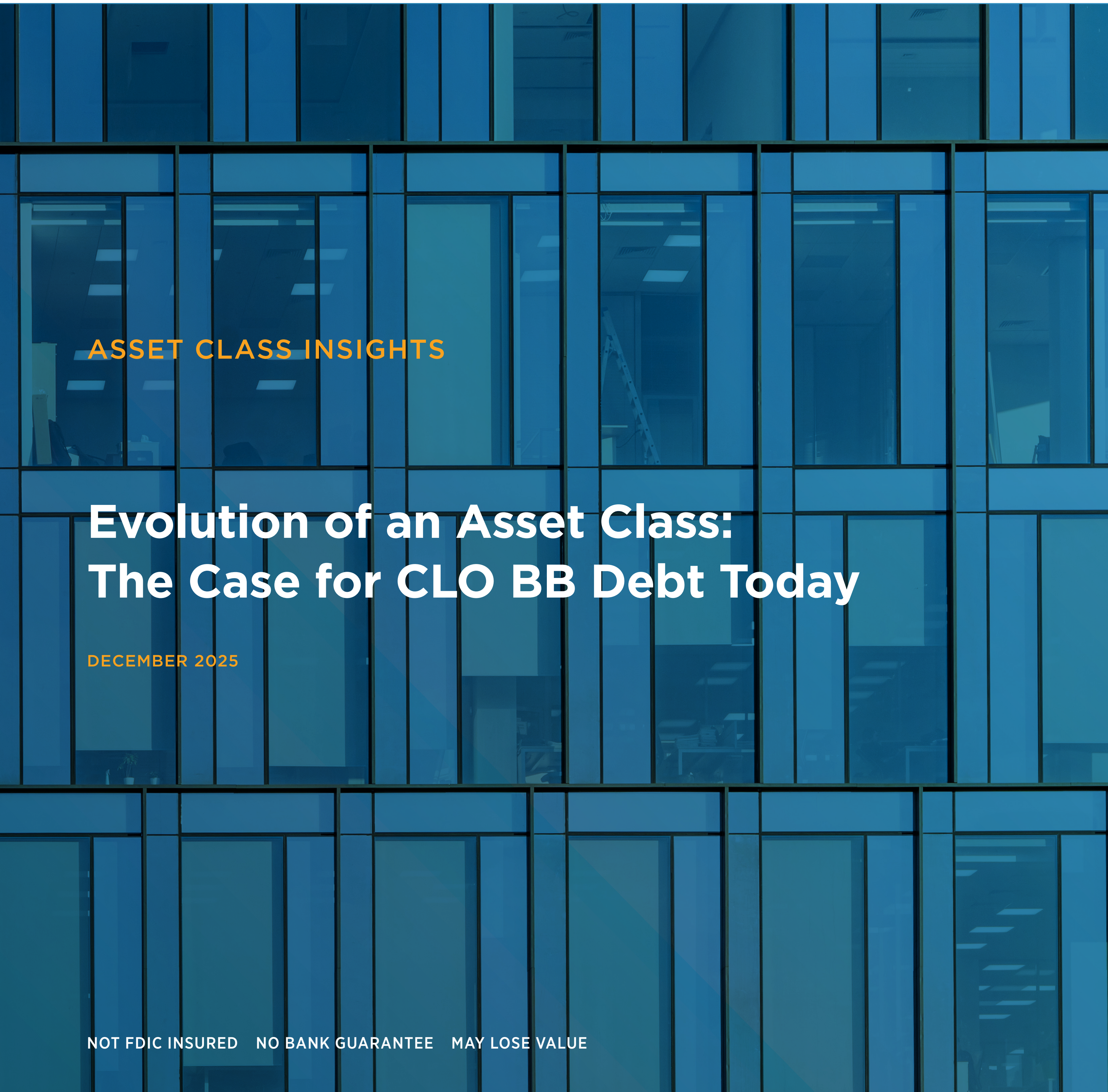
XAI KNOWLEDGE BANK

XA INVESTMENTS

Octagon



ASSET CLASS INSIGHTS

Evolution of an Asset Class: The Case for CLO BB Debt Today

DECEMBER 2025

In recent years, the landscape of Collateralized Loan Obligation (CLO) BB-rated debt has undergone a quiet but profound transformation. Once viewed as niche instruments offering a complexity premium to compensate for perceived risk, CLO BB debt is now being re-evaluated by a new generation of informed, globally diversified investors. This shift has been accelerated by regulatory catalysts, structural resilience, and evolving market dynamics ushering in an era of stability and broadened appeal. As this paper explores, the coming of age of CLO BB debt signals not just a change in perception, but a redefinition of risk, return, and opportunity in this corner of the structured credit markets.

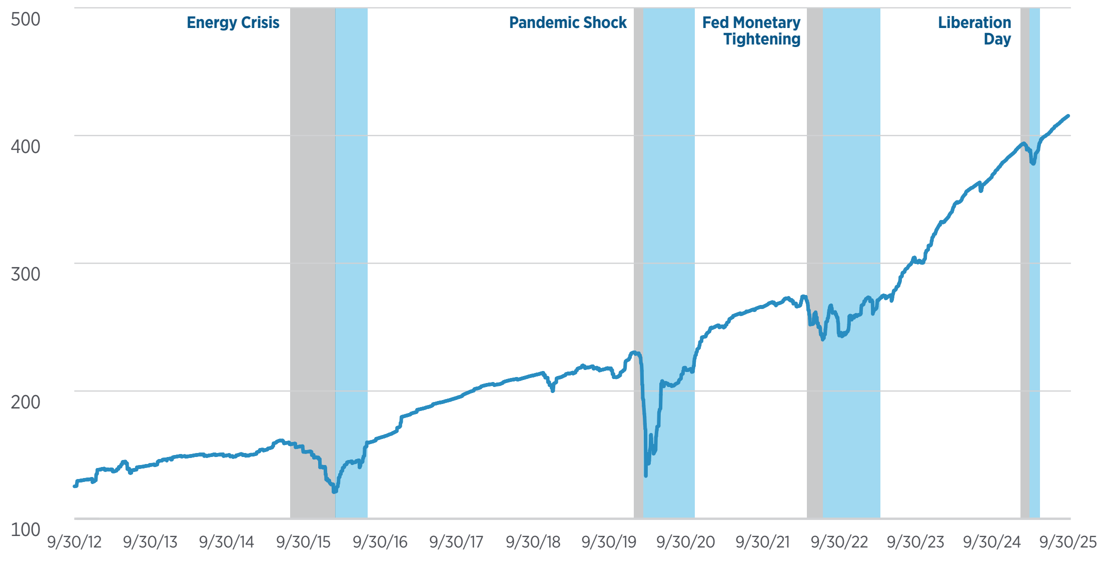
For investors, these developments create a combination of income, stability, and diversification. CLO BB debt has historically combined attractive income and total return potential with exceptionally low impairment rates, offering a compelling balance of yield and downside protection. Their floating-rate structure positions them well in periods of rate volatility, helping preserve real income while reducing duration risk. At the same time, the distinct behavior of CLO cash flows relative to traditional corporate credit helps provide meaningful portfolio diversification. Together, these characteristics make CLO BB debt a differentiated and efficient tool for enhancing income-oriented strategies across market cycles.

A Fundamental & Positive Shift in the Risk-Return Profile

The risk-return profile of CLO BB debt is undergoing a fundamental shift. Historically, viewed as high-beta instruments vulnerable to market stress, these investments are now being reassessed as a new wave of sophisticated institutional and private wealth investors enter the space. These participants are approaching CLO BB debt strategically rather than tactically, bringing greater transparency and liquidity to the market.

The evolution of CLO BB debt is challenging long-held assumptions, namely, that CLO BB debt is inherently fragile during periods of volatility and its recovery prospects are lengthy and limited. The impact of this shift became particularly apparent during the April 2025 Liberation Day Tariff event, which sparked a global sell-off in risk assets, including a sharp, approximately 20% peak-to-trough drop in the S&P 500. Notably, during the April 2025 turmoil, CLO BB debt declined by less than 5%, according to JPM CLOIE data, and rebounded swiftly— an outcome that diverged from past episodes of market stress, as illustrated in the graph below. For instance, during the June 2015 to February 2016 energy credit crisis and from the COVID-19 shock from February to March 2020, CLO BB debt suffered significant drawdowns and prolonged recoveries. The resilience demonstrated raises a compelling question: what has changed in the CLO BB debt landscape to produce such a markedly different outcome?

CLO BB Debt Drawdowns & Recoveries – Index Return (9/30/2012 - 9/30/2025)[1]



Note: The gray shading shows the approximate timeline from the day of the event to the bottom of the drawdown. The blue shading shows the approximate timeline from the bottom of the drawdown to full recovery, returning to the level just before the event occurred.

CLO BB Debt Drawdowns of 10% & Recoveries – (9/30/2012 - 9/30/2025)

Start	Trough	Days to Trough	Drawdown at Trough	Recovery Date	Days to Recovery (from Trough)
6/25/2015	2/25/2016	245 days	-25.04%	9/6/2016	196 days
2/4/2020	3/25/2020	50 days	-42.06%	11/19/2020	239 days
4/13/2022	7/14/2022	92 days	-12.39%	4/21/2023	281 days
	Average:	**129 days**	**-26.50%**		**238 days**

CLO BB Debt Drawdown with Liberation Day Announcement & Recovery – (3/5/2025 - 4/16/2025)[1]

Start	Trough	Days to Trough	Drawdown at Trough	Recovery Date	Days to Recovery (from Trough)
3/5/2025	4/16/2025	42 days	-4.08%	5/14/2025	28 days

Source: J.P. Morgan Data Query, as of the stated date. Represents the post-crisis J.P. Morgan Collateralized Loan Obligation Index ("CLOIE"). It is impossible to invest directly in the index. Past performance is not a predictor of future market performance.

1 Does not reflect an exhaustive list of drawdown periods.

The Evolving Role of the Informed Buyer

Institutional investors have long been informed participants in CLOs, but their approach is evolving. Today's buyers are not only well-versed in the mechanics and protections embedded within the CLO structure, but their comfort level has also led to deploying that knowledge more strategically. Rather than tactically entering and exiting CLO BB debt based on short-term market dislocations, investors are increasingly maintaining consistent exposure.

Increased exposure is particularly evident among yield-starved investors such as pension funds, insurance companies, sovereign wealth funds, and family offices. These allocators are utilizing CLO BB debt as part of a broader portfolio strategy, seeking to capture enhanced yield while maintaining a disciplined risk or ratings profile. Their investment horizons and liability structures align well with the cash flow profiles of CLOs, making persistent exposure both feasible and attractive.

Maintaining a more strategic posture reflects a deeper institutional understanding of the structural resilience of CLOs, which have weathered multiple credit cycles since the late 1990s. CLO BB debt, in particular, is no longer viewed through the lens of volatility and headline risk. Instead, seasoned investors interpret price dislocations as potential entry points, not red flags — an approach that has helped reduce volatility and enhance liquidity in the asset class. While it remains to be seen whether this more stable and persistent participation will compress the complexity premium traditionally associated with CLO BB debt, current yields on these securities still offer attractive compensation relative to the historical risk of loss — especially when compared to similarly rated fixed income alternatives.

What Changed? The Risk Retention Catalyst

The CLO BB debt market experienced a pivotal shift following the implementation of the U.S. Risk Retention Rules in December 2016. This legislation was originally designed to address the excesses of the retail mortgage-backed securities market that contributed to the 2008 global financial crisis ("GFC"). Despite not being a systemic risk and unlike other asset classes with strong federal lobbying representation, these rules were extended to CLOs. As a result, CLO managers found themselves in a bind. The rules required sponsors to retain 5% of each CLO deal—prompting them to seek external capital through innovative "Risk Retention" funds. These risk retention funds not only solved a compliance challenge but also sparked a global investor education campaign.

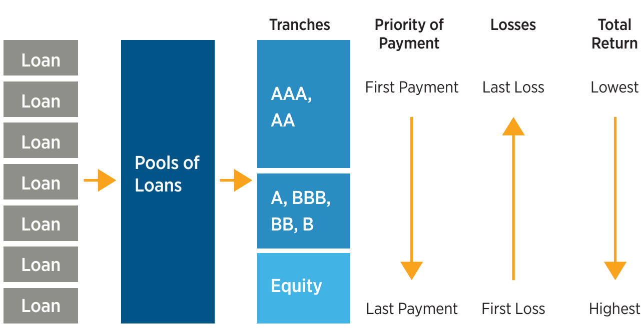
Even after the rules were overturned by U.S. Courts in 2018, momentum continued building. Captive CLO equity funds, originally born out of necessity, evolved into a strategic capital source and are still ubiquitous today. Their continued presence has broadened investor participation and deepened market understanding, particularly around CLO BB debt. The shift in perception has been beneficial for CLO BB debt. Once overlooked, CLO BB debt is now appreciated for its compelling risk-adjusted returns.

UNDERSTANDING THE CLO STRUCTURE

CLOs are operated by professional credit managers who actively buy and sell senior loans. The CLO finances its investment in the pool of loans by issuing debt and equity.

At the top of the CLO cash flow waterfall are the CLO debt tranches, AAA and AA are the most senior. The debt issued by the CLO to pay for its purchase of the loans is divided into different tranches, each with different risk/return profiles. Each CLO debt tranche is given a credit rating by a national rating agency. The more senior the debt tranche, the higher its priority on any cash payment received by the CLO and the higher its rating. The highest rated tranches, rated AAA and AA, have the lowest current yields but have never defaulted.[2] CLO debt is designed to have lower risk than CLO equity, but CLO equity compensates for its higher risk profile by offering the potential for higher returns.

The CLO Cash Flow Waterfall



Source: XA Investments

2 BofA Global Research, "Global CLOs: A $1.2 trillion unique asset class" (October 20, 2023).

Proven Stability – Historical Impairments of CLO Debt Tranches

Low Historical Impairments						
	CLO Debt			Corporate Loans & Bonds		
Original Moody's Rating	Total Tranches	Count of Impaired Tranches	U.S. CLO Cumulative Impairment Rate[3]	Total Corporate Rated Assets	Count of Defaulted Assets	U.S. Corporate Loan & Bond Cumulative Default Rate[4]
	1993-2023 (30 Year)			1993-2017 (25 Year)		
Aaa	5,628	0	0.00%	151,524	2	0.00%
Aa	2,668	0	0.00%	18,489	4	0.02%
A	2,384	1	0.04%	35,546	1,097	3.09%
Baa	2,266	23	1.02%	14,774	295	2.00%
Ba	2,027	39	1.92%	8,544	496	5.81%
B	496	23	4.64%	10,576	1,460	13.80%
	15,469	**86**	**0.56%**	**239,453**	**3,354**	**1.40%**

Source: Moody's Analytics

CLO BB Debt: The "Utility Player" of Debt Instruments

CLO BB debt is increasingly being recognized as the "Utility Player" of debt instruments—a nod to baseball's most adaptable and reliable team member who can seamlessly fill multiple roles as needed. Once the domain of opportunistic hedge funds, CLO debt tranches have evolved into valuable components of portfolio construction. In CLO structures, each tranche represents a segment of the deal with different risks, return potential, and maturity profile. Investors are implementing CLO BB debt as a strategic tool to enhance fixed income returns, integrating them into broader strategies aimed at yield optimization and diversification. Their versatility, resilience, and ability to enhance risk-adjusted returns make them invaluable vehicles for investors navigating today's complex credit landscape.

Today, a wider spectrum of investors are embracing CLO BB debt as a long-term strategic allocation. Pension funds are incorporating them as return enhancers within senior loan portfolios. Family offices are drawn to their high cash flow and competitive total return potential, appreciating the current income they provide. Meanwhile, private wealth managers are turning to CLO BB debt as a floating rate alternative to high-yield bonds, attracted by higher income and built-in structural protections. (See chart on next page for a historical performance comparison.)

A broadening investor base for CLO debt may suggest a future characterized by lower long-term volatility and potentially tighter yield spreads—ultimately leading to a more favorable risk-return tradeoff. Of course, risks remain, particularly in the context of CLO BB debt ETFs, where liquidity mismatches could trigger short-term dislocations. However, such episodes may present compelling entry points for informed investors. In the meantime, the asset class continues to deliver excess relative returns and remains, in many respects, underappreciated.

3 Includes all US cash flow CLO tranches ever rated by Moody's as of year-end 2023. Impairment is defined as when investors receive — or expect to receive with near certainty — less value than would be expected if the obligor were not experiencing financial distress or otherwise prevented from making payments by a third party, even if the indenture or contractual agreement does not provide the investor with a natural remedy for such events, such as the right to press for bankruptcy. Source: Moody's Analytics (June 24, 2024). Past impairment rates are not indicative/a guarantee of future impairment rates.

4 US corporate cumulative default rate represents the total number of defaulted US corporate loans and bonds divided by the total number of US corporate loans and bonds rated by Moody's for each respective ratings category from 1993-2017. Source: Moody's Analytics (November 6, 2018). The information provided represents the most current data available.

CLO BB Debt Historically Outperformed Similarly-Rated Bank Loans & HY Bonds – (9/30/2012 - 9/30/2025)

Source: XA Investments; Octagon Credit Investors; Bloomberg

Conclusion: A New Era of CLO BB Debt

As the structured credit landscape continues to evolve, CLO BB debt has matured into a long-term strategic allocation for a wide range of investors. Once considered niche and opportunistic, it now reflects a more stable, resilient, and well-understood asset class. Regulatory catalysts, improved liquidity and transparency, and a more sophisticated investor base have helped reposition CLO BB debt as popular sources of income and diversification. Their performance during recent market shocks, combined with attractive risk-adjusted returns and structural protections, underscores their transformation.

Risks remain, particularly in the context of ETFs where liquidity mismatches can lead to short-term dislocations. However, these episodes are increasingly viewed as tactical entry points rather than systemic threats. In this new era, CLO BB debt is no longer just growing – it has grown up. The evolution marks a broader redefinition of risk and opportunity in modern credit markets, and its role is now central to long-term portfolio strategy.

5 Represents growth of $100 based on compounded monthly returns of the various indices noted. Assumes full reinvestment of distributions received.

6 "CLO BB Debt" is representative of returns of the JPMorgan CLO BB Index; "BB/B Loans" is representative of returns for the Morningstar LSTA BB/B Leveraged Loan Index; "BB/B High Yield Bonds" is representative of returns for the ICE BofA US High Yield Index; S&P 500 represented by the S&P 500 Index Total Return Index. These returns do not reflect a deduction in fees. It is impossible to invest directly in these indices. Past performance is not a predictor of future market performance. (Data as of September 30, 2025)

DISCLAIMER

The information presented is current as of the publication date or as indicated. The information presented herein is presented in summary form and is, therefore, subject to qualification and further explanation. It is intended for informational purposes only. Further, the information is not all-inclusive and should not be relied upon as such. Neither XA Investments nor Octagon Credit Investors warrants the accuracy, timeliness, or completeness of the information herein, and this publication is not offered as advice on any particular matter and must not be treated as a substitute for specific advice. In particular, information in this publication does not constitute legal, tax, regulatory, professional, financial or investment advice and nothing contained herein should be construed as such advice. **Performance data quoted represents past performance. Past performance does not guarantee future results. Current performance may be lower or higher than the performance data quoted.**

This publication may contain "forward looking" information that is not purely historical in nature, including projections, forecasts, estimates of market returns, and proposed portfolio compositions. There is no guarantee that any forecasts will come to pass. This information does not constitute a solicitation of an offer to sell and buy any specific security offering. Such an offering is made by the applicable prospectus only. A prospectus should be read carefully by an investor before investing. Investors are advised to consider investment objectives, risks, charges and expenses carefully before investing. Financial advisors should determine if the risks associated with an investment are consistent with their client's investment objective.

CLOs are a type of structured credit instrument. Holders of structured credit instruments bear risks of the underlying investments, index or reference obligation as well as risks associated with the issuer of the instrument, which is often a special purpose vehicle, and may also be subject to counterparty risk. Performance achieved prior to 2022 was predominantly based on investments that used USD LIBOR as a reference rate. With London Interbank Offered Rate (LIBOR) being phased out over the period of time from 2022 through 2023, and the syndicated debt and CLO securities markets transitioning to alternative reference rates, primarily CME Term SOFR, it is possible that this transition has affected returns and that syndicated debt and CLO securities could achieve different returns after this transition than they might have achieved if referencing LIBOR. Senior loans may not be fully secured by collateral, generally do not trade on exchanges, and are typically issued by unrated or below-investment grade companies, and therefore are subject to greater liquidity and credit risk. Illiquid investments are designed for long-term investors who can accept the special risks associated with such investments. An investment in illiquid investments involves risks, including loss of principal.

RISKS

Below Investment Grade Securities Risk	Certain tranches of loans and CLOs may be below investment grade credit instruments, which are commonly referred to as "junk" bonds and involve substantial risk of loss. Securities of below investment grade quality are considered predominantly speculative with respect to the issuer's capacity to pay interest and repay principal when due and therefore involve a greater risk of default or decline in market value due to adverse economic and issuer-specific developments. Issuers of below investment grade securities are not perceived to be as strong financially as those with higher credit ratings. Securities of below investment grade quality display increased price sensitivity to changing interest rates and to a deteriorating economic environment. The market values for securities of below investment grade quality tend to be more volatile and such securities tend to be less liquid than investment grade debt securities.
CLO Debt Risk	CLO debt securities present risks similar to other credit investments, including default (credit), interest rate and prepayment risks. CLO debt tranches typically have a coupon and a credit rating and in the case a CLO breaches a covenant, cash flow that would otherwise be available to meet subordinated CLO debt coupon payments may be diverted to prepay more senior tranches of the CLO's debt securities until the covenant breach is cured. Junior CLO debt tranches are subject to increased risks of default relative to the holders of more senior CLO debt tranches. Additionally, CLO debt tranches are subject to pre payment risk in that the holders of a majority of the CLO's equity tranche can direct a call or refinancing of the CLO, which would cause the CLO's outstanding CLO debt securities to be repaid at par. This prepayment risk may be particularly acute during periods of decreasing interest rates. Such prepayment can give rise to reinvestment risk if the holder is not able to reinvest in a new investment with an expected rate of return at least equal to that of the CLO debt security repaid.
CLO Equity Risk	CLO equity (subordinated notes) is subject to a higher risk of total loss. There can be no assurance that distributions on the assets held by the CLO will be sufficient to make any distributions to CLO equity holders. CLO equity securities are illiquid investments and subject to extensive transfer restrictions, and no party is under any obligation to make a market for subordinated notes. Investments in CLO equity may have complicated accounting and tax implications.
CLO Risk	CLO investing poses new and different risks than stock or bond investing. CLOs often involve risks that are different from or more acute than risks associated with other types of credit instruments. CLOs are leveraged investments that may be volatile and may be illiquid in certain market environments. Additionally, the underlying loans of a CLO are senior secured, below investment grade credit and they carry the possibility of default, a risk that increases as the credit cycle progresses. Generally, there may be less information available to investors regarding the underlying investments held by CLOs than if investors had invested directly in credit securities of the underlying issuers. The market value of CLO securities may be affected by changes in the underlying collateral, including shifts in market value or changes in distributions, defaults and recoveries, capital gains and losses, prepayments and the availability of new investment opportunities, prices and interest rates. CLOs are a type of structured credit instrument. Holders of structured credit instruments bear risks of the underlying investments, index or reference obligation as well as risks associated with the issuer of the instrument, which is often a special purpose vehicle, and may also be subject to counterparty risk.
Liquidity Risk	CLOs and loans may be restricted, as well as thinly traded securities, which at times may only be liquidated, if at all, at disadvantageous prices. An investor may be required to hold such securities despite adverse price movements. Privately issued securities have additional risk considerations than investments in comparable public investments.
Reference Rate Risk	Senior secured loans are generally floating rate instruments. Investments in senior secured loans through CLOs are sensitive to interest rate levels and volatility. Although CLOs are generally structured to mitigate the risk of interest rate mismatch, there may be some difference between the timing of interest rate resets on the assets and liabilities of a CLO. Such a mismatch in timing could have a negative effect on the amount of funds distributed to CLO subordinated notes. In addition, CLOs may not be able to enter into hedge agreements, even if it may otherwise be in the best interest of the CLO to hedge such interest rate risk. In the event of a prolonged period of elevated interest rates and/or an economic downturn, loan defaults may increase and result in credit losses. Floating rate instruments are relatively long-term investments that often carry demand features permitting the holder to demand payment of principal at any time or at specified intervals prior to maturity. If an investor incorrectly forecasts interest rate movements, they could be adversely affected by use of floating rate securities. Changes in interest rates may have more acute negative impacts on an investment portfolio of floating rate instruments—a decrease in applicable interest rates may result in less income earned, while an increase or period of prolonged elevated interest rates will result in elevated financing costs of securities that issue debt at floating rates.

GLOSSARY OF TERMS

Collateralized Loan Obligations (CLOs): Actively managed securities composed of corporate loans bundled into a single investment vehicle. These are structured into tranches, each with different risk profiles, return potential, and maturities. CLO debt tranches are mark-to-market securities, meaning their value fluctuates with market conditions. Investors can purchase these tranches at discounts to par value, potentially enhancing yield and total return.

SOFR: The Secured Overnight Financing Rate (SOFR) is a broad measure of the cost of borrowing cash overnight collateralized by Treasury Securities.

Tranche: Related securities that are portions of a deal or structured financing, but have different risks, return potential and/or maturities.

Yield Spread: The difference in yield between two different credit securities.

INDEX GLOSSARY

CLO BB Debt: The J.P. Morgan CLO Debt Index represents the J.P. Morgan Collateralized Loan Obligation Index ("CLOIE"). The CLOIE is an index that tracks the market for U.S. dollar-denominated broadly syndicated, arbitrage CLOs. The CLOIE is divided by origination (pre- versus post-crisis) and is broken out further into six original rating classes (AAA, AA, A, BBB, BB, B). The sub-index referenced herein tracks BB-rated CLO debt.

BB/B Loans: The Morningstar LSTA BB/B Leveraged Loan Index measures the performance of U.S. institutional leveraged loans with credit ratings from BB+ to B-, as rated by S&P Global Ratings. The index uses fixed weights, allocating 67% to BB-rated loans and 33% to B-rated loans, and is rebalanced weekly.

BB/B High Yield Bonds: The ICE BofA US High Yield Index tracks the performance of U.S. dollar-denominated corporate debt publicly issued in the U.S. domestic market that has a below-investment grade rating.

US Equities: The S&P 500® is widely regarded as the best single gauge of large-cap U.S. equities. The S&P 500 Total Return Index is a total return index that reflects both changes in the prices of stocks in the S&P 500 Index as well as the reinvestment of the dividend income from the index's underlying stocks.

XA INVESTMENTS

321 North Clark Street, Suite 2430
Chicago Illinois 60654
1.888.903.3358 | xainvestments.com