

Mid-Year Credit Outlook: Divergence to Persist through 2024

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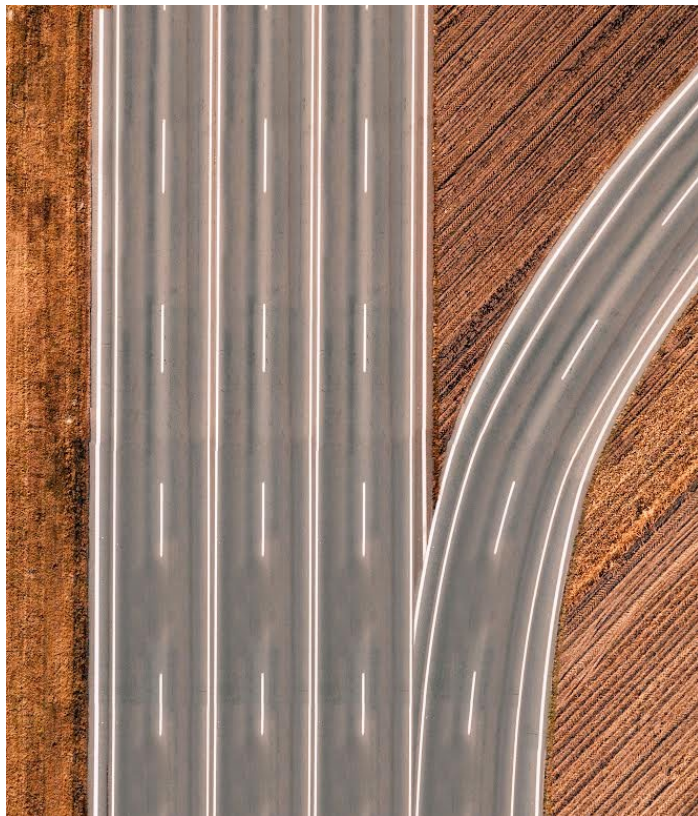
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KEY TAKEAWAYS

- ➔ The buoyant demand for corporate debt that has bolstered primary markets this year has come alongside pockets of distress in the riskier parts of the market. We expect this divergence to persist through 2024 as demand for high-quality credit keeps index spreads near record highs while a subset of lower-quality corporates struggle with generationally high interest rates.
- ➔ We expect investment grade bonds and BB spreads will remain stable despite historically tight valuations given supportive technicals and strong credit metrics. Meanwhile, the outlook for lower-quality credit is more uncertain: Credit spreads across the B/CCC universe could be pressured if the economic backdrop deteriorates and the earnings tailwind from strong economic growth subsides. Conversely, in a higher-for-longer rate environment, some of these companies may face funding cost pressures given steep maturity walls in the US and European high yield and leveraged loan markets.
- ➔ We believe the current higher interest rate environment coupled with a resurgence in capital markets activity will be a source of catalysts for opportunistic credit. The continued evolution of AI and its increased grid and power demand, the disruption of communications and media providers from new technologies and competitors as well as the US elections are all key themes we are monitoring.
- ➔ Looking at the investment grade market, there appears to be a rising fragmentation in liquidity. The most liquid segments of the market have seen an improvement in trading volumes, while the liquidity profile of older vintage and smaller bond tranches has deteriorated. At the same time, liquidity premia have compressed, suggesting investors are receiving less compensation in return for holding bonds that are increasingly illiquid. With this in mind, we believe private credit is an attractive replacement for this allocation.
- ➔ The significant growth in middle market lending over the past year has driven an increase in issuance of two types of debt instruments that share some resemblance: middle-market CLOs and BDC unsecured debt. While issued in distinct markets—structured and corporate credit respectively—they have similar underlying risk exposures making their valuations readily comparable. We present a novel analysis comparing the two types of structures in a later section.

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The phones rang off-the-hook in early May as a wave of companies—from the US to Asia—looked to raise money and traders and analysts across the financial industry struggled to keep up with the flood of new bond deals hitting the market. In just 72 hours, 88 bond deals priced across more than 40 US investment grade firms that raised \$53 billion alongside 12 high yield issuers who netted \$11 billion from new bond deals while 27 leveraged loan deals raised more than \$27 billion.^{1,2} In Europe, issuers sold \$23 billion of bonds into the investment grade and high yield markets during a holiday-shortened week and in Asia, at least eight corporate borrowers priced offshore offerings that same week.¹



The resurgence in primary markets was evident throughout most of the first half of 2024. US investment grade issuance set a first-quarter record for new deal activity and volumes through May hit almost \$750 billion, up 24% from the same period last year. May was the most active month in the US high yield primary market in nearly three years, pushing year-to-date issuance over \$150 billion, nearly as much as the total supply for all of 2023. Leveraged loan issuance also hit a monthly record of ~\$170 billion in May. We saw similar trends in Europe, with ~\$50 billion of high yield issuance so far this year already surpassing last year's total. US and European CLO issuance also surged during the first five months of the year creating strong demand for broadly syndicated leveraged loans.³

The drivers of supply have varied across markets. Investment grade issuance has been driven in part by M&A-related funding, while a significant portion of high yield and leveraged loan supply was earmarked for refinancings and repricings as issuers addressed maturities and monetized historically tight spreads. As a result, while net supply has been elevated in investment grade, it has been fairly muted among high yield issuers.

Still, while the primary credit market was thriving, the riskier parts of the market were struggling. Economic

indicators published throughout most of the first half of the year have indicated that inflation remains elevated, reducing the likelihood that the Federal Reserve will reduce rates in the foreseeable future. The resulting higher-for-longer interest rate environment is likely a headwind for many levered issuers. Creditors of Altice France, the largest leveraged finance issuer in Europe, were scrambling to organize in the aftermath of the announcement by the French telecommunications company that lenders should expect to take a haircut on their principal as the company attempts to reduce leverage to more manageable levels.⁴ Creditors of the British holding company of Thames Water also face a restructuring after the company defaulted on an interest payment in April. Pockets of distress also emerged in several large capital structures in the US. Hertz Global Holdings reported a loss in April that was nearly three times larger than analysts expected, sending its shares and bonds lower and prompting Moody's to shift its outlook on the company's credit rating to negative. Some US issuers attempting to access the syndicated markets met pushback from prospective investors, forcing them to sweeten terms in order to place their deals. Such was the case with Staples, Gray Television and Florida's high-speed rail system, Brightline.

¹ Source: Bloomberg, May 2024

² Source: Credit Insights loans data; most issuance is from refinancing and repricing

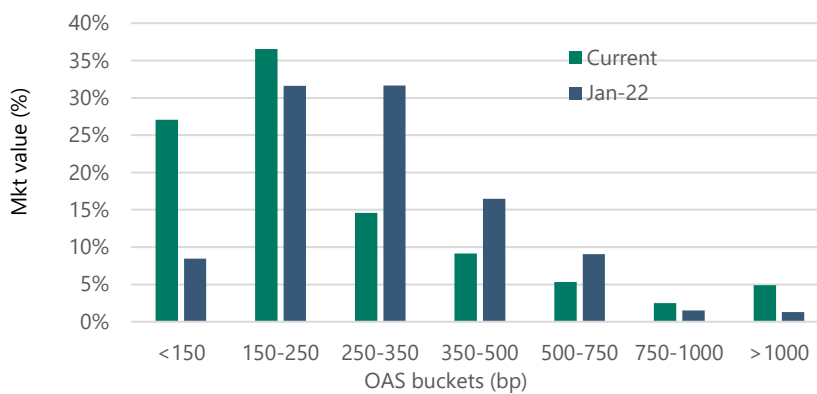
³ Source: Pitchbook

⁴ Source: Bloomberg, May 2024

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This divergence across credit markets has resulted in significant dispersion in performance across the quality spectrum. Investment grade and BB-rated debt are trading near their tightness of the past decade, while CCC-rated spreads are near their 10-year average. In fact, the CCC/BB spread ratio is hovering near its post-Covid peak. The dispersion is evident in the makeup of the US high yield benchmark, where about 60% of the index trades inside 250 basis points and 7% trades above 750 basis points—a more extreme distribution than in prior periods when HY spreads were at similar levels (**Exhibit 1** compares current distribution with January 2022 as an example). **We expect this theme of divergence to persist through 2024 as demand for high-quality credit keeps index spreads near record tightness while a subset of lower-quality corporates remain under pressure with generationally high interest rates.**

Exhibit 1: US HY Spread Distribution



Data as of June 2024.
Sources: BofA Indices, Apollo analysts

In this mid-year credit outlook, we discuss four notable topics that we’ve identified in today’s credit markets:

- ➔ **The divergence in the market and its impact on the relative value of credit**
- ➔ **Investment themes in opportunistic credit**
- ➔ **The vanishing liquidity premium in investment grade debt**
- ➔ **Assessing relative value in BDCs’ unsecured debt**

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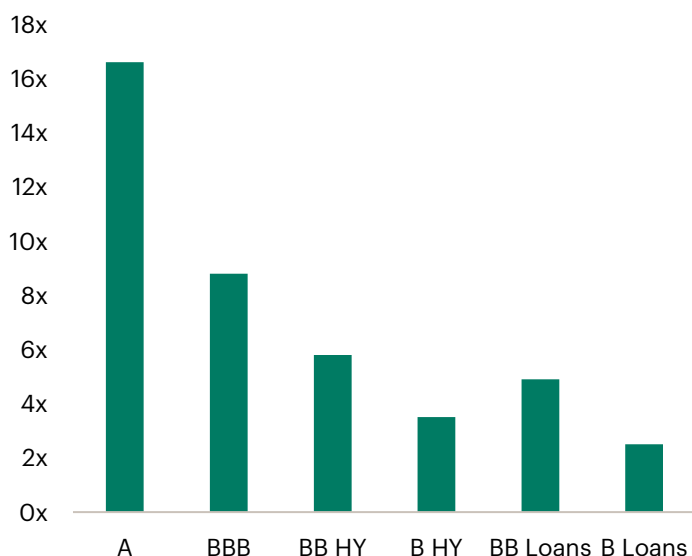
I) The Divergence in Credit Markets

FUNDAMENTALS

As our Chief Economist Torsten Sløk discusses in his mid-year outlook, we expect the US economy’s expansion will remain on track. While gross domestic product rose at a slower pace in the first quarter compared to the previous three-month period and personal spending decelerated, strong equity markets and rising housing prices are supporting household wealth—a potential tailwind for consumer spending over the coming quarters. Although the growth backdrop in Europe is weaker, economic activity has rebounded recently with first-quarter gross domestic product increasing 0.3% quarter over quarter, ending the streak of five consecutive quarters of stagnant or negative growth. However, the strength of the US economy has complicated the Federal Reserve’s efforts to move inflation back within its 2% target range and consistently reset traders’ expectations for rate cuts this year. Ultimately, we believe the Fed will forgo interest rate cuts this year versus the central bank’s most recent guidance for one rate cut and the rate market’s anticipation of two cuts before year-end. In Europe, the central bank cut rates for the first time in five years in early June but cautioned that additional reductions this year were unlikely given the persistent inflationary pressures in the region.

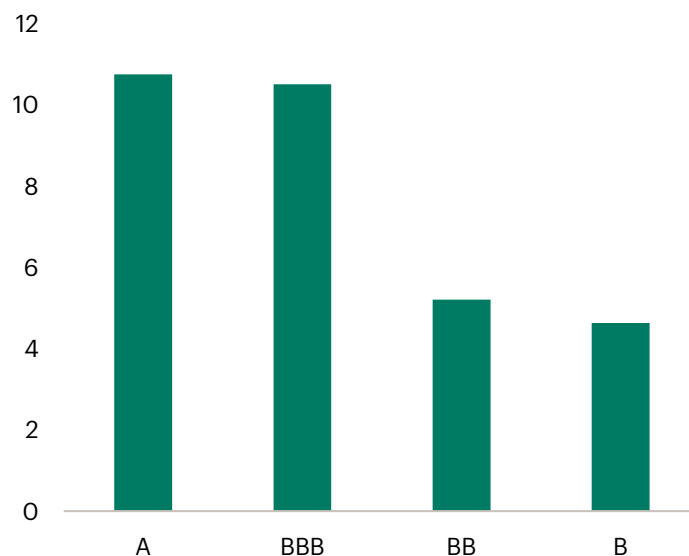
The strong global economic growth backdrop can support revenues and profits across the credit universe, but the impact of higher rates is more disparate. High grade companies are typically less impacted by the increase in funding costs given interest expense is a smaller fraction of unlevered free cash flow (**Exhibit 2** shows interest coverage, which is the ratio of EBITDA to interest expense) and liabilities are generally composed of long-dated fixed coupon debt (**Exhibit 3** shows average maturity of debt by rating). In contrast, for lower quality companies, interest expense constitutes a much larger relative cashflow burden while liabilities are typically shorter-dated, and a significantly higher portion is floating-rate, leaving these companies more exposed to higher rates.

Exhibit 2: EBITDA/Interest Expense



Data as of June 2024.
Sources: Bloomberg, Pitchbook LCD, S&P Capital IQ, Morgan Stanley Research, Apollo Analysts

Exhibit 3: Average Maturity of Debt (Years)*



Data as of June 2024.
*Based on debt in Bloomberg Barclays Corporate Indices.
Data as of June 2024.
Sources: Bloomberg, Apollo Analysts

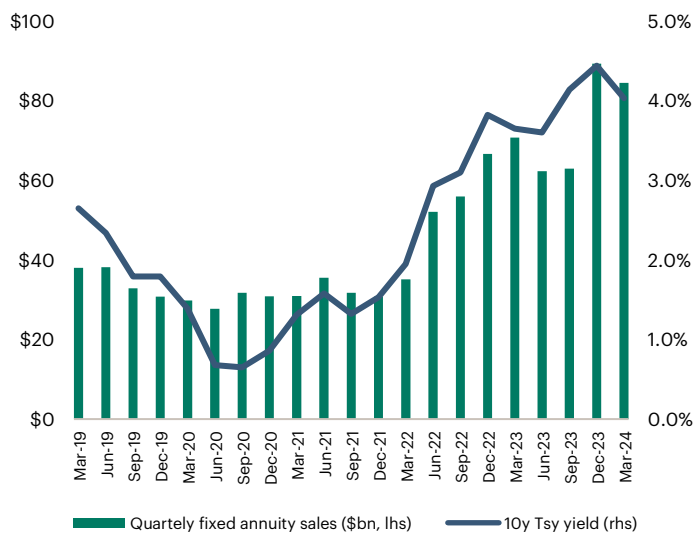
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As our chief economist details in his mid-year outlook, this theme of bifurcation in the credit markets is also present among US consumers. According to Sløk, there are two broad cohorts of consumers in the US, each affected differently by the higher inflation and rate environment. The first group is comprised of lower income consumers who carry elevated debt balances and are currently falling behind on paying their bills—mostly car loans and credit cards. The second cohort consists of more wealthy consumers who typically own assets and have enjoyed a positive wealth effect from the increase in housing prices and the rally in capital markets, supporting consumption trends.

TECHNICALS

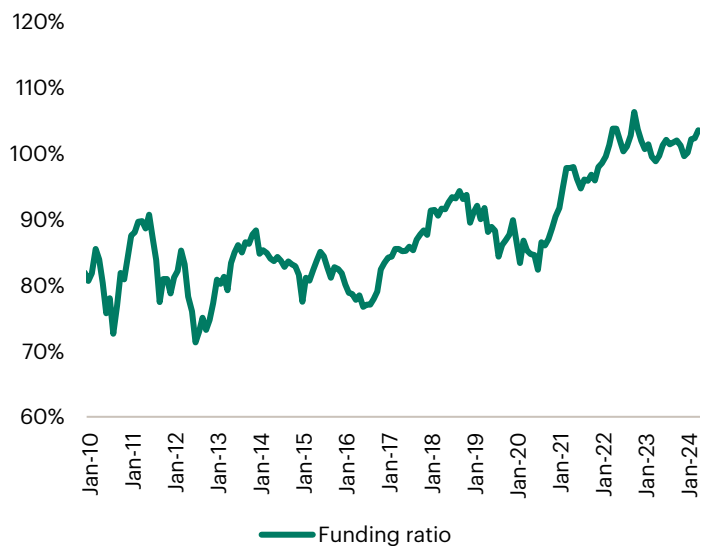
We expect demand technicals will further exacerbate the divergence in fixed income markets. Higher bond yields have boosted demand for fixed income from duration-focused investors such as insurance companies and pension funds. During the fourth quarter of 2023, fixed income annuities—proceeds of which are mostly invested in fixed income—were sold at three times the pace versus the same period in 2021 (**Exhibit 4**). As long as all-in yields are high and somewhat stable, we would expect annuity sales to remain strong. Similarly, the funding ratio for defined benefit pension plans remains above 100%, which continues to drive an allocation shift out of equities and into fixed income for these investors (**Exhibit 5**). Strong mutual fund flows into investment grade, high yield and leveraged loan funds have further strengthened the technical backdrop for fixed income. Importantly, the insurance and pension flows tend to focus on higher quality parts of credit which will likely widen the valuation gap across the ratings spectrum.

Exhibit 4: Total Fixed Annuity Sales



Data as of June 2024.
Sources: Bloomberg, LIMRA, Apollo Analysts

Exhibit 5: Milliman 100 Pension Funding Index



Data as of June 2024.
Source: Milliman

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OUTLOOK

While valuations are historically tight, we expect that investment grade and BB spreads will remain stable. Economic data suggests that a Goldilocks scenario, characterized by moderating inflation and solid economic growth, is certainly possible but the continued strength of investment grade and BB credit is not predicated on that outcome. As mentioned earlier, elevated funding costs generally do not pose a meaningful risk for the credit metrics of these issuers. Additionally, corporate fundamentals can remain intact even amid moderating economic growth. This view holds for European credit as well even though the macro backdrop in that region is somewhat weaker than in the US. A scenario of weakening growth and declining risk-free rates might even benefit technicals, if investors respond by rushing to lock-in elevated yields.

Meanwhile, the outlook for lower-quality credit is more uncertain. While a select group of lower-rated credits have come under pressure recently, the benefits of strong economic growth have blunted the impact of higher funding costs for a much larger universe of companies. However, if the economic backdrop deteriorates, credit spreads across the B/CCC universe could be pressured as the earnings tailwind from strong economic growth subsides. On the other extreme, if growth remains strong, higher-for-longer rates and steep maturity walls in the US and European high yield and leveraged loan markets will likely pressure the ability of some issuers to address near-term maturities. The risk could be especially acute for US companies with elevated leverage metrics and a high fraction of floating-rate liabilities.

Consequently, even though investment grade/BB spreads are trading near multi-year tightness, we expect them to remain range-bound for the balance of the year. Meanwhile, at current valuations, we do not find spreads compelling in the lower-quality spectrum (Bs and CCCs specifically). **Given that the room for further spread tightening appears limited and the compensation to extend spread duration is low relative to historical levels, we have an underweight stance on spread duration. Within BB credit, this drives our preference for loans over high yield.** While more than 75% of the loan market trades over \$99 and has limited room for further price appreciation, we find the current yield offered attractive.⁵ We also have a similar view in the securitized market, specifically CLO liabilities which have been among the best-performing fixed income asset classes this year.

Although we are constructive on credit in the medium term, we remain cognizant of several risks and potential sources of volatility for the credit markets, including upside risks to inflation, further geopolitical tensions, and uncertainty leading into the November US elections. We continue to monitor several pro-inflationary trends including deglobalization, energy transition, higher defense spending and the elevated US fiscal deficit. We are monitoring geopolitical risks including the current stalemate in Ukraine and the ongoing war in the Middle East, where any escalation could impact energy markets and the broader global economy. Finally, with less than five months before the US elections, we are approaching a rematch of President Joe Biden and former President Donald Trump. The election, according to prediction markets like PredictIt, is currently a veritable coin flip. The uncertainty could introduce market volatility especially in the aftermath of surprise results earlier this year in India, Mexico, and the European parliamentary elections, a topic which we will expand on in the next section.

⁵ Source: JPMorgan Leveraged Loans Data, June 2024

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II) Investment Themes in Opportunistic Credit

STRATEGY:

The strong high yield and leveraged loan new issue market was a source of positive catalysts for opportunistic credit during the first half of the year. Several overleveraged companies took advantage of tighter spreads to refinance their debt and extend maturities. Still, high yield and leveraged loan issuers are facing elevated near-term maturities with over \$500 billion of debt coming due through 2026 in the US, the largest two-year maturity wall in history.⁶ Given the elevated interest rate environment, we also expect to continue to see a higher prevalence of distressed exchange and out-of-court restructuring activity. The month of May saw the third-largest monthly volume of distressed exchange activity on record, and at \$21.7 billion of volume so far in 2024, this year already ranks as the third-highest total annual volume ever.⁷ We believe each of these trends creates opportunities to supply a variety of capital solutions for companies, ranging from rescue capital to acquisition financing.

KEY THEMES FOR 2024:

- ➔ **Artificial Intelligence:** We continue to think through the disruptive impact of generative AI, a trend that we have tracked since OpenAI released ChatGPT to the public in late 2022. We saw signs of the disruptive impact the technology may have on call centers earlier this year when Swedish fintech Klarna disclosed that it was using an AI assistant powered by OpenAI to handle two-thirds of its customer service chats, pressuring the equities of several call center operators. For now, the consensus seems to be that AI-driven chatbots will mostly replace non-voice and simple voice customer interactions, while more complex workflows, which are most prevalent in the financial services and healthcare domains, will remain more insulated from AI competition. Additionally, the rise of AI and the associated power demand has focused the market on the implications of technology on energy demand. According to some estimates, the data-center share of US electricity consumption may triple over the next six years, to the equivalent usage of 40 million US homes.⁸ If so, we think the US will need to invest in more energy production and transportation, which could benefit power producers, the domestic natural gas industry and electricity infrastructure providers. Longer-term, we think the increased demand for AI-related infrastructure, including data centers, semiconductors and power generation, will create large capital deployment opportunities for asset managers like Apollo.
- ➔ **Media & Communications:** The telecommunications, satellite and broadcasting/media sectors are facing a variety of secular pressures and are, unsurprisingly, among the highest yielding segments of the high yield market. Cable and broadband operators are facing increased competition from traditional telephone companies who are replacing their legacy copper networks with fiber, and wireless network operators who are offering mobile-based broadband alternatives. At the same time, traditional satellite network operators are facing a new competitor in Starlink, a subsidiary of Elon Musk's SpaceX, which has launched a global constellation of low Earth orbit satellites that boasts faster throughput and lower latency than traditional satellite networks. In media, television broadcasters and content providers are contending with accelerating cord-cutting trends as consumers increasingly opt to consume video content through streaming services such as Netflix. We believe these trends will lead to more dispersion within the telecom and media sector, increase the need for creative financing solutions and, in certain cases, lead to industry consolidation.
- ➔ **US Elections:** Politics has been a major investable theme in 2024, given 40 countries—representing half of the global GDP—are holding elections this year (**Exhibit 6**). The election risk has already manifested itself in several markets. The peso initially fell more than 10% versus the dollar after investors underestimated the extent of President-elect Claudia

⁶ Source: ICE BofA Corporate Indices, Bloomberg, Pitchbook LCD. January 2024

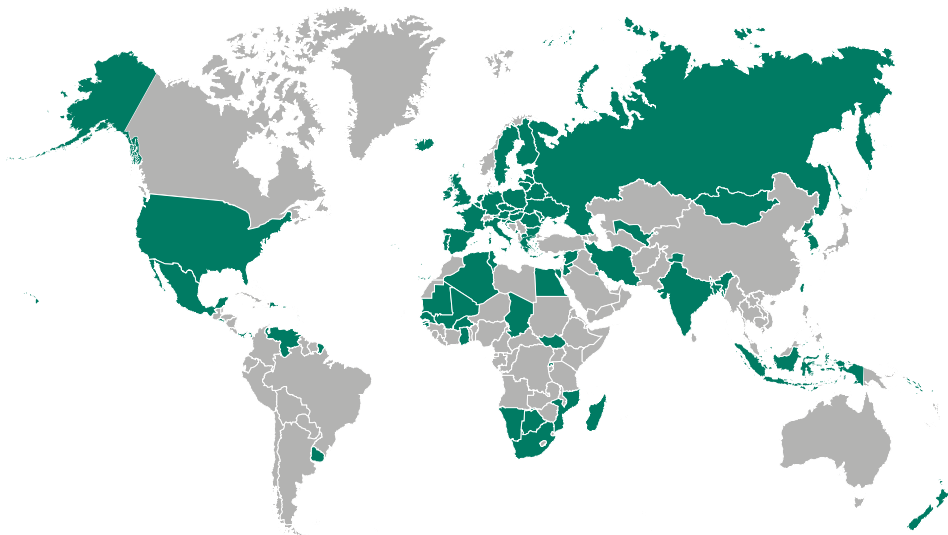
⁷ Source: JPMorgan, Default Monitor. June 2024

⁸ Source: CPower. March 2024

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Sheinbaum's margin of victory in the Mexican elections. India's benchmark NSE Nifty 50 Index dropped nearly 6%, posting the worst performance in more than four years, after Prime Minister Narendra Modi's party, the BJP, failed to secure a majority in the parliament. France's OAT spread over Germany's Bund widened 25 basis points and was at the widest gap in 10 years after President Emmanuel Macron's surprise decision to call snap elections in the aftermath of the National Rally party's strong performance in the European Parliament election. With a little over four months to go before the US elections, we expect rising volatility as we approach a rematch between President Joe Biden and former President Donald Trump. Looking specifically at the implications for credit, we believe that under a Republican presidency we're more likely to see more lenient regulations for the banking and energy sectors, supportive policies for US auto companies that will slow EV adoption, upside convexity for the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac, and rising M&A activity. Meanwhile under a Democratic presidency, we expect stronger support for consumer-friendly policies such as student loan forgiveness and broadband subsidies as well as clean energy initiatives. Further, in a Democratic sweep scenario, we expect higher corporate tax rates which, in addition to lowering post-tax income, could impact leverage policy. A higher tax rate increases the value of debt's tax shield (from the issuer's perspective) and could, on the margin, drive increased debt and hybrid issuance.

Exhibit 6: Election Map



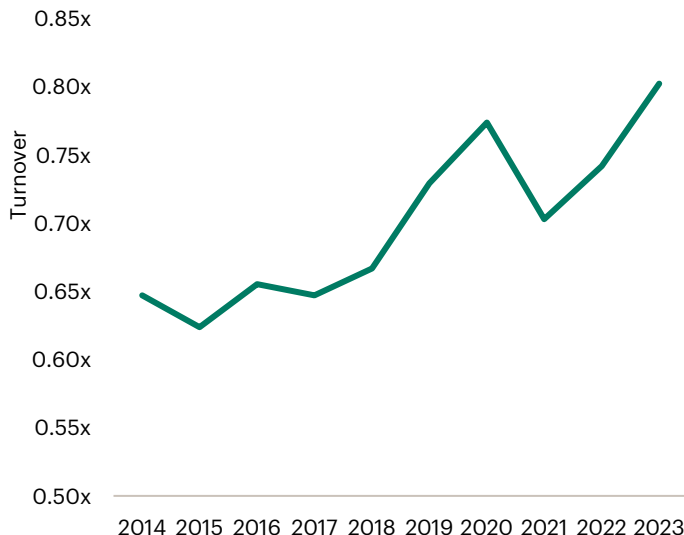
Data as of June 2024.
Source: International IDE

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III) The Vanishing Liquidity Premium

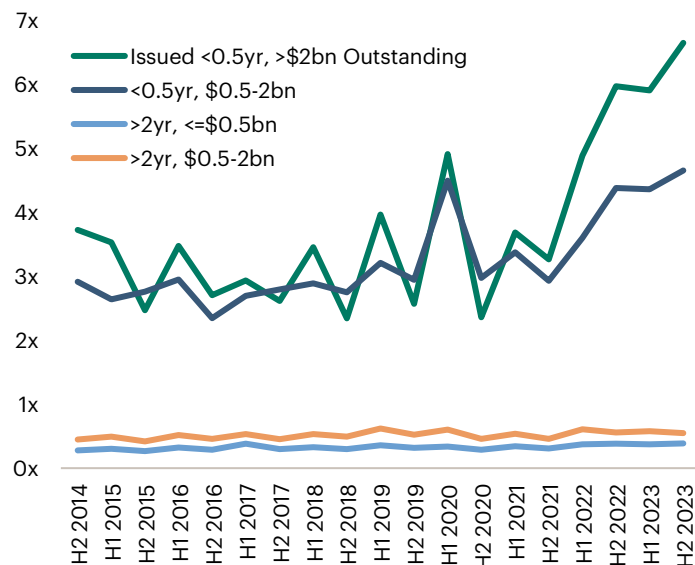
Liquidity in credit markets is a key focus for investors especially given the growth of private credit. One metric often used to quantify liquidity in public markets is turnover, typically defined as trading volume as a fraction of total outstanding debt (**Exhibit 7**). That metric for the US investment grade market has increased over time—from mid-60% in the 2015-2018 period to more than 80% in 2023. In our view, the increase in turnover has been driven in part by the advent of portfolio trading, which allows investors to transact large volumes in one trade, as well as the growth of mutual funds, which have daily liquidity needs.

Exhibit 7: US IG Turnover



Data as of June 2024.
Sources: TRACE, BofA Indices, Apollo Analysts

Exhibit 8: Turnover by Vintage and Size



Data as of June 2024.
Sources: TRACE, BofA Indices, Apollo Analysts

However, we believe the aggregate data only tells part of the story given that the increase in turnover has come almost entirely from the pickup in trading volumes of on-the-run bonds (defined as debt issued in the prior six months). The turnover of on-the-run debt has nearly doubled in the last five years (**Exhibit 8**). Meanwhile, turnover for bonds issued more than two years ago—a universe that includes more than \$6 trillion of debt, or about 70% of the total investment grade debt outstanding—has largely remained unchanged at around 40%-60%.⁹

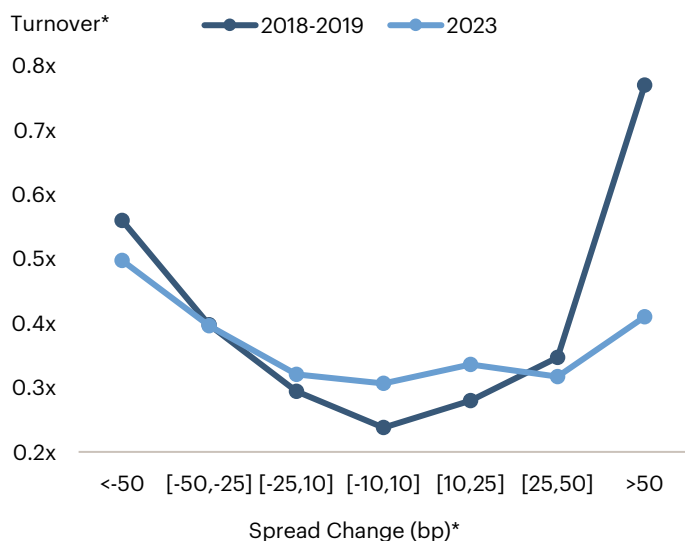
This fragmentation in IG trading volumes likely stems from an evolving market structure where the need to trade individual corporate bonds for daily liquidity has declined. Investors are increasingly using ETFs and portfolio trades to manage daily flows, which is more efficient than trading individual bonds. These innovations in financial markets, which were mostly absent 10 years ago, has reduced the need to individually trade smaller or older vintage bonds. Consequentially, the use of ETFs and portfolio trades has bolstered trading volumes for constituent bonds in these baskets, which are typically the more recently issued, on-the-run securities, and has reduced trading in older vintage bonds.

⁹ Sources: TRACE, BofA Indices, Apollo Analysts

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In fact, not only has turnover in older vintage securities stagnated, but liquidity appears to have worsened along several dimensions. Historically, higher spread volatility has led to higher trading volumes—the rationale being that a significant move in a bond’s price is more likely to change an investor’s perception of value in the security, leading to elevated trading volumes. This was the case pre-Covid as evidenced in **Exhibit 9**, which shows turnover as a function of spread volatility. However, this relationship has weakened recently as turnover picked up only slightly even for bonds that suffered meaningful spread widening.

Exhibit 9: Turnover by Spread Vol

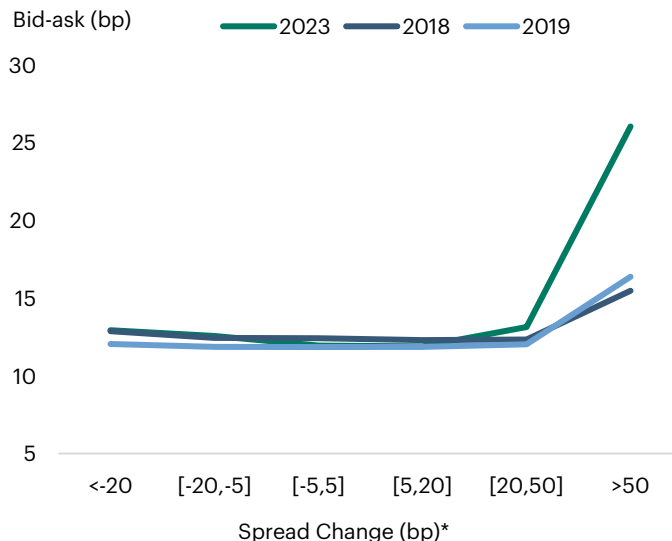


Data as of June 2024.

*Annualized turnover calculated based on quarterly volumes. Spread change over the same quarter. Average of turnover for each quarter during the period. Based on \$500mn or smaller deal size, issued more than two years ago.

Sources: TRACE, BofA Indices

Exhibit 10: Transaction Cost vs Spread Vol



Data as of June 2024.

*Based on one month Spread Change. For bonds with <= \$500mn outstanding, issued >two years ago. **Bid-ask estimated using Barclays LCS score divided by OAD.

Sources: Barclays, BofA Indices, Apollo Analysts

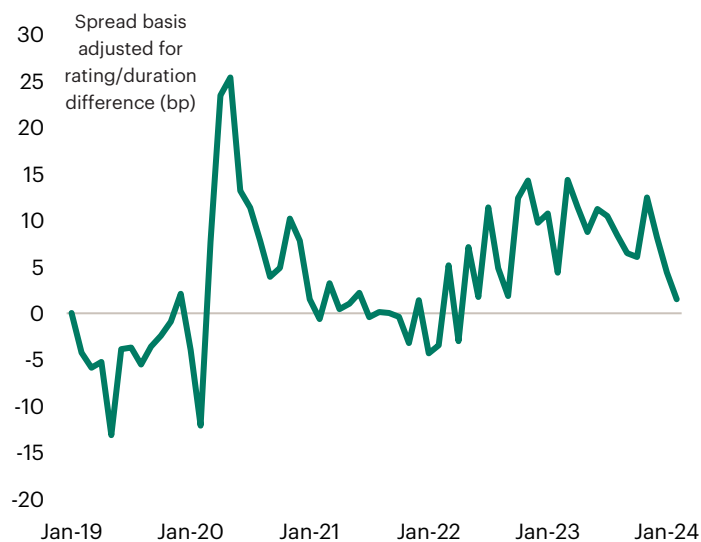
Like trading volumes, the bid-ask spread generally increases with spread volatility. However, this relationship has been more extreme as of late. The quoted bid-ask for securities that suffered a widening of more than 50 basis points was more than twice the rest of the universe, a substantial worsening in this relationship versus the pre-Covid period (**Exhibit 10**). The worsening liquidity has also affected the price discovery mechanism in the less liquid cohort of the market and we observe that these securities are much more likely to suffer a steeper price move than the rest of the universe.

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With diminishing liquidity for smaller tranches and off-the-run securities, the liquidity premia offered by this cohort have also compressed. The spread basis between small and large bond issues, after adjusting for differences in rating and duration, which serves as a proxy for liquidity premia, is almost back to pre-Covid levels (**Exhibit 11**). **This suggests, investors are receiving less compensation in return for holding bonds that are increasingly illiquid.**

The trading patterns suggest increasing fragmentation in the investment grade market. The most liquid segments have seen an improvement in trading volumes as investors turn to these instruments to articulate changing market views or meet liquidity needs. This has resulted in a deterioration in liquidity for a large segment of the investment grade universe: older vintage and smaller deals. These bonds, which make up more than 70% of the \$6 trillion investment grade market, have effectively become buy-and-hold investments for many investors. However, these securities appear to offer investors limited excess spread compensation for their lack of liquidity. **We believe that private IG credit could be an attractive alternative for this allocation.**

Exhibit 11: IG Liquidity Premium



Data as of June 2024.
 Spread difference based on excess spread, i.e. OAS not explained by spread and duration. IG: For industrial issuers only. Deal size for IG: Small (<=\$750mn), Large (>\$750mn).
 Sources: BofA indices, Apollo

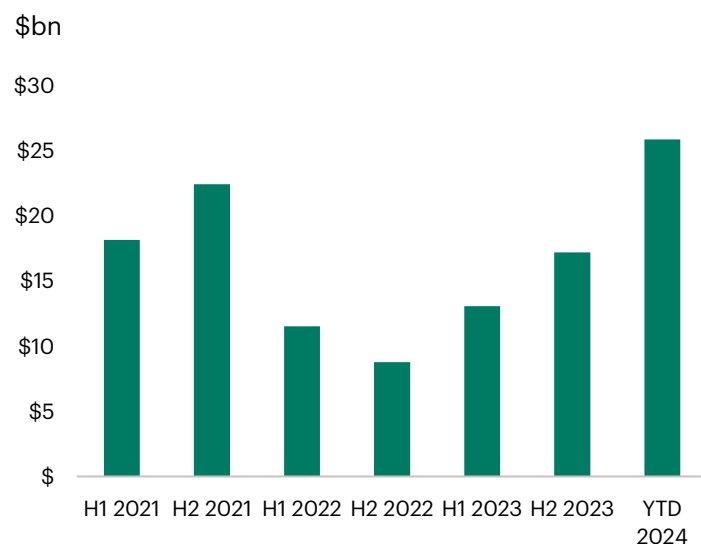
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IV) Relative Value of BDCs' Unsecured Debt

Business Development Companies, or BDCs, are investment firms that invest predominantly in small-and medium-sized private companies. As middle market lending has grown over the past few years, so has the funding needs of BDCs. These companies usually raise debt through a few channels: secured bi-lateral loans, CLOs backed by their assets (i.e., middle market loans) and senior unsecured debt in the investment grade market.¹⁰

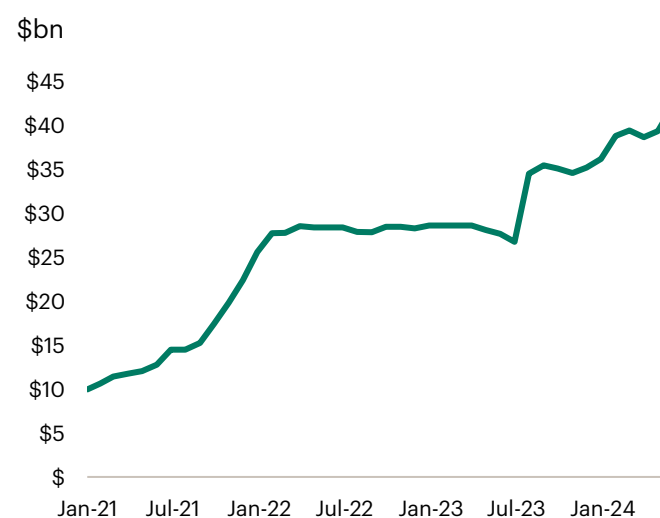
Issuance of both middle-market CLOs (MM CLOs) and BDC unsecured debt has picked up of late. MM CLO supply, which had averaged \$30 billion per year since 2021 has already hit \$26 billion this year (**Exhibit 12**). BDC unsecured debt has mimicked this growth with the amount outstanding increasing to more than \$40 billion (**Exhibit 13**). In this section, we will present a novel analysis comparing the two types of structures.

Exhibit 12: Middle Market CLO Issuance



Data as of June 2024.
Source: Apollo Analysts

Exhibit 13: BDC Debt Outstanding



Data as of June 2024.
Sources: BofA Indices, Apollo Analysts

MM CLOs and BDC debt are issued in distinct markets—structured and corporate credit accordingly—each with distinct buyer bases, and their valuations are benchmarked against comparables within their respective markets. However, the underlying risk exposure for both MM CLOs and BDC debt is similar and—in the case of CLOs issued by BDCs—even intertwined. As a result, their valuations can be readily comparable.

Still, the comparison between the two instruments is not straightforward. Differences in underlying asset quality and leverage across different BDC issuers, and the presence of structural features in CLOs impact the performance of debt/CLO instruments under a stressed scenario.

To adjust for collateral and structural differences, we model losses for each BDC assuming a prolonged period of elevated default rates and estimate the resulting deterioration in credit enhancement (or conversely an increase in the effective loan-to-value) of their unsecured debt and CLO tranches (if any).¹¹ Specifically, we assume an ~8% default rate with 20%-40% recovery over a five-year period. Although such a severe scenario of losses is unlikely in our view, in a severe downturn, we believe that

¹⁰ A CLO, or collateralized loan obligation, is a single security backed by a pool of non-investment grade corporate loans. These loans usually sit in the first-lien level of the capital structure and are secured by the company's assets.

¹¹ Here and in the rest of the report, we use credit enhancement, or attachment point, as our measure of subordination beneath the senior unsecured tranche. This is effectively the converse of the loan-to-value ratio. For instance, a \$40 debt tranche on \$100 of assets has \$60 of equity beneath in resulting in effective credit enhancement/attachment point of 60%. The LTV in this case is 40%.

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investors may price in a worst-case outcome akin to our model assumptions. Importantly, the relative value conclusions hold even in a less severe default scenario.

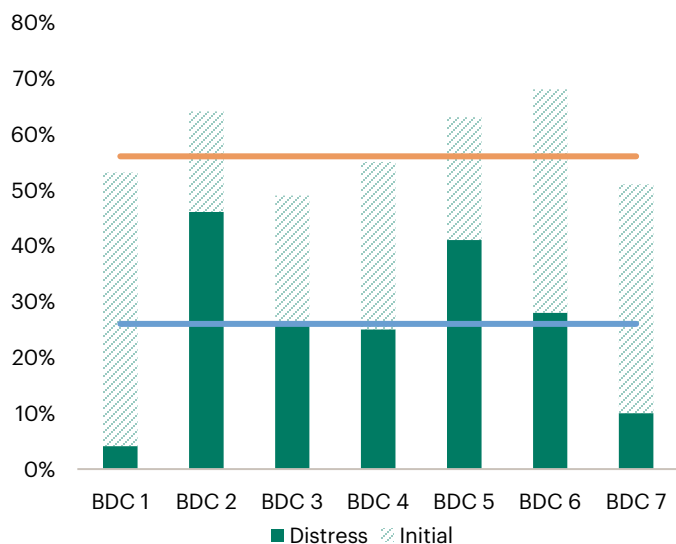
When modeling asset losses, we account for the following:

- 1. Sector exposure:** Default rates for middle market loans are assumed to vary by sector depending on our analysts’ fundamental views.
- 2. Borrower size:** Default rate is assumed to vary based on the borrower’s EBITDA, with larger issuers enjoying a lower default rate.
- 3. Seniority:** Any subordinated exposure, such as a second lien or unsecured risk, is assumed to have a lower recovery.

The analysis assumes that assets for any CLO, or bi-lateral loans, are carved out such that the BDC only retains the residual or equity interest in these assets. Additionally, we assume that only first lien assets are encumbered in CLOs. Based on conversations with managers and anecdotal evidence, we also assume managers will support CLOs by exchanging bad loans for good collateral. This can help lower the default rate for CLO assets compared with the rest of the BDC collateral.

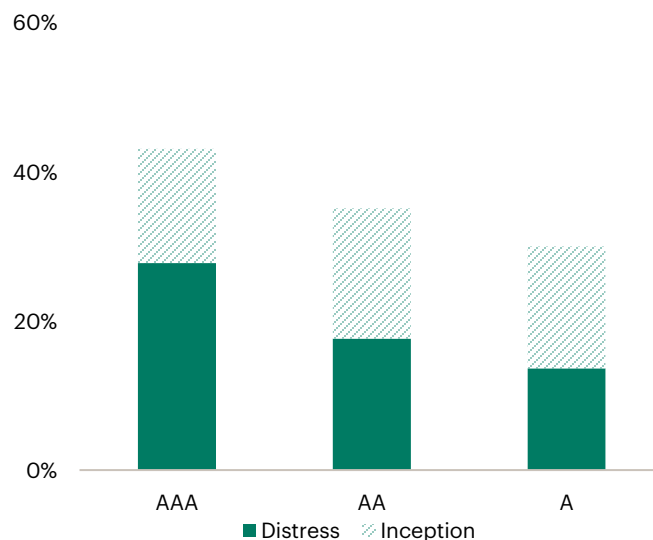
Exhibit 14 shows the initial attachment point, or credit enhancement, for select BDC unsecured debt tranches. On average, the credit enhancement is ~50% across the cohort. However, in a distressed scenario, it declines significantly to ~20%. There are meaningful differences in outcome among BDCs driven primarily by asset quality: Some debt tranches experience a near complete erosion of subordination (BDC 1) while others are less severely impacted (BDC 2 and 5).

Exhibit 14: Credit Enhancement of BDC Senior Unsecured Debt



Data as of June 2024.
Source: Apollo Analysts

Exhibit 15: Median Credit Enhancement of MM CLO Tranches



Data as of June 2024.
Source: Apollo Analysts

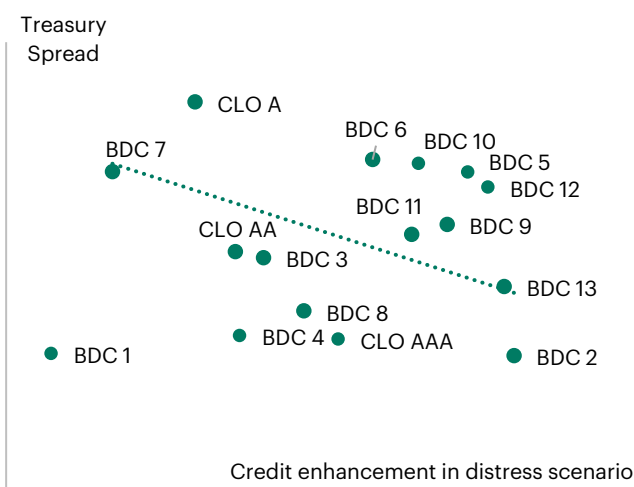
We repeat the same analysis for AAA/AA/A tranches of CLOs issued by these BDCs (**Exhibit 15**). The decline in credit enhancement is more benign in this scenario owing to better asset quality, given our assumption of holding first lien assets only,

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manager support and OC/IC triggers which trap excess interest in the structures for the benefit of senior tranches.¹² As a result, even though the initial credit enhancement for a CLO AAA tranche is inferior to BDC unsecured debt, the relationship flips under a distressed scenario.

To assess relative value across a selection of BDC and CLO debt, we compare their current spreads against their pro forma credit enhancement under a distressed scenario. **Exhibit 16** shows the current relationship—each data point refers to BDC unsecured debt or CLO liability tranches. Although the two factors are correlated across the BDC/MM CLO universe, the model cannot fully explain the divergence we see in pricing. We suspect that investors are assigning significant value (perhaps too much) to manager track records and, more importantly, the age of a specific fund (not the direct lending platform/ adviser) with older vintage funds trading tighter.

Exhibit 16: Spreads Compared to Stressed Credit Enhancement



Data as of June 2024.
Source: Apollo

A couple of other observations:

- ➔ CLO A tranches stand out as attractive relative to some tighter spread BDC debt, having similar subordination under a distressed scenario but trading much wider.
- ➔ Select perpetual BDC debt also appears attractive—we find that their spread levels don’t fully reflect the strong quality of their assets.

¹² The Overcollateralization (OC) test compares the principal amount of CLO assets to amount outstanding of debt tranches. If the OC level falls below a threshold, cash is diverted away from junior and equity CLO tranches to pay down senior debt tranches instead. Interest coverage (IC) test: if the total interest generated from collateral falls below a trigger value, cash is diverted away from equity and junior CLO tranches to pay down senior debt tranches instead.

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Mr. Cortese is a Partner in Credit at Apollo, where he is responsible for its Global Trading business and is the Deputy Chair of its Multi-Credit Committee. Prior to joining in 2021, John was Co-Head of US Credit Trading at Barclays. Previously, he was a High Yield and Distressed credit trader at Lehman Brothers. John is a board member of the Make-A-Wish Foundation's Metro & Western NY branch as well as Dartmouth College's Hopkins Center for the Arts. John graduated from Dartmouth with a BA in Economics and holds a CFA.



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