited decrease under both stress scenarios, with a 0.3x and 0.2x decrease in 2023 and 2024, respectively, in a +100 basis-point scenario, and 0.5x and 0.4x in 2023 and 2024 in a +200 basis-point scenario.

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Table 2 | Issuers Included In This Analysis And Their Hedging Strategy

Organization Name	Issuer credit rating and outlook	Hedged
Boost Topco SAS	B/Stable	N/A
BURGER KING France SAS	B-/Stable	Yes
Casino Guichard - Perrachon SA	CCC+/Developing/C	No
CD&R Firefly 4 Ltd. (Motor Fuel Group)	B/Stable	No
Dufry AG*	B+/WatchPos	No
EG Group Ltd.	B-/Stable	No
Elvis UK Holdco Ltd.	B/Stable	Yes
Euro Ethnic Foods Topco	B/Stable	Yes
Farfetch Ltd.	B-/Negative	No
Goldstory SAS	B/Positive	Yes
HSE Finance SAr.l.	B/Negative	No
Kirk Beauty 2 Beteiligungs GmbH and Co. KG	B-/Negative	No
Market Holdco 3 Ltd. (UK)	B/Stable	Yes
Mobilux 2 SAS	B+/Stable	N/A
PAI Castellana Holding 1 SLU	B/Stable	Yes
PAX Midco Spain	B-/Stable	No
Peer Holding III BV	BB-/Stable	No^
Picard Groupe SAS	B/Stable	No
PrestigeBidCo GmbH	B+/Stable	Yes
Shero Bidco BV	B-/Stable	Yes
Shiba Bidco SpA	B/Stable	N/A
Tendam Brands SAU	B+/Stable	Yes
WD FF Ltd.	B/Negative	N/A
Wheel Bidco Ltd.	B/Negative	N/A
ZF Invest SAS	B-/Stable	Yes

N/A = not applicable.
* As of Jan. 31, 2023.
^ In the absence of details about its hedging strategy, assumed unhedged against rising interest rates.
Source: S&P Global Ratings.
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We have concluded that of 13 EMEA-based retail and restaurant rated 'BB-' and below, 16% face significant risk of a negative rating action under our downside stress scenarios, 23% have moderate risk, and 61% face low risk. Our risk classification does not incorporate any mitigants to higher interest rates, or any buffers that companies may have in executing their strategic plans.

Table 3 | Key Credit Metrics For Rated Retail And Restaurant Companies Subjected To Interest Rate Stress

	2023			2024		
	Base rate	+100bps	+200bps	Base rate	+100bps	+200bps
Median FOCF after leases haircut (% change to our current base case)		(14.6)	(25.0)		(12.9)	(25.8)
Median FOCF/debt (%)	5.1	4.7	4.3	6.4	6.0	5.9
Median EBITDA interest coverage (x)	2.6	2.4	2.1	3.0	2.7	2.4

FOCF = free operating cash flow.
Source: S&P Global Ratings.
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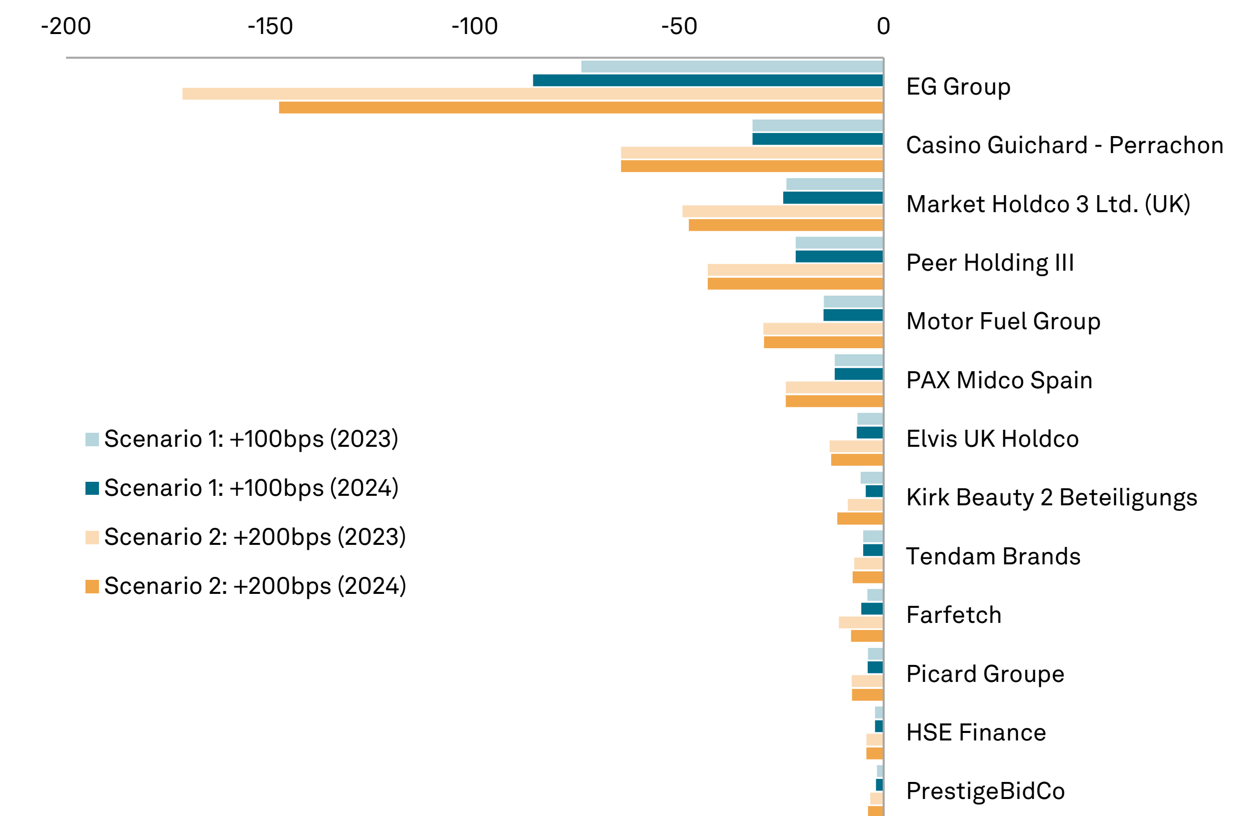
Chart 4 | Absolute Impact Of Rising Interest Rates On Free Operating Cash Flow After Leases



Source: S&P Global Ratings.
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Table 4 | Risk To Stressed Scenario

Low risk	Mid risk	High risk
Peer Holding III BV	CD&R Firefly 4 Ltd. (Motor Fuel Group)	
Elvis UK Holdco Ltd.	PAX Midco Spain	Casino Guichard - Perrachon SA
Kirk Beauty 2 Beteiligungs GmbH and Co. KG	EG group Ltd.	Market Holdco 3 Ltd. (UK)
Farfetch Ltd.		
PrestigeBidCo GmbH		
Picard Groupe SAS		
HSE Finance S.a.r.l.		
Tendam Brands SAU		

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Table 5 | Rated Retail And Restaurant Companies Exposed To Rising Interest Rate

Company	Issuer credit rating and outlook	Downside threshold	Upside threshold	Stressed credit metrics relative to rising rates	Rationale
EG Group Ltd.	B-/Stable	Leverage above 10x and weakening FOCF	Leverage below 8x and growing FOCF exceeding our forecast	Mid	Significant unhedged exposure to floating rates, however, offset by lower discretionary capex
Casino Guichard - Perrachon SA	CCC+/Developing/C	FOCF generation remaining deeply negative and refinancing risk	Refinancing 2024-2025 maturities and positive FOCF	High	High cash burn and refinancing risk
Market Holdco 3 Ltd. (UK)	B/Stable	Leverage above 10x and deterioration of FOCF	Leverage below 9x and FOCF after leases above £200 million	High	Significant exposure to floating rates and foreign currency-denominated debt
Peer Holding III BV	BB-/Stable	FOCF after lease falling short of € 300 million and leverage above 5x	Leverage well below 5x and FOCF after leases well above € 300 million	Low	Substantial headroom in cash flows and liquidity stemming from the expectation of a very solid operating performance
CD&R Firefly 4 Ltd. (Motor Fuel Group)	B/Stable	Leverage above 6.5x and erosion of FOCF	Leverage below 5x and strong FOCF	Mid	Resilient profitability and flexibility in capex
PAX Midco Spain	B-/Stable	Leverage above 7x and negative FOCF after concession payments in 2024	Leverage below 5x and positive FOCF after concession payments in 2023 and 2024	Mid	Negative FOCF generation and unhedged exposure to floating rates
Elvis UK Holdco Ltd.	B/Stable	Negative FOCF in 2023 and leverage above 6x	Positive FOCF after leases and leverage below 5x	Low	Expectation of strong operating performance and expansion plan
Kirk Beauty 2 Beteiligungs GmbH and Co. KG	B-/Negative	Leverage above 8x	Leverage below 6x and positive FOCF after leases	Low	Limited exposure to floating rates and ongoing restructuring plan
Farfetch Ltd.	B-/Negative	Sustainably negative EBITDA and FOCF after leases	Positive EBITDA and break-even FOCF after leases	Low	Limited exposure to floating rates but high working capital volatility and already weak cash flow generation
PrestigeBidCo GmbH	B+/Stable	Leverage above 4.5x and weakening FOCF after leases	Increase in scale and strong FOCF after leases	Low	Limited exposure to floating rates
Picard Groupe SAS	B/Stable	Leverage above 7.5x and neutral FOCF	Leverage below 6x and positive FOCF after leases and dividends	Low	Limited exposure to floating rates
HSE Finance S.a.r.l.	B/Negative	Leverage above 6.5x and FOCF in excess of €25 million	Leverage below 6x and positive FOCF after leases	Low	Limited exposure to floating rates.
Tendam Brands SAU	B+/Stable	Leverage above 4.5x and FOCF dropping below €40 million	EBITDAR interest coverage above 2.2x and further decline in leverage	Low	Significant headroom in cash flows

EBITDAR = earnings before interest, tax, debt, amortization and rent; FOCF = free operating cash flow.
Source: S&P Global Ratings.
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Refinancing Risk Looms For Some Issuers

We don't expect the cost of borrowing to return to pre-2022 lows until at least 2024. Therefore, refinancing risk could represent an evolving and longer-term threat to issuers' cash flows, capital structure sustainability, and ultimately ratings. This risk will interplay with macroeconomic developments, consumer demand sentiments, as well as issuer company or owner behavior. In certain respects, issuer or owner behavior could be the most decisive factor, as we do expect prudent financial policies with maturities addressed in an early and orderly fashion, at least 12-18 months sooner than the due date. As this risk depends on fundamentals, behavior, and timing, it will not impact each issuer in our universe equally.

Strategies to address maturities may vary and evolve. Some issuers may decide to mitigate refinancing risk by gradually repurchasing debt to right-size their capital structure to reflect a more subdued trading environment or rising cost of debt; others may address their maturity walls via amend-and-extends, either bit-by-bit or in one go, to lengthen the average maturity by two-to-three years or more. In some cases, issuers may need a cash injection from their owners to shrink their debt with the aim of reducing vulnerability and exposure to this risk, and focus on stabilizing their cash flow generation in the future.

Though the risk of an escalating benchmark rate has stabilized since October last year, the ECB's latest comments imply the central bank is open to more rate rises if needed to curb inflation. This may come as a surprise to the markets, which largely expect rate rises to stabilize after March. Furthermore, the volatility in the spreads--dictated by fears of a recession, persistent cost inflation, increased investor selection among issuers, and weakening consumer demand--will persist in our view, and represents a tangible risk, especially for highly leveraged and lower-rated companies, over the next two years.

The debt maturities of our retail and restaurant universe is skewed to the next three years as €24 billion (or 58% of total) of debt is maturing before 2026.

The capital structures of Casino-Guichard Perrachon (CCC+/ Negative) and Dufry (B+/Positive) are exposed to debt maturing in 2024. Dufry has partly refinanced its 2024 maturities in December 2022 and we expect the remaining maturities to be addressed in orderly fashion, likely in conjunction with the company's second stage of Autogrill SpA acquisition and as it finalizes the funding mix by the end of second quarter this year. Casino-Guichard Perrachon could be in a more pressured position and highly exposed to refinancing risk, as deleveraging and addressing its €1.2 billion maturities due 2024, along with €1.8 billion maturing in 2025, depend on timely and meaningful asset sales, as well as reversal to positive cash flow generation in domestic operations within a few quarters.

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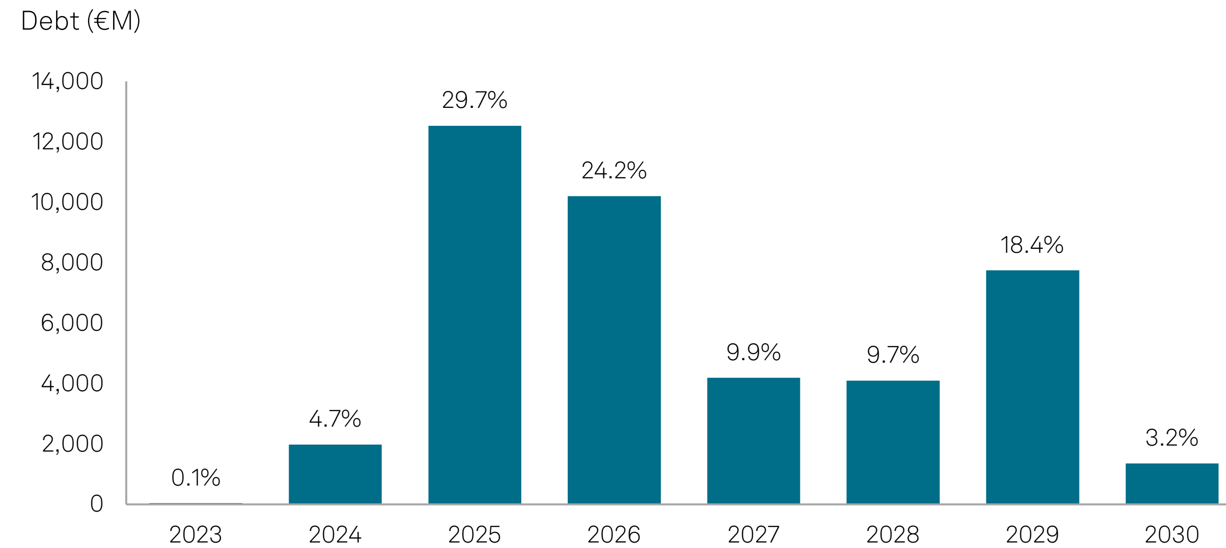
Chart 5 | Aggregated Debt Maturities Distribution For EMEA Retail And Restaurants Rated 'BB-' And Below

Debt (€M)



Labels show percentage of total debt outstanding.
Source: S&P Global Ratings.
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While seven issuers have maturities totaling €13 billion in 2025, this amount in itself is not prohibitively high to expect successful absorption by investors. That said, this will ultimately depend on the issuer itself and the investors' perceptions as well as the company's performance this year. In addition to Casino, the 2025 maturities are clustered around three other issuers, which in total have over €9 billion equivalent in debt due that year: Peer Holding II (BB-/Stable), CD&R Firefly (Motor Fuel Group rated B/Stable), and EG Group (B-/Stable). We expect these to focus on cash flow generation, building up a cushion to absorb operational trading softness, and exercise prudency when it comes to debt-funded acquisitions or debt-funded dividend distributions, particularly in the case of EG Group and Motor Fuel Group. Market trading levels for senior secured debt, which are above 93 for the three issuers, support this degree of confidence in their ability to act prudently and manage refinancing risk accordingly.

Over €17 billion of debt is maturing beyond 2027, predominantly for issuers in the single 'B' rating category, such as Market Holdco, Farfetch, Arcaplanet, and Euro Ethnic Foods, which would allow them to expand into the existing capital structures even with a higher cash interest burden. Issuers like Mobilux, whose debt is maturing in 2027, have not shown high leverage tolerance thus far, which should permit ample room to cushion any blows from lost volumes and profitability in cases of downturn and, as such, should not precipitate either a liquidity crisis or default.

No Let Up From High Rates

We believe that over the next two years, interest rates will remain high, weakening cash flows and issuers' ability to refinance upcoming maturities at attractive conditions. FOCF remains one of the key determinants of our ratings and if this measure were to deteriorate, this could imply downward pressure, even if leverage does not increase. In addition to navigating operational pressures, companies (and their owners) will need to adapt their financial policies. Highly leveraged companies especially will need to focus on deleveraging by expanding into their existing capital structure by executing their growth and expansion plans, or building a cushion for leaner times and potentially softer demand.

Appendix: Methodology

We stressed our 2023-2024 base-case forecasts for 25 EMEA retail and restaurant companies rated 'BB-' and below. For the stress test, we started with EURIBOR, SONIA, and SOFR forecast of 2.8%, 3.4%, and 4.6% respectively in 2023 and 2024. We believe that the current high interest rate environment will likely persist at least into 2024 and that interest rates over the longer term will remain above those immediately before the pandemic. To gauge the potential effect on our ratings, we ran three stress cases with base-rate increases of 50 bps, 100 bps, and 200 bps above our base rates.

We then looked at significant credit metrics, such as cash interest expense, EBITDA interest coverage, FOCF after leases, and FOCF to debt in each scenario. We derived an estimated impact on ratings by comparing the outputs with the existing downside risk scenarios for each issuer.

Our stress tests--and ratings conclusions--do not account for any mitigating actions that companies and owners could take to enhance cash flows, including pushing up prices, cutting costs, and raising equity. As such, our stress analysis is not dynamic and can be viewed as conservative. Retailers can cut overall costs and increase the level of promotional activity to reduce inventory, which could help the companies to partially mitigate the cash impact of rising interest rates.

We incorporate hedging into our base-case company forecasts. This involved obtaining significant details on each company's hedging position. Much of this data is confidential and we are unable to disclose that information. That said, the hedging strategy deployed by the corporates in our stress-test universe has been reflected and is a significant factor contributing to our analytical conclusions.

This report does not constitute a rating action.

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Credit FAQ: Risks To Leveraged Loans And CLOs Amid An Increasingly Cloudy Macroeconomic Environment

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Credit FAQ: Risks To Leveraged Loans And CLOs Amid An Increasingly Cloudy Macroeconomic Environment

March 29, 2023

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Amid growing concerns about economic growth and increasing headwinds and disruptions, investors in leveraged loans and collateralized loan obligations (CLOs) are proactively focused on identifying potential sources of risk and managing their portfolios to protect credit quality. To help investors understand these risks, this Credit FAQ seeks to highlight key questions we've received in recent investor and manager meetings, along with our responses.

Frequently Asked Questions

What are the biggest concerns about the leveraged loan market from a credit perspective?

The impact of credit erosion arising out of slowing economic growth, rapidly rising interest rates, and market and geopolitical uncertainty has caused corporate rating downgrades to outpace upgrades since May 2022 (for speculative-grade U.S. and Canadian nonfinancial corporate issuers), with the pace of downgrades quickening since August. While corporate operating performance has been surprisingly resilient amidst increasing economic headwinds, we expect ratings pressure to continue because we anticipate a short and shallow recession in the U.S. (starting in the first half of the year) under our base case economic forecast.

In particular, the cumulative impact of interest rate hikes to date--and prospects for additional hikes in 2023--could cause interest coverage to fall by more than 0.5x in 2023 for 'B' and 'B-' companies. This will impair cash flow, coverage metrics, and liquidity positions for many 'B' and 'B-' issuers. In addition, it's unclear when the Fed may consider reversing its interest rate hikes amid persistently high inflation. This will further erode credit quality for lower-rated issuers and may make refinancing more difficult as deferred maturity walls creep closer, especially if spreads remain high or increase further.

The recent failure of Silicon Valley Bank (SVB) and other regional banks--as well as broader concerns about the stability of the banking sector-- highlights the prospects for additional and unforeseen economic and market disruptions and the potential for unintended consequence resulting from aggressive monetary tightening. As such, we are closely monitoring free operating cash flow (FOCF), liquidity, and debt maturities as part of our ratings surveillance for 'B' and 'B-' rated companies.

In this environment, leveraged credit investors and CLO managers have focused on de-risking their portfolios to weather weakening economic conditions and limit the downside to portfolio credit quality. For example, many are working to limit exposure to sectors and companies that they think could be more sensitive to underperformance. Unsurprisingly, there is sensitivity to potential downgrades of corporate ratings into the 'CCC' category, and some managers are quick to exit these credits before expected ratings downgrades, at which point trading prices can drop sharply.

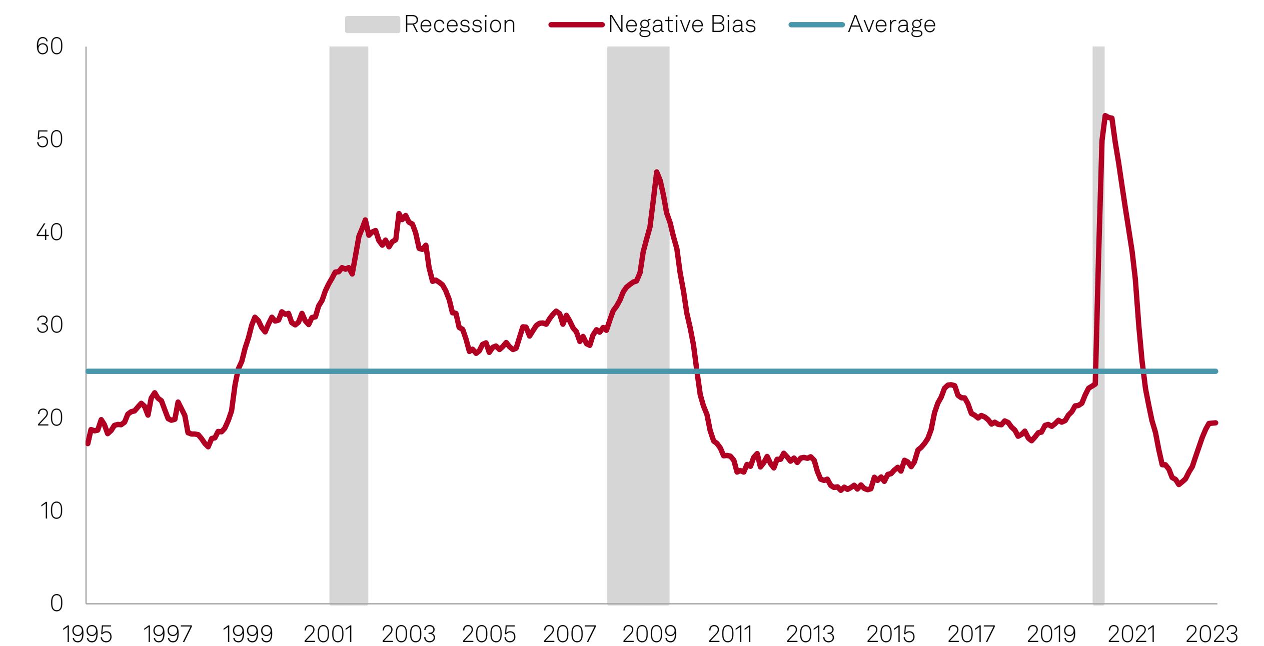
Accordingly, the average CLO portfolio had exposure to 'CCC' category rated issuers of roughly 5.14% as of March 1, 2023 (including 'B-' obligors with ratings on CreditWatch negative as per our CLO rating methodology). This is slightly less than half the 11.96% level of 'CCC' category rated issuers in our broader speculative grade portfolio as of March 11, 2023.

What does the downgrade risk for speculative-grade companies look like and what sectors are most vulnerable?

The best indicator of downgrade risk for leveraged corporate issuers is the percent of speculative-grade companies with a negative ratings bias, meaning ratings with a Negative outlook or CreditWatch Negative listing. For speculative-grade companies a Negative outlook indicates a risk of downgrade of at least 33% over the next year, while a CreditWatch Negative listing signals downgrade risk of 50% or more, often over a shorter period; although, event-based listings (such as related to regulatory review for a merger) may have a longer timeline for downgrades.

As of March 11, 2023, the negative bias for speculative-grade issuers in the U.S. and Canada was 20.6%, which is still somewhat lower than the long-term historical average of roughly 25% (from January 1995 through February 2022). However, it is still higher than it was for most of the past dozen years (Chart 1). In addition, negative bias has been steadily increasing since April 2022 as macroeconomic expectations darken, the tailwinds from the post-COVID rebound fade, and rising interest rates begin to weigh on credit metrics. We expect negative rating bias will continue to increase as the economy weakens, especially if interest rates remain elevated and continue to impinge on cash flow and liquidity.

Chart 1 | Speculative-Grade Negative Ratings Bias (%)
U.S. and Canadian Nonfinancial Corporates



Data as of Feb. 28, 2023. Source: S&P Global Ratings.
Source: S&P Global Ratings.
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A look at the speculative-grade ratings bias by sector (Chart 2) shows that economic pressures differ significantly for companies operating in different industries. Consumer products, which is also one of the largest sectors, has the most significant negative bias. As the economy weakens and higher interest rates begin to erode interest coverage, FOCF, and liquidity, S&P Global Ratings analysts have focused on sector-specific scenario analysis to identify the companies with ratings most at risk of downgrades (see Related Research).

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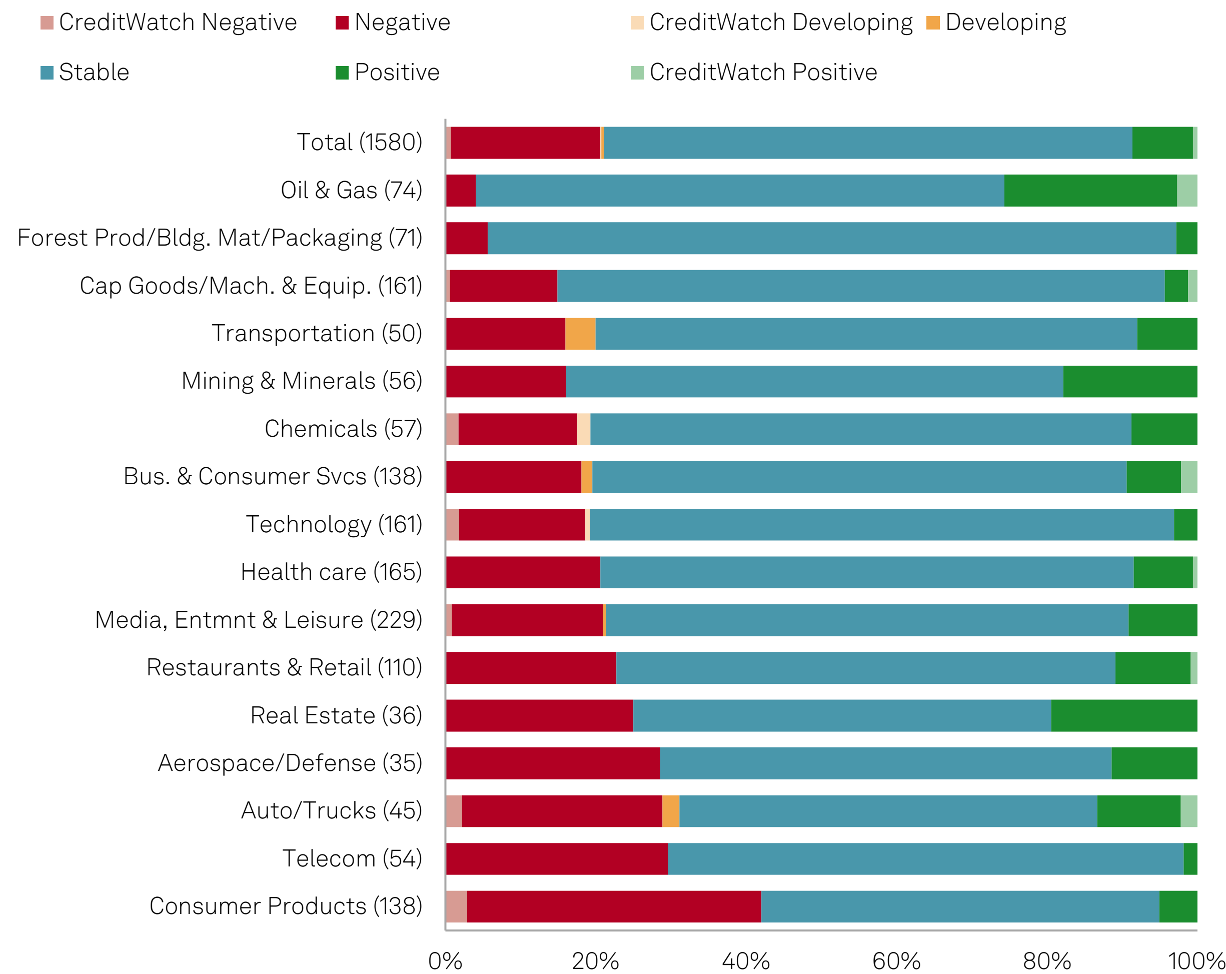
Chart 2 | Speculative-Grade Ratings Outlooks By Sector
U.S. and Canadian Nonfinancial Corporates



Data as of March 11, 2023.
Excludes one company classified as 'Diversified'.
Source: S&P Global Ratings.
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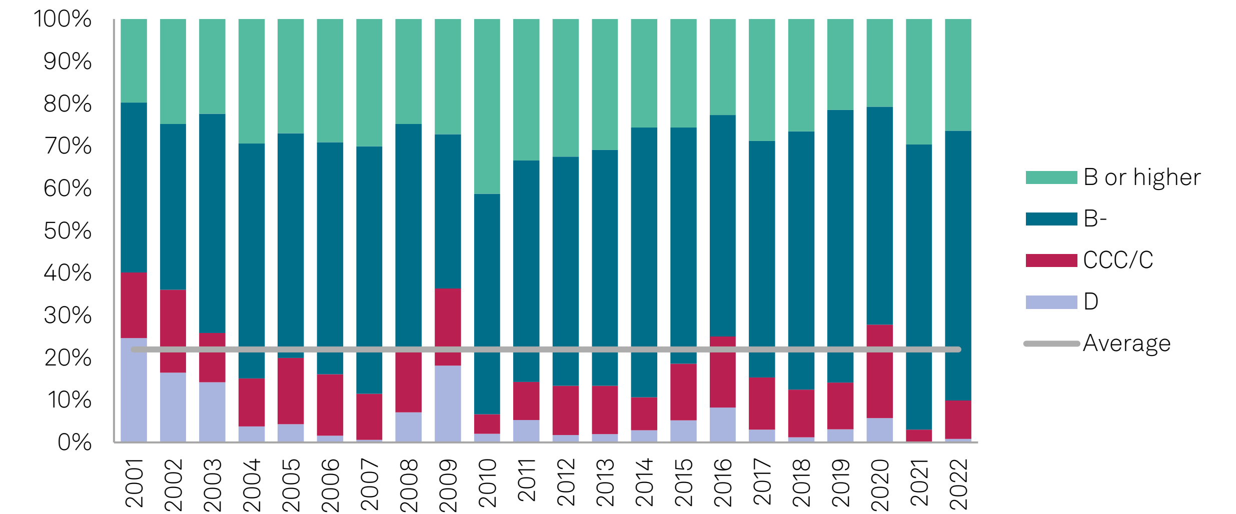
What about expectations for an increase in companies rated in the 'CCC' category in 2023?

At year-end 2022, companies rated 'B-' represented 26% of all speculative-grade nonfinancial companies (in the U.S. and Canada) and 'CCC' category rated issuers accounted for about for 11.6%. Using the historical average of 'B' and 'B-' annual downgrade transition rates to the 'CCC' category, the percent of companies rated 'CCC+' and lower could expand by 5%-6%. This would put the proportion of 'CCC' category rated issuers in the 15%-17% range by year-end 2023, which is below the COVID peak of 18.7% but higher than the global financial crisis peak of 13.9%. However, using the 2001 dot-com default cycle as our basis, where the highest downgrade rate jumped to 49% and 28% for 'B-' and 'B' companies, respectively, the percent of companies rated in the 'CCC' category could expand to roughly 30% of all speculative-grade companies (these calculations do not account for 'CCC' category companies that default). Chart 3 shows the historical transition of 'B-' issuers and highlights the peak in the recession years of 2001-2003, 2008-2009, and 2020. Note that CLO collateral pools have historically has less exposure to 'CCC'-rated companies than the rated corporate universe as a whole.

Downgrade risks are building for 'B-' companies, as higher-for-longer interest rates could result in persistently weak cash flow generation for this cohort of issuers. Under our methodology, a company rated in the 'CCC' category is viewed as having an unsustainable debt structure, with an eventual

Chart 3 | Ratings Changes For 'B-' Issuers From Start To End Of Year
U.S. and Canadian Nonfinancial Corporates



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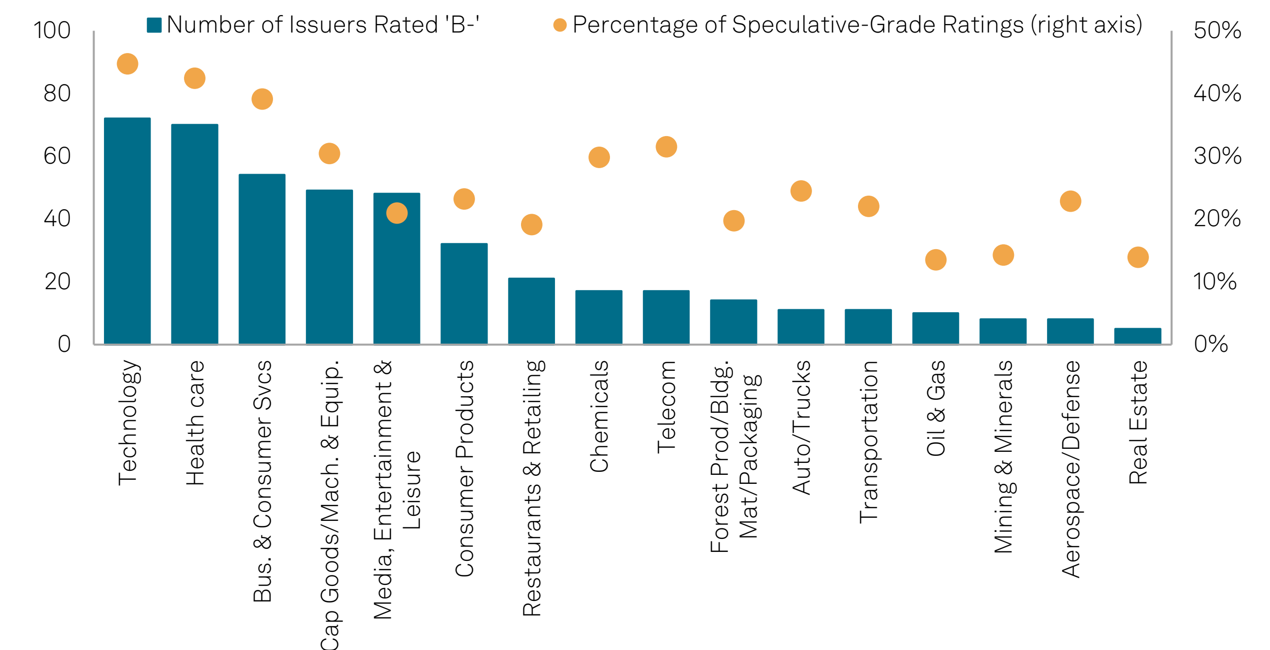
default more likely than not, and its ability to meet its financial commitments dependent upon unexpectedly favorable business, financial, and macroeconomic conditions. As such, FOCF and interest coverage are important considerations for assessing downgrade risk into the 'CCC' category.

As of March 11, 2023, about 16% of 'B-' issuers had a 'Negative' rating outlook. The industry groups with the highest number of 'B-' ratings with a Negative outlook (in order of issuer count) are technology, business and consumer services, healthcare, and consumer products. This is in part because these sectors have a high percentage of companies with 'B-' issuer credit ratings (Chart 4).

Chart 4 | Distribution Of 'B-' Companies And Percentage Of Speculative-Grade Ratings By Sector
U.S. and Canadian Nonfinancial Corporates



Data as of March 11, 2023.
Source: S&P Global Ratings.
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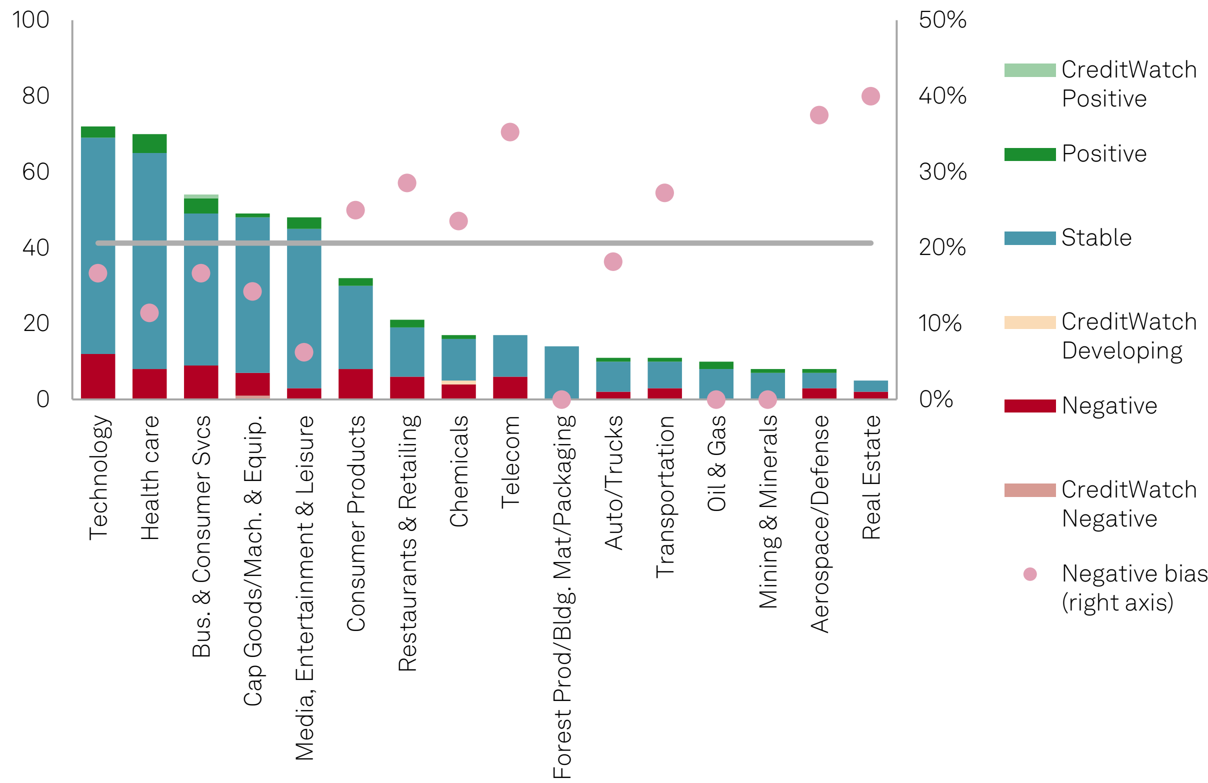
Chart 5 | Ratings Bias Of Companies Rated 'B-' By Sector

U.S. and Canadian Nonfinancial Corporates



Data as of March 11, 2023.
Source: S&P Global Ratings.
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However, of these sectors, only consumer products has a negative bias that is above the speculative-grade average (Chart 5).

Of course, things change over time and past transition rates are not necessarily indicative of future ones, especially since actual transitions will largely depend on the magnitude, duration, and nature of the economic stress we experience in 2023 (and 2024 for that matter). Further, one important variable that has changed over the time period shown is the mix and characteristics of companies rated 'B-'. For example, in 2022 there was a significant difference in the downgrade frequency for 'B-' rated companies that started with a 'B-' rating versus those that were rated higher and downgraded to 'B-', at roughly 5% and 17%, respectively. (Chart 6). Again, the past is not prologue to the future, so these figures and relationships may change as the firms originally rated 'B-' have more time to experience operational challenges or see significant pressure of key credit metrics as economic conditions reverse. Further, elevated interest burdens are a new and significant challenge for 'B-'-rated companies, most of which are highly leveraged.

Table 1 | Proportion Of 'B-' Exposures Across CLO Index At Start Of 2022

Percent of CLO Assets	% AUM at start of 2022	Downgraded in 2022 (% of AUM at start of 2022)	Proportion downgraded in 2022
B-' original rating at start of 2022	17.29	0.84	4.86
Not original 'B-' rating at start of 2022	8.92	1.49	16.66
Total 'B-' at start of 2022	26.21	2.33	8.88

CLO = collateralized debt obligation; AUM = assets under management.
Source: S&P Global Ratings.
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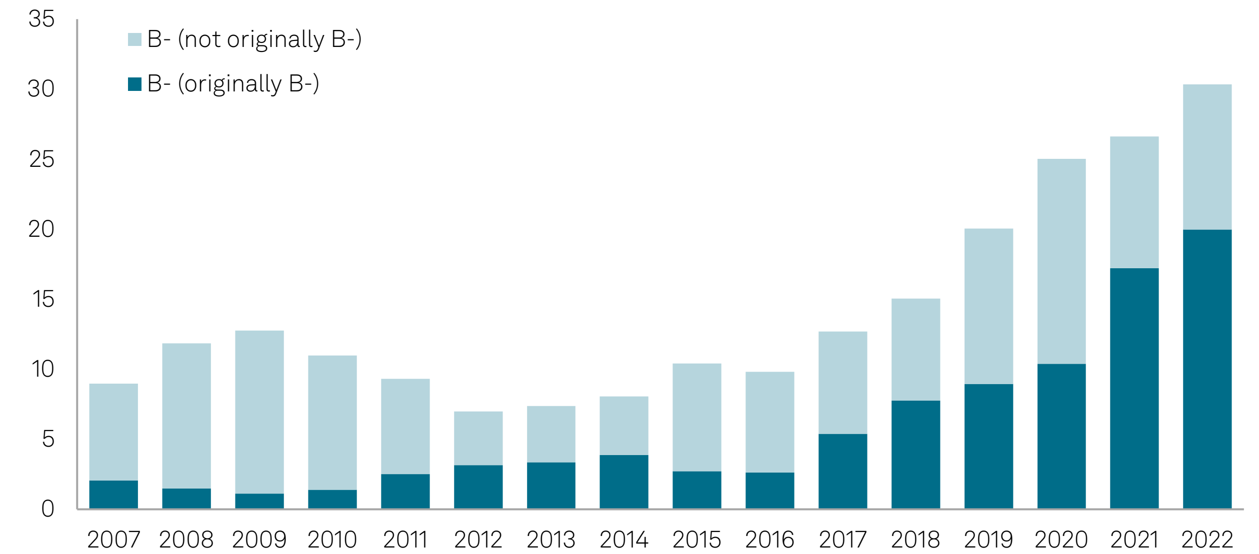
Chart 6 | B-' And 'CCC' Category Exposure Across Reinvesting U.S. BSL CLOs (%)



Source: S&P Global Ratings.
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How are CLO ratings positioned for a potential downturn?

Corporate rating downgrades that started in mid-2022 and picked up pace later in the year have started to be felt within the U.S. broadly syndicated loan (BSL) CLO pools. As of March 1, 2023, the average BSL CLO exposure to assets from 'CCC'-rated obligors (including 'B-' ratings on CreditWatch negative) was 5.14%, up from a post-pandemic low of 4.0% on Aug. 1, 2022. To the extent exposure to 'CCC'-rated assets exceeds 7.5% of total collateral, most BSL CLOs haircut the value of the excess 'CCC' amount for purposes of calculating the overcollateralization (OC) ratio tests, making it more likely that the CLO's junior OC test could fail and interest proceeds be diverted from the CLO equity to pay down the senior (typically 'AAA') note balance.

However, CLOs currently have an average cushion of 4.35% before failing their junior OC test results, so CLO exposure to 'CCC' obligors would need to increase well above 7.5% in order for the average junior OC test to fail. By one back-of-the-envelope estimate, CLO assets from obligors rated in the 'CCC' category would need to increase into the low-to-mid-teens percent area or higher for this to happen, everything else being equal.

Obligors in BSL CLO pools with a negative ratings bias continue to creep upward and have increased to 16.7% from a recent low of 11.0% in May 2022. This points to a change in the credit environment since the middle of last year. Other metrics have been mixed: exposure to loans from 'B-'-rated companies continues to increase (to 30.5% as of March 1, 2023), but only a small proportion of these have a negative outlook (4.14% as of March 1, 2023 versus 16.3% for the overall speculative-grade universe as of March 11, 2023). Also, exposure to nonperforming assets has increased, but remains below one percent. These credit metrics reflect active risk management and asset selection by CLO managers, with BSL CLO pools having lower exposure to 'CCC' obligors and those with a negative ratings bias than the loan market as a whole, but higher exposure to obligors rated 'B-' than the market.

In short, while the corporate credit environment has taken a more negative turn over the past year, for now we expect only modest numbers of CLO tranche rating downgrades this year based on the CLO test and tranche rating cushions available to support the current ratings. This could, of course, change if the macroeconomic environment underperforms our base case. Based on the results of our CLO rating stress tests (see " ", published on Aug. 22, 2022), we expect the noninvestment-grade CLO tranche to bear the brunt of the ratings impact under any of our expected scenarios.

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Table 2 | CLO BSL Index Metrics

CLO Insights 2022-2023 U.S. BSL Index

BSL	'B-' (%)	'CCC' category (%)	Nonperforming assets (%)	SPWARF	WARR (%)	Watch Neg (%)	Negative outlook (%)	Weighted avg. price of portfolio ($)	Jr. O/C cushion (%)	% of target par	'B-' on negative outlook (%)
Jan. 2022	26.41	4.94	0.17	2700	60.44	0.88	12.33	98.79	4.37	99.68	2.00
Feb. 2022	27.16	4.27	0.37	2708	60.43	0.28	11.94	98.83	4.41	99.68	1.92
March 2022	27.09	4.26	0.39	2708	60.41	0.11	11.35	98.02	4.40	99.68	1.66
April 2022	27.44	4.17	0.13	2690	60.45	1.06	10.86	97.88	4.31	99.69	1.59
May 2022	27.76	4.26	0.14	2700	60.45	1.20	9.83	97.57	4.30	99.70	1.41
June 2022	27.70	4.14	0.20	2706	60.48	1.27	10.46	94.60	4.39	99.71	1.43
July 2022	28.59	4.01	0.35	2720	60.27	1.35	11.08	92.19	4.45	99.74	1.80
Aug. 2022	28.70	4.00	0.34	2726	60.32	1.46	11.53	93.81	4.47	99.78	1.94
Sept. 2022	29.00	4.21	0.59	2754	60.24	1.03	12.20	94.85	4.50	99.81	2.08
Oct. 2022	28.85	4.40	0.50	2751	60.16	1.16	13.36	92.12	4.50	99.82	2.86
Nov. 2022	28.85	5.02	0.40	2754	60.13	0.59	14.46	92.40	4.47	99.84	3.31
Dec. 2022	29.50	4.95	0.34	2749	59.81	0.32	14.62	93.08	4.44	99.85	3.48
Jan. 2023	30.03	5.23	0.50	2764	60.20	0.14	15.18	92.88	4.45	99.85	3.84
Feb. 2023*	30.09	5.48	0.46	2766	60.26	0.22	15.76	94.40	4.39	99.86	3.94
March 2023*	30.52	5.14	0.71	2775	60.16	0.35	16.33	94.67	4.35	99.86	4.14

BSL CLO = broadly syndicated loan collateralized loan obligation; SPWARF = S&P Global Ratings’ weighted average rating factor; WARR = weighted average recovery rate; O/C = overcollateralization.
* A small handful of transactions have dropped off this index for the calculation of the Feb. 2023 and March 2023 metrics as they have exited the reinvestment period in 2023.
Source: S&P Global Ratings.
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If we were to see a downturn, which CLOs would be most likely to see rating actions?

While overall credit metrics for CLOs are still in relatively good shape, the averages mask significant differences between CLOs originated before and after the arrival of the pandemic in the first quarter of 2020. Reinvesting U.S. BSL CLOs have, on average, about 5.14% exposure to obligors rated in the ‘CCC’ range and 4.4% cushion on their junior OC test. The reinvesting CLOs that have already weathered the pandemic (pre-pandemic CLOs) have lower average OC cushions and higher exposures to ‘CCC’-rated issuers (3.6% and 6.1%, respectively), while reinvesting CLOs that have closed after the pandemic (post-pandemic CLOs) have higher average OC cushions and lower exposures to ‘CCC’-rated issuers (5.4% and 4.7% respectively).

Table 3 | Vintage Effect: CLO Insights Index 2020 Versus 2022

	Average 'CCC' exposure	Average Junior OC cushion
March 2020		
Pre-energy cohort	5.15	3.14
Post-energy cohort	3.76	3.99
February 2020		
Pre-pandemic cohort	6.12	3.60
Post-pandemic cohort	4.68	5.38

O/C = overcollateralization.
Source: S&P Global Ratings.
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The same phenomenon can be observed among CLOs originated prior to the energy slowdown in 2016; for example, when compared to transactions that closed after the energy slowdown, those that closed before had higher exposure to ‘CCC’ category rated issuers and lower OC cushions. During the pandemic, weaker collateral metrics for the pre-2016 CLOs led to more downgrades to CLO tranche ratings: three-fourths of the pre-energy cohort of reinvesting CLOs experienced one or more CLO tranche downgrades, while only one third of the post-energy cohort of reinvesting CLOs experienced one or more CLO tranche downgrades.

The average CLO OC test cushion today is higher than it was back in early 2020, though, providing more of a cushion against corporate ratings downgrades overall than in early 2020. During a period of economic stress, we would expect the pre-pandemic transactions will likely be more at risk of failing a junior OC test first and potentially seeing a rating action.

Downgrades seem most likely for subordinate tranche ratings of pre-pandemic CLOs that are already showing some signs of collateral stress. If the economy performs worse than our base case, CLO rating transitions could increase, but we still think downgrades would be limited to a modest number of ‘BBB’ and below tranche CLO ratings.

What are your views on aggressive out-of-court restructurings, euphemistically referred to as liability management transactions, on credit risk for leveraged loan investors?

The risk that an aggressive out-of-court restructuring transaction for a speculative-grade corporate debt issuer could impair loan recovery is a growing and legitimate concern for leveraged loan investors. This is an issue because documents for broadly syndicated loans have generally gotten weaker, more flexible, and more bond-like over time. Even so, aggressive out-of-court restructurings (of loans in particular) remain relatively infrequent, although they have increased in recent years and are prone to spike in periods of economic stress (as we saw in 2020).

As highlighted in Table 4, the relative impact of a select group of out-of-court restructurings in recent years can vary substantially depending on the magnitude of the restructuring. Further, the level of participation of existing lenders in priming loan transactions, and whether the existing loan exposures of these lenders are elevated in priority over those of non-participating lenders, can dramatically impact existing lenders. As such, having the flexibility to participate in such transactions, if offered, can be critical to protecting existing loan quality.

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We also note that the new money portion of these restructuring transactions (whether a collateral transfer or a priming loan) and the recovery expectations given default on these tranches is generally substantial (often reflecting a full recovery).

To be clear, while the risk of aggressive out-of-court restructurings is real, we don't attempt to factor them into our recovery analysis on a prospective basis because they are unpredictable and unquantifiable. Further, we don't believe ratings based on a worst-case scenario is reasonable or value-added for investors. Rather, we account for the impact on our recovery expectations after the particulars of an existing transaction become clear.

How has language in CLO documents evolved in light of manager expectations for a potential downturn?

CLO managers are concerned about the possibility that aggressive restructurings could occur with increased frequency in the next downturn. Recent changes to CLO indenture language are intended to allow managers more flexibility in navigating distressed credits and helping to ensure that CLOs are not left behind in the event of an aggressive restructuring. We have observed increasing bucket sizes for loss mitigation obligations and incorporating the ability to exchange one distressed asset for another outside the traditional investment criteria, and think this type of flexibility in CLO transaction documents is increasing in both scope and size.

We generally view the ability to participate in loss mitigation obligations as important to CLOs to allow managers to take a defensive position in aggressive restructurings that may happen whether they participate or not. Without the ability to participate in these obligations via new monies, roll-ups, or a combination of both, CLOs could end up losing out on recovery prospects and incur a greater loss than if they had the ability to participate in the new debt.

As such, in our view, increasing bucket sizes is not in itself a negative for long-term CLO performance. On the contrary, it is conceivable that more restrictive bucket limitations will constrain managers and force them into a higher loss on certain assets. It is also possible that limitations may continue to incentivize some market participants to take advantage of CLOs' inability to participate in such issuances via aggressive restructurings. This is why we view the sources of any proceeds used to purchase such assets, as well as the use of proceeds generated from such assets, as critical aspects of loss mitigation mechanics. It is within such sources and uses that transaction documents ensure that all investors benefit from the defensive position being taken and the resulting recoveries on the original distressed asset.

How is the upcoming transition away from LIBOR likely to affect CLOs?

The relatively slow transition of interest rates among floating-rate corporate loans (and therefore slow transition of CLO tranches) has led to a mix of LIBOR- and SOFR-indexed CLO transactions and corporate loans in the market. Some of this uncertainty is due to CLO transactions and loans using different credit spread adjustments (CSAs). To date, we have not seen any CLO transactions transition at a CSA other than 26 basis points bps, while the loan market so far has commonly seen loans transition at a CSA of 10 or 11 bps. Despite all of this, our base-case expectation is that few CLO ratings will be affected. To the extent these rating changes do occur, we expect they would primarily affect CLO tranches rated in the 'BB' category or lower. (Ratings on tranches that have a larger reliance upon excess spread could be more likely to be affected).

We performed a stress test on our rated U.S. CLOs to see how different levels of excess spread reduction resulting from the LIBOR transition might affect our ratings. We found limited CLO rating impact under likely scenarios (including 10 bps-15 bps excess spread reduction). Under this scenario, only a very small portion of reinvesting BSL noninvestment-grade tranche ratings could be negatively impacted, and very few CLO (or none) investment-grade tranche ratings would be affected. In this analysis, we applied the excess spread reduction throughout the life of the transaction and did not give credit to mangers' intervention.

Table 4 | Comparison Of The Expected Recovery Impairment From Select Loan Restructurings

		(%)			
	Dates	RR% before	RR% after	Change 1L% par	Change
Collateral transfers					
J. Crew	7/2017	40	15	-25	-63
PetSmart	6/2018	60	45	-15	-25
Neiman Marcus	9/2018	55	55	0	0
Cirque du Soleil	3/2020	75	75	0	0
Revlon	5/2020	40	15	-25	-63
Party City	7/2020	75	45	-30	-40
Travelport	9/2020	75	0	-75	-100
Envision Healthcare	4/2022	50	30	-20	-40
Priming loan exchanges		0	0	0	0
Murray Energy	6/2018	65	0	-65	-100
Serta Simmons	6/2020	55	5	-50	-91
Renfro #1	7/2020	35	20	-15	-43
Boardriders	8/2020	55	5	-50	-91
TriMark/TMK Hawk #1	9/2020	55	0	-55	-100
GTT	12/2020	50	40	-10	-20
Renfro #2	2/2021	20	10	-10	-50
TriMark/TMK Hawk #2	7/2022	60	30	-30	-50

Sources: S&P Global Ratings; company reports.
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For more information on the impact of the upcoming cessation of LIBOR on CLO transactions, see "Credit FAQ: The Potential Impact Of LIBOR Transition On U.S. CLOs," published Feb. 24, 2023.

This report does not constitute a rating action.

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April 28, 2023

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Today, with high interest rates and slowing economic growth putting pressure on speculative-grade companies, the prospect of corporate rating downgrades into the 'CCC' range is a frequent topic of conversation with CLO investors, managers, and others. The overall average U.S. BSL CLO 'CCC' basket (including transactions that have closed since second-quarter 2020) has been gradually creeping upward since August 2022, when it stood at 4%, to just over 5% of total assets as of today. With the average BSL CLO having more than 30% of total assets coming from 'B-' obligors, it wouldn't take a lot of corporate rating downgrades to increase the average BSL CLO 'CCC' baskets significantly. However, with the current average junior O/C test cushion sitting at a healthy 4.5% though, it would take a lot of downgrades before many tests started to fail. In this article, S&P Global Ratings explores the hypothetical impact of different CLO 'CCC' exposures and market value declines on CLO junior O/C test cushions.

U.S. BSL CLO O/C ratios have had a good run to date. During the depths of the COVID-19 pandemic in second-quarter 2020, as exposure to assets from 'CCC' range companies peaked at 12.31%, the average junior O/C ratio test cushion dropped to 1.13%, and about a quarter of the transactions failed their junior O/C test and some diverted interest proceeds away from equity. Since then, things have gotten a lot better: by second-quarter 2022, the average reinvesting pre-pandemic BSL CLO exposure to 'CCC' obligors had fallen to 4.80%, and CLOs had steadily built-up par as managers took advantage of loan prices and traded collateral. The average junior O/C test cushion of reinvesting pre-pandemic CLOs had recovered back to 3.80%, and most BSL CLOs had built up a solid cushion ahead of whatever might come next.

A Refresher On Haircuts And CLO Overcollateralization Tests

Coverage tests are a defining feature of CLO transactions as they act as "temporary shock absorbers" when the underlying collateral experiences stress. As the name implies, CLO O/C (or par value) coverage tests measure how much coverage the collateral assets are providing various classes of notes issued by the CLO. The O/C ratio is calculated by taking the total par value of the assets, with some adjustments made, and dividing this by the balance of the tranche being tested and any tranches senior to it. The calculated ratio is then compared to a preset threshold for each tranche level O/C test to determine whether the test is passing or failing. If the test fails, interest proceeds are redirected away from the CLO equity (and any CLO tranches below the failing tranche level) and used to reduce the balance of the CLO 'AAA' notes outstanding. These paydowns to the CLO's senior tranche balance help move the failing test(s) back towards compliance.

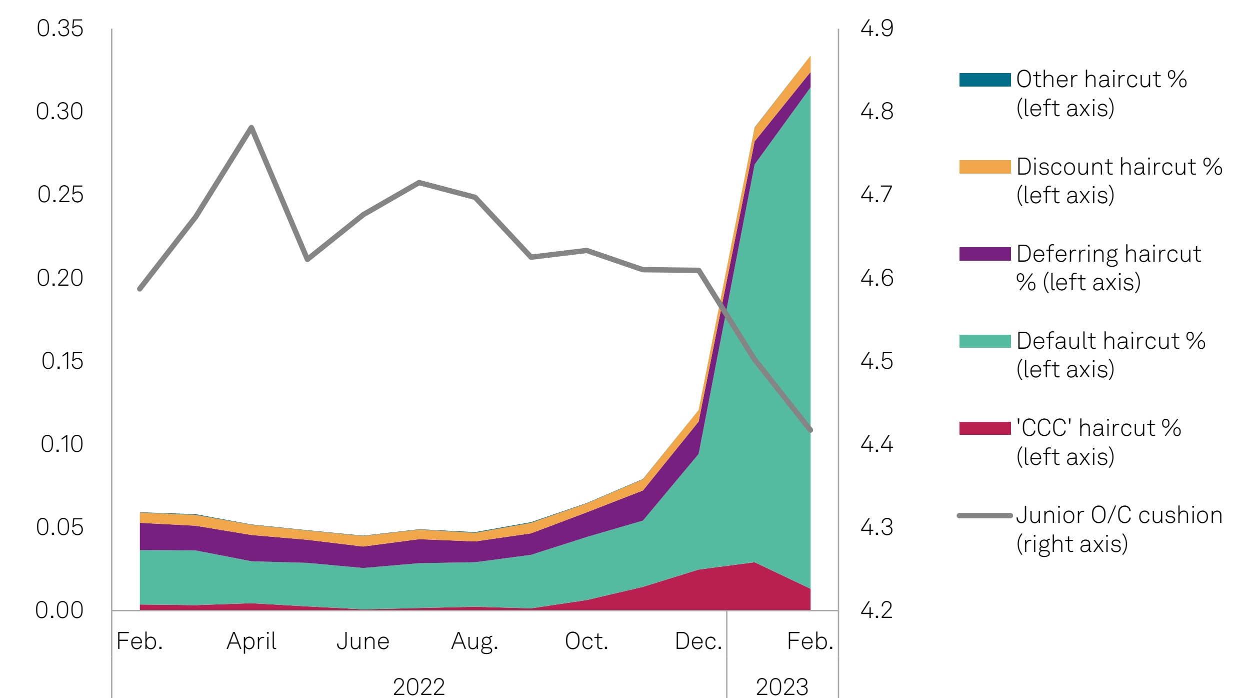
During times of economic stress that have affected CLO collateral, like the Global Financial Crisis (GFC) in 2008-2009 or the pandemic-driven downturn in 2020, these tests have performed as they were designed to by restoring credit enhancement to the more senior CLO notes at the expense of the equity (or if the O/C test failures are significant enough, the CLO equity plus some classes of notes).

To best capture any potential deterioration in the CLO's collateral, several adjustments may be made to the numerator of the O/C ratio, which measures the par value of assets available to support the CLO notes. Among others, these adjustments often include:

- Defaulted assets, which, for purposes of the O/C tests, generally get carried at the lower of market value or assumed recovery under rating agency methodology.
- Assets from 'CCC' range obligors above a 7.5% threshold with the lowest market prices (also known as "excess 'CCC' assets"), which typically get carried at market value. Note that most CLOs include obligors rated 'B-' on CreditWatch negative as part of the total 'CCC' exposure. It's also worth noting here that CLOs are not compelled to sell 'CCC' assets above the 7.5% threshold, although the manager may choose to; they just can't carry the excess 'CCC' assets at par for purposes of calculating the O/C tests.
- Assets purchased at a significant discount to par ("discount purchase assets") as defined by the CLO's documents, which get carried at purchase price until certain conditions are met.
- Long-dated assets may be carried at a lower value, as determined by the indenture.
- Interest deferral balances on payment-in-kind (PIK) assets generally do not receive par credit.

Other haircuts are also included in most CLO transaction documents but are in practice less likely to be applicable. The haircuts given above are more likely to be seen, although during periods with limited corporate rating downgrades and defaults they tend to have (at least on average) only a modest impact on O/C ratios. For example, in 2022, haircuts to the O/C test numerator as reported within CLO trustee reports measured less than 10 basis points as a percentage of total CLO portfolio par (see chart 1). The haircuts were primarily made up of recovery haircuts from defaulted asset exposures. A small number of transactions have already breached their 7.5% 'CCC' threshold and are making up a small proportion of the haircuts.

Chart 1 | Average O/C metrics for reinvesting U.S. BSL CLOs (%)



BSL = broadly syndicated loan; CLO = collateralized loan obligation; O/C = overcollateralization.
Source: S&P Global Ratings.
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Stress Scenario Analysis Details

The vintage effect: pre-pandemic compared with post-pandemic CLOs

While averages are a useful barometer to indicate what's going on across the BSL CLO universe, it's worth remembering that metrics for different cohorts of transactions can differ significantly. There is a pronounced vintage effect when pre-pandemic CLOs (those originated in first-quarter 2020 and before) are compared with post-pandemic ones: pre-pandemic CLOs, having experienced par loss and credit deterioration, have higher 'CCC' asset exposure and lower junior O/C test cushions relative to the post-pandemic transactions. Within the pre-pandemic CLOs amortizing transactions have even higher 'CCC' asset exposure percentages and lower junior O/C test cushions, on average. These transactions can be vulnerable to concentration risk as better credits pay down sooner, leaving behind overall weaker credits and resulting in a greater proportion of 'CCC' in the portfolios. Several of the older amortizing pre-pandemic CLOs have already breached the 7.5% 'CCC' threshold and are seeing 'CCC' excess haircuts to the O/C test numerator on top of the par loss experienced during the pandemic.

Table 1 | Average performance metrics for different cohorts of U.S. BSL CLOs (as of March 2023)

CLO cohort	Avg. jr. O/C test cushion (%)	Avg. 'CCC' asset exposure (%)	Avg. 'B-' asset exposure*	Avg. 'B-' with negative outlook
Pre-pandemic - amortizing	2.53	6.33	27.18	4.28
Pre-pandemic - reinvesting	3.69	5.44	29.87	4.10
Post-pandemic - reinvesting	5.25	4.06	31.43	3.98
Overall	4.35	5.14	30.52	4.14

BSL = broadly syndicated loan; CLO = collateralized loan obligation; O/C = overcollateralization.
* Excludes assets from 'B-' obligors pom CreditWatch negative, which are captured in the 'CCC-' asset exposure column.
Source: S&P Global Ratings.
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Within a given CLO, you can sometimes see divergent outcomes for senior and junior O/C tests. As principal cash from collateral amortization/prepayments are usually used to pay down the senior notes of the CLO, it raises the cushion of senior O/C tests and increases the credit enhancement available to support them. The positive effects of the paydowns mostly outweigh the negative effects of the haircuts for the senior tests of amortizing transactions. At the same time, the positive impact of senior note paydowns is less pronounced for the junior O/C tests; sometimes, the negative effects of the 'CCC' haircuts outweigh the senior paydowns, resulting in a decline in junior O/C cushion. In some cases, we have simultaneously downgraded our ratings on the junior tranche and upgraded our ratings on the non-'AAA' senior tranches of the same transaction (see " ," published Nov. 20, 2019).

Given this, we provide the results of the scenarios below through the lens of the three cohorts mentioned in table 1. Note that we excluded post-pandemic CLOs that are currently amortizing from the analysis because the sample size was too small.

Issuer ratings, loan prices, and CLO O/C tests

In addition to defaulted assets, CLO O/C ratio tests are sensitive to both the total par amount of the 'CCC' excess (above 7.5% of total par) and the loan prices of those 'CCC' exposures. Because most O/C tests are calculated with the lowest-priced 'CCC' assets being used as the "excess" (above 7.5%) amount, the O/C tests are particularly sensitive to the lowest-priced 'CCC' assets.

Loan prices can react to numerous things, including changes to the rating on the issuer. Table 2 below shows this for U.S. BSL CLO obligors that saw ratings lowered into the 'CCC' range since the start of 2022. Within loans from 'B-' rated companies, there has been a bifurcation in loan prices between issuers that are perceived as being stronger and those presumed to be at risk of being downgraded (by definition, into the 'CCC' rating category or worse). Anecdotally, some market participants have told us they think there is a correlation between the ratings on loans issuers and the prices on their loans that is stronger than it has been in the past, as CLO managers work to avoid companies that may end up in the 'CCC' range.

Table 2 | Average price of loans in U.S. BSL CLOs

	Loans from all obligors			Loans from obligors with ratings lowered into the 'CCC' range during quarter		
Quarter	Price at start of prior quarter	Price at start of quarter	Price at end of quarter	Price at start of quarter prior to DG	Price at start of DG quarter	Price at end of DG quarter
Q1 2022	98.82	98.79	97.88	96.98	95.92	92.51
Q2 2022	98.79	97.88	92.19	93.68	91.73	84.83
Q3 2022	97.88	92.19	92.12	93.99	83.46	75.36
Q4 2022	92.19	92.12	92.88	86.91	80.66	71.72
Q1 2023	92.12	92.88	93.81	84.02	77.58	72.86

BSL = broadly syndicated loan; CLO = collateralized loan obligation; O/C = overcollateralization; DG = downgrade.
Source: S&P Global Ratings.
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In recent quarters, unsurprisingly, we find loans from 'B-' issuers with ratings lowered into the 'CCC' rating category experience loan price declines during the quarter of downgrade even where the broader loan market does not see declines. We also see price declines for these loans in the quarter before the downgrade occurs. Average loan prices of the issuers that would eventually get downgraded into the 'CCC' range during the quarter have been decreasing, to 78 at the start of 2023 from 95 at the start of 2022. The average price change seemed to be greatest across the 'B-' downgrades in fourth-quarter 2022, when there were higher overall levels of downgrades; these loans saw a 9.5-point price drop, or a 10.4% price drop, on average.

Exploring The Scenarios And Their Results

To explore the potential impact of various levels of 'CCC' downgrades on BSL CLO junior O/C ratio tests, we generated four hypothetical scenarios of different 'CCC' range and below exposures (10%, 15%, 20% and 25%). Because loan prices also impact how many tests end up failing and by how much, for each 'CCC' downgrade scenario, we've also made various assumptions on the prices of the affected loans to calculate the impact to CLO O/C ratios, covering a range of haircuts, from using current market prices (i.e., no haircut) up to a 50% market price haircut off current market prices, in increments of 10%.

First, a quick note on 'B' tranches and their associated O/C tests. Nearly all BSL CLOs today are issued with five credit classes ('AAA', 'AA', 'A', 'BBB-', and 'BB-') plus CLO equity. At various points in the past (and potentially again in the future), some BSL CLOs have also been issued with a 'B-' tranche in the capital stack. This is a function of transaction economics; when feasible, including a 'B-' tranche can increase leverage for the CLO equity, and (depending upon the spread the tranche goes out at) can be accretive to equity returns. In recent years, many U.S. BSL CLOs issued prior to the arrival of the pandemic in first-quarter 2020 included a 'B-' tranche at the time of issuance, while many of those issued since the pandemic have not.

To the extent a CLO includes a 'B-' tranche and that tranche has an O/C test associated with it, this will be the junior-most O/C test for the CLO (rather than the O/C test associated with the 'BB-' tranche above it); and given the place in the CLO capital structure and threshold associated with the O/C test, it is more likely to fail. In the results below, we include the proportion of 'B-' O/C tests that fail under each scenario, but it should be noted that 100% of 'B-' O/C tests failing does not mean that 100% of the CLOs are failing their junior-most O/C test, given that not all CLOs include a 'B-' O/C test. In addition, the sample size of post-pandemic reinvesting transactions with a 'B' rated tranche is small. We include them for the sake of making the data set more complete, but due to the sample bias, some of the average 'B' O/C test stats that may appear in the tables below may be out of line with the other O/C tests within the same cohort.

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Scenario 1: BSL CLOs see 10% exposure to 'CCC+' and below

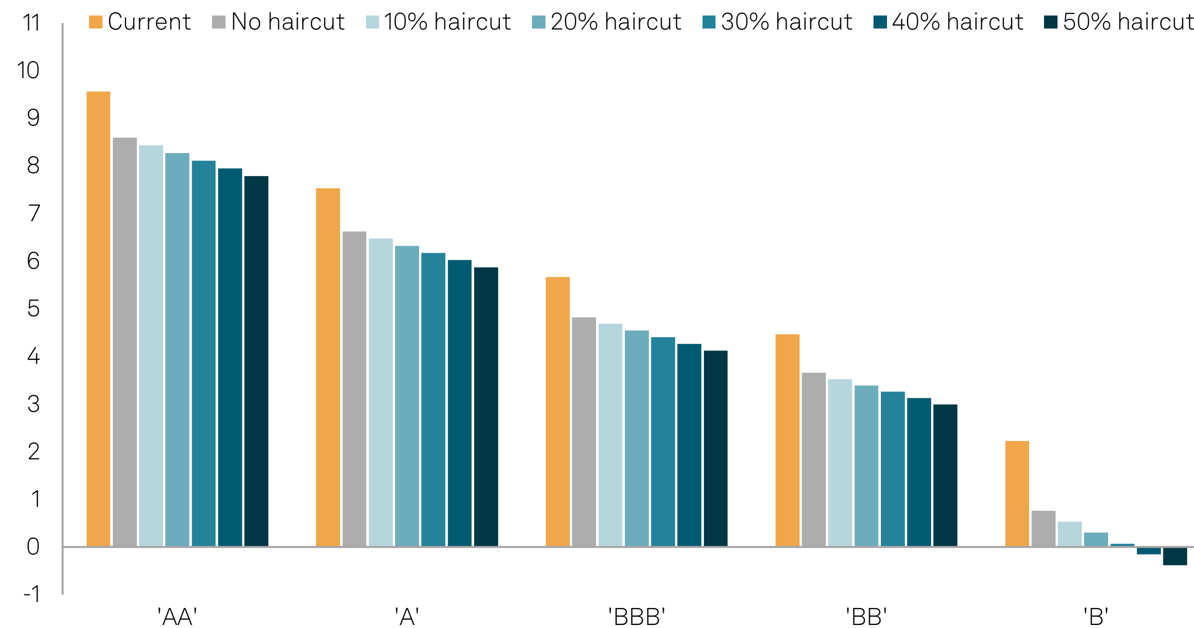
The average U.S. BSL CLO currently has just over 5.1% exposure to assets from 'CCC' range obligors and about 0.7% exposure to assets from obligors with a nonperforming rating; to achieve this scenario, another 4.2% of CLO assets--64 obligors--would need to see downgrades (if you're interested in how we selected which obligors in CLOs would see downgrades, see the Appendix section for details). The current CLO exposure to assets from companies rated 'B-' with a negative outlook happens to be about 4.1% of total CLO par, so this 10% scenario is like one where all CLO assets from 'B-' obligors with a negative outlook experience a downgrade.

With a 10% average BSL CLO exposure to 'CCC' and lower assets, we see:

- 20% of the CLOs within our sample do not exceed the 7.5% 'CCC' threshold under this scenario.
- Of the remaining CLOs that exceed the 7.5% threshold, the average 'CCC' excess amount is about 3.1%.
- There is a gradual decline in O/C test cushions as we apply successively higher market value haircuts on the downgraded assets.
- For CLOs that have 'B' tranches and have a 'B' class O/C test, many see failures and would presumably need to divert excess spread away from CLO equity on the next payment date. This was true for both the reinvesting and amortizing CLOs in our sample.
- 'BB' class O/C tests across reinvesting CLOs mostly still see a positive cushion, while amortizing CLOs see their cushions approach zero under the more punitive market value decline assumptions.
- See our interactive dashboard to view the results of this stress under the various haircut assumptions: https://www.spglobal.com/ratings/en/research-insights/sector-intelligence/interactives/u-s-bsl-scenario-analysis.

When we break down the reinvesting cohort into pre- and post-pandemic transactions, we find the post-pandemic transactions have less exposure to 'B-' issuers with very low loan prices, less current 'CCC' exposure, and higher O/C cushion in general, resulting in a significant difference in outcomes.

Chart 2 | Average O/C cushions of reinvesting transactions under scenario 1: 10% 'CCC+' and below (%)



O/C = overcollateralization.
Source: S&P Global Ratings.
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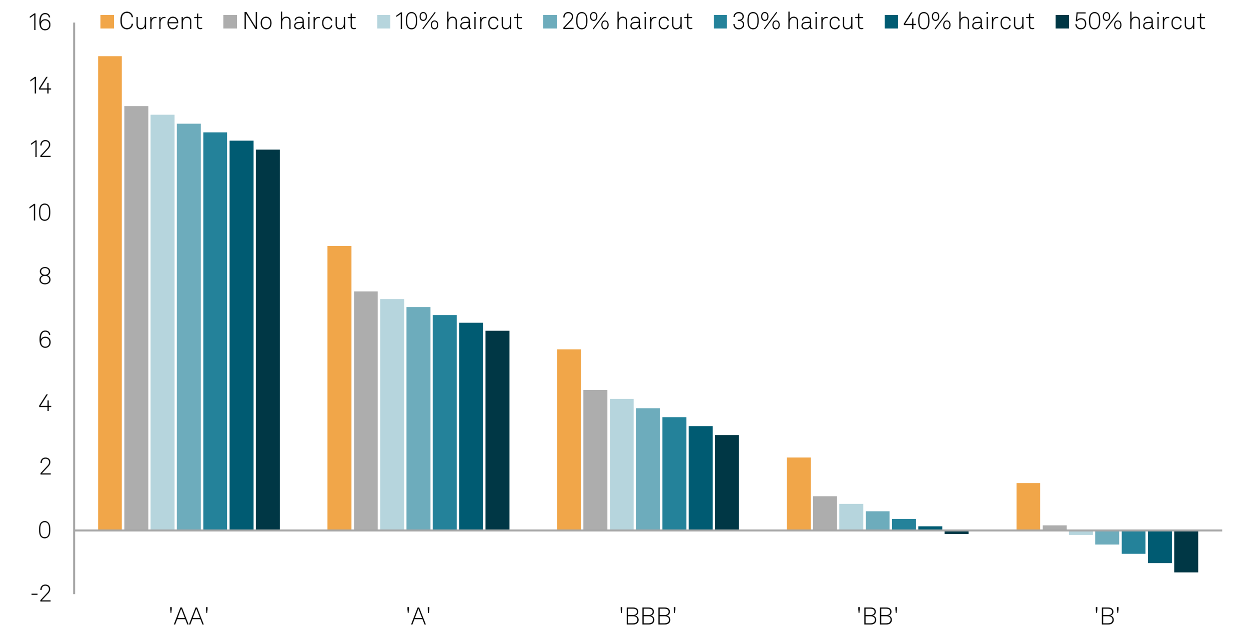
Chart 3 | Average O/C cushions of amortizing transactions under scenario 1: 10% 'CCC+' and below (%)



O/C = overcollateralization.
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Assuming the loans from the 64 'B-' issuers that get downgraded in this scenario experience a 10% market price haircut, none of the post-pandemic transactions within our sample fail any of their O/C tests, while almost 10% of the pre-pandemic reinvesting transactions are failing their 'BB' O/C tests (compared to 30% of the amortizing transactions).

Table 3 | Scenario 1: 10% 'CCC+' and below with a 10% haircut for downgraded exposures

	Average O/C cushion (%)					% of transactions failing O/C test				
	'AA'	'A'	'BBB'	'BB'	'B'	'AA'	'A'	'BBB'	'BB'	'B'
Amortizing - pre-pandemic	13.10	7.29	4.14	0.84	(0.14)	0.00	0.00	4.72	30.19	28.57
Reinvesting - pre-pandemic	7.30	5.43	3.72	2.44	0.47	0.00	0.33	1.97	9.79	46.15
Reinvesting - post-pandemic	9.38	7.40	5.55	4.55	1.33	0.00	0.00	0.00	0.00	0.00

O/C = overcollateralization.
Source: S&P Global Ratings.
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Scenario 2: 15% exposure to 'CCC+' and below

To achieve the 15% 'CCC' exposure required for scenario 2, another 9.2% of CLO assets would need to see downgrades (125 obligors; see the Appendix section for details). For context, during the peak of the pandemic downturn in 2020, the average BSL CLO 'CCC' basket reached 12%, while average exposures to defaulted assets reached nearly 2% across reinvesting U.S. BSL CLOs. As a result, about a quarter of these CLOs experienced one or more O/C test failures and some diverted proceeds away from equity, typically for one payment date.

In some ways, scenario 2 is similar to the stress seen at the peak of the 2020 pandemic. Some transactions saw their 'CCC' buckets swell to over 15% back then, resulting in one or more O/C tests failing. A small number of CLOs saw O/C test failures not just at the junior tranche level but also on investment-grade tranches, deferring payments to the non-investment-grade-rated debt tranches for a short period of time.

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Chart 4 | Average O/C cushions of reinvesting transactions under scenario 2: 15% 'CCC+' and below (%)

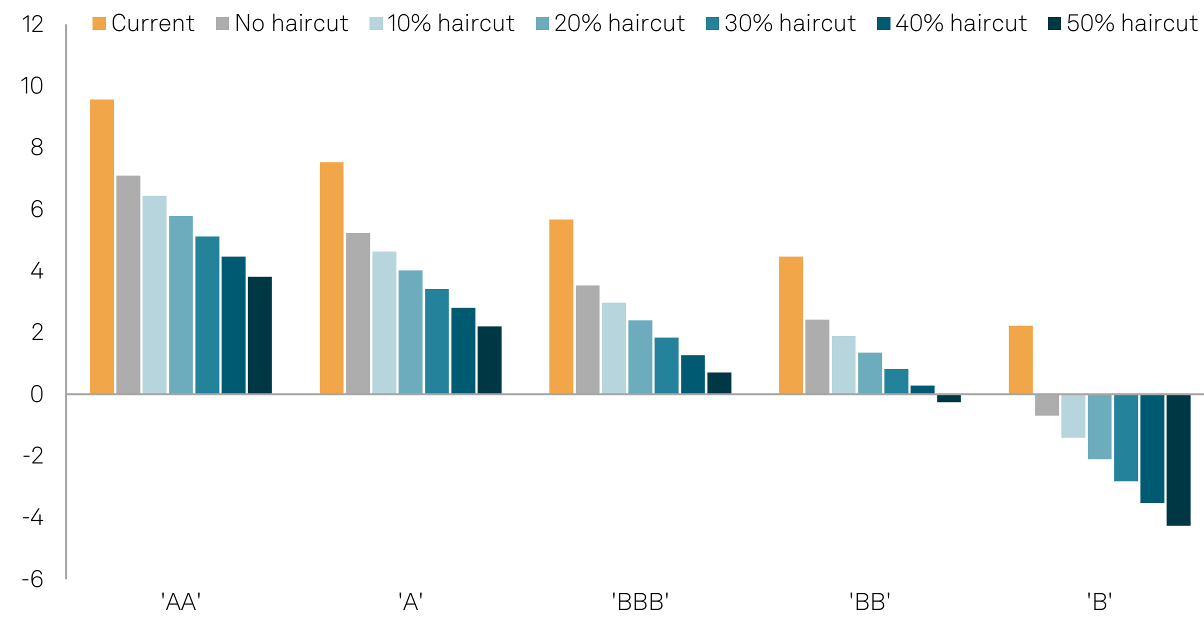
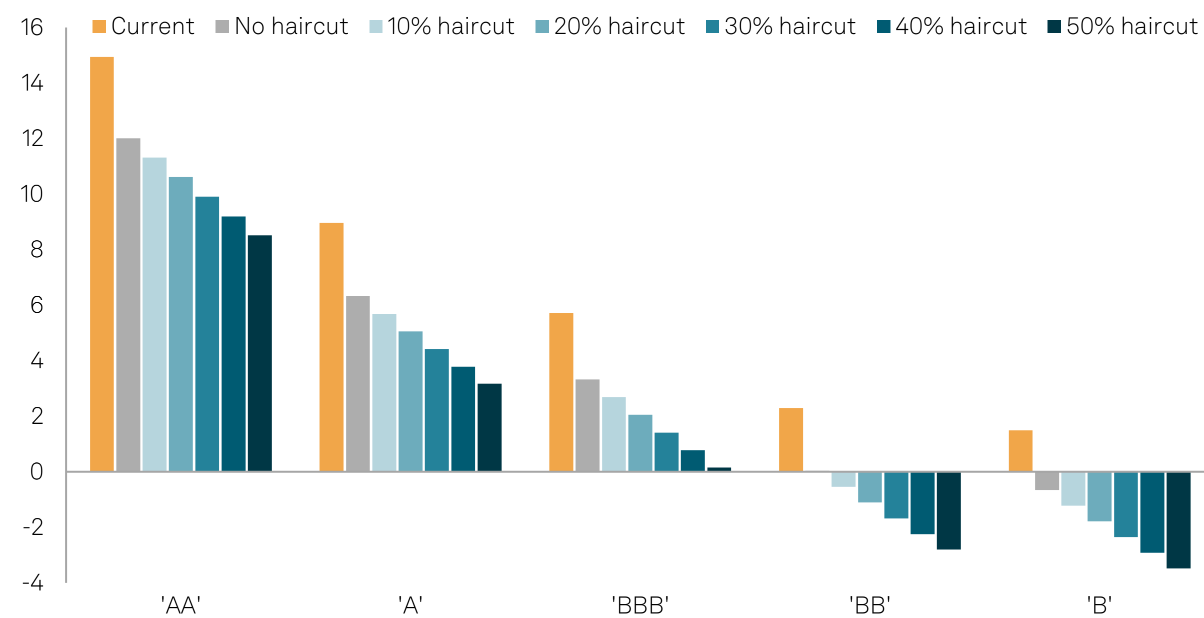


Chart 5 | Average O/C cushions of amortizing transactions under scenario 2: 15% 'CCC+' and below (%)



O/C = overcollateralization.
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In scenario 2:

- The average 'CCC' excess amount is now 7.5%, three times larger than scenario one. This results in modest declines in O/C test cushions as we assume higher market value haircuts on the downgraded assets.
- The average 'BBB' O/C test cushion for amortizing CLOs approaches zero under the 50% haircut scenario, as does the average 'BB' O/C test cushion for reinvesting CLOs.

Given a market value decline assumption of 20% under scenario 2:

- Across amortizing transactions, about two thirds are now failing their 'BB' O/C tests, and about one third are failing their 'BBB' tranche O/C tests (meaning interest payments to 'BB' tranches will be deferred for these transactions).
- Across pre-pandemic reinvesting transactions, 45% are now failing their 'BB' O/C tests, and 24% are failing their 'BBB' O/C tests.
- Across post-pandemic reinvesting transactions, the picture is much brighter: just 5% are failing their 'BB' O/C tests and only 3% are failing their 'BBB' O/C test.
- See our interactive dashboard to view the results of this stress under the various haircut assumptions: https://www.spglobal.com/ratings/en/research-insights/sector-intelligence/interactives/u-s-bsl-scenario-analysis.

Table 4 | Scenario 2: 15% 'CCC+' and below with a 20% haircut for downgraded exposures

	Average O/C cushion (%)					% of transactions failing O/C test				
	'AA'	'A'	'BBB'	'BB'	'B'	'AA'	'A'	'BBB'	'BB'	'B'
Amortizing - pre-pandemic	10.61	5.06	2.05	(1.10)	(1.78)	1.98	10.48	33.96	65.09	71.43
Reinvesting - pre-pandemic	4.47	2.81	1.28	0.10	(2.23)	3.15	7.57	24.01	44.76	69.23
Reinvesting - post-pandemic	6.88	5.10	3.41	2.53	(0.57)	0.00	0.29	2.65	4.95	100.00

O/C = overcollateralization.
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All of the 'B' tranches from the post-pandemic reinvesting transactions within our sample failed under this scenario. The sample size of 'B' tranches in this cohort was small, as few post-pandemic transactions had a 'B' CLO tranche in their capital structure.

Scenarios 3 and 4: 20% and 25% exposure to 'CCC+' and below, respectively

We include scenarios where 'CCC+' and below exposures approach 20% and 25% in scenarios 3 and 4, respectively, where 206 and 302 of the currently rated 'B-' rated issuers with the lowest loan prices are downgraded (see the Appendix section for details). For scenario 4, about two thirds of the current 'B-' bucket would have to be downgraded, including issuers with loans currently trading as high as 95. There may not be much historical context for scenario 4, but perhaps there is a rough historical parallel for scenario 3. During the GFC, we saw 'CCC' and nonperforming buckets peak at around 11% and 7%, respectively, across the reinvesting CLO 1.0s during the time, where roughly half of these CLO 1.0s experienced one or more O/C test failures.

Under scenarios 3 and 4:

- The impact of various market value haircuts now have a much more notable impact on the O/C cushions as the excess 'CCC' exposures are now 12.5% and 17.5% under scenarios 3 and 4, respectively.
- Mezzanine and senior O/C tests begin to fail in larger numbers for both amortizing and reinvesting transactions under the harsher market value haircut assumptions.
- Senior note paydowns across amortizing transactions have improved the senior O/C cushions for several transactions, some much more than others depending on how much of the senior notes have paid down.
- See our interactive dashboard to view the results of this stress under the various haircut assumptions: https://www.spglobal.com/ratings/en/research-insights/sector-intelligence/interactives/u-s-bsl-scenario-analysis.

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Chart 6 | Average O/C cushions of reinvesting transactions under scenario 3: 20% 'CCC+' and below (%)

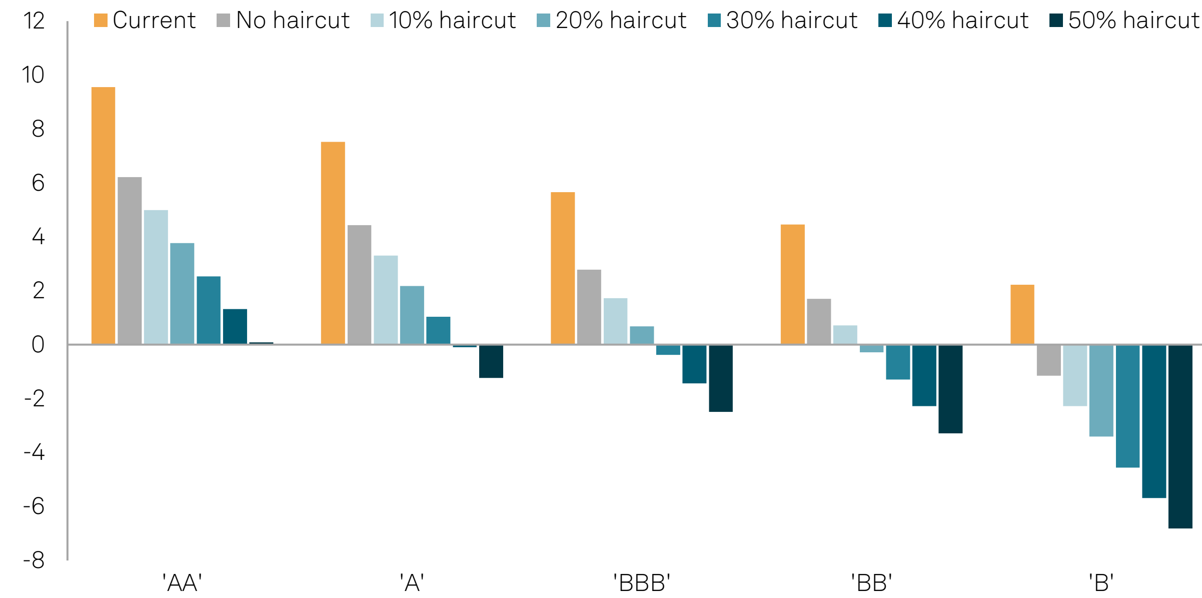
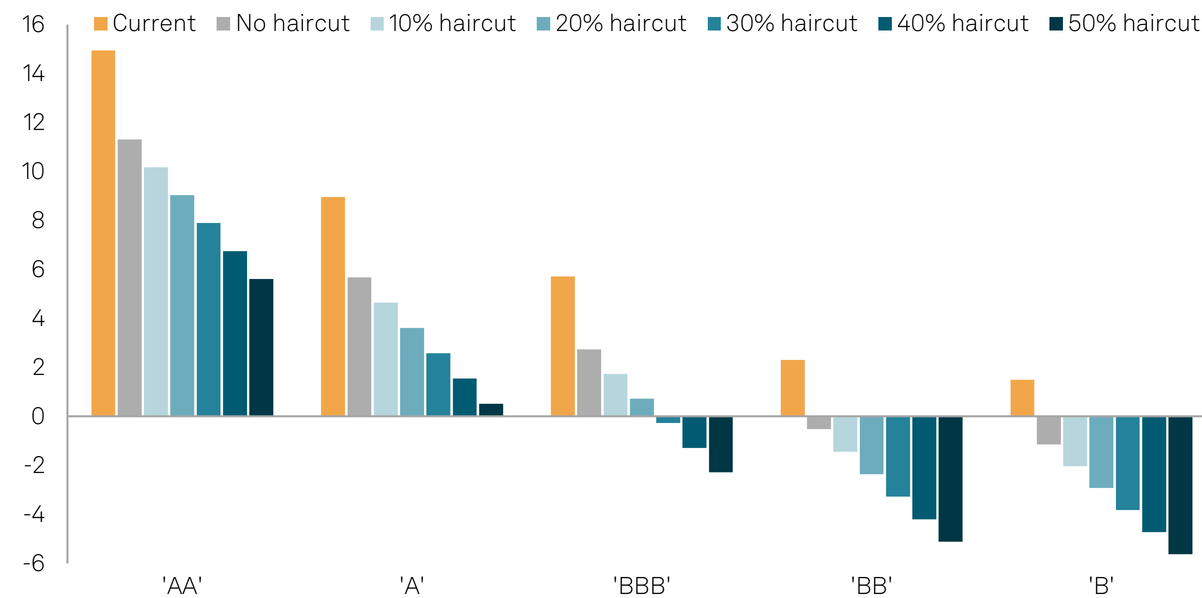


Chart 7 | Average O/C cushions of amortizing transactions under scenario 3: 20% 'CCC+' and below (%)



O/C = overcollateralization.
Source: S&P Global Ratings.
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Chart 8 | Average O/C cushions of reinvesting transactions under scenario 4: 25% 'CCC+' and below (%)

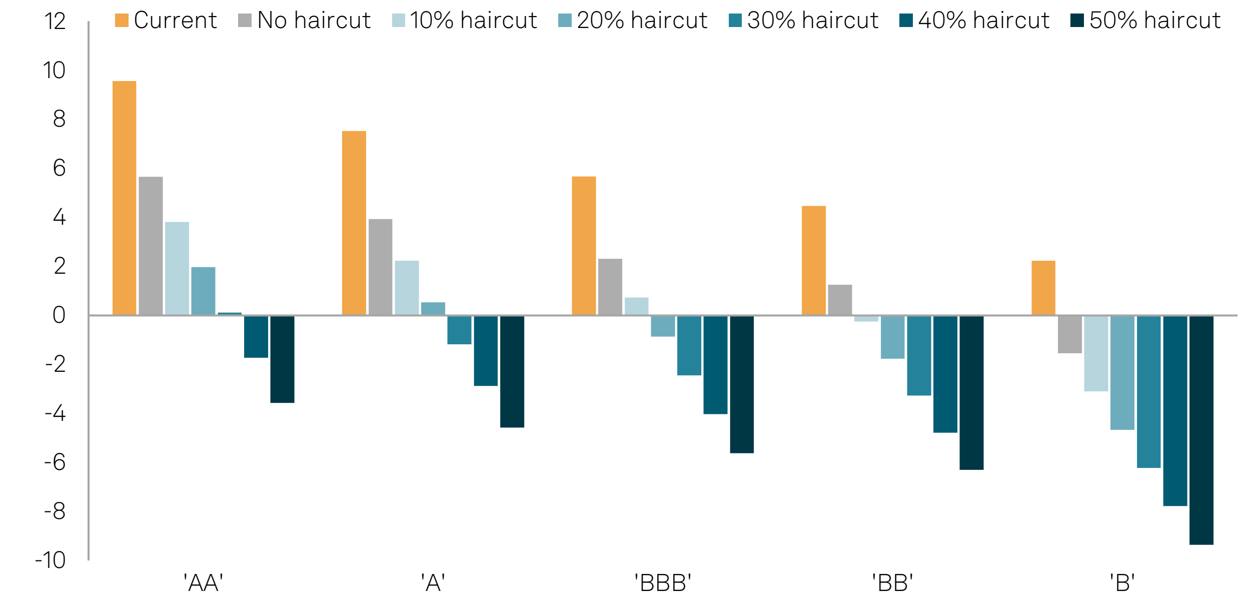
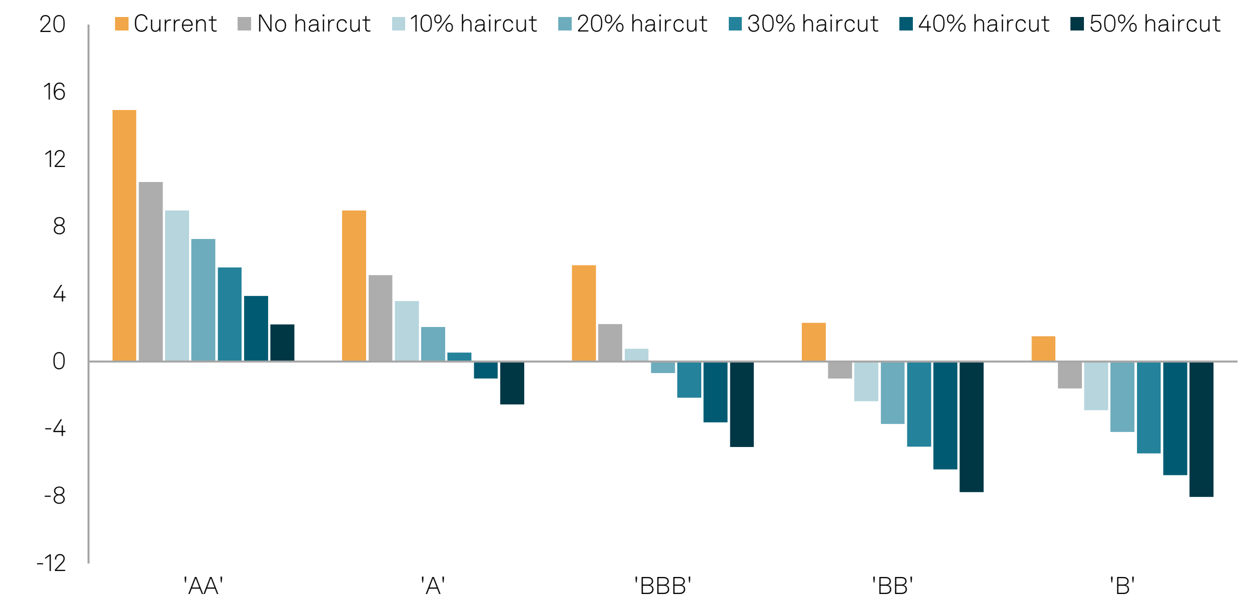


Chart 9 | Average O/C cushions of amortizing transactions under scenario 4: 25% 'CCC+' and below (%)



O/C = overcollateralization.
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Table 5 | Scenario 3: 20% 'CCC+' and below with a 20% haircut for downgraded exposures

	Average O/C cushion (%)					% of transactions failing O/C test				
	'AA'	'A'	'BBB'	'BB'	'B'	'AA'	'A'	'BBB'	'BB'	'B'
Amortizing - pre-pandemic	9.04	3.62	0.73	(2.36)	(2.92)	13.86	36.19	56.60	80.19	100.00
Reinvesting - pre-pandemic	2.54	1.04	(0.38)	(1.48)	(3.52)	13.99	30.26	54.28	75.87	100.00
Reinvesting - post-pandemic	4.81	3.19	1.63	0.85	(1.96)	1.18	3.52	16.81	29.04	100.00

O/C = overcollateralization.
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Table 6 | Scenario 4: 25% 'CCC+' And Below With A 20% Haircut For Downgraded Exposures

	Average O/C cushion (%)					% of transactions failing O/C test				
	'AA'	'A'	'BBB'	'BB'	'B'	'AA'	'A'	'BBB'	'BB'	'B'
Amortizing - pre-pandemic	7.28	2.05	(0.70)	(3.71)	(4.18)	36.63	53.33	70.75	91.51	100.00
Reinvesting - pre-pandemic	0.88	(0.48)	(1.79)	(2.85)	(4.80)	34.97	56.91	81.58	91.26	100.00
Reinvesting - post-pandemic	2.87	1.42	(0.03)	(0.75)	(3.01)	5.90	18.48	53.10	69.64	100.00

O/C = overcollateralization.
Source: S&P Global Ratings.
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O/C Test Failures Can Cure

Almost all of the transactions that failed one or more O/C tests during the pandemic saw their tests come back into compliance by the end of 2020. Manager intervention, particularly for transactions still within their reinvestment period, has helped to reduce 'CCC' and default buckets, thus helping to improve or maintain O/C cushions. The diversion of cash to paydown senior notes also helps to restore O/C cushion and credit enhancement, all else equal. We find, within our study, that the vintage effect continues to be pronounced, as older transactions that have already gone through stressed periods now have less cushion to absorb additional credit deterioration before the junior O/C tests breach.

Across our sample, the junior O/C tests of the amortizing transactions have less O/C cushion and are more likely to experience failures in each of the various scenarios. Interestingly, despite having higher 'CCC' buckets, some of the senior and even mezzanine O/C tests of amortizing transactions have higher O/C cushion due to prior senior note paydowns, providing some stability in the interest payments for the mezz notes. Reinvesting CLOs generally have more junior O/C cushion than the older amortizing transactions, but again, the differences in 'CCC' exposures and O/C cushions between the pre-pandemic and post-pandemic reinvesting transactions result in very different failure rates under each scenario.

Table 7 | Setting up the scenarios

	Base case: about 5.8% exposure to 'CCC+' and below	Scenario 1: 10% exposure to 'CCC+' and below	Scenario 2: 15% exposure to 'CCC+' and below	Scenario 3: 20% exposure to 'CCC+' and below	Scenario 4: 25% exposure to 'CCC+' and below
Number of U.S. BSL CLOs in sample	778	778	778	778	778
Number of loans	2,943	2,943	2,943	2,943	2,943
Number of issuers	1,759	1,759	1,759	1,759	1,759
Number of issuers downgraded	N/A	64	125	226	302
Average price of downgraded/highest price of downgraded	N/A	73.5/83.2	79.9/89.6	85.0/93.1	87.4/95.4
Number of issuers rated 'B-'	468	404	343	242	166
Number of issuer rated in 'CCC' category	235	299	360	461	537
Number of issuers with nonperforming rating	43	43	43	43	43

BSL = broadly syndicated loan; CLO = collateralized loan obligation; O/C = overcollateralization; N/A = not applicable.
Source: S&P Global Ratings.
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Appendix: How We Did the Analysis

In this study, we considered the impact to O/C ratios under different scenarios. We mainly focused on the impact from the market value haircuts on the excess 'CCC' exposures (the 'CCC' exposures with the lowest market values above the 7.5% threshold). We did not factor in haircuts from discount purchases, deferring exposures, etc., as these represented a smaller proportion of haircuts by the end of first-quarter 2023. We mainly focused on additional 'B-' downgrades into the 'CCC' category, along with various assumptions on drops in market value as a result of the stress scenario. We did not include within our scenarios downgrades to the nonperforming category (which would result in a different type of haircut--the lower of recovery value or market value).

Cleary, an economic environment that produces 'CCC' levels like the ones seen in the scenarios might also produce some defaults. While we didn't explicitly include defaults in the scenarios, the harsher market value price haircuts can implicitly include the assumption that some proportion of the downgraded collateral defaults, resulting in similar haircuts to the O/C numerator.

To achieve the four target 'CCC' and below exposures (10%, 15%, 20%, and 25%) across the collective exposures of our full sample of U.S. BSL CLOs, we adjusted the 'B-' ratings on as many obligors as needed, starting with the lowest prices (based on end-of-March 2023 loan prices sourced from Markit). Note that this can produce CLOs with a range of exposures in each of the stresses (for example, within scenario 1, by lowering 64 issuers currently rated 'B-' to 'CCC', 10% of the collective exposures across all 778 CLOs within our sample are rated 'CCC' or below; though across the sample, the individual 'CCC' buckets ranged from 1% (from a recent issued transaction) to over 50% (from an older amortizing transaction)).

This report does not constitute a rating action.

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Credit FAQ: The Potential Impact Of LIBOR Transition On U.S. CLOs

Feb. 24, 2023

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The London Interbank Offered Rate (LIBOR) transition is entering its final phase, with all remaining U.S. dollar LIBOR settings scheduled to phase out on June 30, 2023. U.S. corporate issuers and collateralized loan obligation (CLO) transactions with existing U.S. dollar LIBOR debt maturing after June 2023 will need to transition from LIBOR rates to new rates before or at the time LIBOR ceases being published. Secured overnight financing rate (SOFR)-based rates have emerged as the main replacement interest rates for dollar LIBOR; they, unlike LIBOR, do not incorporate a credit risk component. Like other securitizations with LIBOR exposure, CLOs have both assets and liabilities exposed to the benchmark, with different parties responsible for selecting replacement rates on each side of the CLO transaction.

Since Jan. 1, 2022, newly issued CLO transactions have used rates other than LIBOR, mainly CME Term SOFR. However, there are roughly 900 S&P Global Ratings-rated CLOs originated prior to 2022 whose liabilities still reference LIBOR. The pace of transition for these legacy CLOs has been slower than initially anticipated, mostly due to reduced corporate loan market issuance and prepayments in 2022.

To date, with about four months remaining until the June cessation date, we estimate that roughly 75% of leveraged loans and about 85% of rated U.S. CLO transaction liabilities are still indexed to LIBOR. Discussions among market participants around the upcoming transition of CLO assets and liabilities have intensified over the past several months, and we have received several queries from many market participants. We discuss some of the most frequent queries in this article.

Frequently Asked Questions

How is the U.S. CLO market impacted by LIBOR transition?

The relatively slow transition of interest rates among floating-rate corporate loans (and therefore slow transition of CLO tranches) has led to a mix of LIBOR- and SOFR-indexed CLO transactions and corporate loans in the market. Some of this uncertainty is due to the possibility that CLO transactions may use different credit spread adjustments (CSAs) or may change rates at different times. We’ve summarized some of our observations on CLO transactions by vintage of issuance:

2022-23 vintages:

Transaction documents for these CLOs have generally been indexed to CME Term SOFR. This represents about 15% of our rated universe. To date, these transactions have been collateralized by portfolios of mostly LIBOR-based loans. These transactions will not need to transition their tranches; however, they may still be affected by the transition of the underlying leveraged loans away from LIBOR, and varying CSAs on those loans as they transition.

2018-21 vintages:

Transaction documents for these CLOs generally contain relatively robust LIBOR fallback language that is similar to the Alternative Reference Rate Committee (ARCC)-recommendations. This represents a majority (60%) of our rated universe. This may lead to CLO tranches from these transactions transitioning to CME Term SOFR with a 26-basis-point (bps) CSA. Most CLO liabilities are floating-rate indexed to a three-month maturity, for which ARRC recommended fallbacks indicate a 26 bps spread adjustment (to account for five-year historical median difference between LIBOR and SOFR). The underlying loans would also need to transition away from LIBOR by June 2023. If corporate loans transitioned to SOFR with a lower CSA (<26 bps), this could reduce available excess spread.

2017-mid-2018 vintages:

Transaction documents for these earlier-vintage CLOs contain a broad range of fallback language. Many of these transactions contemplated LIBOR cessation, but the fallback provisions are subjective and not very explicit. Such tranches would also need to transition away from LIBOR, but may lack an explicit path to a specific CSA. They sometimes refer to an index “endorsed” by third parties or an index being considered as the “industry standard” in the loan or CLO market. They may also refer to a “fair” or “appropriate” CSA to be used. These CLOs represent about 25% of our rated universe. Market participants expect this category to be heavily scrutinized. These deals will likely transition to CME Term SOFR, but there is uncertainty about the CSA to be used.

2017 and earlier transactions:

Transaction documents for these CLOs generally did not explicitly contemplate a permanent LIBOR cessation, and the fallback language in these transaction documents includes approaches such as bank polling, fixing the rate at last quoted LIBOR, or no fallbacks. This group of transactions includes less than 5% of our rated universe. Given the weak or absence of fallback language in the CLO documents, liabilities may benefit from the Adjustable Interest Rate (LIBOR) Act of 2022, which establishes a legal safe harbor for determining persons applying a SOFR-based rate, likely CME Term SOFR + 26 bps spread adjustment for three-month maturities.

Do you expect any U.S. CLO ratings to be impacted by the LIBOR transition?

Our base-case expectation is that very few CLO ratings will be affected by the LIBOR transition.

Our base-case expectation is that few CLO ratings will be affected. To the extent these rating changes do occur, we expect they would primarily affect CLO tranches rated in the ‘BB’ category or lower. (Ratings on tranches that have a larger reliance upon excess spread could be more likely to be affected).

A common question we have heard from CLO market participants involves the degree to which excess spread may change due to LIBOR transition. While there has been widespread agreement on SOFR as the replacement interest rate, agreement around the level of CSA between assets and liabilities has proven more elusive. In a CLO securitization, the CSA to be used on the asset (loan) side and liability side can differ. Most CLO tranches refer to the ARCC-recommended CSA (26 bps for three-month tenor), while the CSA on the leveraged loan side can vary widely, including some loans with zero CSA. The timing of rate transition among loans and CLO liabilities could also temporarily affect excess spread.

We performed a stress test on our rated U.S. CLOs to see how different levels of excess spread reduction resulting from the LIBOR transition might affect our ratings. We found limited CLO rating impact under likely scenarios (including 10 bps-15 bps excess spread reduction). Under this scenario, only a very small portion of reinvesting broadly syndicated loan (BSL) non-investment-grade (NIG) tranche ratings could be negatively impacted, and very few CLO (or none) investment-grade (IG) tranche ratings would be affected. In this analysis, we applied the excess spread reduction throughout the life of the transaction and did not give credit to manger’s intervention.

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Even under the more punitive scenarios we performed, including reducing annual excess spread by up to 26 bps, we saw limited rating impact. Additionally, we think that CLO managers may be able to mitigate the impact of these changes given their existing experience managing excess spread and basis risk (currently, a large majority of CLO assets are indexed to one-month LIBOR, while all existing CLO liabilities are indexed to three-month LIBOR).

To what extent might the Adjustable Interest Rate (LIBOR) Act affect the transition process for the U.S. CLO market?

The LIBOR Act is unlikely to have a large, direct impact on the U.S. CLO market.

In general, it appears that the federal LIBOR Act is unlikely to have a large direct impact on the CLO market. That's because most assets and liabilities already have some sort of specified fallback rate or provide for transaction party discretion to select a new rate. The law was designed mainly to assist "legacy" contracts where fallbacks are weak or lacking altogether to transition away from LIBOR.

The law specifically focuses on transactions with no fallback language, weaker LIBOR-based fallback language such as "the last quoted LIBOR," or bank polling-styled fallbacks. In these specific cases, the law would create a path to a SOFR-based rate (most likely CME Term SOFR) with 26 bps spread adjustments for a three-month maturity. For such transactions, the law would provide a "safe harbor" for transitioning rates to SOFR with the ARRC-recommended adjustment.

On the liability side, the majority of CLO indentures contain a specified replacement rate (as contained in ARRC-recommended fallbacks) or empower a transaction party such as a collateral manager to select a replacement interest rate. As a result, the LIBOR Act may only be applicable to very small portion of the CLO universe. We estimate that this group of transactions, usually older ones from 2017 and earlier, may represent less than 5% of the outstanding CLO tranches.

Similarly, on the asset side of CLOs, the majority of leveraged loan documents contain some sort of prespecified fallback rate such as the Prime Rate or ARRC-style hardwired fallback provisions. In both cases, the LIBOR Act would not appear to come into play. Of course, its ultimate applicability is very fact and contract specific, but generally, we don't view the LIBOR Act as having major applicability to CLO assets or liabilities.

Do U.S. CLO indentures typically grant discretion to a transaction party regarding the CSA that is used when they transition? Have you seen any CLO tranches transition using a CSA other than 26 bps?

These questions are central to LIBOR transition in the CLO market. The answers typically depend on the contractual, ultimate fallback language of each CLO transaction. We understand that most rated transactions have ARCC-like fallback language that usually uses a hardcoded 26 bps CSA. However, some transactions may not have a specific CSA concept in their indentures. Their fallback provisions are more subjective and may refer to a "fair" or "appropriate" adjustment to reflect the basis between LIBOR and SOFR.

However, the 26 bps CSA would usually kick in on the first interest rate determination date following the June 30, 2023, cessation date. Prior to June 30, 2023, CLO managers could issue a supplemental indenture to transition the liabilities to SOFR plus a CSA that they and the investors agree to. We have seen CSA proposals for less than the 26 bps ARCC-recommended spread adjustment level. To date, these proposals (on the CLO tranches) seem to have been objected to by controlling investors.

What have we observed on the corporate loan side regarding the replacement rates and CSAs to be used?

There seems to have been some stabilization around 10 bps lately for CSA to be applied to leveraged loans.

The majority of the leveraged loans issued or refinanced since Jan. 1,2022, have used CME Term SOFR. We have observed a variety of CSA levels applied on these loans (with some loans having zero CSA). There seems to have been some stabilization around 10 bps lately for CSA to be applied to leveraged loans. It is also worth comparing the pre-transition all-in interest rate to the post-transition rate as sometimes the CSA can be "baked' into the margin directly (making the implied CSA less transparent).

What language do we typically see in loan agreements when it comes to benchmark transition? How has this evolved since 2017?

Going back to mid-2017 (when the U.K.'s Financial Conduct Authority (FCA) announced that LIBOR would no longer be available after 2021 (which has then been extended to June 30, 2023)), we started to see fallback language specifically designed for the ultimate cessation of LIBOR. Before then, there was minimal guidance about fallback language. When compared to today's ARCC recommendation, those fallbacks were not comprehensive. Often in older credit agreements, the fallback language did not contemplate a new rate or the need to address the change when it occurs, only mentioning that LIBOR cessation was a possibility and granting the administrative agent the power to amend rates. Before these 2017 agreements, it was very common to find credit agreements that mention the inability to calculate LIBOR as a matter not related to the cessation of LIBOR, whereby the solution in such an event is to revert to the alternative base rate (ABR), which is often the Prime Rate, if available.

In 2018 and in 2019, a more direct approach developed, especially after the ARRC published its LIBOR transition recommendations. During this period, fallback language among leveraged loans was overwhelmingly placed as an attachment to the standard "inability to calculate LIBOR" clause. The direct language builds on the inability to calculate concept and provides a remedy if that inability to calculate LIBOR becomes permanent (e.g. the permanent cessation of LIBOR). Because LIBOR cessation was a few years out at that time, and there was no consensus or clear replacement benchmark, the amendment approach was the primary option utilized. Therefore, with few exceptions, the remedy for the permanent inability to calculate LIBOR is a good-faith negotiation between the borrower and the administrative agent to adopt a new benchmark--usually requiring them to select a current, market-favored replacement (subject to a negative consent by a simple majority of the lenders, by amount).

A significant number of the credit agreements we have reviewed that take this approach also mention, but do not necessarily require, some form of benchmark adjustment as the case may warrant either through necessity or it being the prevailing convention in the market at the time. Moreover, in any interim period between the cessation and the adoption of a new benchmark, most of the credit agreements have specific language noting that the ABR will be controlling during that period.

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In 2020, with LIBOR cessation less than two years away (originally scheduled for December 2021) and the market considering several replacement benchmarks, loan credit agreements started to take on a more standardized approach in terms of language and structure, or at the very least, topics covered. We started to see specific trigger events that went beyond a permanent inability to calculate LIBOR to include some, if not all, of the ARRC's permanent- and pre-cessation triggers for syndicated loans. We also started to see ARRC-style transition dates. We observed a wider use of the affirmative consent from lenders as a requirement as well as the option for early opt-in to a new benchmark at the request of (depending on the credit agreement) some combination of the borrower, required lenders, or administrative agent (usually also requiring the affirmative consent of the required lenders). Despite this, the amendment approach was still widely used in 2020. However, some credit agreements using the amendment approach do reference SOFR as the likely benchmark replacement, and state that the negative consent/veto power given to lenders applies only to the CSA.

Yet, after the FCA's official announcement on LIBOR cessation in March 2021, the amendment approach used by many leveraged loans lost favor. In essence, a benchmark transition event (per ARCC guidelines) had occurred. The prevailing benchmark replacement convention at that time was SOFR. Since that time, many credit agreements have used the hardwired approach (with a SOFR option waterfall consisting of term SOFR and daily simple SOFR), while still allowing for the ability to switch over before the cessation through an early opt-in. These hardwired credit agreements also have CSA provisions/allowances, typically through a provision for a "benchmark replacement adjustment," which must conform to any adjustments set by the Federal Reserve Bank Board of Governors (or a body selected by them).

Most leveraged loans will require an amendment to the credit agreement.

It's important to note that regardless of the approach used (amendment or hardwired), most leveraged loans will require an amendment to the credit agreement in order to transition, as even the hardwired setups require conforming changes amendments. This could lead to a situation where administrative agents and lenders find themselves overwhelmed by the number of amendments that need to be considered in a short period of time. Because of the high quantity of loans needing rate amendments by June (excluding those that contain hardwired fallbacks), loans that are unable to execute an amendment with replacement rates may go to a Prime Rate, which could pose financial challenges given the leveraged nature of most borrowers.

Of note, the above analysis is based on a sample of credit agreements we reviewed and is meant to provide a general overview of the progression of LIBOR transition language.

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CLO Spotlight: U.S. CLO Tranche Defaults As Of April 1, 2023

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Since the mid-'90s, S&P Global Ratings has rated more than 17,000 U.S. collateralized loan obligation (CLO) tranches, totaling a cumulative total of around $1.5 trillion (including CLO refinancing and reset activity). To date, through more than 25 years and several recessions (including the pandemic-related downturn in 2020), these ratings have shown only a modest number of defaults. The CLO 1.0 generation of transactions--those rated from the inception of the market in the mid-1990s through 2009--comprised 4,322 tranches from around 800 cash flow CLOs rated by S&P Global Ratings. The last of these transactions have now paid down, and their default history is complete: Of the 4,322 ratings, just 40 defaulted, 15 of which began life with an investment-grade rating ('BBB- (sf)' or higher) when originally issued (see table 1).

The CLO 2.0 generation of transactions began in 2010 with the reemergence of CLO transaction new issuance in the aftermath of the Global Financial Crisis (GFC). There were a number of differences between the first-generation CLO 1.0 transactions and the post-GFC CLO 2.0 transactions, including:

- More credit enhancement for the rated CLO notes, especially at the top of the CLO capital structure;
- Collateral pools that excluded investments in assets other than corporate loans and some small portion of corporate bonds;
- Transaction documents that incorporated lessons learned from the GFC, including provisions that prevented or mitigated CLO note cancellation and limited the manager's ability to extend the life of the CLO transaction via trades done after the end of the reinvestment period.

Table 1 | U.S. CLO 1.0 and 2.0 default summary by original rating

	CLO 1.0			CLO 2.0		
	Number of original ratings*	Number of defaults^	Number currently rated	Number of original ratings*	Number of defaults^	Number currently rated
AAA (sf)	1,540	0	0	3,545	0	1,568
AA (sf)	616	1	0	2,864	0	1,307
A (sf)	790	5	0	2,372	0	1,135
BBB (sf)	783	9	0	2,156	0	1,120
BB (sf)	565	22	0	1,758	7	923
B (sf)	28	3	0	384	9	184
Total	**4,322**	**40**	**0**	**13,079**	**16**	**6,237**

* Original rating counts as of Dec. 31, 2022.
^ CLO tranche default counts as of March 31, 2023.
Source: S&P Global Ratings.
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Additionally, the investor base for the 2.0 transactions was (and is) less levered and less sensitive to changes in market value of the tranches than the CLO 1.0 universe had been.

From 2010 through fourth-quarter 2022, S&P Global Ratings rated 13,079 classes from more than 1,500 U.S. CLO 2.0 transactions totaling over $1.12 trillion (including refinancing and reset activity). While there was a downturn in the energy and commodities sectors in 2015 and 2016, the CLO 2.0 generation of transactions hadn't seen a full-blown recession until the 2020 pandemic-related downturn, and a modest number of CLO 2.0 tranches have now defaulted (see table 1; the full list of 56 defaults is in table 3).

In addition to these defaulting CLO 1.0 and 2.0 tranches, we also have five tranches from five CLO 2.0 transactions that we view as likely candidates for future default based on the current rating assigned (see table 2). These five tranches are currently rated 'CC (sf)', indicating our view that a default is a near certainty, or 'CCC- (sf)', which we view as vulnerable to nonpayment. The CLOs from which these tranches come from are earlier vintage 2.0s that experienced both the energy and commodity downturn in 2015-2016 and the pandemic-related downturn in 2020. While these tranches haven't yet defaulted, they have experienced downgrades to their current ratings due to significant credit deterioration, and the current ratings assigned reflect our view that it is unlikely the notes will get repaid in full by the CLOs' legal final maturity dates. While the notes are undercollateralized (the balance of CLO notes at their level and senior exceeds the balance of the CLO's assets, excluding equity), they are deferrable and it may be some time before a payment default occurs (typically when the CLO hits its final maturity date, or the assets are liquidated and the proceeds are insufficient to pay off the CLO notes in full).

Table 2 | Likely future defaults: U.S. CLO tranches currently rated 'CCC-' or 'CC'

Transaction	Tranche	Year originated	Original rating	Current rating
Mountain View CLO 2014-1 Ltd.	F	2014	B- (sf)	CCC- (sf)
Halcyon Loan Advisors Funding 2012-1 Ltd.	C	2012	BBB (sf)	CCC- (sf)
Catamaran CLO 2014-2 Ltd.	E	2014	B (sf)	CCC- (sf)
Avery Point IV CLO Ltd.	F	2014	B- (sf)	CC (sf)
BNPP IP CLO 2014-II Ltd.	E	2014	BB (sf)	CC (sf)

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Since the asset class emerged more than 25 years ago, CLOs have shown resilient performance through multiple economic downturns. The reasons for this go back to basic CLO structural mechanics and protective mechanisms. First and foremost is the CLO structure itself, with the equity tranche sitting at the bottom of the capital stack, first in line to absorb any losses ahead of the rated CLO notes. Further, in times of stress, the mechanics of the CLO structure work to protect the senior CLO notes, and no CLO note originally rated 'AAA (sf)' has defaulted.

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Table 3 | U.S. CLO tranches rated by S&P Global Ratings with ratings lowered to 'D' (1994-Q1 2023)

Transaction	Tranche	Year originated	Original rating	Year rating lowered to 'D'	Cause
Confidentially rated tranche (CLO 1)	N/A	1999	BB- (sf)	2013	Collateral deterioration
Confidentially rated tranche (CLO 1)	N/A	1999	BB- (sf)	2013	Collateral deterioration
Confidentially rated tranche (CLO 1)	N/A	1999	BB- (sf)	2013	Collateral deterioration
Confidentially rated tranche (CLO 2)	N/A	1999	B+ (sf)	2011	Collateral deterioration
Confidentially rated tranche (CLO 2)	N/A	1999	B+ (sf)	2011	Collateral deterioration
KBC - Orion Commercial Loan Master Trust	D-1	1999	BB (sf)	2002	Collateral deterioration
KBC - Orion Commercial Loan Master Trust	D-2	1999	BB (sf)	2002	Collateral deterioration
Confidentially rated tranche (CLO 3)	N/A	2000	B (sf)	2011	Collateral deterioration
Confidentially rated tranche (CLO 4)	N/A	2001	BB (sf)	2012	Missed interest/ non-deferrable
Highland Loan Funding V Ltd.	C-1	2001	BBB (sf)	2014	Collateral deterioration
Highland Loan Funding V Ltd.	C-2	2001	BBB (sf)	2014	Collateral deterioration
Highland Loan Funding V Ltd.	D	2001	BB+ (sf)	2014	Collateral deterioration
Landmark II CDO Ltd.*	B	2002	AA (sf)	2010	Missed interest/ non-deferrable
Landmark II CDO Ltd.	C	2002	BBB (sf)	2011	Collateral deterioration
Landmark II CDO Ltd.	D	2002	BB (sf)	2011	Collateral deterioration
Stanfield Carrera CLO Ltd.	C-1	2002	BBB (sf)	2014	Missed interest/ non-deferrable
Stanfield Carrera CLO Ltd.	C-2	2002	BBB (sf)	2014	Missed interest/ non-deferrable
Stanfield Carrera CLO Ltd.	D-1	2002	BB (sf)	2014	Collateral deterioration
Stanfield Carrera CLO Ltd.	D-2	2002	BB (sf)	2014	Collateral deterioration
Foxe Basin CLO 2003 Ltd.	D	2003	BB (sf)	2014	Collateral deterioration
Katonah V Ltd.	D	2003	BB (sf)	2013	Collateral deterioration
Longhorn CDO III Ltd.	E	2003	BB (sf)	2013	Collateral deterioration
Premium Loan Trust I Ltd.	C	2004	BBB (sf)	2014	Collateral deterioration
Premium Loan Trust I Ltd.	D	2004	BB (sf)	2014	Collateral deterioration
Airlie CLO 2006-II Ltd.	D	2006	BB (sf)	2017	Collateral deterioration
GE Commercial Loan Trust Series 2006-1	PTC	2006	BB (sf)	2010	Market value provisions
GE Commercial Loan Trust Series 2006-2	D	2006	BBB- (sf)	2011	Market value provisions
GE Commercial Loan Trust Series 2006-2	PT	2006	BB (sf)	2011	Market value provisions
GE Commercial Loan Trust Series 2006-3	C	2006	A (sf)	2011	Market value provisions
GE Commercial Loan Trust Series 2006-3	D	2006	BBB- (sf)	2011	Market value provisions
GE Commercial Loan Trust Series 2006-3	PTC	2006	BB (sf)	2011	Market value provisions
Global Leveraged Capital Credit Opportunity Fund I	E-1	2006	BB (sf)	2019	Collateral deterioration
Global Leveraged Capital Credit Opportunity Fund I	E-2	2006	BB (sf)	2019	Collateral deterioration
Sandelman Finance 2006-1 Ltd.	E	2006	BB (sf)	2011	Investor action
Rosedale CLO II Ltd.	E	2007	BB (sf)	2012	Investor action
Kingfisher Capital CLO Ltd.	A	2008	BBB+ (sf)	2009	Missed interest/ non-deferrable
Pine CCS Ltd.	A-1	2008	A- (sf)	2009	Missed interest/ non-deferrable
Pine CCS Ltd.	A-2	2008	A- (sf)	2009	Missed interest/ non-deferrable
Spruce CCS Ltd.	Senior notes	2008	A (sf)	2010	Missed interest/ non-deferrable
Verano CCS Ltd.	Senior notes	2008	A- (sf)	2010	Missed interest/ non-deferrable
Mountain Hawk II CLO Ltd.	E	2013	BB (sf)	2021	Collateral deterioration
Flagship VII Ltd.	F	2014	B (sf)	2021	Collateral deterioration
WhiteHorse VII Ltd.	B-3L	2013	B (sf)	2021	Missed interest/ non-deferrable
Blue Ridge CLO Ltd. I	D	2014	BB (sf)	2021	Collateral deterioration
Blue Ridge CLO Ltd. I	E	2014	B (sf)	2021	Collateral deterioration
BNPP IP CLO 2014-1 Ltd.	D	2014	BB (sf)	2022	Collateral deterioration
BNPP IP CLO 2014-1 Ltd.	E	2014	B (sf)	2022	Collateral deterioration
Blue Ridge CLO Ltd. II	E	2014	B (sf)	2022	Collateral deterioration
GLG Ore Hill CLO 2013-1 Ltd.	F	2013	B (sf)	2022	Collateral deterioration
OFSI Fund VI Ltd.	E	2014	B (sf)	2022	Collateral deterioration/ investor action
B&M CLO 2014-1 Ltd.	E	2014	B (sf)	2022	Collateral deterioration
Halcyon Loan Advisors Funding 2012-1 Ltd.	D	2012	BB (sf)	2023	Collateral deterioration
Halcyon Loan Advisors Funding 2013-1 Ltd.	D	2013	BB (sf)	2023	Collateral deterioration
Hull Street CLO Ltd.	E	2014	BB (sf)	2023	Collateral deterioration
Hull Street CLO Ltd.	F	2014	B (sf)	2023	Collateral deterioration
Staniford Street CLO Ltd.	E	2017	BB (sf)	2023	Collateral deterioration

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European CLOs: Is The Loan Maturity Wall CLOsing In?

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European CLOs: Is The Loan Maturity Wall CLOsing In?

Sept. 1, 2022

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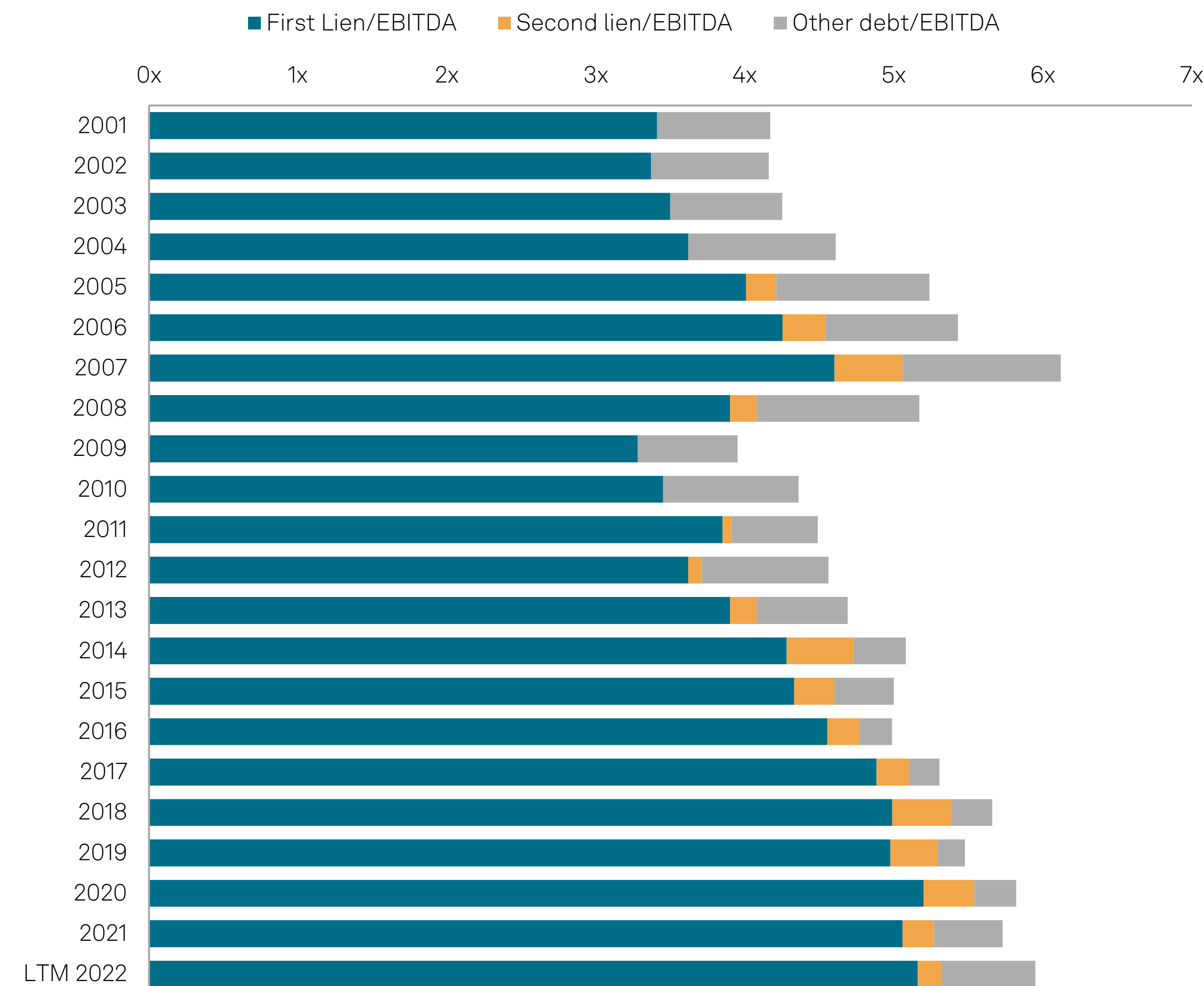
In the aftermath of the financial crisis, the European leveraged loan landscape was arguably transformed by fiscal stimuli, monetary loosening, and ultra-low to negative interest rates. As investors searched for yield, they moved to risk-on mode and re-balanced portfolios. This helped accommodate borrowing opportunities for leveraged loan borrowers, allowing them to tap the refinancing markets and increase senior leverage beyond the levels observed prior to the global financial crisis. That was then.

Chart 1 | Coming Due: Annual Debt/EBITDA Ratios

First lien/EBITDA ratios have surpassed those in the lead up to the financial crisis



Source: Leveraged Commentary & Data as of 2022.

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More recently, the European financial landscape has been dealt multiple setbacks, ranging from lingering supply-chain issues after the COVID-19 pandemic to the Russia-Ukraine military conflict, leading to rising energy costs, multi-decade record inflation, and rising interest rates. The resulting deterioration in market sentiment and concerns surrounding the health of the leveraged finance markets have squeezed vulnerable borrowers lacking competitive advantage and free cash flow to weather future credit and liquidity headwinds.

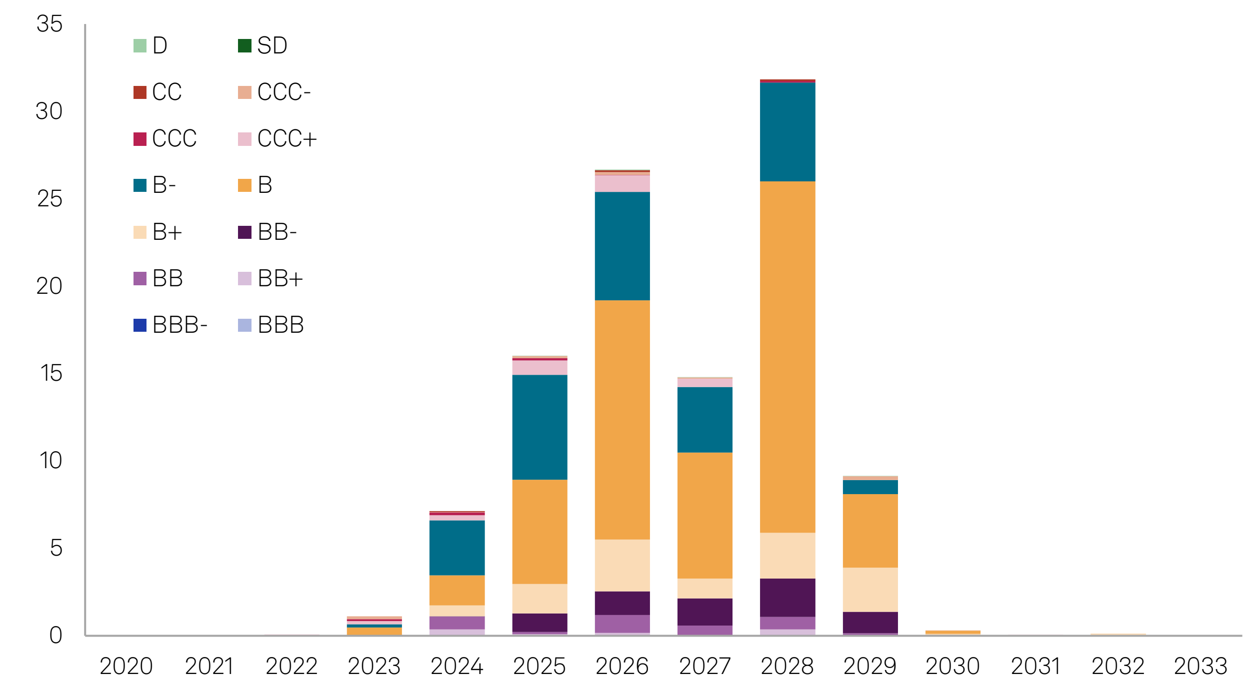
Tighter financing conditions are likely to persist, with benchmark rates rising alongside widening credit spreads--a stark contrast to the ultra-low funding rates corporate borrowers have historically enjoyed. This may limit refinancing opportunities for borrowers of leveraged loans backing European CLOs as they approach their scheduled maturities. Lenders in this environment may have limited risk appetite, which means that corporate borrowers face the looming risk of either refinancing onto much higher rates or otherwise defaulting on their debt payments if they are unable to secure any form of refinancing. CLO managers may of course sell these assets to mitigate their exposure, but risk incurring par losses as a result of suboptimal market prices at the time of sale.

S&P Global Ratings has taken a closer look at how upcoming loan maturities may affect European CLOs. We also explore how CLOs may be limited in aiding loan refinancing and amendment requests, due to fewer refinancing opportunities for the CLOs' own liabilities. Finally, we present stress test scenario analyses that focus on various assumptions for defaults, recoveries, and recovery timings, to determine how tough refinancing conditions may affect CLO ratings.

CLO Loan Maturity Profiles Signal Refinancing Pressures To Begin In 2023

Let's start with the underlying assets in CLO portfolios. Below, we split by rating category the aggregate amount of invested collateral in CLO portfolios scheduled to mature over the next decade. In the run up to 2024, nearly €8.5 billion of leveraged loans financed by European CLOs that we rate--representing 7.8% of the total par amount over 139 obligors--are scheduled to mature, with the bulk of maturities occurring in the second half of 2024. These corporate entities will likely explore refinancing options as early as 2023.

Chart 2 | CLOs: Collateral Maturity Wall (€B)



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Source: S&P Global Ratings.

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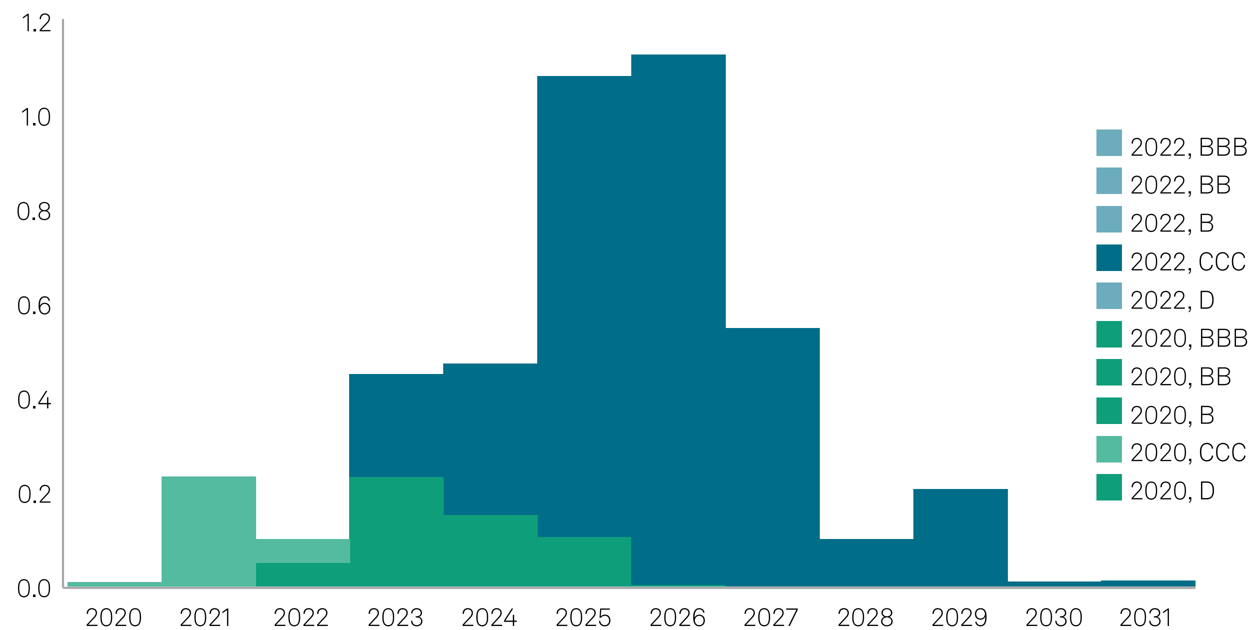
Most of these scheduled maturities correspond to corporate borrowers currently rated 'B-' (representing just over 40% by notional amount), which may face pressure ahead of their maturity dates. In the shorter term, CLOs are exposed to only €194.6 million of 'B-'-rated entities with maturities between now and the end of 2023, comprising term loans from just nine corporate entities spread over 81 CLO transactions.

A similar pattern follows in 2025, but with twice the par amount of assets maturing that year when compared with scheduled maturities in the run up to 2024. Once again, corporate obligors currently rated 'B-' represent most of the scheduled maturities due in 2025 (€9.33 billion), followed closely by corporate obligors rated 'B' (€8.1 billion).

Interestingly, the amortization profiles for assets in the 'CCC' category (i.e., those rated 'CCC+', 'CCC', and 'CCC-') have generally become more front-loaded and less distributed over time when compared with their profiles in 2020 (see chart 3). For instance, as of 2020, there was roughly €0.5 billion of 'CCC'-rated collateral in CLOs maturing in the following three years. In contrast, as of 2022, that amount has ballooned to over €2 billion due over the next three years. While this represents a small fraction of the overall universe spread over a greater number of CLO issuers since 2020, there is a vastly greater notional par amount of riskier assets due in the near term than compared with previous years.

Chart 3 | CLOs: Collateral Maturity Wall 2022 Versus 2020 By Ratings Category (€B)



Source: S&P Global Ratings.
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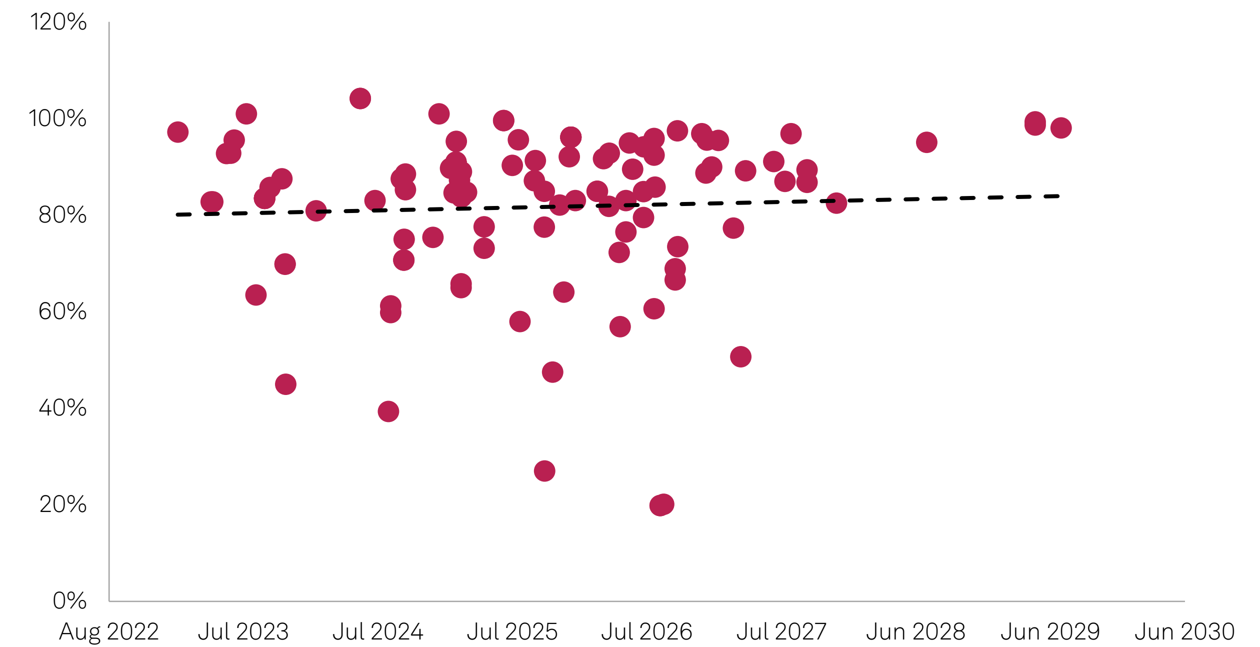
In terms of individual 'CCC'-rated asset exposure in CLOs, the largest of these exposures are concentrated in four CLOs that we rate, with exposures ranging anywhere between 10.0% to 12.3% of each CLO's aggregate collateral balance. All but one of these CLOs have ended their reinvestment periods, and we focus more on this relationship in the next section.

On a forward-looking basis, this naturally brings 'CCC' haircut risks into the spotlight. In a downturn scenario CLOs may face market value haircuts in par value tests because of excess 'CCC'-category rated holdings. As chart 4 highlights, shorter-dated assets rated in the 'CCC' category generally carry lower prices than longer-dated ones, potentially pricing in refinancing risk for these assets and therefore exposing CLO par value tests to greater haircuts should these obligations form part of the excess.

Analyzing the same data set split by S&P industry classifications, leveraged loans issued by CLOs to businesses in the chemicals, diversified consumer services, hotels, restaurants & leisure, and healthcare industries represent some of the largest near-term maturities (see chart 5). These include term loans issued by common underlying names across CLO portfolio such as Archroma, Diaverum, Fugue Finance, and Entain Holdings.

Chart 4 | Not All 'CCC's Are Created Equally

Market price (Mid) vs. maturity date for 'CCC'-category rated assets in CLOs



Sources: S&P Global Ratings; S&P Global Market Intelligence.
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Limited Refinancing Opportunities May Hinder CLOs' Capacity To Participate In Loan Refinancing Requests

Moving on to CLO liabilities, recent macroeconomic and geopolitical events have sent spreads to new highs. As a result, many (if not all) CLOs with non-call periods ending in 2022 are likely to be out of the money and therefore uneconomical for a redemption and refinancing (see " CLO Pulse Q1 2022: Sector Averages Of Reinvesting European CLO Assets" published on July 13, 2022).

Refinance Or Resetting Allows CLOs To Extend Their WALs And Reinvestment Periods

Transactions that undergo a refinancing typically extend their WAL test when, following the end of a traditional two-year non-call period, they are likely to have little headroom against the transaction's actual WAL. In a CLO reset or reissue, structures are typically re-levered and their dates reset, meaning that the WAL test and reinvestment period are commonly extended to levels typically observed in new issue CLOs.

Therefore, some existing CLOs may already be limited in their ability to (re)invest in loan refinancing requests, due to a combination of (1) more restrictive reinvestment criteria after a CLO's reinvestment period has ended, and/or (2) thinning weighted-average life (WAL) test cushions.

With regards to CLO reinvestment periods, 51 CLOs in our sample (about 20%) have already ended their reinvestment periods, with eight CLOs ending their reinvestment periods in 2023 and another 56 in 2024. Putting aside that some CLO issuers may still consider resetting their CLOs (as it may offer equity investors a relatively better return profile than remaining invested in an amortizing transaction), the issue for leveraged loan borrowers is that a CLO's reinvestment criteria following the end of its reinvestment period are more restrictive than the criteria during the reinvestment period, which potentially limits a CLO's ability to participate in loan refinancing requests. For example, during the reinvestment period, CLOs typically are required to satisfy or otherwise maintain or improve overcollateralization ratios and WAL test covenants, whereas after the reinvestment period these same covenants typically must be satisfied or improved. That said, some CLOs include "one-touch WAL" provisions, and how these are utilized depends on the performance of the WAL on the last day of the reinvestment period. As charts 6a and 6b illustrate, CLOs that have shorter or no time left in their reinvestment periods generally include a higher proportion of nearer-term maturing loans in their portfolios.

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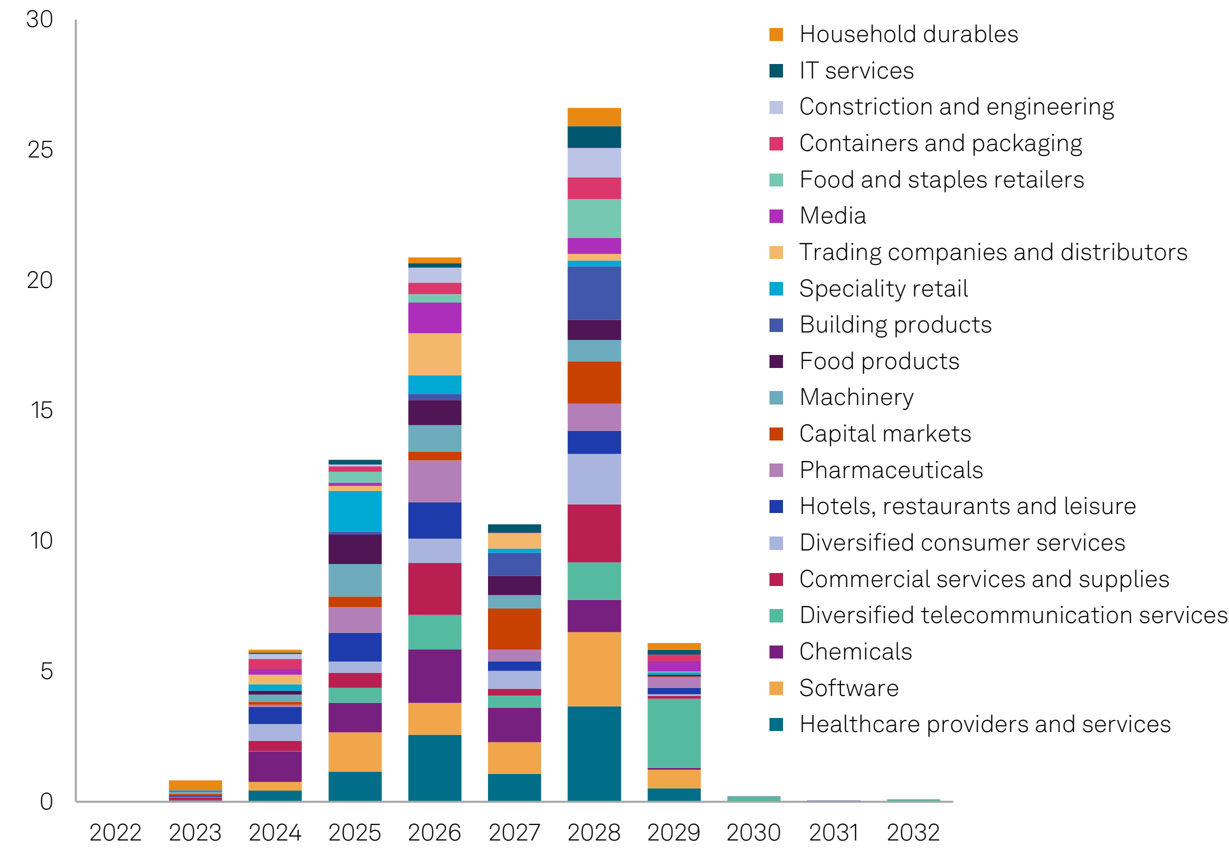
Chart 5 | Sector Maturity Wall (€B)



As of Aug. 16, 2022.
Source: S&P Global Ratings.
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Déjà Vu: Limited Refinancing Opportunities May Result In Growing Amend-To-Extend Activity

An alternative option to the refinancing route for leveraged loan borrowers--in order to avoid a preemptive default or restructuring through a distressed exchange--is to propose a maturity amendment to their lenders. This is effectively an amend-to-extend feature, which allows borrowers to extend the maturity of their loan facilities outside of repaying any outstanding debt, and typically will include an increase in their interest payment obligations to compensate lenders. Similar amendments were a common feature in the loan market during the global financial crisis, given constrained liquidity for borrowers at the time. For CLOs, the document section(s) that outlines maturity amendments is generally titled "Amendments to the Maturity of Collateral Debt Obligations", which typically precedes the CLO's reinvestment criteria under section 6 (Management of the Portfolio) in the offering circular.

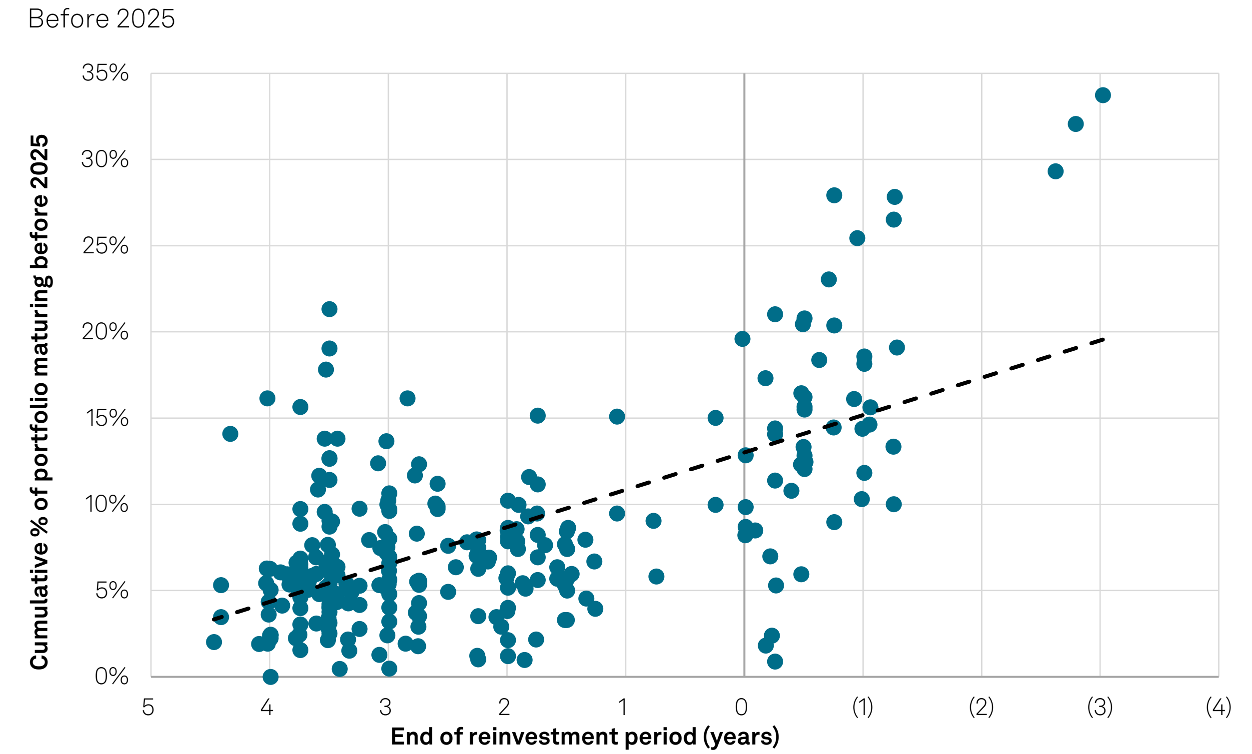
There are usually several requirements for accepting a maturity amendment, but typically include the following:

- Each borrower's extended maturity date does not exceed the CLO's maturity date. That is, the loan does not become a long-dated obligation for the CLO. This condition protects CLO investors in that it prevents or limits exposing the transaction to market-value risks; and
- The CLO's WAL test is satisfied or otherwise maintained or improved.

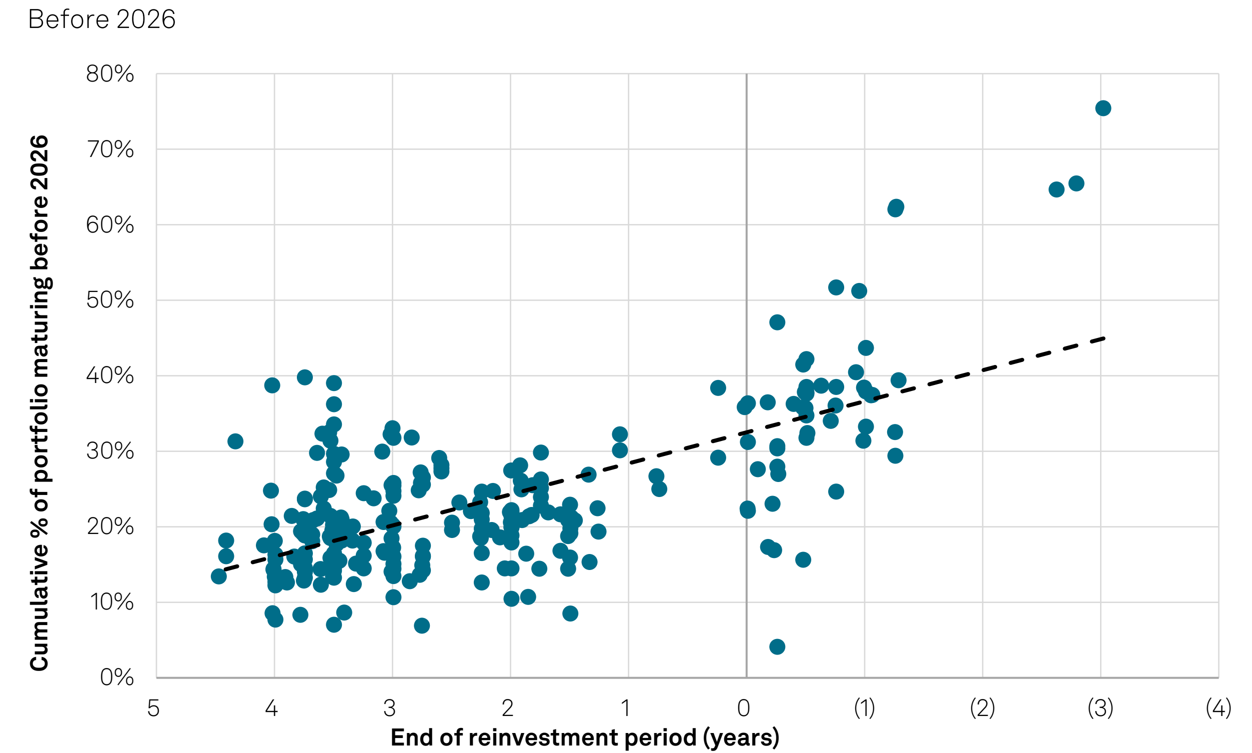
The conditions in these sections typically include an exemption to meeting these requirements subject to a maximum threshold (for example, 5% of the CLO portfolio balance). Furthermore, a maturity amendment may be extended to a leveraged loan borrower even though CLO lenders may have voted against the proposal, due simply to being outvoted by other lenders in the loan transaction.

Chart 6 | CLO Reinvestment Periods Versus Cumulative Percentage Of Assets Maturing

Before 2025



Before 2026



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Regardless of the path leveraged loan borrowers take to address near-term maturing debt, tightening WAL test cushions may also limit the ability of CLOs to participate in loan refinancing requests and maturity amendments. In fact, this limitation already appears to be the state of play in some cases, with those CLOs with lower or failing WAL test cushions generally holding the largest proportion of nearer-term maturing assets in their portfolios.

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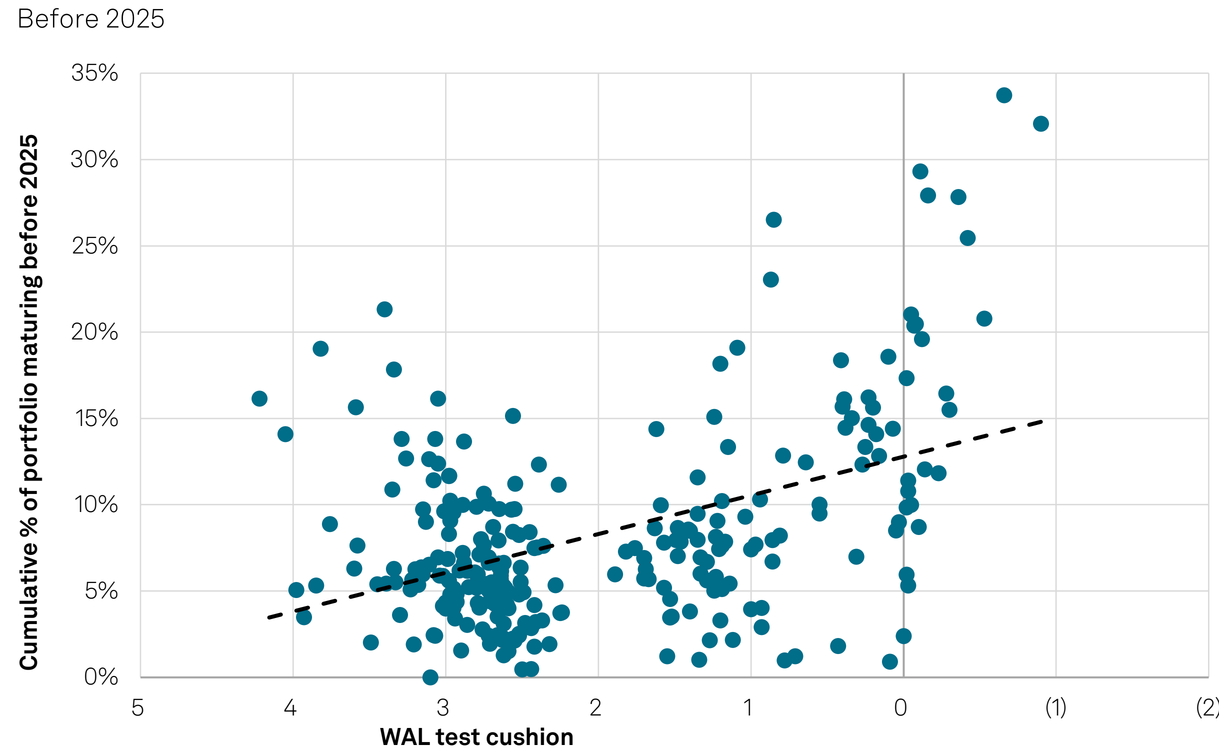
Is There An Alternative For CLOs?

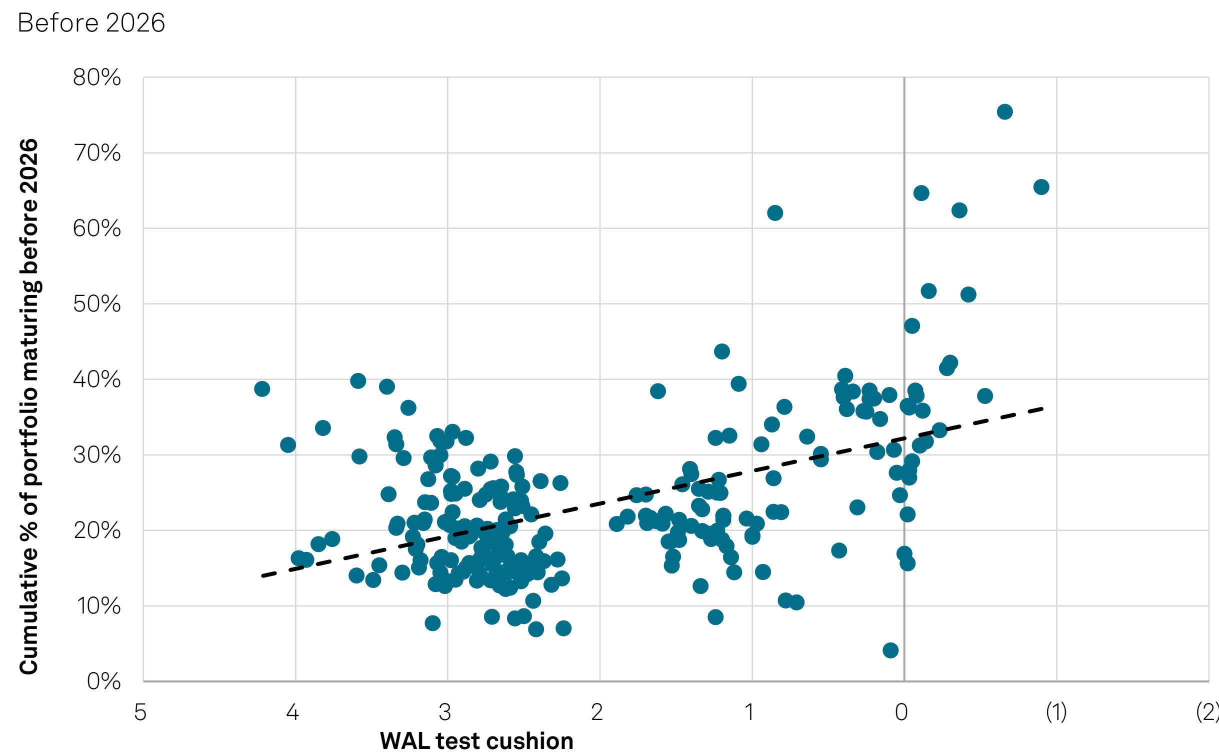
Possibly. Some CLOs include language in their documentation that enables them to modify the WAL test, for example by extending the date by 18 months or less, providing much-needed relief as WAL test cushions continue to thin. Usually these conditions are found under section 14(c) of "Modification and Waivers" and vary across CLOs, but typically include the following:

Chart 7 | WAL Test Cushions Versus Cumulative Percentage of Assets Maturing

Before 2025



Before 2026



WAL = weighted-average life.

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- Any extension to the WAL test by less than 18 months typically only requires consent from the then controlling class of notes. For more than 18 months, consent from each class of note is required;
- A rating agency confirmation requirement; and
- The WAL test may be amended on more than one occasion provided that the aggregate of all modifications do not extend a number of months past the issue date of the transaction.

In our view, variations in WAL test extensions will likely become a more common feature in CLO transactions going forward, either in the form of a modification (as above) or otherwise in-built into CLO test metrics.

Scenario Analysis: Tighter Financing Conditions For Leverage Loan Borrowers In A Downturn

European CLO transactions have continued to show strong performance and resilience through several downturns, the most recent being the global COVID-19 pandemic (see "COVID-19 Tests The Resilience Of European CLOs In 2020," published on Dec. 1, 2020).

CLOs now face their next challenge, this time in the form of a global economic downturn and high inflation, both of which are likely to affect the refinancing prospects for the leveraged finance and CLO markets.

To explore how CLO ratings might perform under challenging loan refinancing scenarios, we performed an analysis based on a series of hypothetical stresses with different levels of CLO asset defaults, trading losses, downgrades, and recovery timings.

We highlight the following:

- The stresses we selected for each scenario are hypothetical and are not meant to be predictive or part of any outlook statement.
- The stresses are not meant to calibrate to any of the economic scenarios we associate with our rating definitions.
- The results are based on the application of the models we use to rate CLOs. A rating committee applying the full breadth of S&P Global Ratings' criteria and including qualitative factors might, in certain instances, assign a different rating than the quantitative analysis alone would indicate.

Running the stress scenario

The Appendix below outlines our assumptions for creating a generic CLO structure and portfolio that generally resembles similar European structures that we rate. In drawing out these assumptions, we focus on key structural and portfolio parameters that most closely resemble a typical CLO transaction (see "Appendix" and table 3).

Table 1 outlines the scenarios that we considered for the ratings stress test and some of the assumptions underlying these scenarios.

To put these assumptions (and the following results) into perspective, we firstly take a conservative view that these stresses apply immediately rather than gradually over time. Secondly, all of our stress test scenarios assume a "par loss" rate rather than an outright default rate to our hypothetical CLO transaction, which is a common assumption used in stress test scenario analyses. As highlighted above, this is because CLO managers may simply sell assets with relatively weaker financing opportunities to help minimize losses, rather than hold the asset to the point of default and risk crystalizing larger losses. We therefore assume scenarios where the CLO experiences an overall par loss, resulting from a combination of both trading losses and defaults.

Thirdly, we make a simplified assumption that the weighted-average spread (WAS) generated by the underlying portfolio remains unchanged during the transaction's life. Of course, the portfolio's overall notional spread may increase for a period of time as lenders accept refinancing proposals at higher rates. While not given here, our analysis notes improved results, especially at lower rating levels, if we assume incremental increases in the WAS.

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Table 1 | Stress Test Scenarios

Scenario	Stress
One	5% par loss; immediate recovery assumption
Two	5% par loss; 5% of 'B-' transition to 'CCC'; liquidity stress via one year delayed recovery assumption
Three	5% par loss; 15% 'B-' transition to 'CCC'; liquidity stress via two year delayed recorvery assumption
Four	10% par loss; 7.5% 'B-' transition to 'CCC'; immediate recovery assumption

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Finally, scenarios 2 and 3 embed a delay assumption to the receipt of recovery proceeds from defaulted assets in an attempt to reflect a CLO transaction’s sensitivity to liquidity constraints. Our analysis highlights how--to a large extent--CLO performance is sensitive to these cash receipts under the stresses applied, whether it’s to aid timely interest payment on senior notes, bond duration, or the length of time deferrable notes pay-in-kind. Once again, we could have assumed a reduction in WAS instead, but interest on CLO debt is typically covered by a number of multiples, and a fall in WAS, in our view, would not be conducive to an environment undergoing tightening financing conditions.

For details of the cash flow profiles in this analysis, charts 8, 9, and 10 in the Appendix reproduce the repayment profile for some of the CLO bonds under each of the stress test scenarios.

European CLO ratings demonstrate high resiliency

Overall, the ratings impact is generally lower for investment-grade CLO ratings than for speculative-grade ratings, and the ratings overall demonstrate considerable resiliency. Under these stress scenarios, ‘BBB’ and ‘BB-’ ratings experience the largest movement, although none of the rated notes suffer losses in any of the four stress scenarios despite the magnitude of the stresses.

The note factor for the most senior classes of notes generally shows a consistent repayment profile, though are most significantly affected when the liquidity stress is applied under scenarios 2 and 3 (see chart 8 in the Appendix for the ‘AAA’-rated class A notes). The curves under the liquidity stresses break away from all other scenarios in the beginning years, but then gradually converge as a result of back-ended principal repayments.

The repayment profile for the lower rated classes of notes highlights that they effectively diverge from their base case from day 1 (see charts 9 and 10 in the Appendix for the class D (‘BBB’-rated) and class E (‘BB-‘-rated) notes, respectively). These notes immediately pay-in-kind on their bonds under the stress scenarios (while the more senior classes are deleveraging), and the rate of compounding increases the most where the liquidity stresses are applied. Noting the significant duration risk verses the base case, the repayment profiles in all scenarios converge toward the latter years and deleverage junior CLO bonds at a significant rate, driven by back-ended principal repayments following repayment of senior CLO bonds.

Table 2 | Rating Movement For All Ratings Under Stress Scenarios

	Stress test scenario			
Rating	1	2	3	4
AAA	(1)	(1)	(1)	(1)
AA	0	0	(1)	(2)
A	0	0	(1)	(2)
BBB	(1)	(1)	(2)	(3)
BB-	(1)	(1)	(3)	(3)

For B- rated notes, our ratings analysis makes additional considerations before assigning ratings in the ‘CCC’ category, and we would assign a ‘B-’ rating if the criteria for assigning a ‘CCC’ category rating are not met. We have therefore not included the results for the class F notes in this scenario analysis.
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Appendix

Stress test scenario: CLO portfolio and structure assumptions

For the stress test, we created a generic CLO structure and portfolio that are typical of the European CLO structures that we rate. In drawing out these assumptions, we focus on key structural and portfolio parameters, including but not limited to the following.

For the CLO structure:

- Credit enhancement levels;
- CLO note spreads and coupon (setting aside the recent spread widening and those witnessed in 2020);
- Overcollateralization tests and cushions; and
- Key dates, including length of the reinvestment period.

For the portfolio:

- A portfolio of the top 100 names across European CLOs (by notional amount), weighted in exposure similar to their exposure in CLOs overall;
- WAS; and
- Weighted-average recovery rate assumptions.

Table 3 produces the following CLO transaction structure and portfolio assumptions for the stress test:

Table 3 | Hypothetical CLO Structure And Portfolio Assumptions For Stress Test

Liabilities

Class	Par amount (€M)	Spread/ coupon	Margin (%)	Coupon (%)	IC test (%)	OC test limit (%)	OC cushion (%)	S&P Global rating	Credit enhancement (%)
Class A Notes	248	Spread	1.00					AAA	38.00
Class B-1 Notes	31	Spread	1.75					AA	27.75
Class B-2 Notes	10	Coupon		2.20	120.00	128.41	10.0	AA	27.75
Class C Notes	23	Spread	2.50		110.00	121.21	7.0	A	22.00
Class D Notes	29	Spread	3.50		105.00	111.30	6.0	BBB	14.75
Class E Notes	20	Spread	6.70		105.00	105.80	5.0	BB-	9.75
Class F Notes	13	Spread	9.40			102.45	4.5	B-	6.50
Sub Notes	29							NR	
Total	**403**	**WACD**	**2.00**	**Reinvestment OC**		**102.95**	**4.0**		

Assets

Type	Balance (millions)	Spread/ coupon (%)
Fixed Rate Assets	40	5.50
Floating Rate Assets	360	4.00
Total	**400**	

Asset Assumptions

SPWARF	27,700
WAL	5.25

Key Dates

First Payment Date	6.5 months from close
Maturity Date	13 years from close
Reinvestment End Date	5 years from close
Non-Call Period	1.5 years from close
Max WAL	8.5 years

Fee Assumptions

Payment Frequency	4
Senior Capped Expenses (Fixed)	[300,000] per annum
Senior Capped Expenses (Floating)	0.03%
Senior Manager Fees	0.20%
Sub Manager Fees	0.30%

IC = interest coverage; OC = overcollateralization; NR = not rated; WACD = weighted-average cost of debt; WAL = weighted-average life; SPWARF = S&P weighted-average rating factor
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Note repayment profiles

Chart 8 | 'AAA' Note Repayment Profile

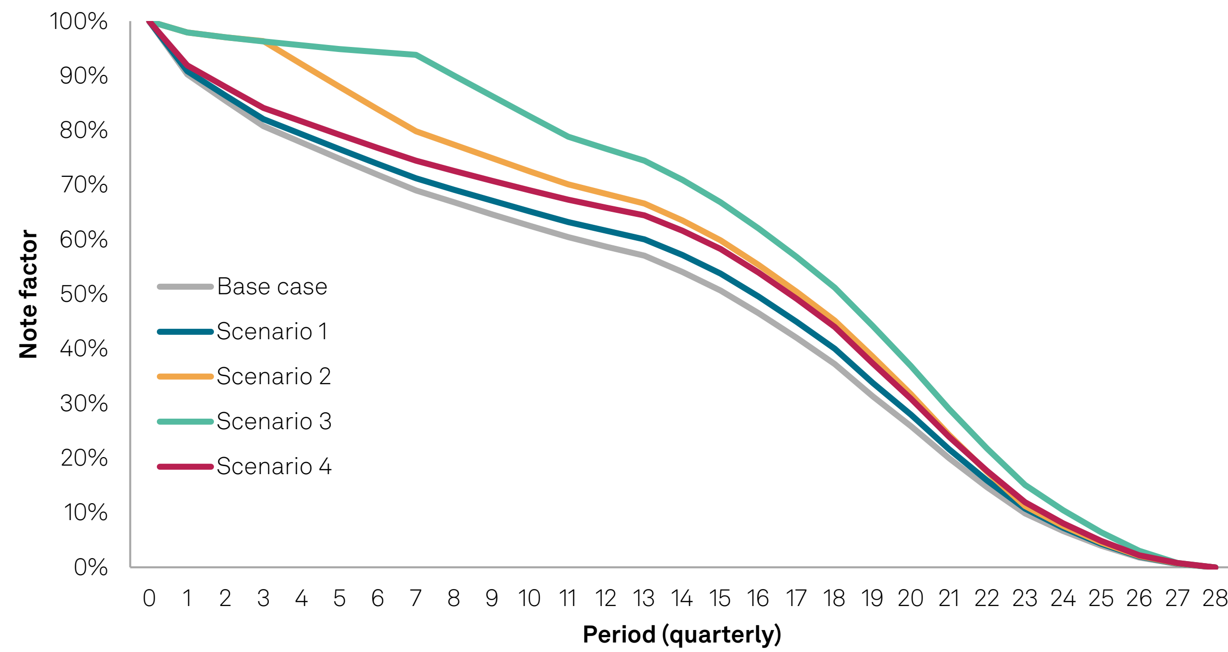

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Chart 9 | 'BBB' Note Repayment Profile

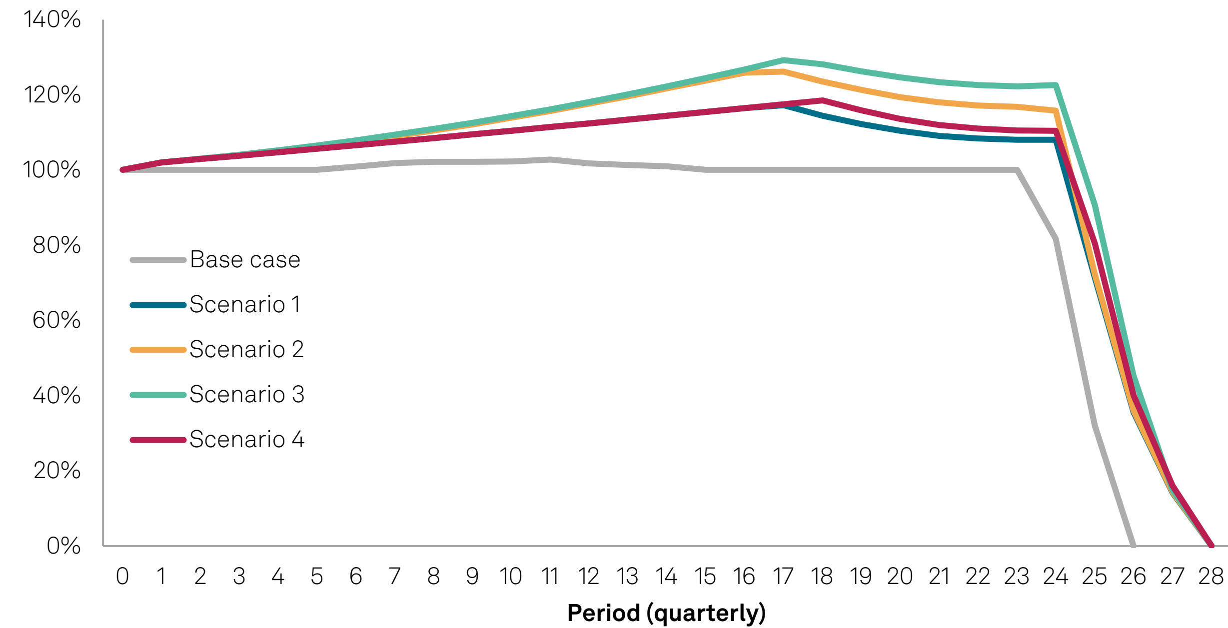

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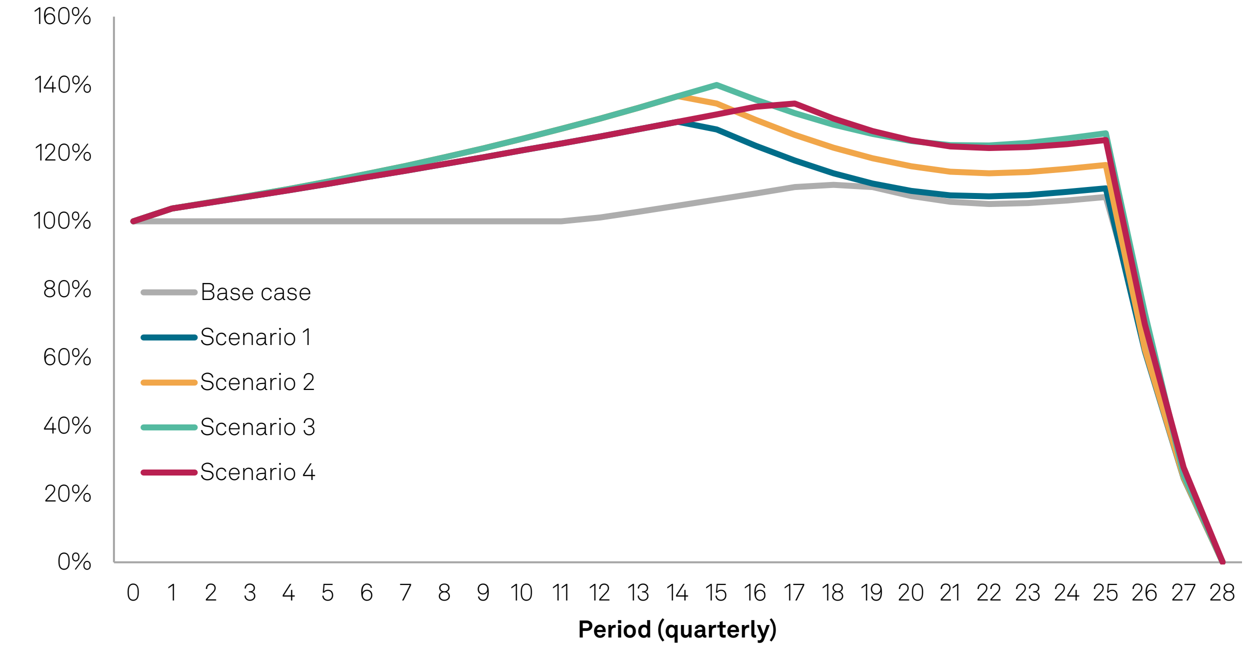
Chart 10 | 'BB' Note Repayment Profile



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