CLO Market Review & Outlook

Q3 2024

U.S. CLO Market Review

In Q3 2024, CLO markets experienced robust issuance activity amidst tightening spreads in global fixed income markets and a stable backdrop for credit. CLO new issue totaled $39.3bn in Q3 2024 ($32.7bn broadly syndicated loan ("BSL") and $6.6bn private credit), which is a 42% increase compared to Q3 2023.[1] CLO new issue year-to-date ("YTD") totals $140.6bn and may surpass 2021's record issuance of $184.8bn.[1] Notably, CLO resets and refinancings comprised the vast majority of CLO market activity over a record-setting quarter as CLO managers addressed outstanding CLO liabilities. August CLO reset volumes of $26.2bn constitute a monthly record for the market, surpassing May 2024's $21.2bn.[1] Refinancing and reset volumes totaled $20.6bn and $71.8bn, respectively, in Q3 2024 which contrast with full-year ("FY") 2023 volumes of $5.0bn and $19.6bn.[1] YTD CLO reset volumes total $144.9bn and officially surpassed FY 2021's record $139.5bn.[1]

Spreads across the CLO capital stack broadly compressed over the quarter, quickly recovering from the global volatility in early August. CLO AAA primary spreads tightened by approximately 5 basis points ("bps") over the quarter.[2] Higher-tier CLO managers priced their respective AAAs in a mid-130 bps context by the end of Q3 2024, some of the tightest levels experienced in the market since the outbreak of the Russia-Ukraine conflict in March 2022.[2] This anchored the rest of the capital structure as AAs, single-As, and BBBs tightened by approximately 10 bps, 10 bps, and 15 bps over the quarter, respectively, with continued dispersion for BBs including a multi-year primary tight of SOFR + 500 bps.[2] Based on spread compression, the median CLO funding cost decreased from 230 bps in Q3 2023 to 176 bps in Q3 2024.[3] Subsequently, underlying CLO equity arbitrage has benefited from tightening in the CLO primary market, which is one of the main drivers of the record pace of CLO issuance.[3]

In CLO secondary markets, elevated refinancing and reset activity have contributed to spread compression of approximately 5 bps for AAAs as investors seek to redeploy holdings they are paid out of.[4] Average CLO AA and single-A secondary spreads tightened approximately 5 bps and 25 bps over the quarter, respectively.[4] Furthermore, CLO BBB and BB secondary spreads tightened marginally quarter-over-quarter, although riskier profiles with less overcollateralization continue to lag.[4] While the yield-to-maturities ("YTM") on CLO debt tranches have recalibrated based on changes in the interest rate forward curve, they remain elevated based on historical averages.[5]

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Despite the beginning of interest rate cuts by the Federal Reserve ("Fed"), CLO debt tranches continue to provide attractive risk adjusted returns. CLO debt tranches currently provide both higher current yields and YTMs, which incorporates expected rate cuts, compared to fixed income corporate alternatives. CLO debt tranches outperformed senior secured loans over the quarter despite underperforming investment grade ("IG") and high yield bonds following shifting investor sentiment as the market prepared for declining rates.

U.S. Returns					
Asset Class[6,7,8]	Q3 2024	Q2 2024	YTD 2024	FY 2023	FY 2022
Loans	2.04%	1.90%	6.54%	13.32%	-0.77%
High Yield	5.26%	1.09%	7.98%	13.46%	-11.19%
IG	6.02%	-0.09%	5.51%	8.52%	-15.76%
CLO AAA	1.62%	1.77%	5.32%	8.68%	1.05%
CLO AA	1.82%	2.03%	6.30%	10.86%	-0.17%
CLO A	2.02%	2.32%	7.19%	13.35%	-1.67%
CLO BBB	2.18%	2.94%	8.86%	17.66%	-2.77%
CLO BB	2.34%	4.52%	13.85%	24.52%	-3.82%

CLO equity Q3 2024 cash-on-cash distributions averaged 4% based on par purchase price, in-line with the historical mid-to-high teens yield produced by CLO equity.[9] Although loan repricing activity of $479.6bn YTD has reduced the weighted average spread ("WAS") of underlying CLO portfolios by approximately 20 bps, continued CLO refinancing and reset activity has mitigated the impacts of asset tightening.[10] Median returns for CLO equity were approximately 6% in Q3 2024 and 20% YTD, based on market value.[11]

From a fundamental perspective, U.S. loan borrowers have remained resilient through Q3 2024 based on the latest market trends:

- As a proxy for third-party managed CLOs, the 600+ borrowers in Carlyle's U.S. loan portfolio have continued to focus on free cash flow generation. Q2 2024 borrower EBITDA growth of 9.0% has outpaced revenue growth of 5.4%.[12] Furthermore, the average interest coverage ratio ("ICR") of borrowers increased quarter-over-quarter to 3.3x and approaches the historical average of 3.9x.[12] Only 3% of borrowers have an ICR less than 1.0x.[12]

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- In-court and out-of-court bankruptcy activity continues to diverge. While the LSTA U.S. Leveraged Loan Index ("LSTA U.S. Index") LTM default rate of 0.80% remains less than half of its 20-year average of 2.25%, the default rate inclusive of distressed exchanges ("DEs") remains higher at 3.70%.[13] We believe that out-of-court bankruptcies are unlikely to dissipate in the near-term given the degradation in BSL documentation. Notably, LTM recovery rates for DEs are significantly higher than the recovery rate for in-court bankruptcies and payment defaults.[14] Carlyle continues to leverage the insights of its dedicated Special Credits Group when evaluating loan borrowers in third-party managed CLO portfolios.

- The loan market's downgrade-to-upgrade ratio is approximately 2.2x through Q3 2024 as rating agencies continue to monitor borrowers' ability to service debt.[15] However, this remains below the market's long-term average of 3.0x and indicates that borrowers have navigated downgrade pressures well.[15]

- According to Carlyle's Chief Economist Jason Thomas' latest Economic Indicators publication, the forward interest rate curve and anticipated rate cuts may not reflect the strength of the U.S. economy. Therefore, Carlyle has started to observe a market recalibration of rate expectations through the end of September and into Q4 2024.[16]

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European CLO Market Review

European CLO managers continue to leverage tightening spreads across primary and secondary markets to issue new CLOs and reset or refinance existing vintages. New CLO issuance in Q3 2024 totaled €9.4bn alongside €1.4bn of refinancing and €8.7bn of reset volumes.[17] YTD 2024 European CLO new issue totals €33.8bn which is on record pace to surpass 2021's €38.2bn.[17]

In CLO primary markets, European CLO AAA spreads tightened by approximately 2-3 basis points over the quarter.[18] Given the spread tightening YTD, average AA, single-A, BBB, and BB primary spreads remain in line with Q2 2024 averages, subject to added dispersion based on the collateral quality of underlying CLO portfolios.[18] While CLO AAA and AA secondary spreads remain in line with the quarter prior, average CLO single-A, BBB, and BB secondary spreads tightened approximately 10 bps, 15 bps, and 20 bps in Q3 2024, respectively.[18]

European CLO debt tranches generally outperformed senior secured loans over the quarter, while slightly trailing IG and high yield bonds following a rally in fixed rate products.[19]

European Returns					
Asset Class[19,20,21]	Q3 2024	Q2 2024	YTD 2024	FY 2023	FY 2022
Loans	1.84%	2.36%	6.97%	13.56%	-3.51%
High Yield	3.42%	1.50%	6.42%	12.43%	-10.80%
IG	3.27%	0.08%	3.83%	7.91%	-14.34%
CLO AAA	1.28%	1.83%	5.05%	5.43%	-2.07%
CLO AA	1.60%	2.33%	6.80%	8.43%	-4.43%
CLO A	1.86%	2.41%	8.47%	9.30%	-4.80%
CLO BBB	2.39%	3.18%	10.73%	14.04%	-7.17%
CLO BB	3.32%	4.26%	14.98%	24.84%	-9.96%
CLO B	4.74%	5.16%	21.05%	32.89%	-14.48%

The average cash-on-cash distribution for European CLO equity through Q3 2024 was approximately 4% based on par purchase price while median returns totaled approximately 5% based on market value.[22] YTD 2024 median European CLO equity returns are approximately 27% based on market value.[22]

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The health of the underlying European loan borrower remains intact despite a slightly weaker macroeconomic backdrop compared to the U.S. market:

- Underlying credit quality in Carlyle's European loan portfolio of 200+ borrowers remained steady with EBITDA rising 12.9% year-over-year ("YoY"), compared to 5.1% revenue growth YoY.[23] Over 70% of issuers experienced a positive change in EBITDA YoY.[23] Additionally, less than 1% of borrowers possess an ICR under 1.0x.[23]
- The European Leveraged Loan Index's ("ELLI") default rate has decreased from 1.29% in Q2 2024 to 0.79% in Q3 2024, excluding DEs.[24] However, DEs in the European market are idiosyncratic compared to their prevalence in the U.S, market. Approximately 2.7% of loans in the ELLI are trading below €80 compared to the U.S. LSTA Index's 3.4%.[24]
- CCC-rated loan exposure for the ELLI increased slightly from 2.87% to 3.33% over the quarter.[24] Despite this increase in CCC exposure, this is materially lower than the U.S. LSTA Index's 6.50% given the dynamics of the European CLO market.[24]

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We believe leveraged credit and broader economic conditions continue to support the health of CLO markets in both the U.S. and Europe:

1. Robust CLO Activity: We believe investor sentiment will continue to remain strong for CLOs as evidenced by robust CLO creation following the Fed's latest interest rate decision. U.S. CLO new issuance is on track for one of the busiest years on record, near 2021's record of $184.8bn.[25] With the record reset activity, the percentage of the U.S. CLO market out of reinvestment period ("RP") has declined from 40% at the start of 2024 to 33%.[25] Similar to Q3 2024, we anticipate that CLO resets and refinancings will comprise most incremental market activity in Q4 2024. CLO managers have prioritized and already addressed high-priority CLO vintages including (1) CLOs issued in 2022 and 2023 with a high cost of debt, and (2) CLOs that exited RP over the past 1-2 years.[25] Going forward, we believe CLO managers will begin to target CLOs exiting RP in 2026 due to the record issuance activity in 2021.[26] We anticipate similar trends in Europe albeit with decreased volumes given the European CLO market is less than a quarter of the size of the U.S. CLO market.[26]

2. Pace of CLO Liquidations Will Remain Elevated: CLO equity investors are inclined to capitalize on elevated net asset values ("NAV") by liquidating older vintage deals. CLO liquidations has increased to $40bn YTD 2024, driven by increasing NAVs and the elevated number of CLOs post reinvestment period.[27] We predict CLO equity investors will continue to opportunistically evaluate these opportunities on a case-by-case basis as over $400bn of CLOs will have exited their respective non-call period by the end of 2024.[27] European CLO equity investors may also opportunistically liquidate deals at attractive NAVs.[28]

3. Aging Deals and Amortization: CLO market amortization rates have decreased from the 7-8% record levels in Q2 2024 to approximately 5% based on indicative Q3 2024 payments primarily due to a decline in repricing activity in the quarter.[29] With the combination of over $60bn of amortizations and $40bn of liquidations the CLO market has only experienced approximately $30bn of growth YTD 2024 despite the record issuance pace.[29,30] We anticipate these themes will continue, resulting in incremental demand as investors continue to redeploy amortization and liquidation proceeds in new issue CLOs. This could imply further tightening in CLO primary spreads, and CLO research desks are predicting that both U.S. and European BSL CLO AAA spreads could tighten further to price in a 125 bps context through Q4 2024.[29]

4. CLO Markets Priced Attractively: Following a broader market rally for fixed income products, IG corporate and high yield bond option adjusted spreads ("OAS") are currently priced at, or close to, the tightest levels since prior to the Global Financial Crisis in 2008 and 2009.[31] However, CLO secondary discount margins are priced in the 25th to 65th percentile of historical averages.[32] Additionally, incorporating the forward curve, CLO debt tranches still provide attractive yields compared to IG corporates and high yield bonds. Across all interest rate environments, CLOs have historically outperformed similarly-rated corporate bonds which we anticipate will persist in both the U.S. and European market.[32]

5. Resurgence of Bank Buyers and Insurer Participation: U.S. and European banks remain active buyers of CLOs, supporting recent issuance volumes. In September, the Fed's Vice Chair of Supervision, Michael Barr, outlined potential revisions to the Basel IV Endgame and surcharge proposals for Global Systemically Important Banks.[33] Importantly, this could imply a smaller increase in capital charges than previously outlined. As banks are the largest global holders of CLO AAAs, favorable capital treatment may encourage increased bank participation in the CLO market.[33] Furthermore, we continue to monitor the National Association of Insurance Commissioners' ("NAIC") revisions to CLO capital treatment and planned 2025 implementation. We anticipate changes from the NAIC will not have a material impact on the market as the changes in capital charges are largely focused on CLO BBs and CLO equity, which insurance companies have not historically allocated to in large amounts.[34] However, if capital charge treatment for CLO BBBs increases materially, this could impact CLO BBB spreads as some insurance companies have actively invested in CLO BBBs.[34]

6. Private Credit CLO Market Growth: Over the quarter, $6.6bn of private credit CLO issuance priced, bringing YTD issuance to $27.4bn.[35] Issuance will surpass 2023's record $27.9bn, highlighting the continued importance private credit CLOs as a financing mechanism for the continued growth of private credit funds and business development companies ("BDCs").[35]

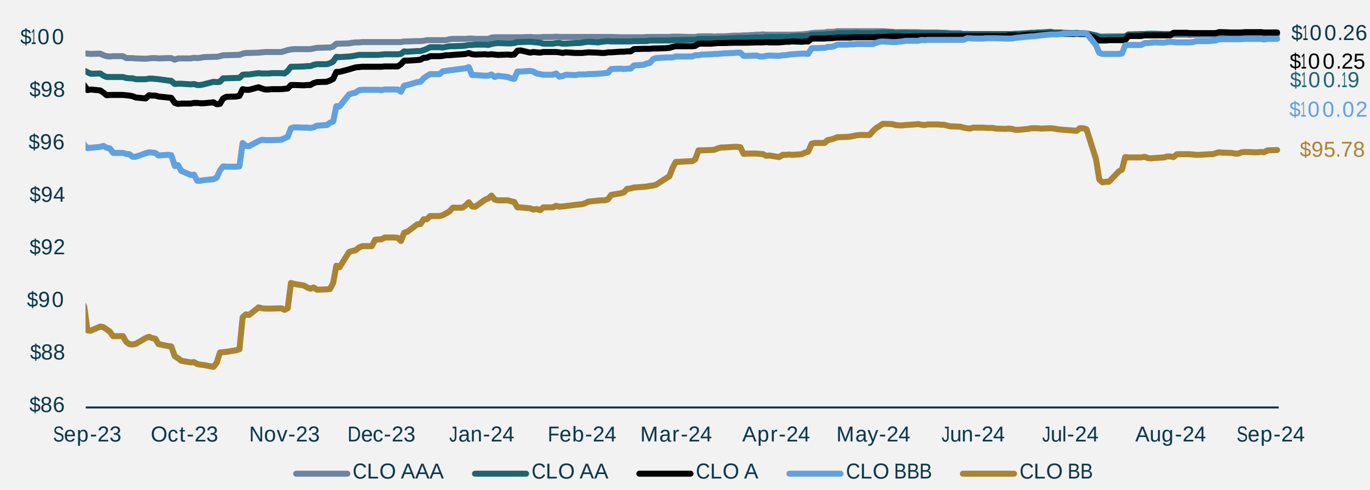
7. Continued Impacts of Geopolitical Events: We anticipate that macroeconomic data and geopolitical events including the upcoming U.S. presidential election as well as conflicts in the Middle East and Russia-Ukraine may effectuate market volatility. We continue to leverage the insights of Carlyle's Global Government Affairs and Global Research teams to identify any upcoming regulation or macroeconomic trends that may impact credit markets.

We believe the CLO market will continue to experience robust issuance from sustained stability in loan market fundamentals. Since fixed income markets are trading close to historical tights, we remain focused on constructing defensive portfolios that will allow us to be more opportunistic when we experience pockets of volatility. We continue to leverage Carlyle's 14-step CLO investment process and the credit expertise of Carlyle Liquid Credit, which today is the world's largest BSL CLO manager.[36]

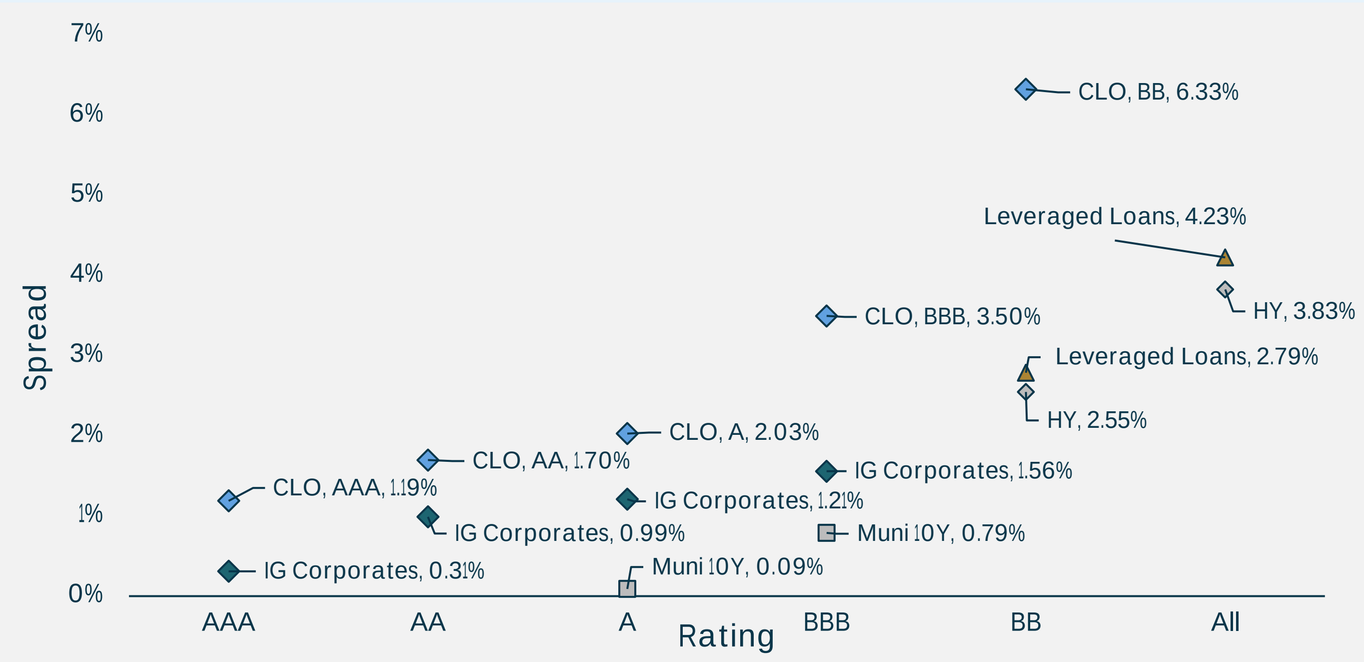
Best,

Nishil Mehta
Managing Director – CLO Investing Portfolio Manager

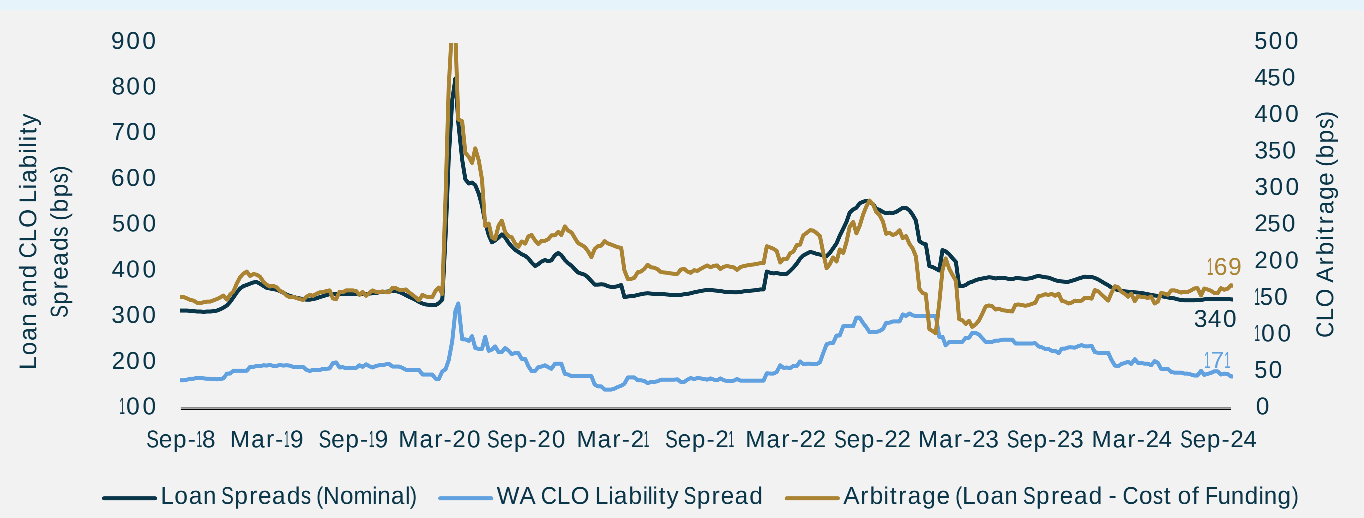
U.S. CLO PRICES[1]



U.S. RELATIVE VALUE[2]

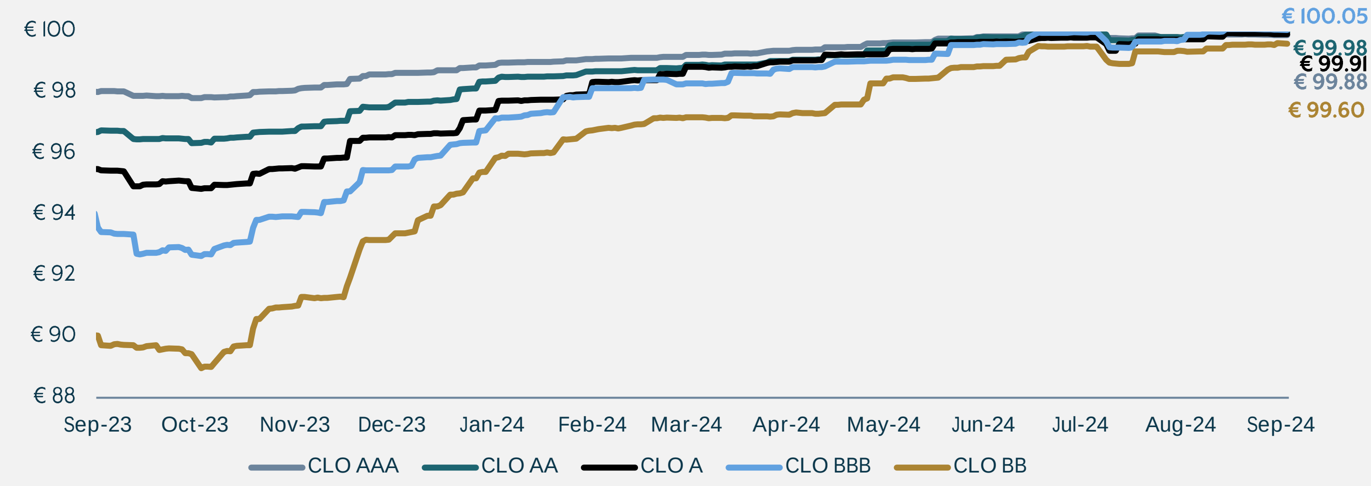


U.S. CLO ARBITRAGE[3]

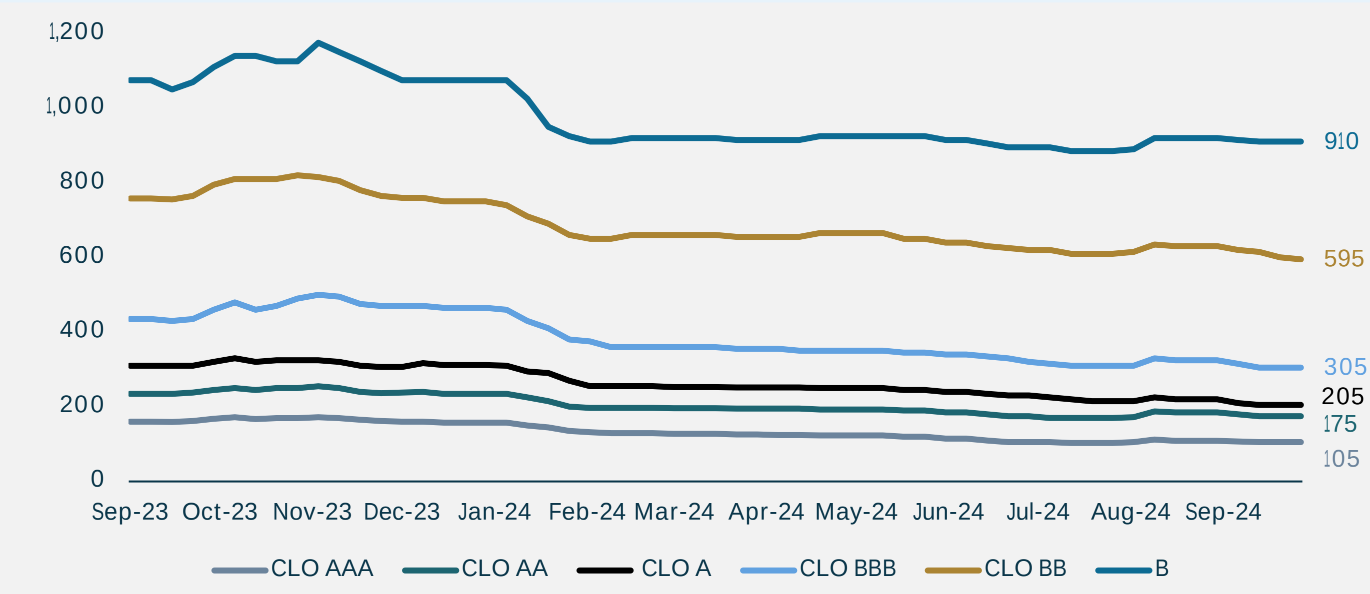


Past performance is not indicative of future results and there can be no assurance that any of these trends will continue. For illustrative purposes only. There is no guarantee that these trends will continue. 1) J.P. Morgan U.S. CLO AAA, AA, A, BBB, BB Total Return Indices as of September 30th, 2024. 2) Citi Research as of September 30th, 2024. 3) Bank of America CLO Factbook as of September 30th, 2024.

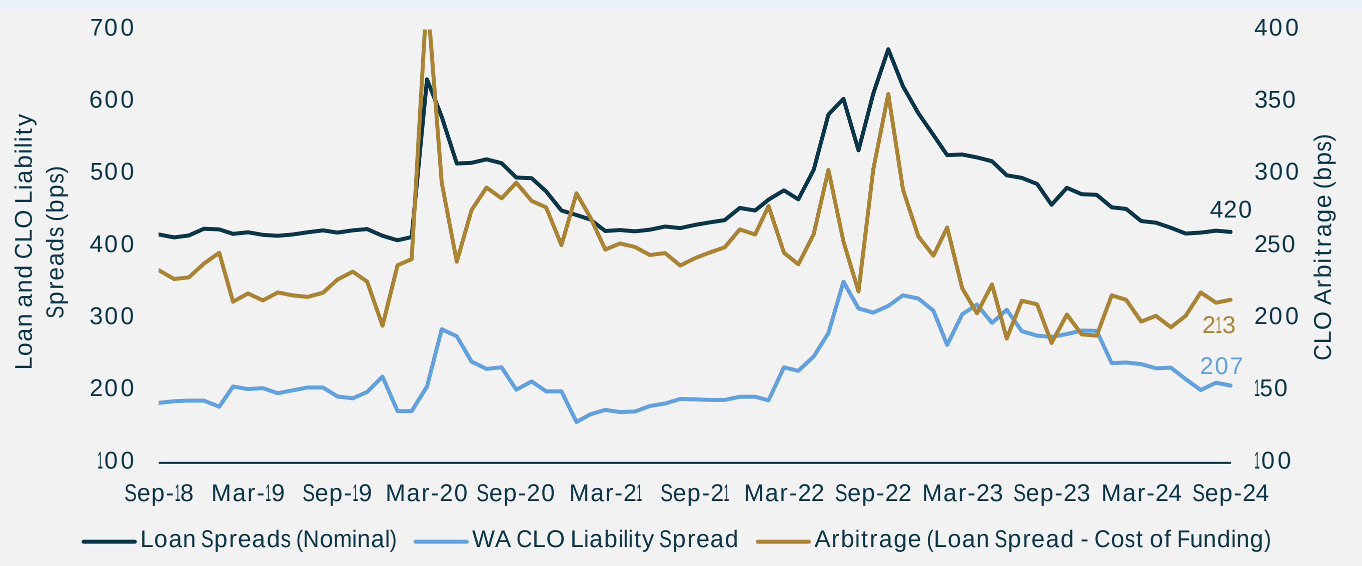
EUR CLO PRICES[1]



EUR CLO SECONDARY SPREADS (BASIS POINTS)[2]



EUR CLO ARBITRAGE[3]



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U.S. and European CLO Commentary Sources

1. Citi Research as of September 30th, 2024.
2. Wells Fargo Research as of September 30th, 2024.
3. Citi Research as of September 30th, 2024.
4. Wells Fargo Research as of September 30th, 2024.
5. J.P. Morgan Research as of September 30th, 2024.
6. LCD as of September 30th, 2024.
7. Bloomberg as of September 30th, 2024.
8. J.P. Morgan Research as of September 30th, 2024.
9. Bank of America Global Research as of September 30th, 2024.
10. Nomura Research as of September 30th, 2024.
11. Bank of America Global Research as of September 30th, 2024.
12. Carlyle Internal Sources as of June 30th, 2024.
13. LCD as of September 30th, 2024.
14. J.P. Morgan Research as of September 30th, 2024.
15. LCD as of September 30th, 2024.
16. Carlyle Analysis of Economic Indicators as of September 30th, 2024.
17. Citi Research as of September 30th, 2024.
18. Wells Fargo Research as of September 30th, 2024.
19. LCD as of September 30th, 2024.
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21. J.P. Morgan Research as of September 30th, 2024.
22. Bank of America Global Research as of September 30th, 2024.
23. Carlyle Internal Sources as of June 30th, 2024.
24. LCD as of September 30th, 2024.
25. Citi Research as of September 30th, 2024.
26. Bank of America Global Research as of September 30th, 2024.
27. Nomura Research as of September 30th, 2024.
28. LCD as of September 30th, 2024.
29. Nomura Research as of September 30th, 2024.
30. Bank of America Global Research as of September 30th, 2024.
31. Bloomberg as of September 30th, 2024.
32. J.P. Morgan Research as of September 30th, 2024.
33. Bank of America Global Research as of September 30th, 2024.
34. Barclays Research as of September 30th, 2024.
35. Citi Research as of September 30th, 2024.
36. Creditflux as of September 30th, 2024. Excludes middle market CLOs and only closed CLO transactions are included.

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Notice to Recipients (continued)

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Risk Factors

Risk Factors. Prospective investors should be aware that an investment in a Fund involves a high degree of risk, and it is suitable only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of an investment in a Fund and for which a Fund does not represent a complete investment program. An investment in a Fund should only be considered by persons who can afford a loss of their entire investment. Prospective investors are urged to consult with their own financial, tax, and legal advisors about the implications of investing in a Fund. The following is a summary of only certain considerations and is qualified in its entirety by a Fund's offering materials, which may contain additional information about associated risks pertaining to an investment in a Fund.

Speculative Investment. Carlyle cannot provide any assurance that it will be able to choose, make or realize any particular investment, asset, or portfolio on behalf of a Fund. There can be no assurance that investments made by a Fund will be able to generate returns or that the returns will be commensurate with the risks of investing in the type of transactions described herein. The activity of identifying, completing and realizing upon attractive investments is highly competitive and involves a high degree of uncertainty. A Fund must compete for investments with other private equity investors having similar investment objectives. The portfolio companies in which a Fund may invest (directly or indirectly) are speculative investments and will be subject to significant business and financial risks.

Highly Illiquid and Difficult to Value. A Fund is intended for long-term investment by investors that can accept the risks associated with making highly speculative, primarily illiquid investments in privately negotiated transactions. There is no organized secondary market for investors' interests in a Fund nor is there an organized market for which to sell a Fund's underlying investments, and none is expected to develop. Withdrawal and transfer of interests in a Fund are subject to various restrictions, and similar restrictions will apply in respect of the Fund's underlying investments. Further, the valuation of a Fund's investments will be difficult, may be based on imperfect information and is subject to inherent uncertainties, and the resulting values may differ from values that would have been determined had a ready market existed for such investments, from values placed on such investments by other investors and from prices at which such investments may ultimately be sold.

Borrowed Money and Other Leverage. To the extent a Fund borrows money or otherwise leverages its investments, the favorable and unfavorable effects of price movements in a Fund's investments will be magnified. A Fund investment with substantial leverage may be at risk of increases in interest rates and therefore increases in interest expenses. In the event any Fund investment cannot generate adequate cash flow to meet debt service, a Fund may suffer a partial or total loss of capital invested in a Fund investment. The use of leverage will also magnify the volatility of changes in the value of a Fund's investments. While the use of leverage may increase a borrower's returns, it will also increase its exposure to risk. If a Fund uses borrowed funds in advance or in lieu of capital contributions, a Fund's investors generally make correspondingly later capital contributions, but a Fund will bear the interest expense on such borrowed funds. Borrowing by a Fund will generally be secured by capital commitments made by the Fund's investors and/or by a Fund's assets, and documentation relating to such borrowing may provide that during the continuance of a default under such borrowing, the interests of the investors may be subordinated to such Fund-level borrowing.

Investors in a Fund will bear multiple layers of fees and expenses. In general, a Fund's investors will bear the fees, expenses and carried interest of the Fund and will indirectly bear any fees, expenses and carried interest (if any) of the Fund's investments. Such amounts are expected to be material. This will result in greater expense to a Fund's investors than if such fees, expenses and carried interest were not charged by both a Fund and its underlying investments.

Investors Must Fulfill Capital Drawdown Obligations. Capital calls will be issued by a Fund from time to time. To satisfy such capital calls, investors may need to maintain a substantial portion of their capital commitment to the Fund in assets that can be readily converted to cash. An investor's obligation to satisfy capital calls will be unconditional and at its sole expense. Failure to satisfy a capital call to a Fund can result in adverse consequences in the discretion of the Fund's general partner, including complete forfeiture of the investor's interest in a Fund. If a limited partner of a Fund defaults on or is excused from its obligation to contribute capital to the Fund, other limited partners thereof may be required to make additional contributions to the Fund to replace such shortfall.

No Operating or Investment History. In general, a Fund will be a newly formed investment vehicle that has no operating history upon which investors can evaluate its likely performance.

No Registration. No Fund discussed herein has been or is expected to be registered with the SEC as an investment company pursuant to the Investment Company Act of 1940 (the "1940 Act"), in reliance upon an exemption available to privately offered investment companies. Accordingly, the provisions of the 1940 Act will not be applicable to a Fund. In addition, no such Fund has been or is expected to be registered with any regulatory or governmental authority as a regulated or registered fund in any European Economic Area member states. Furthermore, no such Fund is expected to be required to register under the Mutual Funds Law (as amended) of the Cayman Islands.

Complex Tax and Regulatory Risks. A Fund and a Fund's investments may involve a complicated tax structures and there may be delays in distributing important tax information to investors. In addition, legal, tax and regulatory changes (including changing enforcement priorities, changing interpretations of legal and regulatory precedents or varying applications of laws and regulations to particular facts and circumstances) could occur during the term of a Fund that may adversely affect any of such Fund or its investors.

Currency Risks. A Fund's base currency may be one that is different from an investor's home currency. For example, an investor based in the European Economic Area or the United Kingdom that commits to a Fund with a US Dollar base currency. Contributions to, and distributions from, the Fund will generally be required to be made in the Fund's base currency. Accordingly, changes in currency exchange rates, costs of conversion and exchange control regulations can adversely affect an investor's investment in a Fund, including the investor's cost of investing in a Fund.