Introduction to Collateralized Loan Obligations

March 2025

Executive Summary

Collateralized loan obligations (CLOs) are actively-managed securitized pools of leveraged loans, providing floating-rate exposure to corporate credit risk. CLOs are cash-flow oriented rather than mark-to-market (MTM) oriented by design, allowing the structure to withstand and even benefit from price volatility in the leveraged loan market. With substantial protections for investment-grade CLO investors, as demonstrated by zero AAA-rated tranche defaults and extremely rare AA- and A-rated defaults in the more than 35-year history of the market, we believe that CLOs can provide diversification benefits and enhance risk-adjusted portfolio returns.[1]

Background

What is a securitization?

When debt is originated by a bank or finance company, whether in the form of a loan to a business or mortgage to a consumer, it can be retained on a balance sheet or sold into a securitization like a CLO. When sold and placed into a securitization, the debt becomes an asset in the securitization's collateral pool, with its purchase ultimately funded by the investors who purchase the securitization's interest-bearing securities, also referred to as CLO liabilities or debt tranches. The collateral pool generates the cash flows required to service these securities over time. In essence, the bank has effectively traded places with the new group of securitization investors who assume the credit risk of the loans.

What are leveraged loans?

Leveraged loans, sometimes referred to as leveraged bank loans, are loans made by banks to below-investment-grade companies considered to have a higher risk of defaulting, often as a part of merger, acquisition, or leveraged buyout (LBO) activity. Leveraged loans are typically first lien, meaning that they have first claim on the assets of the underlying business in bankruptcy and therefore top priority in recovering principal relative to other debtholders. The leveraged loan market is ubiquitous, with American Airlines, Hilton Hotels, Dell, Burger King, and many other household names issuing in this market historically. Today, the market funds well over $1T in loans to U.S. businesses that collectively employ millions of Americans[2].

Businesses with earnings before interest, taxes, depreciation, and amortization (EBITDA) above $100MM[3] are generally considered large enough to receive a broadly-syndicated loan (BSL). BSLs are originated by a group of banks working together to jointly fund and syndicate, or allocate, the exposure. Below the $100MM threshold, the loan is considered to exist within the middle market or private credit (MM/PC) space, where loans are originated by a smaller group of lenders. Over the last ten years, CLO and leveraged loan markets have grown increasingly intertwined, with CLO loan holdings going from approximately 45% to over 70% of the market's total leveraged loans outstanding over the period[4].

What does it mean for leveraged loans to be floating rate?

The interest rate paid by floating leveraged loans are based on the Secured Overnight Financing Rate, or SOFR. SOFR is published daily by the Federal Reserve Bank of New York and reflects the cost of secured overnight borrowing collateralized by Treasury securities. Both leveraged loans and CLOs calculate their coupons paid to investors using two components that are summed together: first, a Term SOFR rate, which is reset periodically, and second, a spread that is determined at issuance. Term SOFR is a forward-looking rate based on the derivatives markets published by the CME Group for various periods, such as one month, three months, etc. Importantly, both the assets and liabilities of a CLO are required to have a reference rate of Term SOFR by the governing legal documents with few exceptions, minimizing the risk of interest rate volatility causing a destabilizing structural issue for the CLO.

[1]Textual source: NAIC Capital Markets Bureau. [2]Textual source: The LSTA Comments on the Leveraged Loan Market - LSTA, 11.2018. [3]Textual source: S&P Global Ratings, 02.2021. [4]Textual source: Bank of America CLO Research.
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What is the role of a CLO manager?

CLOs are actively managed by specialized asset management companies. Each CLO holds hundreds of leveraged loans that are diversified across a swath of industries, with each loan scrutinized for its creditworthiness continuously throughout its life. Once purchased by a CLO manager, the loans are directly monitored both by public rating agencies and dedicated teams of specialized CLO credit analysts. The loans are also indirectly monitored by CLO investors who analyze aggregate measures of collateral pool performance reported on a monthly basis.

Importantly, when economic growth slows and prices in the leveraged loan market decline, CLO managers are a natural buyer of loans, reinvesting loan repayments into new loans at more attractive levels during the reinvestment period (more on this below). Furthermore, managers may trade in and out of leveraged loans in an effort to add relative value, provided that they do not run afoul of various collateral pool guardrails that require certain levels of credit quality, spread, and average life to be maintained. CLO investors also track changes in CLO collateral composition to ensure that CLO managers are following their stated style, whether that be more aggressive or conservative in nature.

Structure

What is the structure of a CLO and what investor protections does it provide?

CLOs are structured such that lower-rated debt tranches provide par subordination, or credit support, to higher-rated debt tranches. Cash flows from the leveraged loans are sequentially paid to senior liabilities starting with the AAA tranche and ending with the BB tranche, with excess cash flows retained by CLO equity bondholders. On the other hand, principal losses are absorbed first by CLO equity, then by the BB tranche, and so on until the AAA tranche. This structure results in vastly different risk/return profiles for each debt tranche. While the AAA tranche takes relatively little credit risk, it also earns the lowest floating-rate coupon, receives the first cash flows, and has the shortest life. In contrast, the BB tranche earns a materially higher coupon, is much more exposed to losses, and remains outstanding the longest.

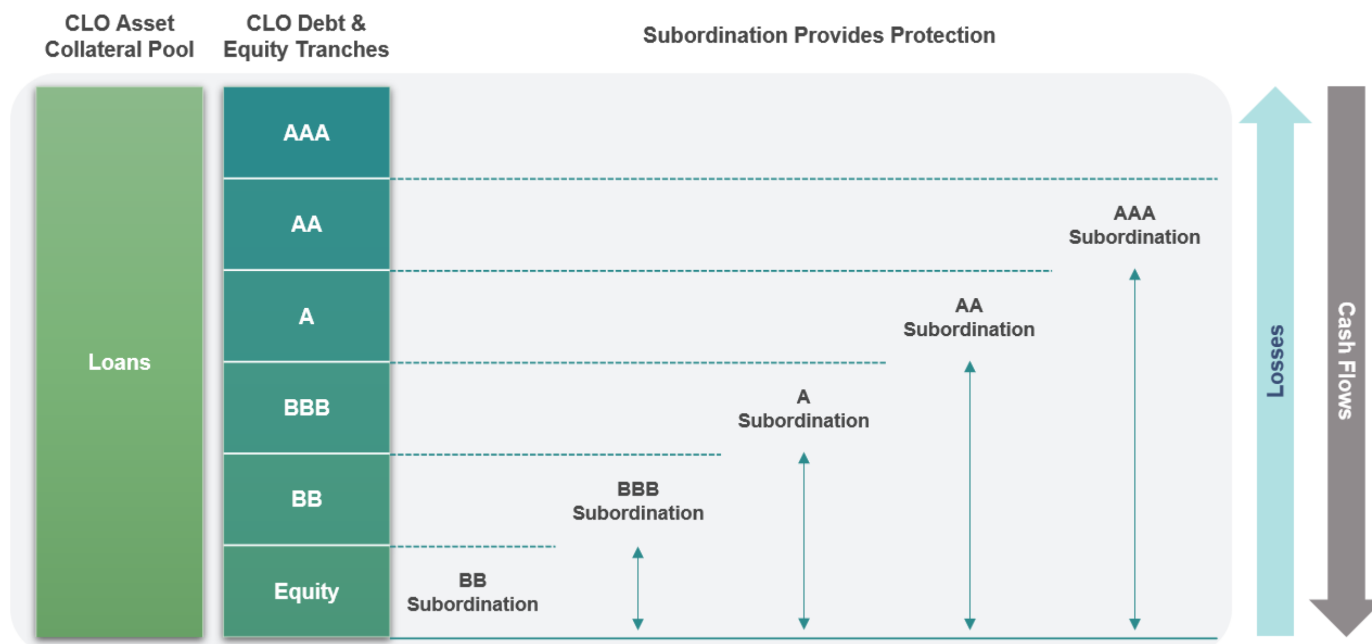

Chart sources: Van Eck; Sterling Capital Management Analytics. Charts are for illustrative purposes only. The views expressed represent the opinions of Sterling Capital Management. Any type of investing involves risk and there are no guarantees that these methods will be successful.

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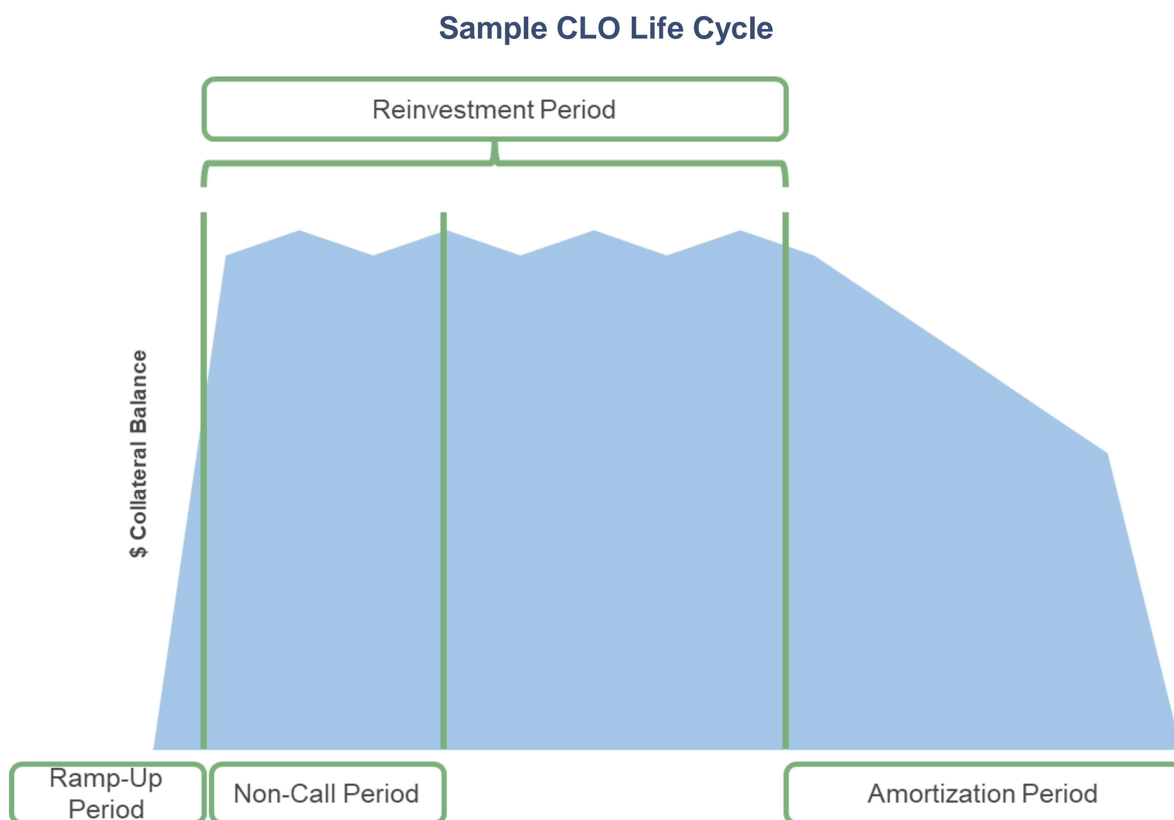
Today, CLOs are typically issued with par subordination of roughly 35%, meaning that the loan collateral would have to take 35% in principal losses before the AAA-rated tranche would begin to take losses. For comparison, in the Great Financial Crisis (GFC) of 2007-2008, the leveraged loan market experienced a peak default rate of 11%[5]. But defaults are not principal losses: the vast majority of CLO collateral are first lien, where loan recoveries are significant following default, averaging 73% over the long term[6]. In addition, AAA par subordination has increased by approximately 10% since the GFC, augmenting credit support for the tranche[7].

CLO performance metrics also provide critical investor protections, generally referred to as “self-healing” mechanisms. If key thresholds are breached, the trustee of the CLO must either divert cash away from the equity and junior traches to either buy more collateral or pay down the senior debt tranche, whichever is dictated by the CLO indenture. As a result, paradoxically, worse loan performance will often result in faster AAA repayment. There is no mechanism to force the sale of loans from the collateral pool, barring an event of default as defined in the indenture.

What is the life cycle of a CLO?

CLOs are typically issued with an initial two-year non-call period and five-year reinvestment period, though there are many variants. The reinvestment period requires the CLO manager to reinvest loan prepayments and maturities into new loans. Once the reinvestment period ends, the CLO manager has a more limited ability to recycle loan principal into new collateral and must follow well-defined portfolio criteria to begin using principal paydowns to amortize the CLO liabilities, beginning with the AAA tranche.

Sample CLO Life Cycle



[5]Texual source: Santander U.S. Capital Markets - CLO Research. [6]Texual source: Default, Transition, and Recovery: U.S. Recovery Study: Loan Recoveries Persist Below Their Trend, December 2023. [7]Texual sources: CLO Spotlight: U.S. CLO Defaults as of Feb. 1, 2025; S&P Global Ratings, February 2025.
Chart sources: Wells Fargo; Sterling Capital Management Analytics. Charts are for illustrative purposes only. The views expressed represent the opinions of Sterling Capital Management. Any type of investing involves risk and there are no guarantees that these methods will be successful.

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The non-call period guarantees that the CLO will remain outstanding until the periods ends. Once the non-call period ends and the CLO becomes callable, however, it may be refinanced or reset at the discretion of the majority CLO equity holder. In a refinance, the CLO lowers its cost of capital by re-issuing its debt liabilities at the prevailing market rate, with the flexibility to refinance as many or as few tranches as desired. In a reset, however, all of the debt liabilities are paid off and more substantive changes are made to the indenture, which often includes extending the life of the CLO via resetting the reinvestment period to a further end date. In all instances, CLO investors can decide to roll their principal into the new CLO or have the principal returned at par. The CLO equity can also liquidate the entire deal, selling all the collateral and paying off the liabilities held by investors.

What are the economics of a CLO?

In the BSL market, the CLO manager's business model is effectively an arbitrage of the excess spread to be found in the leveraged loan market above the borrowing cost of the CLO liability stack. Each dollar borrowed from CLO liability investors and used to buy a higher-yielding loan increases the leverage of the CLO. Critically, CLO equity is about 2% higher today relative to pre-GFC vintages, meaning CLOs today have less borrowing in them, or leverage, another example of how the structure has improved over time[8].

In contrast, the smaller loan size and naturally limited ownership groups in MM/PC lead to a much less liquid market environment where loans are often held to maturity. As a result, while the economics of the CLO operate under the same principles, MM/PC CLOs are primarily a form of new loan financing for the originating companies rather than a market arbitrage strategy, serving to free up capital from old loans that the finance companies can redeploy into new ones.

AAA CLO Performance Risks & Outlook

What are historical default rates for CLOs?

According to S&P ratings, no AAA-rated CLO has ever defaulted in the recorded history of the CLO market, dating back to 1996. Of note, the single AA-rated CLO default shown below paid in full, as well as interest on interest, following the resolution of a legal action in 2011 that temporarily resulted in the setting aside of the note's interest payments.

Defaults for A and BBB tranches are rare as well. In total, the cumulative default rate for investment-grade CLOs (AAA to BBB) between 1996-2023 was less than 0.1%, or 19 instances across nearly 23,000 tranches.

1996-2023	Ratings (no.)	Defaults (no.)	Defaults (%)
AAA	6,656	0	0.00%
AA	4,823	1	0.00%
A	4,181	5	0.10%
BBB	3,967	13	0.30%
BB	3,192	47	1.50%
B	889	15	1.70%

Since 2010, in large part to various structural improvements such as more senior loan portfolios, a shorter reinvestment period, and more par subordination, no S&P-rated investment-grade CLO has defaulted[9].

[8]Textual sources: CLO Performance, Federal Reserve Bank of Philadelphia, November 2021.
[9]Textual sources: Default, Transition, and Recovery: 2023 Annual Global Leveraged Loan CLO Default and Rating Transition Study.
Table source: S&P 2023 Annual Global Leveraged Loan CLO Default and Rating Transition Study. Charts are for illustrative purposes only. The views expressed represent the opinions of Sterling Capital Management. Any type of investing involves risk and there are no guarantees that these methods will be successful.

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What is historical performance for AAA CLOs compared to other short-duration fixed income segments?

The table below details characteristics of AAA-rated CLOs and other comparable fixed income segments based on representative index data. Modified duration is a measure of the sensitivity of a bond's price to a given change in interest rates. Spread duration is a measure of the sensitivity of a bond's price to a given change in its credit spread. As a floating rate asset class, CLOs have little modified duration by definition, as the coupons will adjust higher or lower with changes in Term SOFR. CLOs currently also exhibit relatively low spread duration while providing competitive spreads relative to other short-duration segments.

Relative Performance 2011-2025[10]

Index	Market Value ($MM)	Modified Duration	Spread Duration	Spread
JPM CLO Index - AAA rated ("CLO")	545,357	0.13	0.86	91
Bloomberg 1-5 Year US Corporate Index ("Corporate")	2,644,654	2.57	2.62	57
Bloomberg Non-Agency Aaa Rated CMBS Index ("CMBS")	171,795	3.71	3.79	91
ICE BofA AAA-A ABS Fixed Rate Index ("ABS")	475,104	1.87	1.86	62

	Average Excess Return	Excess Return Volatility	Adjusted Excess Return Volatility
CLO	1.74%	1.97%	0.62%
Corporate	1.41%	2.07%	0.74%
CMBS	1.32%	2.33%	0.52%
ABS	0.81%	1.52%	0.85%

CLOs also demonstrate favorable excess return correlations, even after standardizing the metric by spread duration. For eligible portfolios, AAA CLOs' lower historical correlation profile relative to the sectors shown below offers the potential for increased risk-adjusted returns, in our view.

Correlation Matrix – Adjusted Excess Return[11]

	CLO	Corporate	CMBS	ABS
CLO	1.00	0.78	0.76	0.75
Corporate	0.78	1.00	0.85	0.85
CMBS	0.76	0.85	1.00	0.82
ABS	0.75	0.85	0.82	1.00

[10]Table sources: J.P. Morgan Data Query; Bloomberg Indices; ICE BofA Indices; Sterling Capital Management Analytics. Results based on indices defined in prior table. Corporate Bonds, Collateralized Mortgage-Backed Securities (CMBS), and Asset-Backed Securities (ABS) are fixed-rate instruments, CLOs are floating. Corporate, CMBS and ABS excess return data provided directly by index providers. CLO excess returns are calculated based on historical total returns, short-term T-bill yield levels and changes, and a modified duration assumption of 0.125 years. Historical Average Excess return is a geometrically annualized measure. Volatility is based on a monthly history and then annualized. Adjusted Excess Return Volatility improves comparability across sectors by controlling for differences in the level and changes in spread duration through time. [11]Table source: Sterling Capital Management Analytics. Data is as of 01.31.2011-01.31.2025. CLO = J.P. Morgan Data Query; Corporate = Bloomberg 1-5 Year U.S. Corporate Index; CMBS = Bloomberg Non-Agency Aaa Rated CMBS Index; ABS = ICE BofA AAA-A ABS Fixed Rate Index. Adjusted Excess Returns equals excess return divided by spread duration.

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How do AAA CLOs perform in adverse market environments?

Floating-rate AAA CLO excess returns in periods of recent stress are comparable to short-duration, fixed-rate sectors. AAA CLOs outperformed corporate bonds and CMBS in three of the four scenarios shown, though notably were the worst performer in 2022. ABS was consistently the best performer in the stress periods shown.

Stress Period Comparison (Excess Returns in Specified Stress Periods)				
	CLO	Corporate	CMBS	ABS
Oil Prices Plummet (Jun 2015 - Feb 2016)	-0.61%	-0.69%	-0.95%	0.12%
Equity Market Stress (Oct 2018 - Dec 2018)	-0.87%	-0.93%	-1.13%	-0.09%
COVID-19 (Mar 2020)	-5.01%	-5.39%	-6.00%	-4.69%
Fed Hikes/Russia-Ukraine Invasion (Jan 2022 - Oct 2022)	-2.05%	-0.75%	-1.70%	-0.06%

Table source: Sterling Capital Management Analytics. Data is as of 01.31.2011-01.31.2025. CLO = J.P. Morgan Data Query; Corporate = Bloomberg 1-5 Year U.S. Corporate Index; CMBS = Bloomberg Non-Agency Aaa Rated CMBS Index; ABS = ICE BofA AAA-A ABS Fixed Rate Index. Charts are for illustrative purposes only. The views expressed represent the opinions of Sterling Capital Management. Any type of investing involves risk and there are no guarantees that these methods will be successful.

Important Information

James Kerin, CFA®
Director | Fixed Income Portfolio Manager

James Kerin, CFA®, Director, joined SCM in 2020 and has investment experience since 2013. James is a Fixed Income Portfolio Manager on SCM's Fixed Income Team. Prior to joining SCM, he was an associate analyst at Moody's Investors Service. James received his B.A. from the University of Dallas. He holds the Chartered Financial Analyst® designation.

All Investing carries risks, including but not limited to:

Fixed Income Market Risk: Fixed income securities markets may, in response to governmental intervention, economic or market developments (including potentially a reduction in the number of broker-dealers willing to engage in market-making activity), or other factors, experience periods of increased volatility and reduced liquidity.

Credit Risk: The possibility that an issuer cannot make timely interest and principal payments on its debt securities such as bonds. The lower a security's rating, the greater its credit risk. Changes in actual or perceived creditworthiness may occur quickly.

Interest Rate Risk: The possibility that the value of the investments will decline due to an increase in interest rates. Interest rate risk is generally higher for longer-term debt instruments and lower for shorter-term debt instruments.

Liquidity Risk: The possibility that certain securities or derivatives may be difficult or impossible to sell at the time and the price that would normally prevail in the market. The seller may have to lower the price, sell other securities instead or forego an investment opportunity, any of which could have a negative effect on performance.

Income Risk: The possibility that the portfolio's income will decline due to a decrease in interest rates. Income risk is generally high for shorter-term bonds and low for longer-term bonds.

Mortgage-Backed and Asset-Backed Securities Risk: Mortgage-backed and other asset-backed securities may be particularly sensitive to changes in prevailing interest rates. Rising interest rates tend to extend the duration of mortgage-backed securities, making them more sensitive to changes in interest rates, and may reduce the market value of the securities. Mortgage-backed securities are also subject to pre-payment risk. Due to their often-complicated structures, various mortgage-backed and asset-backed securities may be difficult to value and may constitute illiquid securities. Furthermore, debtors may be entitled to the protection of a number of state and federal consumer protection credit laws with respect to these securities, which may give the debtor the right to avoid or reduce payment.

Collateralized Loan Obligations ("CLOs") Risk: Structured finance securities such as CLOs entail a variety of unique risks. The performance of a CLO is affected by a variety of factors, including its priority in the capital structure of the issuer thereof, the availability of any credit enhancement, the level and timing of payments and recoveries on and the characteristics of the underlying receivables, loans or other assets that are being securitized, remoteness of those assets from the originator or transferor, the adequacy of and ability to realize upon any related collateral, and the capability of the servicer of the securitized assets. The market value of CLOs may be difficult to determine and generally will fluctuate with, among other things, the financial condition of the obligors or issuers of the underlying portfolio of assets of the related CLO, general economic conditions, the condition of certain financial and trading markets, political events, developments or trends in any particular industry and changes in prevailing interest rates. Such changes in market value will impact the value of CLO securities. CLO investments are often illiquid. Consequently, an investor in CLO securities must be prepared to hold its investment in the securities until the stated maturity date. CLOs are also subject to operational, credit (default), liquidity, prepayment, reinvestment and interest rate risks.

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Disclosures

Past performance is not indicative of future results. Any type of investing involves risk and there are no guarantees that these methods will be successful. Economic charts are provided for illustrative purposes only. The information provided herein is subject to market conditions and is therefore expected to fluctuate.

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Technical Terms: **Collateralized loan obligations (CLO)** are securities that are backed by a pool of loans. **Secured Overnight Financing Rate (SOFR)** is a broad measure of the interest rates banks pay each other for short-term loans collateralized by United States Treasury securities. **Syndicated Loan** is a loan facility offered by a group of lenders to a large borrower. **Earnings before interest, taxes, depreciation, and amortization (EBITDA)** is a metric used to evaluate a company's operating performance. It can be seen as a loose proxy for cash flow from the entire company's operations. **Mark to market** is a method under which the fair values of accounts that are subject to periodic fluctuations can be measured. **Leveraged loans** are loans that are often extended to companies with existing short or long-term debt and poor credit rating/history. (The technical terms are sourced from Corporate Finance Institute.)

A Note on Indices: The volatility of an index varies greatly. All indices are unmanaged and investments cannot be made directly in an index.

The **Bloomberg U.S. Corporate 1-5 Years Index** measures the investment grade, fixed-rate, taxable corporate bond market with 1-5 year maturities. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

The **Bloomberg Non-Agency Investment Grade CMBS Index** is an unmanaged index consisting of SEC-registered Commercial Mortgage-Backed Securities meeting certain criteria, including being rated in the investment grade category.

The **ICE BofA U.S. Fixed-Rate Asset-Backed Securities (ABS) Index** tracks the performance of U.S. dollar-denominated, investment grade (IG) ABS publicly issued in the U.S. domestic market. Qualifying securities must have an IG rating based on an average of Moody's, S&P and Fitch.

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