

Private Credit And Middle-Market CLO Quarterly: Unknown Unknowns

Q2 2025

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This report does not constitute a rating action



Q1 2025 Update | Private Credit And Middle-Market CLOs

Tariff-Driven Turmoil, But First Order Impacts Seem Limited

With the tariff announcements on April 2, the second quarter began with heightened volatility and the steepest decline in equity markets since the COVID-19 pandemic, followed by a significant widening of credit spreads. We expect the tariffs to have limited primary impact on the credit-estimated companies in our rated middle-market collateralized loan obligations (CLOs) given the portfolio's concentration in service-oriented sectors like software, healthcare, and professional services. However, second-order effects could pose challenges in coming quarters with weaker consumer spending, lower corporate investments, recessionary headwinds, and broader market volatility weighing on borrower performance.

Credit Estimate Downgrades Slow, But Challenges Persist

The first quarter saw a total of 59 credit estimate downgrades, the lowest number since the second quarter of 2023, and 55 upgrades, for a downgrade-to-upgrade ratio of 1.07 **(see slide 13)**. In aggregate, close to 9% of credit estimates reviewed during first-quarter 2025 were lowered, while 8% of the credits reviewed were upgraded. However, we expect to see downgrades to rise gradually over the course of the year, given the uncertainty of tariffs and the potential impact (mostly second order) that it will have on middle-market companies.

Potentially More Selective Defaults Ahead

The uptick in M&A and leveraged buyout (LBO) transactions and sponsor exits seen in late 2024 has reversed, and, accordingly, issuers will likely seek relief in the form of maturity extensions for loans coming due in the next 18 months or so. They may also look to add (or extend the duration of) payment-in-kind (PIK) terms if rates and spreads stay elevated. We expect to see an uptick in selective defaults arising from this, reversing a declining trend over the past year **(see slides 17 and 18)**. Further, traditional defaults may be elevated as stressed pockets of issuers may not have much runway left for further support and relief given macroeconomic conditions.

Although demand for loans will continue, it may be a lot more selective. Also, repricing might slow down. We expect to see issuers continuing to seek flexible loan structures, including PIK toggle options along with covenant-lite loan document provisions, at the higher end of the direct lending market **(see slides 19 and 20)**. While maintenance covenants are still the standard in most private credit agreements, we see that their effectiveness has deteriorated due to increasingly generous leverage limits that make it harder for lenders to act on early signs of borrower underperformance **(slide 21)**.

Q1 2025 Update | Private Credit And Middle-Market CLOs

Middle-Market CLO Issuance Drove Credit Estimate Volume In The First Quarter

For the first quarter, close to 850 credit estimates were issued, and like last year, the ratio of new credit estimates and existing credit estimates were approximately 1:3. The uncertainty around tariffs and the impact on economic growth and inflation may lead to a moderation in the number of new credit estimates assigned in coming quarters.

Many of the managers for the middle-market CLOs we rate also have business development companies (BDCs) that use CLOs as a mechanism to fund their direct lending. Managers also manage other funds, which they lever using CLO funding. There is overlap between the loans held in middle-market CLOs, BDCs and other funds. We estimate the aggregate value of committed senior first-lien debt and unitranche loans (including delayed-draw term loans and incremental loans) from companies we've credit estimated over the past 12 months to be more than \$850 billion, a number that is indicative of the potential size of the direct lending portion of the private credit market. Our work on credit estimates provides us with credit insights into the broader direct lending market. We also introduce metrics from our rated BDCs into this deck this quarter **(see slides 22-24)**.

Middle-Market CLO Ratings In The Wake Of The Tariffs

Middle-market CLO ratings have shown impressive resilience historically, with only 10 tranche ratings lowered over the past five years, including the pandemic in 2020 and the period of higher-for-longer interest rates that followed. With the market again facing down a stretch of economic uncertainty, we look to our published CLO stress scenarios (see [“Scenario Analysis: Middle-Market CLO Ratings Withstand Stress Scenarios With Modest Downgrades \(2024 Update\)”](#), published Dec. 13, 2024) to gauge the middle-market CLO rating impact of potential downside cases.

The current environment is fast moving, but we did a very rough back-of-the-envelope analysis to see what the rating impact could be. We took the sectors in the broadly syndicated loan (BSL) market that saw a greater-than-average price drop between April 1 and April 7 (which were mainly consumer and auto related) and used this as a proxy for the market's view of which types of companies would see an outsized impact from the tariffs. We then looked at these same sectors in middle-market CLO collateral pools and filtered for obligors with credit estimates of 'ccc+' or below. The proportion of these varies across middle-market CLO managers, but the average across our rated middle-market CLO transactions was about 5.5% of total collateral by par. If we assume all these obligors end up defaulting, exposure to defaulted assets in middle-market CLOs would increase to 5.79% from the current 0.28%. This is still less than the least punitive hypothetical middle-CLO stress we published in our Dec. 13 article referenced above, which envisioned a 10% exposure to defaulted assets **(see slide 44)**.

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Private Credit/Middle-Market CLOs

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Credit Metrics | Median Leverage Remains Mostly Flat, Coverage Improves Aided by Benchmark Rate and Spread Declines

Metrics for companies with credit estimates updated in 2023, 2024, and first-quarter 2025

S&P Global Ratings-calculated leverage ratios*

For the top 10 most represented sectors

Industry	Median 2023 (x)	Median 2024 (x)	Median Q1 2025 (x)	Obligors in 2025 (no.)
Software	7.98	7.64	8.01	118
Software (excluding most RR deals)	7.73	7.40	7.51	101
Healthcare providers and services	7.25	6.98	6.89	90
Professional Services	5.68	6.16	6.10	70
Commercial Services and Supplies	6.33	6.33	5.51	57
Construction and Engineering	5.74	5.81	6.16	40
Diversified Consumer Services	7.29	7.14	7.16	35
Media	6.16	6.17	5.62	33
Hotels, Restaurants and Leisure	6.46	6.22	6.88	31
IT Services	7.07	6.34	5.98	29
Health Care Equipment and Supplies	6.52	6.58	6.81	28
All sectors	6.44	6.43	6.39	846

*Only includes the most recent analysis if a credit estimate was completed multiple times through the year.
Source: S&P Global Ratings.

S&P Global Ratings-calculated cash interest coverage ratios*

For the top 10 most represented sectors

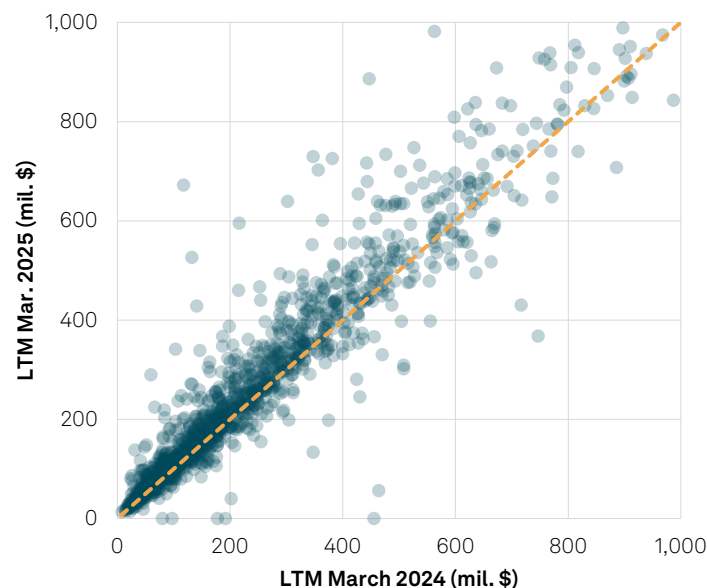
Industry	Median 2023 (x)	Median 2024 (x)	Median Q1 2025 (x)	Obligors in 2025 (no.)
Software	1.06	1.27	1.42	118
Software (excluding most RR deals)	1.29	1.41	1.49	101
Healthcare providers and services	1.41	1.55	1.70	90
Professional Services	1.76	1.67	1.81	70
Commercial Services and Supplies	1.59	1.66	2.06	57
Construction and Engineering	1.70	1.85	1.89	40
Diversified Consumer Services	1.33	1.60	1.60	35
Media	1.68	1.56	1.98	33
Hotels, Restaurants and Leisure	1.97	1.93	2.03	31
IT Services	1.42	1.54	1.71	29
Health Care Equipment and Supplies	1.52	1.42	1.70	28
All sectors	1.52	1.61	1.79	846

Credit Metrics | Revenue, EBITDA, And Leverage Trends

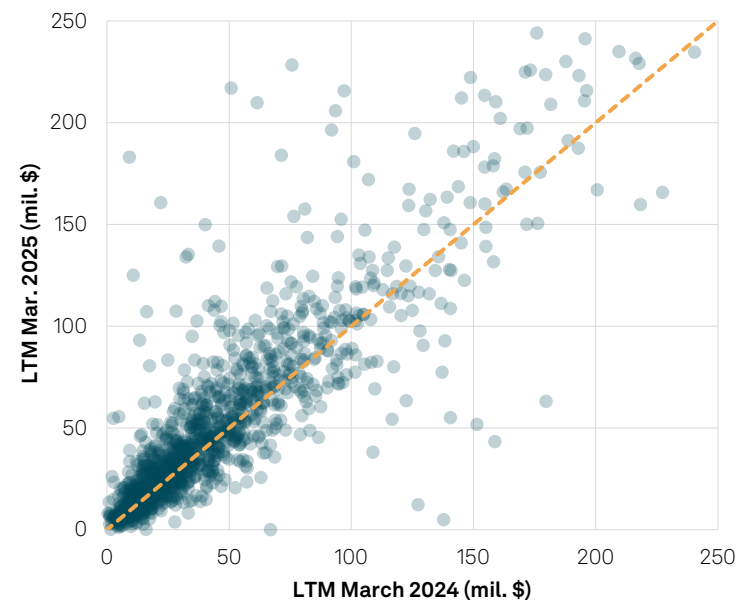
Change in metrics for credit-estimated obligors (LTM March 2024 reviews vs. LTM March 2025 reviews)

- Revenue and EBITDA increased year over year in 70% and 64% of cases, respectively.
- Leverage went up in 53% of the cases; companies continue to raise incremental debt to fund add-on and tuck-in acquisitions.
- Median revenue and EBITDA increased by 15% and 29%, respectively, while median leverage went up by 27%.

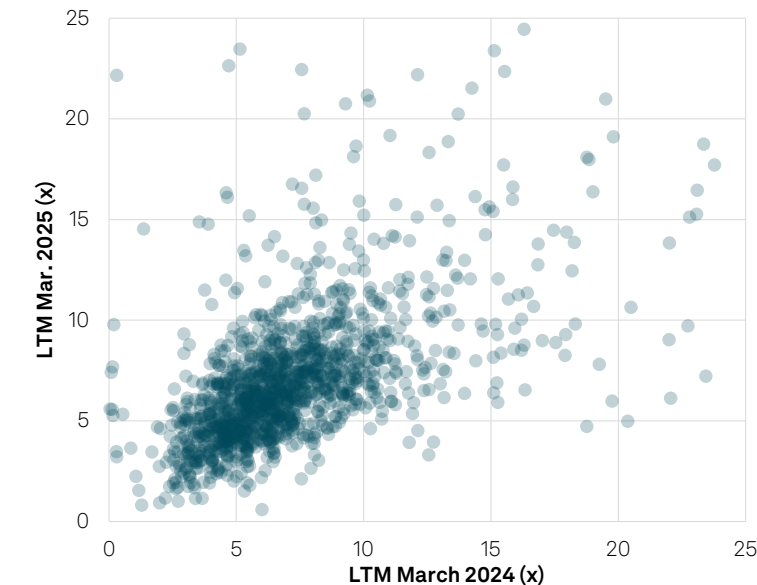
Revenue



EBITDA



Leverage

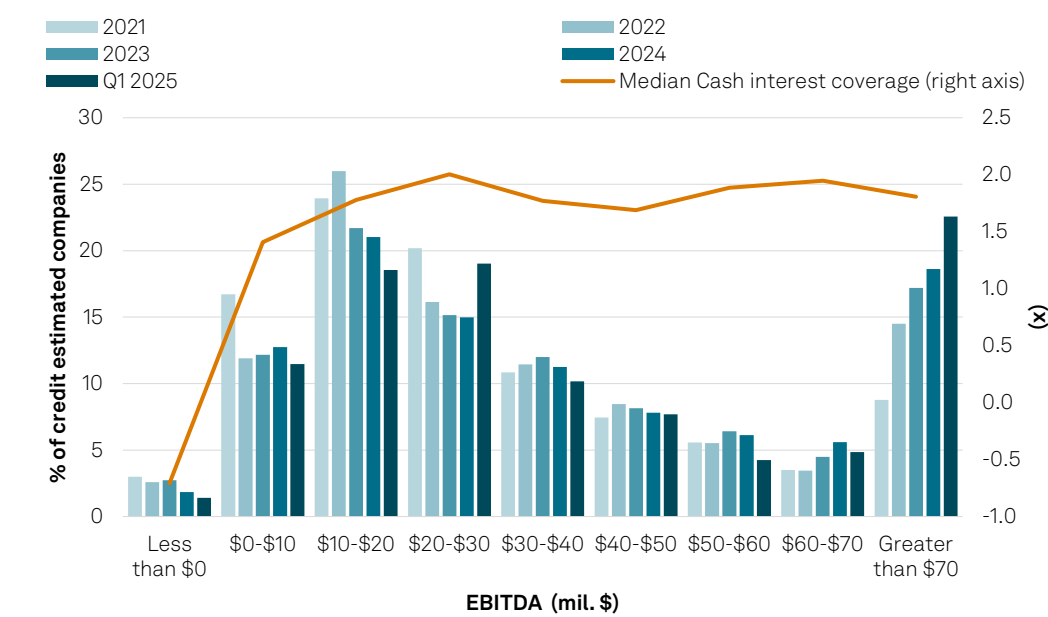


LTM--Last 12 months. Source: S&P Global Ratings.

Credit Metrics | EBITDA And Free Operating Cash Flow Distribution

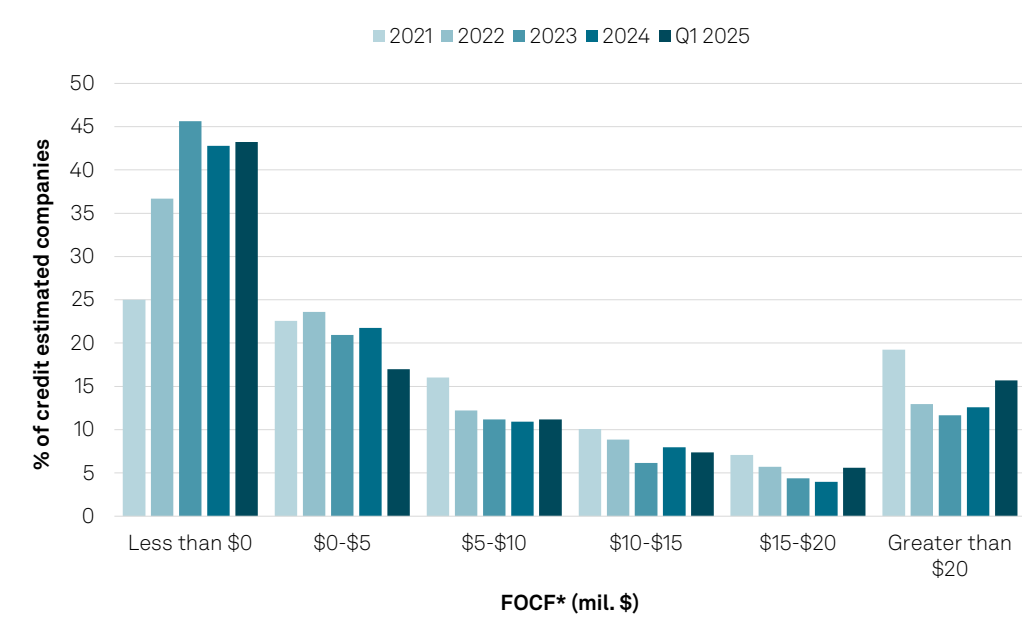
- 10% and 33% of companies reviewed this year had a cash interest coverage ratio less than 1.0x and 1.5x, respectively.
- 43% and 68% of companies reviewed this year had a FOCF* + cash interest coverage ratio less than 1.0x and 1.5x, respectively.
- Of the companies with recurring revenue loan structures, about 22% generated negative EBITDA.

EBITDA and cash interest coverage



Source: S&P Global Ratings.

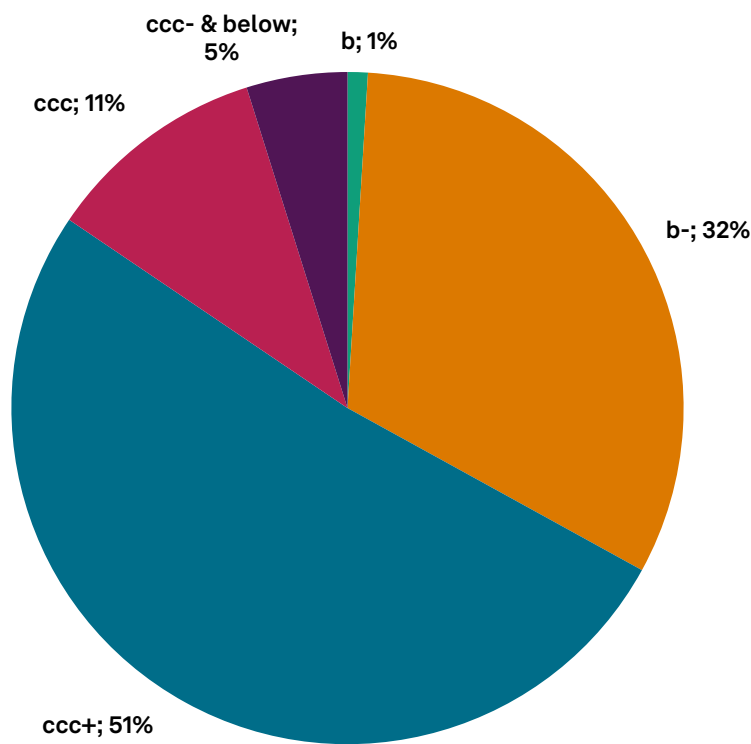
Free operating cash flow (FOCF)



*FOCF = CFO - Capex. Source: S&P Global Ratings.

Recurring Revenue | Two-Thirds Of Issuers Are In 'ccc' Range

Recurring revenue score distribution



Source: S&P Global Ratings.

Credit metrics: recurring revenue deals

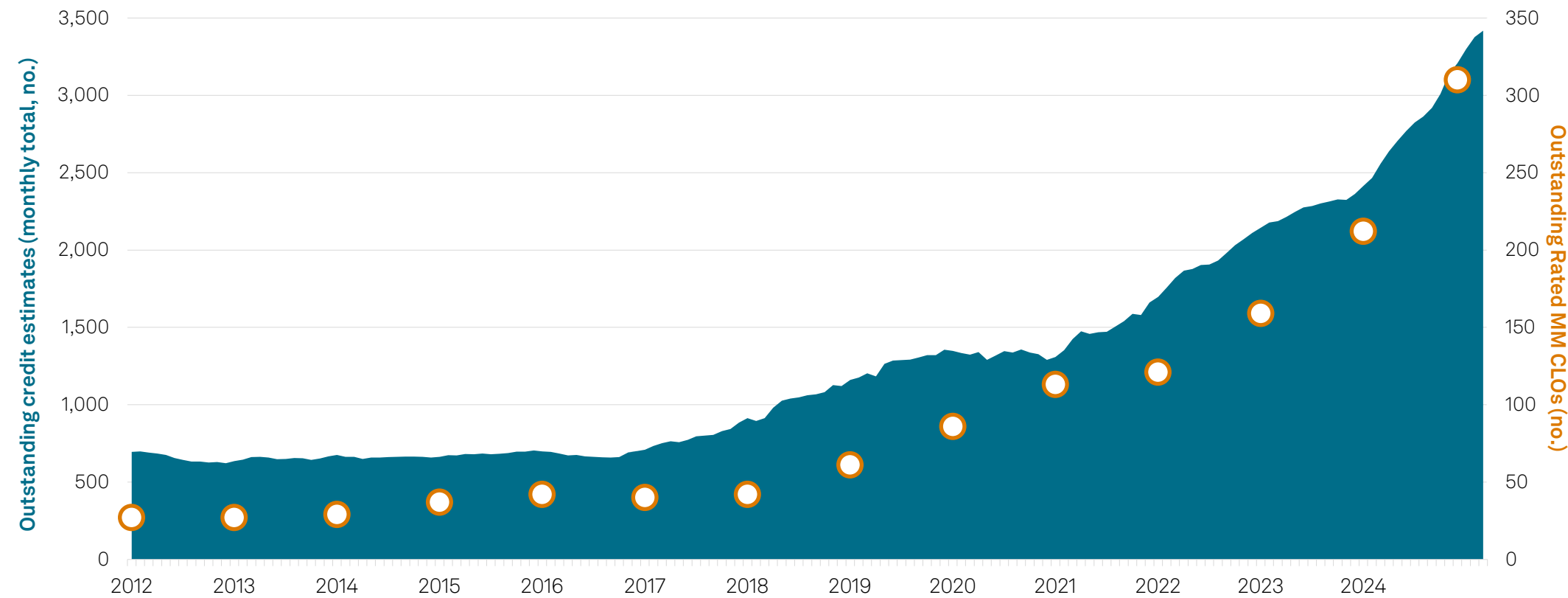
Metrics (median)	Total outstanding Q1 2025	Total outstanding Q1 2024
No. of deals	103	103
Revenue (mil.\$)	120.13	112.07
EBITDA (mil. \$)	10.02	6.98
Leverage (x)	16.86	27.39
Cash interest coverage (x)	0.57	0.32
Interest coverage (x)	0.42	0.29
Capex (mil. \$)	0.85	1.48
Cash balance (mil. \$)	16.10	18.41
FOCF to debt (%)	-5.27	-7.00
Liquidity ratio (x)	2.21	1.73

Capex--Capital expenditure. FOCF--Free operating cash flow.
Source: S&P Global Ratings.

- Recurring revenue companies represent a small proportion (<5%) of our outstanding credit estimates, typically for software companies.
- Software industry represents 85% of the recurring revenue universe.
- Recurring revenue deals compare unfavorably on metrics such as EBITDA and FOCF compared to other middle-market deals.
- They tend to have higher sponsor equity contributions. Over 79% of them have 'adequate' liquidity.
- During first-quarter 2025, we saw one downgrade and five upgrades, accounting for 5% and 24%, respectively, of the recurring revenue deals we reviewed.
- The top three managers that held recurring revenue loans in our credit estimates portfolio were BlackRock, AB Global, and Blue Owl.

Credit Estimates | Middle-Market CLO Issuance Drives Increase In Estimates

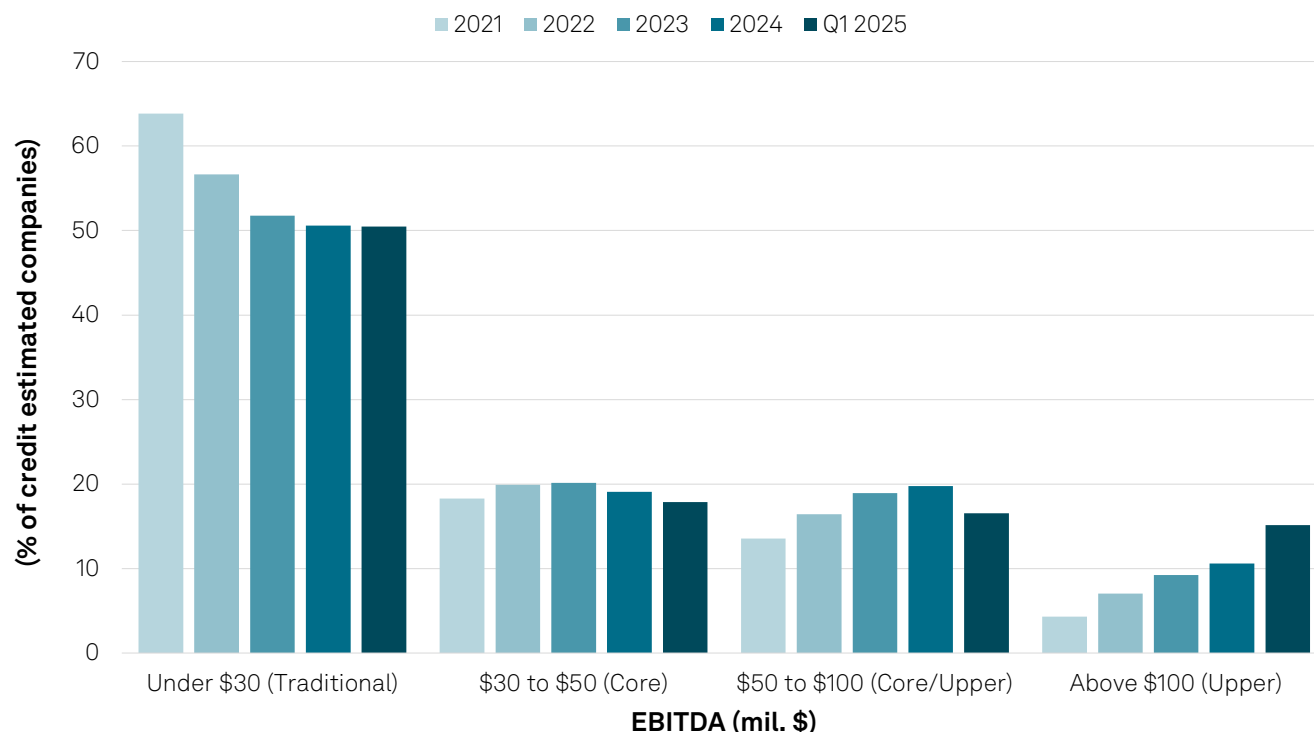
All outstanding S&P Global Ratings credit estimates (2012–Q1 2025)*



*Covers all outstanding S&P Global Ratings U.S. credit estimates, including a small number of estimates for obligors not currently held within a CLO transaction. CE--Credit estimate. MM--Middle market. CLO--Collateralized loan obligation. Source: S&P Global Ratings.

Credit Estimates | More Issuers Above \$100 Million EBITDA Getting Credit Estimates, But Smaller Companies Still A Large Majority

Credit-estimate EBITDA distribution over the years for credit estimates completed in 2021-Q1 2025 (%)



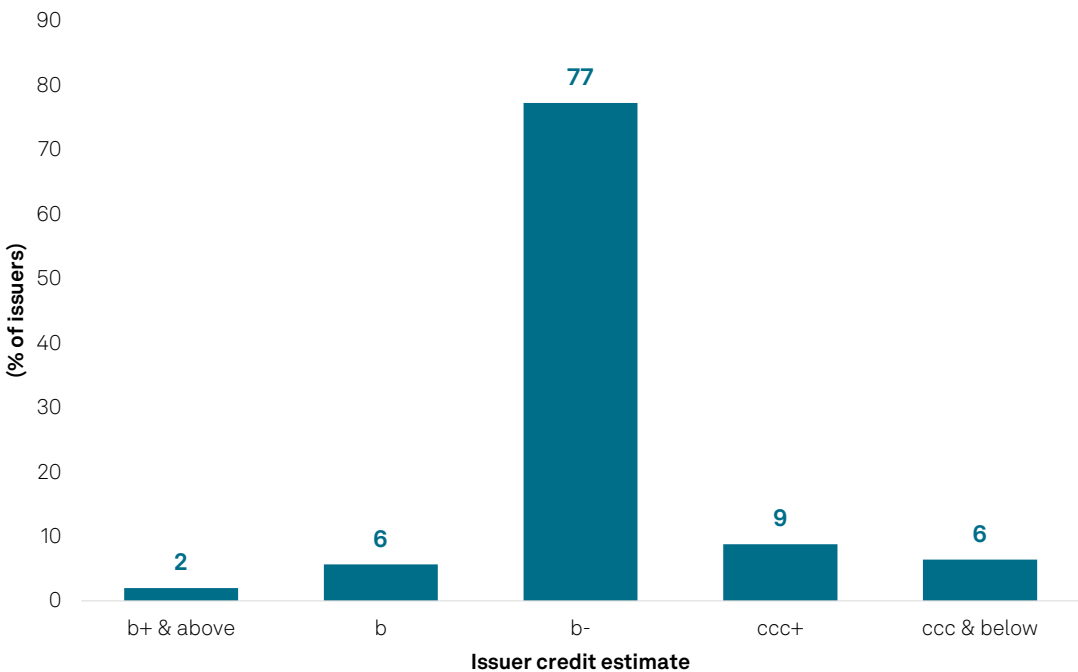
- Over the years, larger companies have been entering our credit-estimate universe.
- In 2021, over 60% of credit estimates completed had less than \$30 million of EBITDA. By first-quarter 2025, this declined to 50%.
- The percentage of companies with >\$100 million of EBITDA reviewed in a single year has more than doubled since 2021.

Source: S&P Global Ratings.

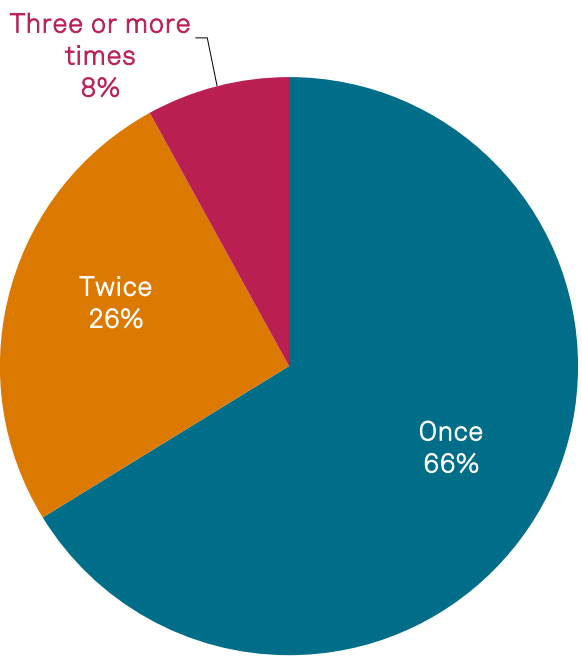
Credit Estimates | Credit Estimate Scores As Of First-Quarter 2025

- For credit-estimated companies reviewed in first-quarter 2025 the median EBITDA was \$30 million, and the median-adjusted debt was about \$200 million.
- 34% of the credit-estimated companies reviewed last year were reviewed more than once.

Credit estimates outstanding as of first-quarter 2025*



Frequency of credit estimate reviews in LTM March 2025

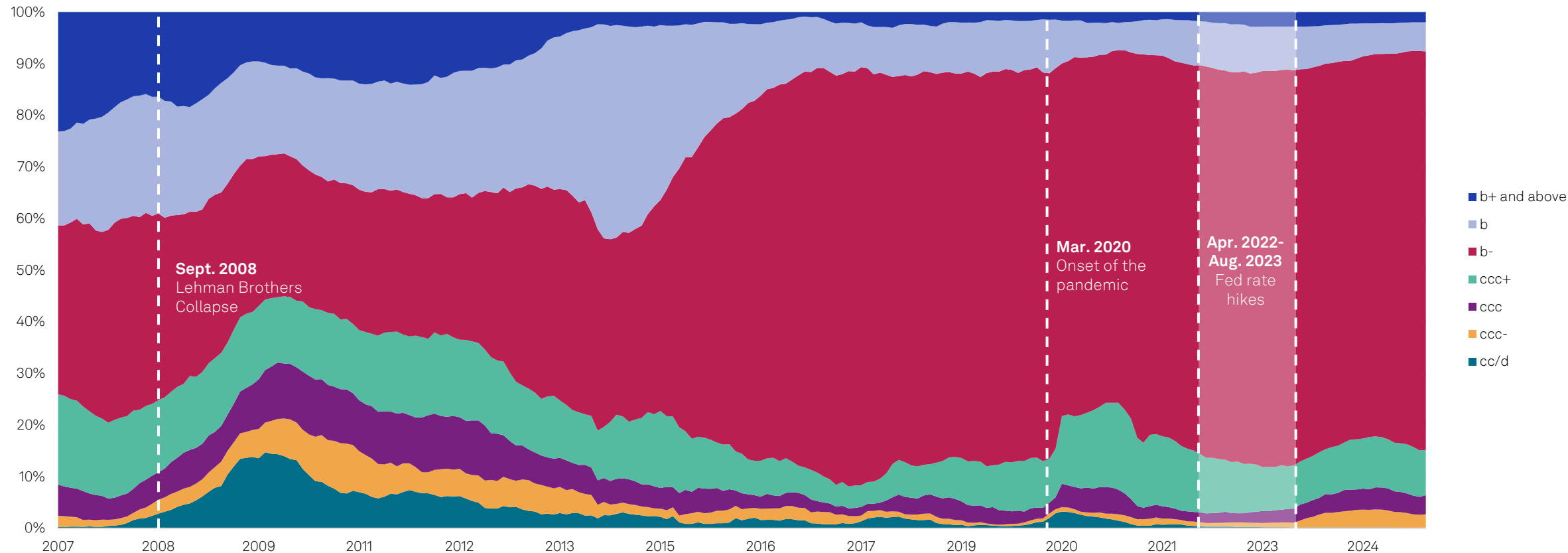


*Covers all outstanding S&P Global Ratings U.S. credit estimates (estimates less than one year old), including estimates for obligors not currently held within a CLO transaction. CLO--Collateralized loan obligation.
Source: S&P Global Ratings.

LTM--Last 12 months. Source: S&P Global Ratings.

Credit Estimates | Credit Quality Over The Years

Outstanding credit estimate distribution (2007–Q1 2025)*

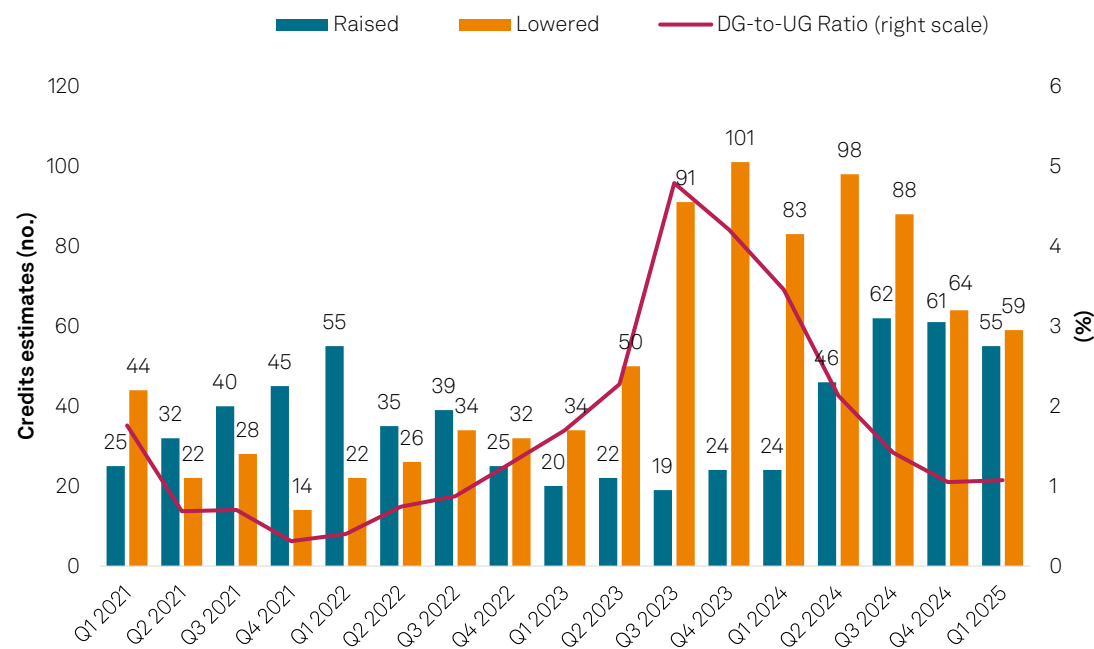


*Covers all outstanding S&P Global Ratings U.S. credit estimates, including estimates for obligors not currently held within a CLO transaction. CLO--Collateralized loan obligation.
Source: S&P Global Ratings.

Upgrades And Downgrades | Credit Estimate Changes Vs. BSL Rating Changes

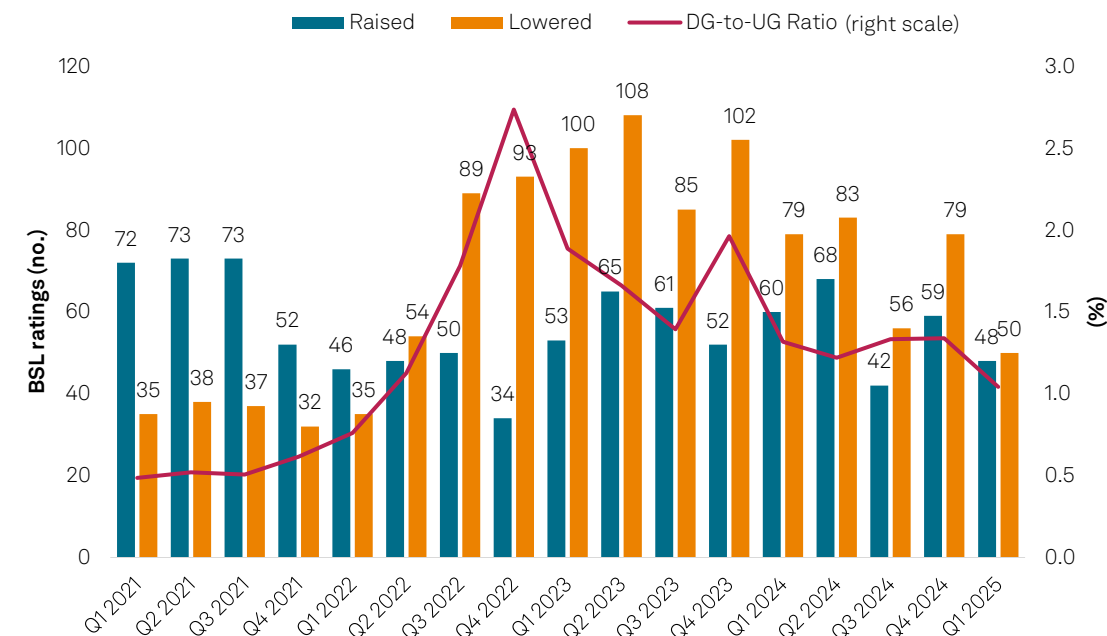
- Downgrades continued to decline and reached their lowest levels since second-quarter 2023. The downgrade-to-upgrade ratio moved up slightly to 1.07 from 1.04.
- For the companies reviewed in first-quarter 2025, 83% were affirmed, 9% were downgraded, and 8% were upgraded.

Credit estimates raised and lowered (Q1 2021-Q1 2025)



Source: S&P Global Ratings.

BSL ratings raised and lowered (Q1 2021-Q1 2025)*



*Counts are inclusive of default and emergence from default. BSL--Broadly syndicated loan. Source: S&P Global Ratings.

Upgrades And Downgrades | Credit Estimate Transitions

One-year credit estimate transition matrix (March 31, 2024–March 31, 2025)

		Credit estimate score as of March 31, 2025 (%)						
		'b+' and above	'b'	'b-'	'ccc+'	'ccc'	'ccc-'	Below 'ccc-'
Credit estimate score as of Mar. 31, 2024 (%)	'b+' and above	100						
	'b'	2	61	24	2			11
	'b-'		2	85	4	3	1	5
	'ccc+'			22	53	10	6	8
	'ccc'		1	22	19	35	4	16
	'ccc-'			13	12	5	46	22
	Below 'ccc-'				6	6	88	

- The y-axis represents the credit estimate score on March 31, 2024, and the x-axis represents the credit estimate score on March 31, 2025.
- 85% of 'b-' credit estimate scores were affirmed during the year.
- Approximately 8% of the credit estimates in the 'b-' category were downgraded into the 'ccc' category during the year.
- 22% percent of the credit estimates in the 'ccc+' range were upgraded into the 'b' category.

Source: S&P Global Ratings.

Upgrades And Downgrades | Credit Estimates Raised And Lowered By Sector

59 downgrades and 55 upgrades in first-quarter 2025

Sector		Sector exposure of total credit estimates (%)	Downgrades (no.)	Upgrades (no.)	DG-to-UG Ratio
1	Software	14.3	4	10	0.4
2	Health care providers and services	10.8	9	8	1.1
3	Professional services	8.0	3	3	1.0
4	Commercial services and supplies	7.1	4	2	2.0
5	Construction and engineering	4.8	4	1	4.0
6	Diversified consumer services	4.1	2	2	1.0
7	Media	3.8	1	3	0.3
8	Hotels, restaurants, and leisure	3.4	4	0	N/A
9	IT services	3.4	3	1	3.0
10	Health care equipment and supplies	3.1	3	2	1.5
11	Machinery	3.1	2	0	N/A
12	Chemicals	2.2	1	2	0.5
13	Health care technology	2.1	0	2	0.0
14	Food products	2.0	0	2	0.0
15	Insurance	1.9	1	1	1.0

DG--Downgrade, UG--Upgrade, N/A--Not applicable. Source: S&P Global Ratings.

Upgrades And Downgrades | Issuer Size Not A Strong Driver Of Credit Issues

- We continue to see no significant impact of size of the entity on performance of credit.
- We used downgrades and defaults as an indicator of performance and used debt as a proxy for size. Many of the downgraded and defaulted companies experienced operational challenges and issues, and hence, their EBITDA did decline substantially from the time of issuance to the time of our action.
- Although it does not convey the full picture, we still present the median EBITDA (at the time of our action) for comparative purposes.
- The below tables compare median and average debt and EBITDA for companies credit estimated in the last 12 months with the ones that were downgraded and defaulted during that period.

Downgrades

Debt size (mil. \$)	All CEs	Downgraded CEs
Median debt size	202	191
Average debt size	374	346

CE--Credit estimate. Source: S&P Global Ratings.

EBITDA size (mil. \$)	All CEs	Downgraded CEs
Median EBITDA size	31	18
Average EBITDA size	54	31

CE--Credit estimate. Source: S&P Global Ratings.

Defaults

Debt size (mil. \$)	All CEs	Defaulted CEs
Median debt size	202	213
Average debt size	374	394

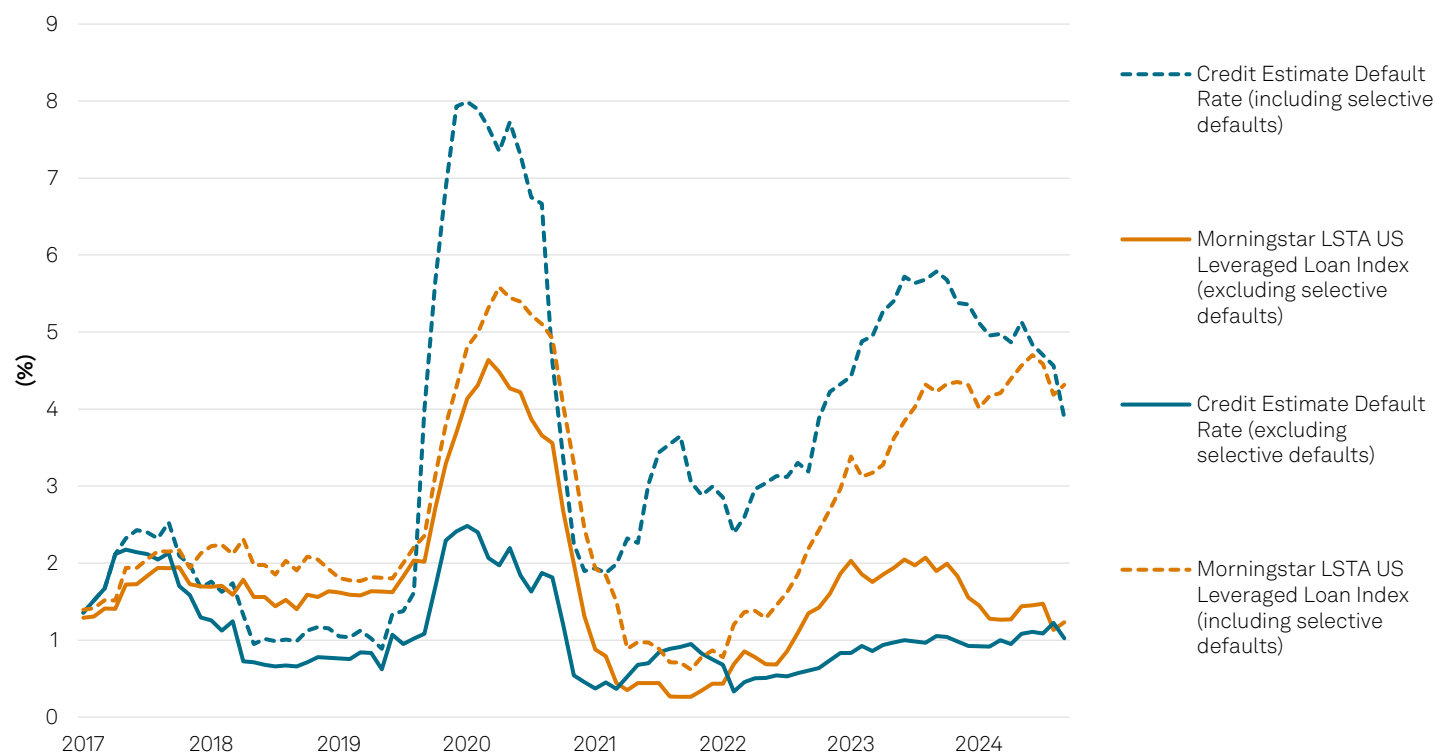
CE--Credit estimate. Source: S&P Global Ratings.

EBITDA size (mil. \$)	All CEs	Defaulted CEs
Median EBITDA size	31	20
Average EBITDA size	54	34

CE--Credit estimate. Source: S&P Global Ratings.

Defaults | Selective Defaults For Credit-Estimated Companies Drop...For Now

Credit estimate default rates compared to syndicated loan default rates



Sources: S&P Global Ratings and Pitchbook/LCD.

- The dashed blue line in the chart, which includes both selective and conventional defaults among credit-estimated issuers, has trended down. Although, a continuation of the current macroeconomic conditions could reverse this trend.
- While selected defaults have come down, traditional defaults have ticked up as weaker issuers have little runway given slower decline in benchmark rates and high funding costs. We expect this to stay elevated given the uncertain macroeconomic environment.
- Among BSL issuers, the LSTA Leveraged Loan Index default trended downwards towards 1.23% on an issuer count basis. The dual-track loan default rate, when including out-of-court liability management transactions along with payment defaults, was at 4.31%, slightly above our aggregate defaults/selective defaults of 3.90%.
- Other default studies' outcomes may differ because of methodology and universe sampled.

Defaults | Credit Estimate Selective Defaults Continue To Drop In Q1 2025

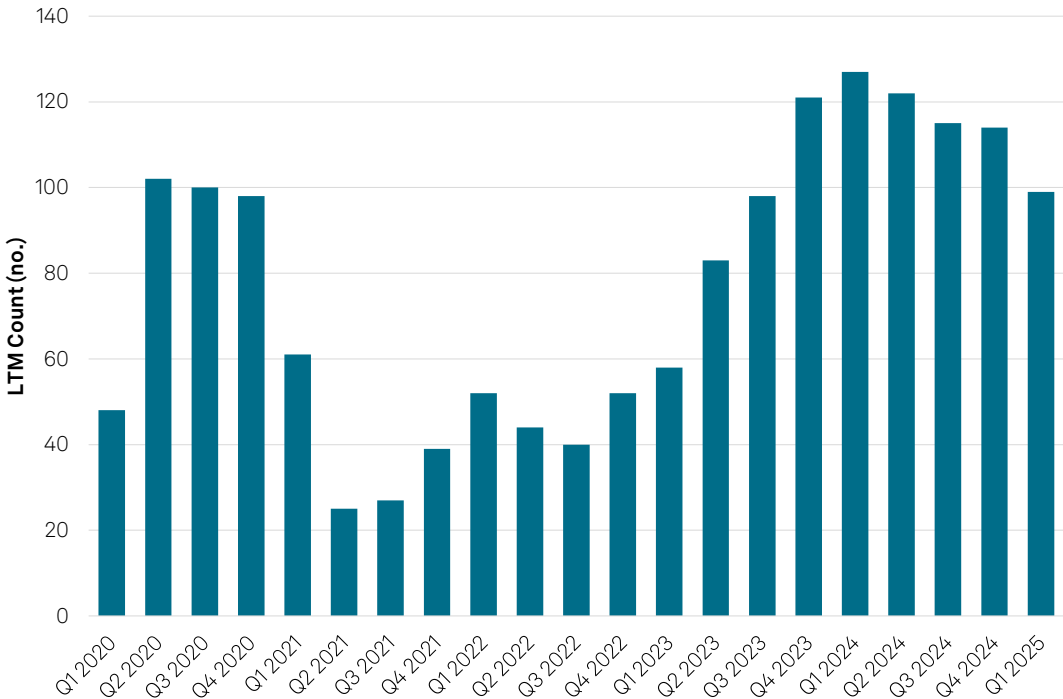
- The biggest reasons for selective defaults in the last twelve months were PIK (71%), followed by A-to-E transactions (33%), with the remaining 12% doing both.

Transition table for credit estimate selective defaults that occurred in LTM first-quarter 2025

		Credit estimate score post-selective default			
		'b-'	'ccc+'	'ccc'	'ccc-'
Credit estimate score pre-'SD'	'b-'	20	3	3	
	'ccc+'		10	2	3
	'ccc'	2	3	15	1
	'ccc-'	2	1	1	15

As of first quarter-2025, we are still receiving selective default notices from managers and incorporating them into our dataset. *Does not include credits for which were withdrawn post-SD. SD--Selective default. LTM--Last 12 months. Source: S&P Global Ratings.

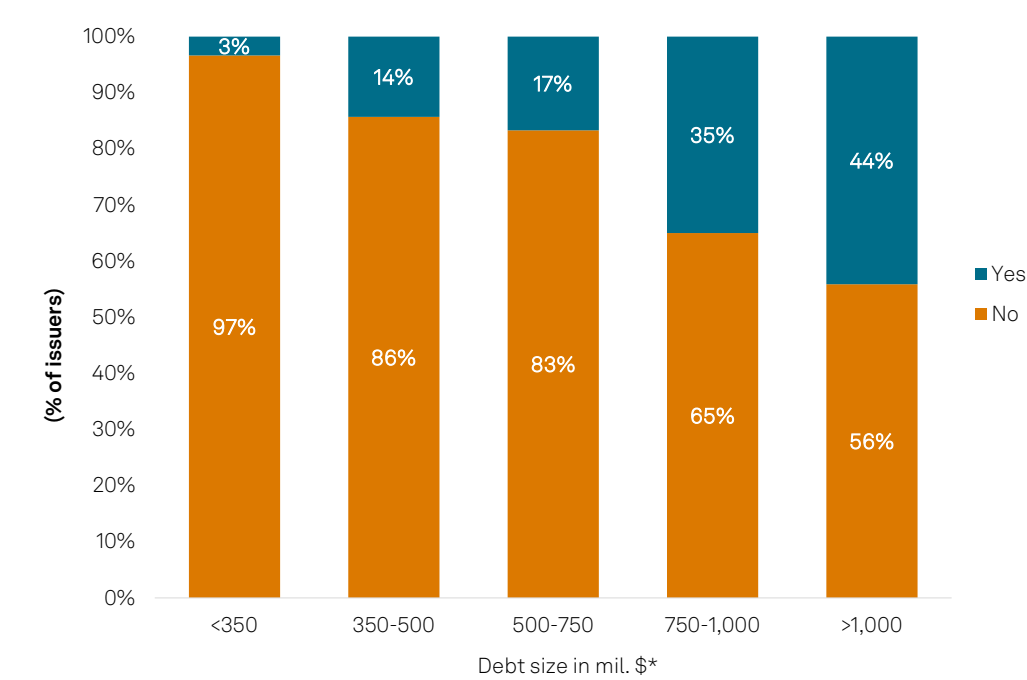
LTM count of selective defaults (Q1 2020–Q1 2025)



Loan Documents | Recent Trends In CE Loan Documentation (PIKs/Cov-Lite)

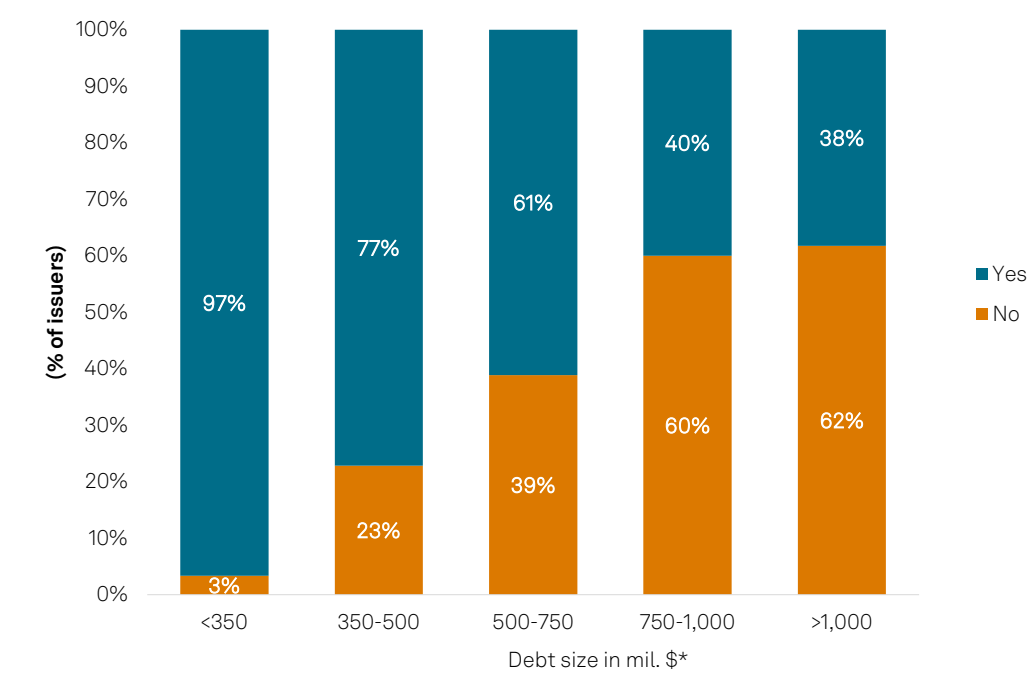
- We reviewed over 300 credit agreements executed in 2024 to identify loan structures with a PIK toggle or financial maintenance covenant.
- We observed an inverse relationship between debt size and presence of a PIK toggle or financial maintenance covenant.

PIK toggle included in credit agreement?



*S&P Global Ratings-adjusted debt. PIK--Payment in kind. Source: S&P Global Ratings.

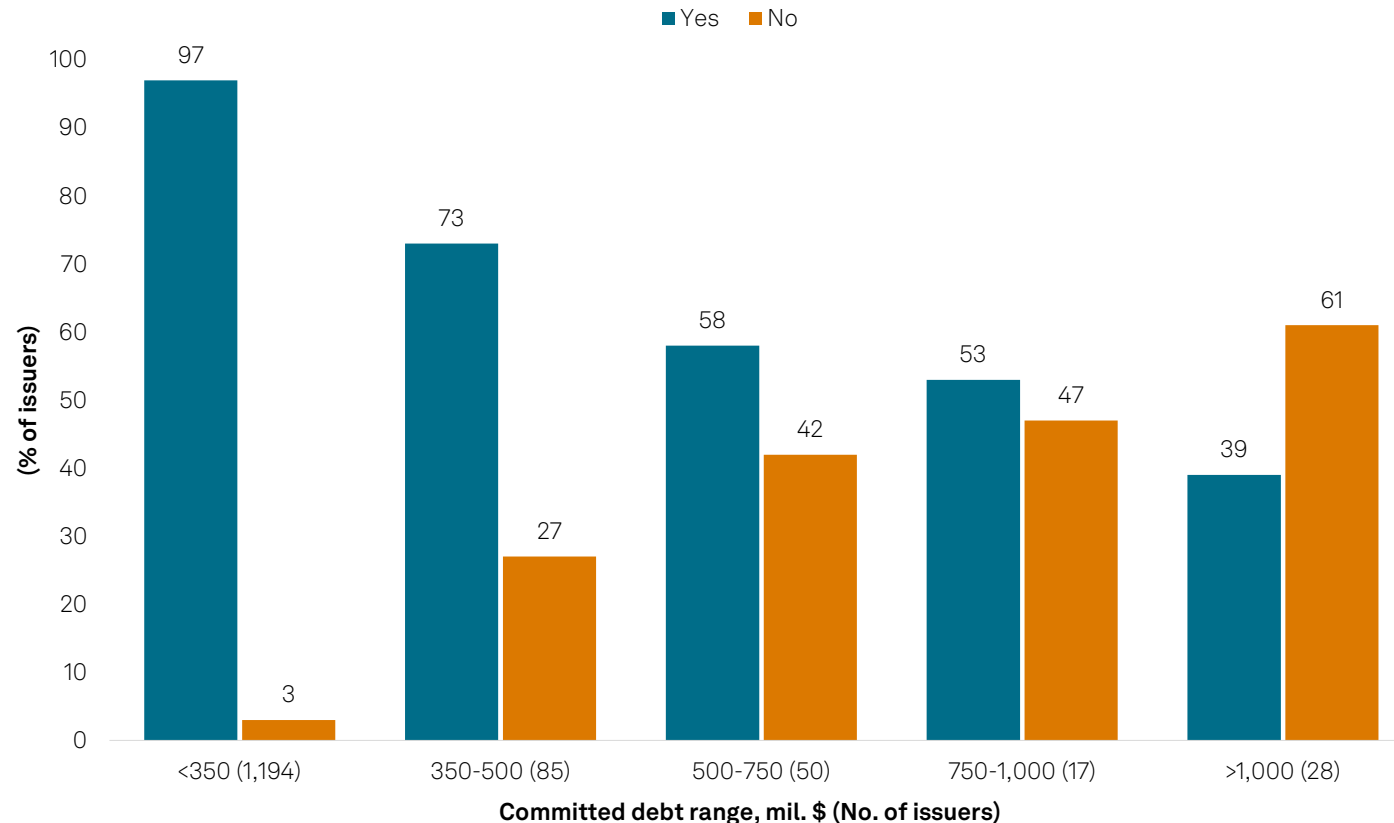
Maintenance covenant present?



*S&P Global Ratings-adjusted debt. PIK--Payment in kind. Source: S&P Global Ratings.

Loan Documents | Direct Lending Companies Have Tighter Loan Documents

Presence of maintenance covenants in 1,200+ private credit agreements reviewed

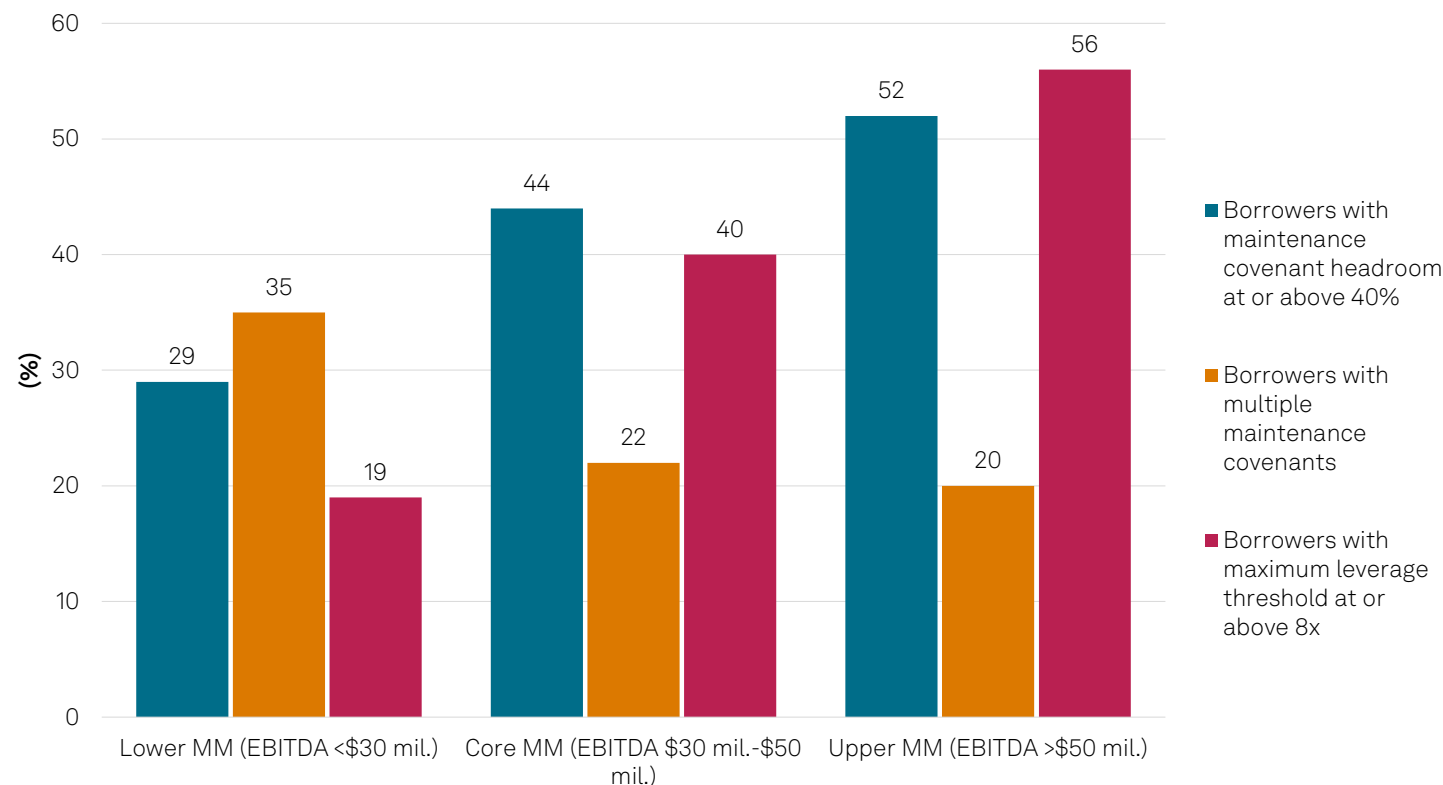


Source: S&P Global Ratings. Committed debt includes term loans and delayed-draw term loans.

- Of the 17 issuers that had covenant-lite structures in the BSL market, eight required a financial maintenance covenant on moving to the private credit market.
- Of the 22 BSL agreements, eight did not cap anticipated cost savings/synergy that could be added back to agreement-defined EBITDA. When the entities transitioned to private credit, synergy and cost saving was capped in all but one case (where the deal dispensed with the EBITDA-based covenant and switched to a liquidity covenant). However, one deal that did have a cap for cost saving in BSL removed it when it moved to private credit.
- Six issuers did a deal in the BSL market much after 2017 (J. Crew transaction) and still did not include a J. Crew blocker. When they were refinanced in the private credit market, five of them added a blocker, and the sixth one removed the concept of unrestricted subsidiaries altogether.

Loan Documents | Loosening Covenants In Private Credit

Loose maintenance covenants have permeated through private credit



- Based on our analysis of more than 2,000 credit-estimated borrowers with actively tested debt to EBITDA-based maintenance covenants, we found that over a third of them had covenant headroom exceeding 40% when comparing the maximum test threshold to the actual ratio calculated in their compliance certificates at the time of the latest review.
- Maintenance covenants are still the standard in most private credit agreements. However, in many cases, their effectiveness has deteriorated due to increasingly generous leverage limits that make it harder for lenders to act on early signs of borrower underperformance.
- We believe, in most cases, these large cushions reflect covenants that were set very wide to closing levels, as opposed to signaling meaningful deleveraging.
- Abundant covenant headroom provides flexibility for borrowers in times of stress, but the saturation of covenant-wide terms could ultimately impair recovery values for lenders, similar to the effect of covenant-lite structuring on defaulted syndicated loans.

For additional information, please refer to "Loose Maintenance Covenants Permeate Private Credit," published April 23, 2025. Source: S&P Global Ratings.

BDCs | Marginal Increase In BDC Assets That Are PIK-ing

S&P Global Ratings has currently has ratings on seven publicly traded BDCs and nine non-traded Perpetual BDCs. Many BDCs we rate lend to the upper end of the middle market. We have seen a marginal increase in percentage of PIK income across both sets of BDCs.

Publicly traded BDCs

BDC	PIK (mil. \$)		PIK interest / gross investment income (%)		No of investment portfolio companies
	2023	2024	2023	2024	Obligors (2024)
ARES Capital Corp.	364.0	463.0	13.9	15.5	550
Blackstone Secured Lending Fund	51.6	83.0	4.5	6.3	276
Blue Owl Capital Corporation	210.0	245.1	13.3	15.4	236
Golub Capital	53.7	73.8	8.9	9.8	386
Main Street Capital Corp.	12.3	25.3	2.5	4.7	190
Prospect Capital Corp.	132.1	134.5	15.5	15.6	114
Sixth Street Specialty Lending, Inc.(TSLX)	18.2	29.6	4.2	6.1	115
Median	53.7	83.0	8.9	9.8	N/A

Non-traded perpetual BDCs

BDC	PIK (mil. \$)		PIK interest / gross investment income (%)		No of investment portfolio companies
	2023	2024	2023	2024	Obligors (2024)
Apollo Debt Solutions BDC	7.9	19.5	1.3	1.6	324
Ares Strategic Income Fund	2.4	26.1	2.2	4.7	588
Blackstone Private Credit Fund (BCRED)	236.8	366.0	4.1	5.5	603
Blue Owl Capital Corporation II	33.8	34.9	12.4	13.6	182
Blue Owl Credit Income Corp.	144.2	189.2	9.3	7.4	339
Blue Owl Technology Finance Corp.	150.3	139.5	22.0	20.4	148
Golub Capital Private Credit Fund (GCRED)	0.5	6.8	1.5	3.9	270
HPS Corporate Lending Fund	31.7	72.4	3.6	5.1	315
Sixth Street Lending Partners (SSLP)	14.4	34.7	5.9	5.2	67
Median	31.7	34.9	4.1	5.2	N/A

BDCs--Business development companies. N/A—Not applicable. Figures represented are as of year-end 2023 and year-end 2024. Source: S&P Global Ratings.

BDCs | Non-Accruals Amongst Companies In BDCs

We have seen a marginal uptick in average non-accruals across both sets of BDCs.

Publicly traded BDCs

BDC	Non-accruals at cost (mil. \$)		Non-accruals at cost/ loans at cost (%)		No of investment portfolio companies
	2023	2024	2023	2024	Obligors (2024)
ARES Capital Corp.	295.2	439.0	1.9	2.1	550
Blackstone Secured Lending Fund	1.4	36.7	0.0	0.3	276
Blue Owl Capital Corporation	139.3	245.7	1.3	2.2	236
Golub Capital	85.7	142.2	1.6	0.9	386
Main Street Capital Corp.	86.1	150.4	2.9	4.4	190
Prospect Capital Corp.	421.2	215.9	6.9	4.6	114
Sixth Street Specialty Lending, Inc.(TSLX)	28.1	127.2	0.9	3.8	115
Median	86.1	150.4	1.6	2.2	N/A

Non-traded perpetual BDCs

BDC	Non-accruals at cost (mil. \$)		Non-accruals at cost/ loans at cost (%)		No of investment portfolio companies
	2023	2024	2023	2024	Obligors (2024)
Apollo Debt Solutions BDC	9.5	100.6	0.1	0.7	324
Ares Strategic Income Fund	0.0	7.4	0.0	0.1	588
Blackstone Private Credit Fund (BCRED)	27.9	320.0	0.1	0.5	603
Blue Owl Capital Corporation II	11.8	29.6	0.6	1.7	182
Blue Owl Credit Income Corp.	11.5	42.6	0.1	0.2	339
Blue Owl Technology Finance Corp.	13.9	17.3	0.3	0.3	148
Golub Capital Private Credit Fund (GCRED)	0.0	0.0	0.0	0.0	270
HPS Corporate Lending Fund	36.5	157.9	0.4	1.0	315
Sixth Street Lending Partners (SSLP)	0.0	0.0	0.0	0.0	67
Median	11.5	29.6	0.1	0.3	N/A

BDCs--Business development companies. N/A--Not applicable. Figures represented are as of year-end 2023 and year-end 2024. Source: S&P Global Ratings.

BDCs | CLOs Issued To Fund BDCs

Publicly traded BDCs

BDC	CLO name(s)*
ARES Capital Corp.	Ares Direct Lending CLO 1 Debt Securitization - \$702 mil. term debt, ADL CLO 4 Debt Securitization- a \$544 mil. term debt
Blackstone Secured Lending Fund	BXSL CLO 2024-1 Depositor LLC
Blue Owl Capital Corporation	Owl Rock CLO I, II,III,IV,V,VI,VII,and X
Golub Capital	GBDC 3 2022-2 Debt Securitization 3\$86,600 term debt securitization
Main Street Capital Corp.	-
Prospect Capital Corp.	-
Sixth Street Specialty Lending, Inc.(TSLX)	-

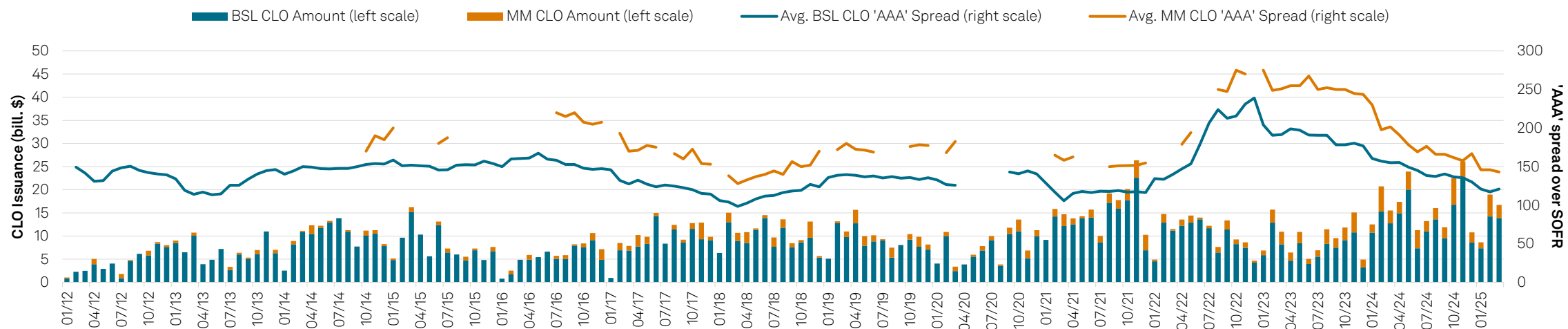
*CLO names are presented as shown in the filings. BDCs--Business development companies. Source: S&P Global Ratings.

Non-traded Perpetual BDCs

BDC	CLO name(s)*
Apollo Debt Solutions BDC	CLO Class A-1 Notes - \$450 mil.
Ares Strategic Income Fund	-
Blackstone Private Credit Fund (BCRED)	BXSL CLO 2024-1 LLC (2024-1 Debt)- \$746.8 mil. term debt securitization
Blue Owl Capital Corporation II	Owl Rock CLO XIII LLC
Blue Owl Credit Income Corp.	Owl Rock CLO VIII,XI,XII,XV,XVI,XVII,XVIII, and XIX
Blue Owl Technology Finance Corp.	Owl Rock Technology Financing 2020-1 (CLO 2020-1)
Golub Capital Private Credit Fund (GCRED)	2023 Debt Securitization

CLO Issuance | Busy First Quarter Followed By Tariff-Driven Turmoil

U.S. BSL and MM CLO issuance (2012 through Q1 2025)



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Q1 2024	Q1 2025	Change
New issue (U.S. bil. \$)																
BSL CLOs	50.11	78.12	117.78	93.76	64.01	103.58	112.88	103.65	82.21	164.97	116.99	88.71	164.20	38.79	35.49	-8.5%
MM CLOs	4.15	4.31	6.32	5.15	8.28	14.49	15.97	14.82	11.33	22.53	11.98	27.10	37.75	9.99	8.88	-11.1%
Total new issue	54.26	82.43	124.10	98.91	72.30	118.07	128.86	118.47	93.54	187.49	128.97	115.82	201.95	48.78	44.37	-9.0%
MM CLO (%)	7.60	5.20	5.10	5.20	11.50	12.30	12.40	12.50	12.10	12.00	9.30	23.40	18.69	20.48	20.01	
Reset/refi (U.S. bil. \$)																
BSL CLOs	0.00	0.00	0.00	0.00	39.73	161.53	151.97	41.33	30.39	237.61	17.35	21.55	287.56	36.31	87.86	142.0%
MM CLOs	0.00	0.00	0.00	0.00	0.00	5.48	3.92	2.46	1.09	13.70	7.42	3.05	19.38	3.03	16.61	449.0%
Total resets/refis	0.00	0.00	0.00	0.00	39.73	167.01	155.89	43.79	31.48	251.31	24.77	24.60	306.94	39.33	104.47	165.6%

BSL—Broadly-syndicated loan. MM—Middle-market. Source: S&P Global Ratings, LevFin Insights and Pitchbook LCD.

CLO Performance | ‘CCC’ Assets Slightly Down, Defaulted Assets Slightly Up

Credit metrics averaged across reinvesting S&P Global Ratings-rated middle-market CLOs

As of date	'B-' (%)	'CCC' category (%)	No rating/CE (%)	Nonperforming assets (%)	SPWARF	Jr. O/C cushion (%)	% of target par
4/30/2024(i)	70.42	14.28	6.05	0.44	3888	6.84	100.29
5/31/2024(i)	71.67	14.53	4.54	0.42	3855	6.84	100.32
6/30/2024(i)	72.28	15.80	3.39	0.32	3850	6.77	100.33
7/31/2024(i)	73.32	15.58	2.63	0.15	3823	6.69	100.29
8/30/2024(i)	73.44	15.44	2.63	0.28	3835	6.62	100.27
9/30/2024(i)	73.48	15.43	2.96	0.25	3841	6.53	100.22
10/31/2024(i)	73.10	15.48	3.33	0.39	3857	6.41	100.19
11/30/2024(i)	72.56	15.14	3.59	0.74	3881	6.39	100.22
12/31/2024(i)	72.33	15.08	4.11	0.49	3870	6.40	100.19
1/31/2025(i)	73.43	14.61	3.66	0.54	3860	6.28	100.16
2/28/2025(i)	74.09	14.23	3.32	0.66	3857	6.36	100.28
3/31/2025(ii)	73.73	13.99	3.52	0.68	3854	6.35	100.24
4/22/2025(iii)	74.25	13.84	3.10	0.66	3841	6.35	100.24

(i)Index metrics based on end of month ratings and pricing data and as of month portfolio data available. (ii)Index metrics based on Mar. 31, 2025, ratings and latest portfolio data available to us. (iii)Index metrics based on Apr. 22, 2025, ratings and latest portfolio data available to us. CLO--Collateralized loan obligation. C/E--Credit enhancement. SPWARF--S&P Global Ratings' weighted average rating factor. O/C--Overcollateralization. Source: S&P Global Ratings.

CLO Performance | Looking Beyond The Averages: Top 20% And Bottom 20%

Credit metrics for best performing quintile of MM CLOs*

As of date	'B-' (%)	'CCC' category (%)	No rating/CE (%)	Nonperforming assets (%)	SPWARF	Jr. O/C cushion (%)	% of target par
4/30/2024(i)	72.26	16.19	3.29	0.05	3823	8.85	100.72
5/31/2024(i)	73.12	14.99	3.46	0.06	3797	9.01	100.79
6/30/2024(i)	74.92	15.50	2.53	0.01	3796	9.03	100.80
7/31/2024(i)	76.90	14.62	1.48	0.00	3773	9.13	100.84
8/30/2024(i)	76.31	15.24	1.83	0.00	3796	9.19	100.85
9/30/2024(i)	75.73	15.61	1.91	0.00	3803	9.25	100.89
10/31/2024(i)	76.34	14.28	2.91	0.09	3816	9.20	100.89
11/30/2024(i)	74.64	13.83	4.91	0.17	3860	9.24	100.94
12/31/2024(i)	73.86	14.30	5.41	0.00	3862	9.25	100.97
1/31/2025(i)	75.76	13.44	4.37	0.00	3832	9.34	100.98
2/28/2025(i)	76.63	13.16	3.77	0.24	3838	9.41	101.02
3/31/2025(ii)	76.11	13.13	4.02	0.00	3821	9.42	101.03
4/22/2025(iii)	76.94	12.23	3.90	0.00	3798	9.42	101.03

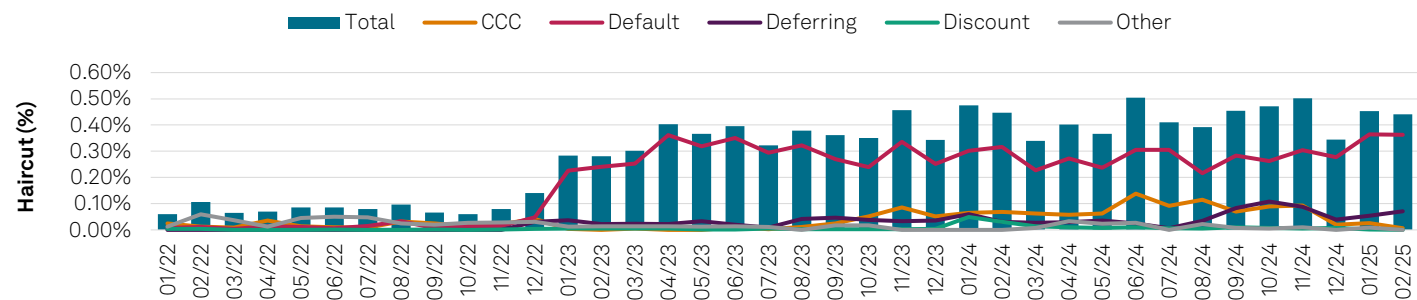
Credit metrics for worst performing quintile of MM CLOs*

As of date	'B-' (%)	'CCC' category (%)	No rating/CE (%)	Nonperforming assets (%)	SPWARF	Jr. O/C cushion (%)	% of target par
4/30/2024(i)	65.01	14.90	11.23	1.05	4071	4.26	100.13
5/31/2024(i)	65.02	17.89	8.26	0.92	4043	4.14	100.13
6/30/2024(i)	66.84	20.07	4.93	0.55	3986	3.77	100.14
7/31/2024(i)	66.67	20.55	4.66	0.36	3977	3.50	100.12
8/30/2024(i)	67.12	19.86	4.43	0.88	4003	3.49	100.00
9/30/2024(i)	67.58	20.07	4.08	0.81	3986	3.00	99.81
10/31/2024(i)	66.65	20.70	4.37	0.94	3998	2.67	99.70
11/30/2024(i)	67.29	19.70	3.85	1.53	4011	2.78	99.73
12/31/2024(i)	68.01	18.57	4.56	1.28	3988	2.78	99.67
1/31/2025(i)	68.88	18.49	4.32	1.37	3998	2.58	99.73
2/28/2025(i)	69.86	17.46	4.00	1.67	3998	2.15	99.67
3/31/2025(ii)	69.50	16.94	4.56	1.72	4002	2.09	99.48
4/22/2025(iii)	69.74	17.47	3.60	1.62	3983	2.09	99.48

(i)Index metrics based on end of month ratings and pricing data and as of month portfolio data available . (ii)Index metrics based on Mar. 31, 2025, ratings and latest portfolio data available to us. (iii)Index metrics based on Apr. 22, 2025, ratings and latest portfolio data available to us. CLO--Collateralized loan obligation. *Top and bottom 20% of CLOs ranked by change in junior O/C test cushion over past year across our index of reinvesting MM CLOs. See previous slide for full sample. CE--Credit estimate. SPWARF--S&P Global Ratings' weighted average rating factor. O/C--Overcollateralization. Source: S&P Global Ratings.

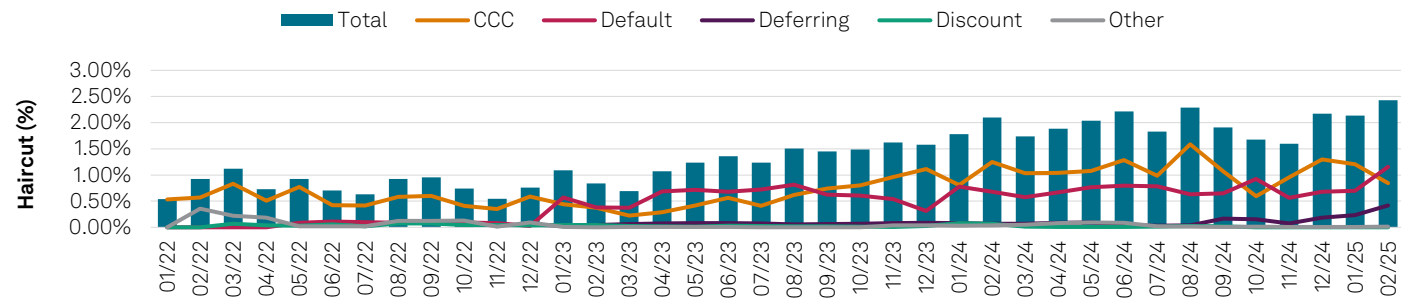
CLO Performance | O/C Test Haircuts Continue Into 2025

Average O/C metrics for **reinvesting** U.S. MM CLOs



O/C--Overcollateralization. BSL--Broadly syndicated loan. CLO--Collateralized loan obligation. Source: S&P Global Ratings.

Average O/C metrics for **amortizing** U.S. MM CLOs



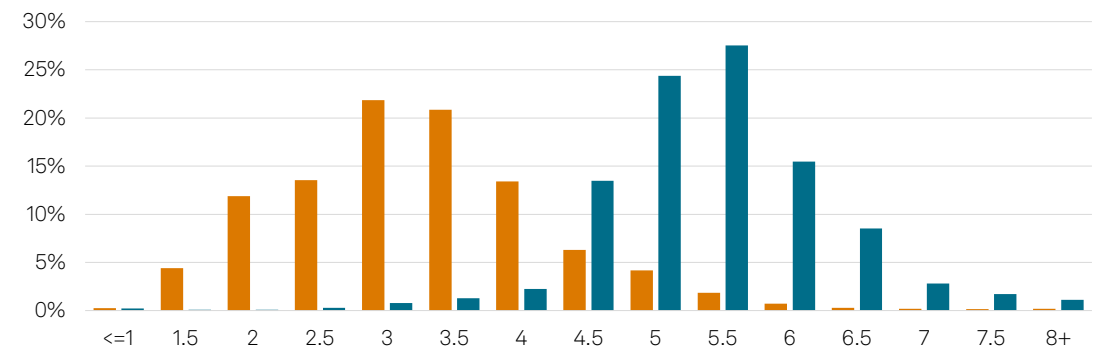
O/C--Overcollateralization. BSL--Broadly syndicated loan. MM--Middle market. CLO--Collateralized loan obligation. Source: S&P Global Ratings.

- Overcollateralization (O/C) cushions across reinvesting U.S. middle-market (MM) CLOs have declined slightly over the past 12 months, but most deals still have a significant cushion at the end of first-quarter 2025 (6.3%).
- The O/C haircuts for the reinvesting U.S. MM CLOs mostly come from default exposures; the haircuts from deferring assets continue across some transactions.
- Most reinvesting deals are not breaching their 'CCC' thresholds (most deals have a 17.5% 'CCC' threshold); 'CCC' haircuts have declined by early 2025.
- O/C haircuts across amortizing U.S. MM CLOs are larger relative to the reinvesting transactions; both default exposures and excess 'CCC' exposures contribute a large majority of the haircuts; and there has also been an uptick in haircuts from deferring assets.
- Despite the higher average haircuts, the junior O/C cushions for amortizing transactions are higher than reinvesting transactions due to senior note paydowns.

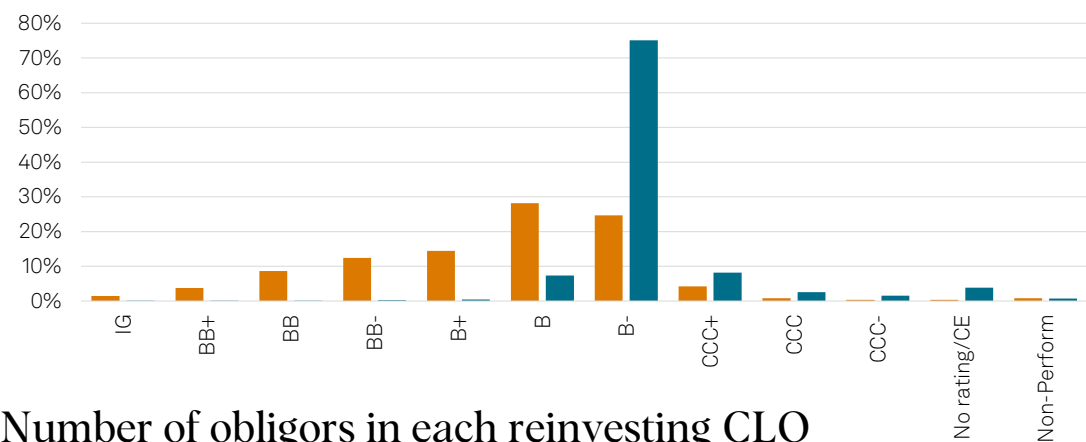
BSL And MM CLOs | BSL CLO And MM CLO Metrics Compared

■ Middle-market CLOs ■ Broadly syndicated loan CLOs

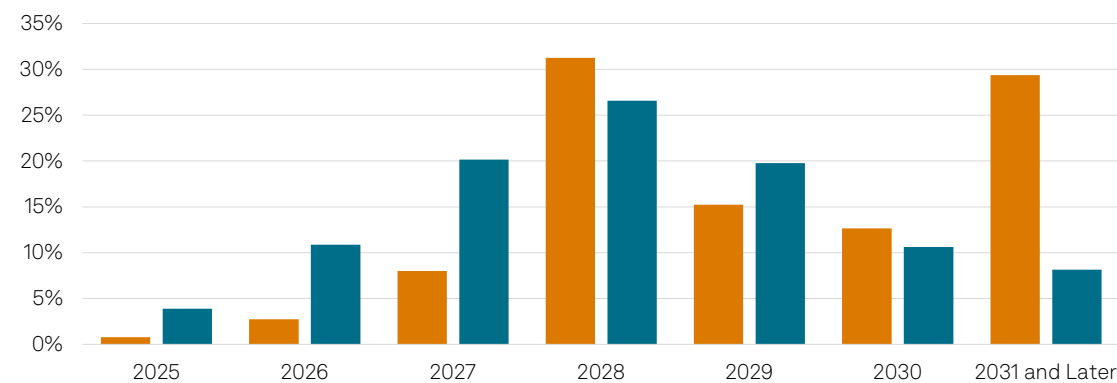
Spread Distribution



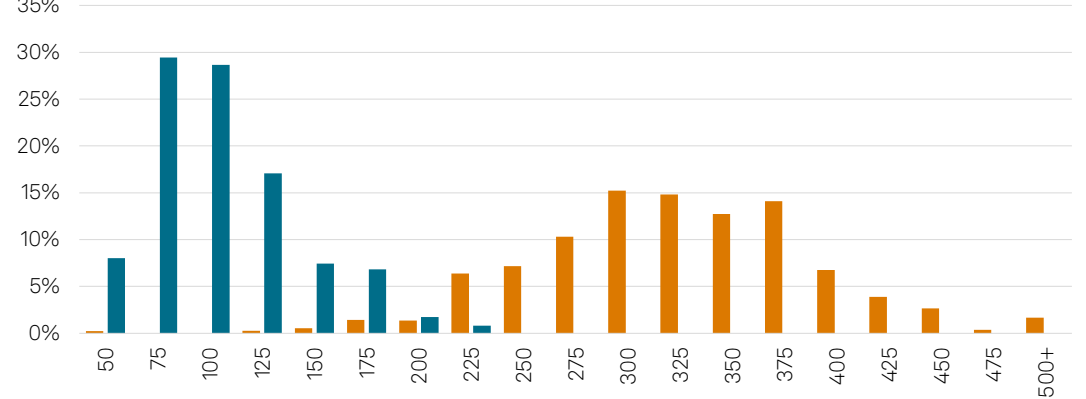
Ratings distribution of CLO obligors



Maturity distribution of CLO assets



Number of obligors in each reinvesting CLO

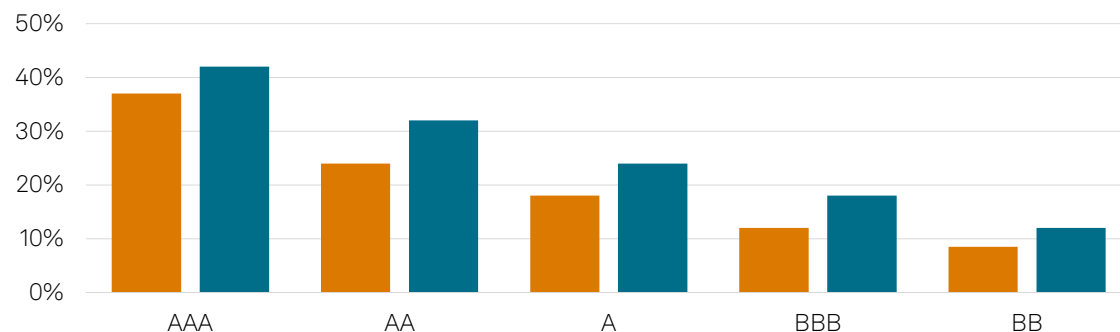


CLO--Collateralized loan obligation. Source: S&P Global Ratings.

BSL And MM CLOs | MM CLO Tranches: Higher Spreads, More Subordination

■ Middle-market CLOs ■ Broadly syndicated loan CLOs

Median subordination across outstanding reinvesting U.S. CLOs



Median spread across outstanding reinvesting U.S. CLOs



CLO--Collateralized loan obligation. Source: S&P Global Ratings.

- MM CLOs typically have capital structures with less leverage (i.e., more subordination at each rating category), relative to BSL CLOs.
- There are a wide variety of structures across MM CLOs, ranging from single tranche and equity structures to a full capital structure that looks similar to a BSL CLO (some MM CLOs even have a single 'B' tranche).
- Spreads for MM CLO notes are also typically higher relative to the spreads of BSL CLO notes.
- The median reinvestment period across for U.S. MM CLOs is four years; the median for U.S. BSL CLOs is five years.
- Median legal final for both MM and BSL U.S. CLOs is about 12 years.

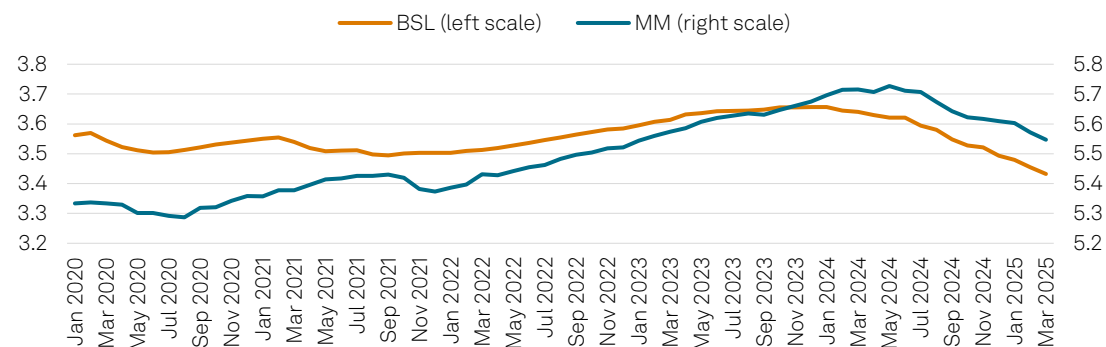
BSL And MM CLOs | Comparison Of Performance Trends

Increase in loan re-financings have reduced the weighted average spread and increased the weighted average maturity of MM CLO portfolios.

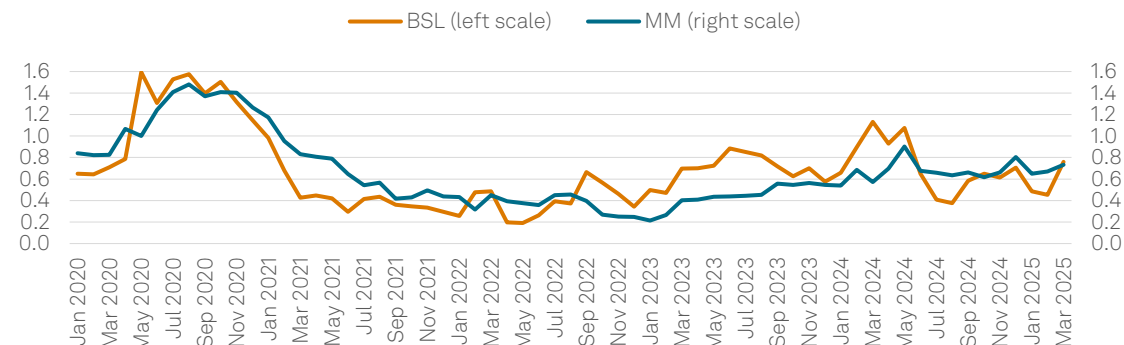
■ Broadly syndicated loan CLOs (left scale)

■ Middle-market CLOs (right scale)

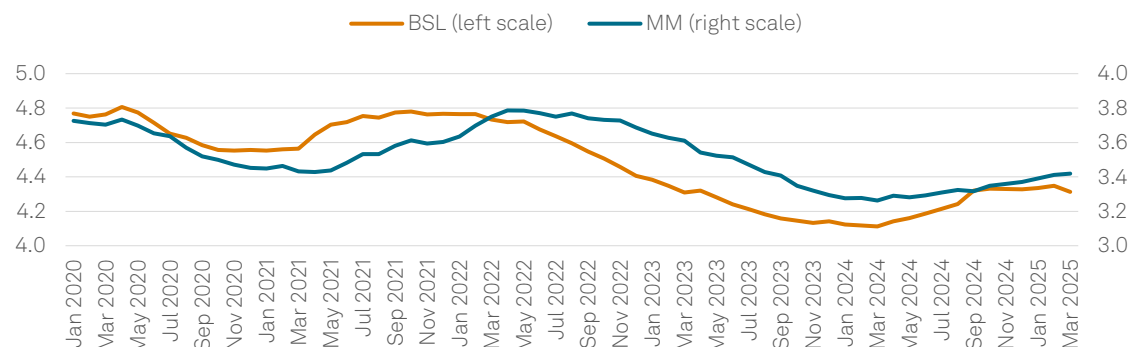
Weighted average spread (%)



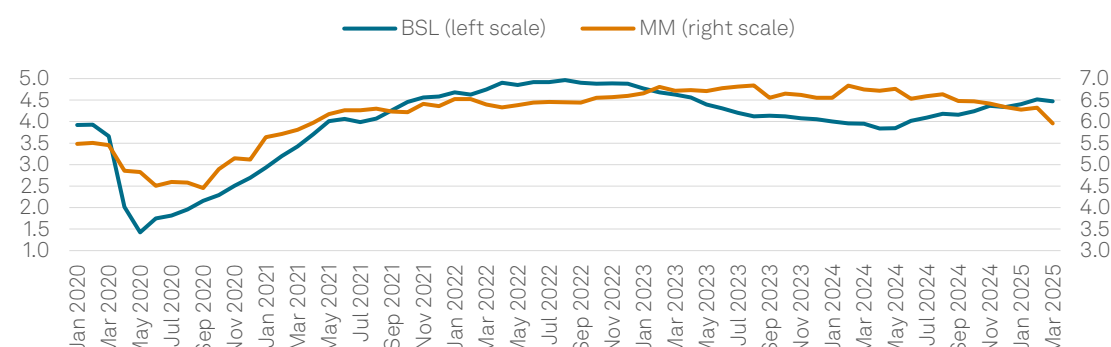
Nonperforming exposure (%)



Weighted average maturity (years)



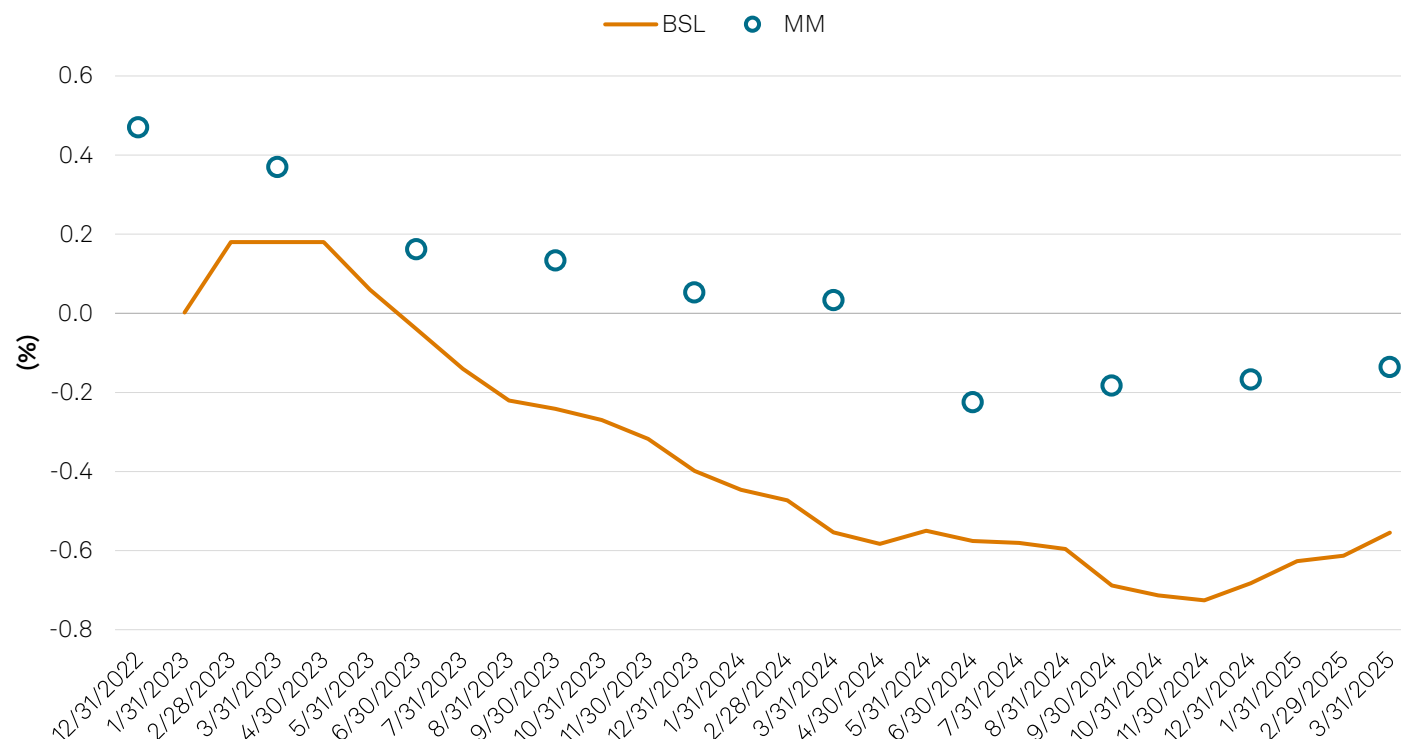
Median junior overcollateralization test cushion (%)



BSL--Broadly syndicated loan. MM--Middle market. Source: S&P Global Ratings.

BSL And MM CLOs | Comparison Of Performance Trends

Trailing 12-month portfolio loss rates across reinvesting CLOs

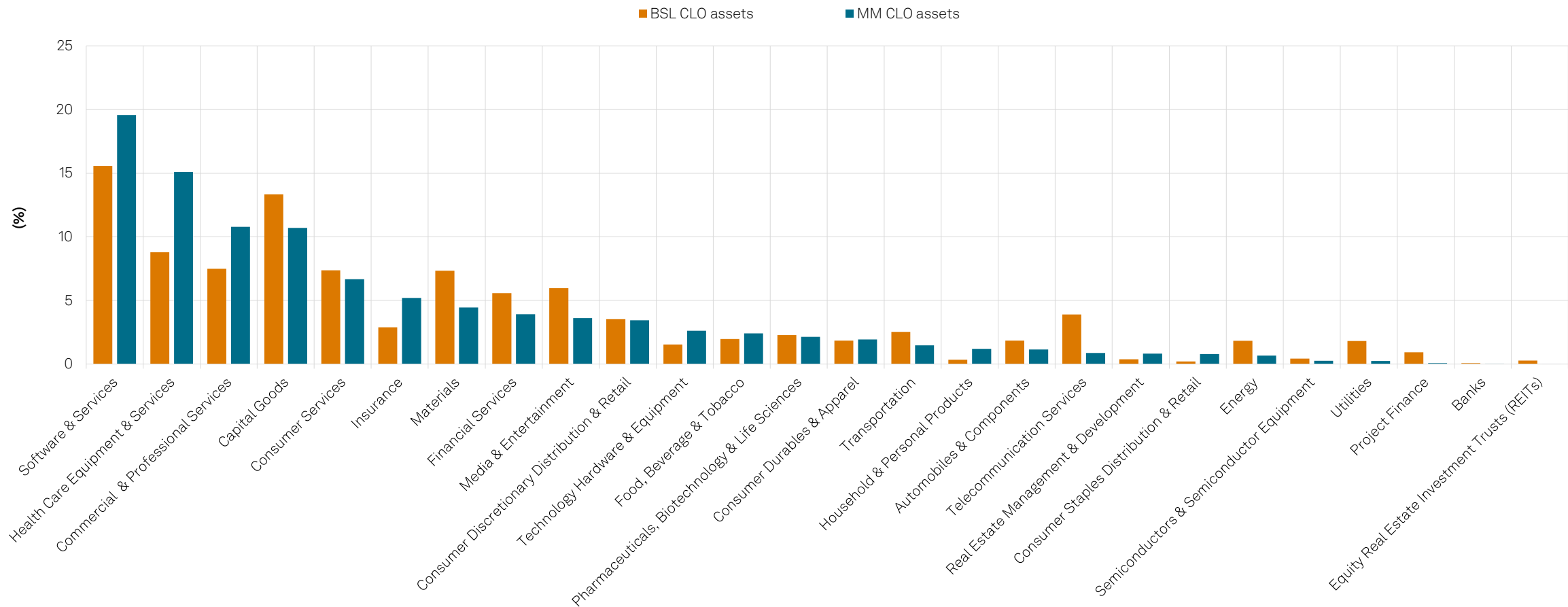


- The chart to the left shows the average one-year change in portfolio par balances across reinvesting CLOs.
- MM CLOs typically experience less par loss relative to BSL CLOs. In prior quarters, reinvesting MM CLOs have actually gained par, on average.
- U.S. BSL CLOs have experienced par loss (partially due to derisking trades as well restructurings); there was a period where the average U.S BSL CLO experienced par gain due to bonds purchased at a discount during a period of rising rates.

MM--Middle market. BSL--Broadly syndicated loan. CLO--Collateralized loan obligation. Source: S&P Global Ratings.

BSL And MM CLOs | GICS Industry Groups

GICS industry groups distribution across MM CLO and BSL CLO collateral pools



MM--Middle market. BSL--Broadly syndicated loan. CLO--Collateralized loan obligation. Source: S&P Global Ratings.

Managers | First-Quarter 2025 Manager Metrics

Manager (No. S&P MM CLOs)	Largest issuer exposure (%)	Issuers (No.)	Issuers credit estimated (No.)	Credit estimated issuers (%)	Proportion credit estimated in Q1 2025 (%)	Upgrades in Q1 2025 (No.) (i)	Downgrades in Q1 2025 (No.) (i)	Upgrades Q2'24-Q1'25	Downgrades Q2'24-Q1'25	SPWARF (ii)	WAS (%)	WAM (years)	% of MM CLO assets unique to manager	Reported as cov-lite (%)	Identified as recurring revenue (%)
Alliance Bernstein(13)	2.02	153	141	95.75	32.90	5	4	15	19	3860	5.26	3.82	53.25	2.69	8.61
Angelo Gordon/Twin Brook(2)	2.12	118	113	95.05	21.21	0	0	2	21	3712	5.61	3.40	77.30	0.00	0.00
Antares(17)	1.18	366	327	95.18	24.56	7	10	28	52	3768	5.35	3.38	28.96	24.82	0.71
Apollo(2)	3.12	86	72	85.04	11.39	0	2	2	8	3643	5.23	3.47	20.86	2.48	0.70
Ares(11)	1.31	350	263	74.09	23.55	3	2	12	28	3831	5.24	3.95	30.65	0.79	0.07
Audax(9)	1.08	303	108	36.23	27.69	2	3	7	16	3602	4.73	4.09	28.92	0.12	0.00
Bain(4)	2.47	106	80	90.45	38.76	3	3	8	7	3919	5.82	3.92	40.05	3.50	1.14
Barings(7)	2.34	144	114	89.18	33.84	1	3	15	16	3954	5.56	2.94	31.77	4.07	1.21
Blackrock(9)	1.81	177	116	70.48	22.27	5	1	22	29	4042	5.73	3.78	25.27	1.05	10.48
Blue Owl(34)	2.47	256	186	89.52	24.51	4	2	18	16	3724	5.64	4.25	32.92	5.02	5.97
BMO(5)	1.74	191	178	93.42	23.89	3	7	15	34	3986	5.45	3.01	50.40	0.28	0.00
Brightwood(6)	3.11	97	79	89.50	22.72	1	4	7	7	3935	6.51	2.93	65.60	0.00	0.00
Carlyle(2)	2.78	79	67	91.51	25.48	0	1	6	10	3721	5.99	3.44	19.57	4.64	5.55
Churchill(10)	1.26	279	226	88.30	22.72	1	6	20	33	3751	5.31	3.79	28.57	0.12	0.00
CIFC(1)	2.50	64	58	90.13	17.13	0	2	1	9	3772	5.95	3.03	49.66	0.00	0.00
Comvest(2)	3.03	62	53	90.71	31.30	1	3	na	na	3974	5.95	3.45	75.69	2.09	0.00
Deerpath(8)	2.07	139	120	93.65	19.56	3	5	6	16	3871	5.69	2.92	49.78	0.14	0.00
First Eagle/NewStar(5)	2.49	183	78	71.57	18.83	0	6	3	16	3979	5.66	3.11	46.54	7.39	0.00

(i)Based on quarterly exposure to companies with credit estimates raised and lowered during the quarter. (ii)Assets without credit estimate (or other derived S&P Global Ratings' credit rating) treated as 'ccc-' for purposes of SPWARF calculation. Includes both rated and credit estimated obligors. (iii)All portfolios across rated transactions are amortizing. MM--Middle-market. CLO--Collateralized loan obligation. SPWARF--S&P Global Ratings' weighted average rating factor. WAS--Weighted average spread. WAM--Weighted average maturity. CE--Credit estimate. Source: S&P Global Ratings.

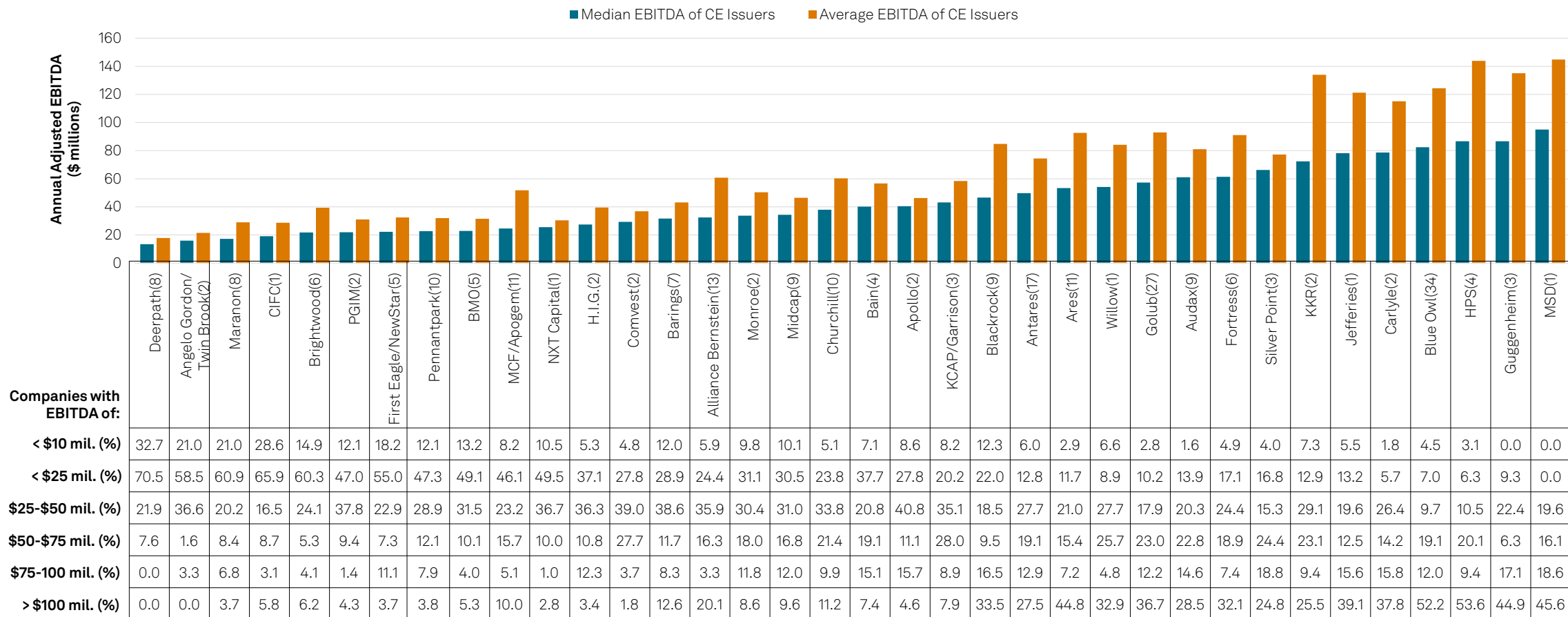
Managers | First-Quarter 2025 Manager Metrics (continued)

Manager (No. S&P MM CLOs)	Largest issuer exposure (%)	Issuers (No.)	Issuers credit estimated (No.)	Credit estimated issuers (%)	Proportion credit estimated in Q1 2025 (%)	Upgrades in Q1 2025 (No.)	Downgrades in Q1 2025 (No.) (i)	Upgrades Q2'24-Q1'25	Downgrades Q2'24-Q1'25	SPWARF (ii)	WAS (%)	WAM (years)	% of MM CLO assets unique to manager	Reported as cov-lite (%)	Identified as recurring revenue (%)
Fortress(6)	3.43	131	87	79.25	29.43	2	1	8	6	3725	6.26	3.56	60.37	7.70	2.68
Golub(27)	1.80	301	256	95.66	29.33	4	4	19	28	3864	5.42	3.71	38.17	6.92	0.51
Guggenheim(3)	3.12	123	45	61.74	39.84	0	0	6	5	4255	5.57	4.03	30.28	10.10	6.12
H.I.G.(2)	3.09	84	70	87.10	33.98	1	4	na	na	3771	6.37	3.17	61.66	1.07	0.00
HPS(4)	2.33	171	132	83.23	27.55	0	6	9	13	3904	6.21	4.20	40.81	8.69	2.33
Jefferies(1)	2.66	80	70	88.88	34.69	1	0	na	na	3828	5.29	4.78	18.65	9.91	6.09
KCAP/Garrison(3)	2.86	98	49	50.07	24.77	3	1	8	14	4607	5.50	3.00	14.53	9.21	0.00
KKR(2)	5.24	44	36	85.76	23.93	1	0	3	5	4205	5.73	2.97	27.37	8.96	0.76
Maranon(8)	2.16	142	123	92.71	28.90	1	5	9	20	3865	5.70	2.87	64.41	3.07	0.00
MCF/Apogem(11)	1.65	251	219	89.71	21.78	3	3	7	27	3920	5.29	3.20	40.39	4.62	0.24
Midcap(9)	1.04	254	236	95.97	21.48	4	10	19	44	3888	5.52	3.27	29.95	2.91	0.97
Monroe(2)	2.04	167	79	44.99	23.82	1	3	7	5	3813	5.15	3.60	25.67	0.00	0.00
MSD(1)	3.93	39	23	59.45	27.07	0	0	2	2	3706	5.81	3.99	42.60	2.98	0.00
NXT Capital(1)	2.14	77	65	85.95	21.79	0	2	7	15	4212	5.12	3.30	48.37	0.00	0.00
Pennantpark(10)	1.67	152	117	88.77	32.69	0	5	9	23	3841	5.84	3.15	47.11	0.72	0.00
PGIM(2)	2.50	87	82	94.04	22.41	2	1	2	3	3805	6.45	3.62	61.62	0.00	0.00
Silver Point(3)	2.85	56	40	72.42	53.14	1	2	4	4	3709	6.63	4.25	55.40	16.93	1.64
Willow(1)	3.21	55	49	89.82	24.35	0	0	na	na	3815	5.58	3.48	14.33	0.00	1.96

(i)Based on quarterly exposure to companies with credit estimates raised and lowered during the quarter. (ii)Assets without credit estimate (or other derived S&P Global Ratings' credit rating) treated as 'ccc-' for purposes of SPWARF calculation. Includes both rated and credit estimated obligors. (iii)All portfolios across rated transactions are amortizing. MM--Middle-market. CLO--Collateralized loan obligation. SPWARF--S&P Global Ratings weighted average rating factor. WAS--Weighted average spread. WAM--Weighted average maturity. CE--Credit estimate. Source: S&P Global Ratings.

Managers | Company Size Varies By Middle-Market CLO Manager

EBITDA of credit-estimated issuers held by MM CLO managers



*Denotes managers where all rated transactions are amortizing. MM--Middle market. CLO--Collateralized loan obligation. CE--Credit estimate. Source: S&P Global Ratings.

Managers | Top 15 GICS Industry Categories By Manager

Manager	Largest GICS industry (% exposure)	GICS industries (No.)	Software	Healthcare providers and services	Comm. services and supplies	Insurance	Professional services	IT services	Diversified consumer services	Capital markets	Health care tech.	Construction and engineering	Hotels, restaurants and leisure	Trading companies and distributors	Chemicals	Food products	Healthcare equipment and supplies
Alliance Bernstein(13)	Software (31.13%)	22	31.13	13.24	2.16	3.80	0.49	11.99	3.62	0.82	6.57	0.72	3.83	0.00	0.00	0.00	0.00
Angelo Gordon/Twin Brook(2)	Healthcare Providers and Services (22.28%)	33	2.80	22.28	10.64	1.62	4.49	1.64	2.23	0.00	4.09	4.23	0.00	2.00	1.06	1.77	0.36
Antares(17)	Healthcare Providers and Services (13.23%)	46	11.08	13.23	7.52	10.31	2.69	0.88	3.82	7.89	2.58	1.97	2.63	3.92	3.90	1.53	2.54
Apollo(2)	Healthcare Providers and Services (9.6%)	36	3.48	9.60	9.05	0.00	4.74	1.71	2.77	2.80	2.14	5.18	3.78	2.39	2.91	1.36	7.82
Ares(11)	Software (14.77%)	49	14.78	5.66	9.88	10.07	3.44	3.87	1.83	5.43	4.25	2.04	2.78	0.99	1.69	3.33	1.42
Audax(9)	Healthcare Providers and Services (12.22%)	40	11.11	12.23	6.68	0.89	6.24	2.84	2.09	5.17	2.29	4.40	0.58	5.14	4.66	2.14	1.99
Bain(4)	Software (15.34%)	31	15.34	7.42	1.45	2.93	4.98	4.15	3.71	6.06	1.91	0.00	6.74	4.77	5.33	0.00	0.68
Barings(7)	Software (16.95%)	34	16.95	3.71	9.93	3.87	3.31	4.95	1.83	0.51	2.95	2.06	0.35	3.61	0.90	0.91	0.31
Blackrock(9)	Software (28.51%)	38	28.52	4.60	2.81	8.23	7.21	3.13	0.03	7.18	1.90	1.12	0.78	0.83	1.67	0.00	0.14
Blue Owl(34)	Software (23.1%)	43	23.11	9.47	2.56	6.97	1.85	3.56	1.36	3.98	4.41	2.60	0.91	1.99	3.41	3.49	2.96
BMO(5)	Healthcare Providers and Services (20.59%)	40	2.15	20.60	9.57	0.00	3.21	4.25	4.77	0.85	0.74	4.83	0.40	2.40	3.85	5.81	2.45
Brightwood (6)	Healthcare Providers and Services (13.86%)	33	2.98	13.87	3.62	0.00	9.71	12.88	3.63	1.73	0.64	6.32	9.69	0.00	0.00	1.41	1.75
Carlyle(2)	Software (14.81%)	30	14.82	5.72	8.50	3.38	4.28	2.90	8.65	0.00	1.41	0.00	6.63	2.91	4.63	2.48	2.56
Churchill(10)	Commercial Services and Supplies (11.67%)	44	2.58	9.16	11.68	0.85	7.87	5.33	1.45	0.96	2.32	5.99	1.21	3.72	3.04	3.86	2.95
CIFC(1)	Construction and Engineering (13.39%)	25	2.95	11.67	6.22	0.00	4.89	9.91	1.59	2.20	0.00	13.40	0.00	6.09	0.00	1.98	0.00
Comvest(2)	Hotels, Restaurants and Leisure (22.24%)	25	1.87	15.28	8.14	1.09	3.97	1.03	4.14	4.32	3.96	1.92	22.24	1.37	6.23	0.00	0.00
Deerpath(8)	Healthcare Providers and Services (17.64%)	30	3.82	17.64	5.64	0.64	10.16	17.14	7.02	0.00	4.34	15.47	1.06	0.84	1.00	1.73	0.33
First Eagle/NewStar(5)	Healthcare Providers and Services (18.93%)	48	7.12	18.94	5.71	4.76	3.80	3.55	5.05	1.52	2.80	3.95	1.85	0.07	2.11	0.25	1.13

Based on most recent trustee report available to us *All portfolios across rated transactions are amortizing. MM--Middle market. CLO--Collateralized loan obligation. CE--Credit estimate. Source: S&P Global Ratings.

Managers | Top 15 GICS Industry Categories By Manager (continued)

Manager	Largest GICS industry (% exposure)	GICS industries (No.)	Software	Healthcare providers and services	Comm. services and supplies	Insurance	Professional services	IT services	Diversified consumer services	Capital markets	Health care tech.	Construction and engineering	Hotels, restaurants and leisure	Trading companies and distributors	Chemicals	Food products	Healthcare equipment and supplies
Fortress(6)	Hotels, Restaurants and Leisure (13.2%)	43	10.01	3.61	2.44	2.39	1.33	2.00	0.00	7.58	1.99	0.09	13.20	1.11	0.91	4.15	0.00
Golub(27)	Software (27.52%)	42	27.52	7.54	4.09	5.97	5.12	1.87	8.15	2.73	3.23	2.11	4.20	4.57	1.51	2.68	2.67
Guggenheim(3)	Software (14.33%)	40	14.34	10.02	13.11	2.87	3.00	2.63	4.40	3.06	3.30	1.29	4.42	2.00	3.29	2.27	1.74
H.I.G.(2)	Commercial Services and Supplies (14.31%)	32	1.65	6.10	14.32	0.00	3.48	7.15	2.27	2.64	0.00	2.88	4.22	2.49	1.87	3.11	3.44
HPS(4)	Software (13.03%)	37	13.04	11.88	4.41	5.53	7.18	3.03	2.82	3.53	1.40	0.97	4.05	6.56	3.22	2.01	3.36
Jefferies(1)	Software (18.93%)	24	18.93	10.09	5.32	8.94	7.15	6.02	1.32	1.77	6.11	2.83	2.11	6.61	0.51	0.00	1.57
KCAP/Garrison(3)	Software (14.58%)	30	14.58	6.90	3.87	0.65	9.68	5.24	2.92	5.51	6.76	1.90	0.00	0.00	0.53	4.30	3.25
KKR(2)	Software (15.44%)	20	15.44	14.65	13.85	6.17	2.69	10.38	0.00	2.24	0.86	0.00	0.61	0.12	0.00	3.58	0.00
Maranon(8)	Professional Services (11.21%)	35	7.47	6.15	6.62	2.04	11.22	7.43	2.43	2.69	1.15	8.16	0.52	0.00	1.10	1.87	0.59
MCF/Apogem(11)	Insurance (12.28%)	39	5.87	9.10	8.03	12.29	5.79	3.90	3.57	6.08	5.77	1.20	0.10	1.41	4.09	2.09	4.19
Midcap(9)	Healthcare Providers and Services (9.24%)	48	3.71	9.24	8.79	1.77	7.00	3.52	7.42	3.03	2.64	4.95	2.06	4.60	1.01	3.35	3.82
Monroe(2)	Healthcare Providers and Services (15.34%)	41	10.29	15.34	5.15	0.00	7.65	2.95	3.39	3.13	2.41	3.85	0.31	2.99	0.98	0.90	1.02
MSD(1)	Aerospace and Defense (14.7%)	20	8.23	8.80	0.99	0.00	5.86	5.42	5.39	2.96	0.00	2.97	8.31	2.94	5.63	0.00	0.00
NXT Capital(1)	Healthcare Providers and Services (15.36%)	23	3.22	15.37	10.03	0.00	1.87	5.18	2.17	0.81	1.55	1.74	0.00	9.04	7.11	10.75	6.35
Pennantpark(10)	Professional Services (13.81%)	33	7.09	8.05	6.36	0.90	13.81	3.60	2.97	0.00	3.48	2.96	2.23	2.70	1.37	0.00	3.48
PGIM(2)	Construction and Engineering (12.97%)	31	4.33	4.56	10.45	0.00	3.62	8.10	3.01	0.00	0.00	12.98	1.33	4.06	3.52	3.43	1.01
Silver Point(3)	Software (13.03%)	28	13.03	2.90	11.06	2.51	6.31	4.77	0.00	0.00	0.00	2.30	2.33	2.22	2.89	0.00	0.00
Willow(1)	Healthcare Providers and Services (11.09%)	23	2.88	11.10	4.94	9.73	5.87	4.11	4.63	7.14	4.63	8.19	6.69	1.79	2.67	0.00	0.82

Based on most recent trustee report available to us *All portfolios across rated transactions are amortizing. MM--Middle market. CLO--Collateralized loan obligation. CE--Credit estimate. Source: S&P Global Ratings.

Managers | First-Quarter 2025 Asset Overlap By Manager (%)

	Alliance Bernstein	Angelo Gordon/ Twin Brook	Antares	Apollo	Ares	Audax	Bain	Barings	Blackrock	Blue Owl	BMO	Brightwood	Carlyle	Churchill	CIFC	Comvest	Deerpath	First Eagle/NewStar	Fortress	Golub	Guggenheim	H.I.G.	HPS	Jefferies	KCAP/Garrison	KKR	Maranon	MCF/Apogem	Midcap	Monroe	MSD	NXT Capital	Pennantpark	PGIM	Silver Point	Willow
Alliance Bernstein		0.0	2.5	0.7	5.2	1.1	0.8	0.5	5.6	6.0	1.2	1.2	3.2	3.2	0.0	0.0	2.0	0.0	4.0	5.6	2.2	0.0	4.4	4.5	3.2	3.2	0.3	2.1	2.4	1.2	0.5	0.3	1.0	0.0	1.1	3.8
Angelo Gordon/ Twin Brook	0.0		0.0	0.0	0.0	0.1	0.4	0.8	0.0	0.0	0.0	0.1	1.3	0.2	0.0	1.2	1.7	0.0	0.0	0.1	0.0	1.0	0.0	0.0	0.0	0.0	3.7	0.0	0.5	0.0	0.0	1.0	1.3	0.0	0.9	
Antares	2.5	0.0		1.4	12.3	8.0	7.2	6.4	8.6	10.4	3.9	0.0	6.2	10.8	0.5	0.4	0.5	1.4	1.5	12.3	2.2	0.0	6.0	6.0	2.9	3.0	2.3	7.6	3.2	2.7	0.6	1.6	2.4	0.0	0.5	3.2
Apollo	0.7	0.0	1.4		1.0	0.3	2.3	1.2	0.4	0.4	0.4	0.8	0.0	2.2	0.0	0.0	0.0	2.6	0.0	0.4	1.0	1.9	0.7	2.4	2.4	1.0	0.0	3.1	33.2	2.2	1.0	1.5	1.4	2.1	0.7	1.4
Ares	5.2	0.0	12.3	1.0		10.2	2.2	3.2	8.1	9.2	1.6	0.6	4.5	6.1	1.3	0.0	0.2	2.7	3.0	12.0	7.0	0.7	8.0	6.1	4.6	4.3	1.7	6.6	3.1	7.7	0.6	0.3	2.8	0.1	0.1	6.9
Audax	1.1	0.1	8.0	0.3	10.2		1.9	1.3	6.3	3.2	1.2	0.0	2.7	11.6	0.6	0.0	1.3	5.5	3.5	3.7	4.0	0.4	3.0	2.8	7.8	1.3	3.6	5.2	1.5	14.2	0.5	0.2	5.6	0.0	0.7	3.5
Bain	0.8	0.4	7.2	2.3	2.2	1.9		1.5	2.3	2.3	0.4	0.0	1.7	2.4	0.0	1.7	0.0	5.0	0.2	2.9	0.4	2.0	0.5	3.9	2.2	0.0	1.0	3.2	1.5	0.1	0.0	1.2	3.6	0.0	1.6	
Barings	0.5	0.8	6.4	1.2	3.2	1.3	1.5		2.4	0.8	3.6	0.8	7.5	7.0	0.0	0.0	0.1	2.7	0.8	2.0	0.1	0.7	0.7	1.1	2.8	1.3	1.3	2.2	2.3	2.8	0.6	3.6	2.7	0.0	0.7	6.2
Blackrock	5.6	0.0	8.6	0.4	8.1	6.3	2.3	2.4		9.8	0.6	3.5	7.2	5.3	1.2	0.0	0.1	4.1	5.8	7.7	6.5	0.5	6.8	9.0	3.0	4.2	3.3	4.4	2.0	6.5	0.3	0.6	4.5	2.0	1.9	6.4
Blue Owl	6.0	0.0	10.4	0.4	9.2	3.2	2.3	0.8	9.8		0.5	0.0	8.8	2.5	0.2	0.0	0.1	0.7	4.3	10.7	4.4	0.4	14.0	8.2	0.3	4.3	1.1	2.7	0.7	0.9	3.0	0.7	0.9	0.0	1.9	1.2
BMO	1.2	0.0	3.9	0.4	1.6	1.2	0.4	3.6	0.6	0.5		1.0	0.6	2.6	0.7	0.0	3.7	0.5	0.0	0.6	0.6	0.0	0.6	0.9	6.2	0.0	2.7	4.4	1.8	2.2	0.0	4.0	0.5	1.1	0.0	1.1
Brightwood	1.2	0.1	0.0	0.8	0.6	0.0	0.0	0.8	3.5	0.0	1.0		1.0	1.5	1.6	1.8	0.4	0.3	1.0	0.5	0.0	0.4	1.1	0.0	0.8	1.5	1.0	0.4	1.6	0.8	1.0	0.0	1.3	1.0	0.0	3.9
Carlyle	3.2	1.3	6.2	0.0	4.5	2.7	1.7	7.5	7.2	8.8	0.6	1.0		2.5	0.0	0.0	0.0	2.7	3.5	6.6	1.4	0.0	5.9	7.0	2.7	6.1	1.2	3.3	3.2	0.8	0.2	0.6	1.3	0.5	4.9	2.3
Churchill	3.2	0.2	10.8	2.2	6.1	11.6	2.4	7.0	5.3	2.5	2.6	1.5	2.5		1.3	0.0	1.7	2.8	0.3	3.9	2.5	1.2	2.9	3.6	2.5	0.7	2.6	9.2	5.8	7.8	0.4	0.5	2.2	0.6	0.3	3.2
CIFC	0.0	0.0	0.5	0.0	1.3	0.6	0.0	0.0	1.2	0.2	0.7	1.6	0.0	1.3		1.4	8.1	2.5	0.0	0.0	0.0	2.5	0.1	0.0	2.0	0.0	5.3	1.2	0.0	4.9	0.0	0.0	1.3	2.4	0.0	6.6
Comvest	0.0	1.2	0.4	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.4		0.0	0.1	1.6	0.0	0.0	0.0	0.2	0.0	1.8	0.0	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	1.3
Deerpath	2.0	1.7	0.5	0.0	0.2	1.3	0.0	0.1	0.1	0.1	3.7	0.4	0.0	1.7	8.1	0.0		1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	1.6	0.0	0.6	0.0	0.2	1.4	13.1	0.0	1.6
First Eagle/NewStar	0.0	0.0	1.4	2.6	2.7	5.5	5.0	2.7	4.1	0.7	0.5	0.3	2.7	2.8	2.5	0.1	1.3		1.2	0.1	2.6	0.9	0.3	1.3	3.2	0.1	1.5	2.1	3.4	6.3	0.1	0.9	3.5	1.6	0.0	3.5

The overlap metric we calculate considers dollar weighted exposure (% exposure) and is the sum of the like exposures (as a percentage) between two managers. Specifically, it is the sum of the lower % exposure of each exposure between two managers. For example, assume manager A and manager B have asset ABC and asset XYZ in common, and ABC is worth 5% of manager A exposure while XYZ is worth 2% of manager A exposure. ABC is worth 2% of manager B exposure, while XYZ is worth 5% of manager B exposure. The overlap between manager A and B is 2% + 2% = 4%. Source: S&P Global Ratings.

Managers | First-Quarter 2025 Asset Overlap By Manager (%) (continued)

	Alliance Bernstein	Angelo Gordon/ Twin Brook	Antares	Apollo	Ares	Audax	Bain	Barings	Blackrock	Blue Owl	BMO	Brightwood	Carlyle	Churchill	CIFC	Comvest	Deerpath	First Eagle/NewStar	Fortress	Golub	Guggenheim	H.I.G.	HPS	Jefferies	KCAP/Garrison	KKR	Maranon	MCF/Apogem	Midcap	Monroe	MSD	NXT Capital	Pennantpark	PGIM	Silver Point	Willow
Fortress	4.0	0.0	1.5	0.0	3.0	3.5	0.2	0.8	5.8	4.3	0.0	1.0	3.5	0.3	0.0	1.6	0.0	1.2		1.1	1.3	0.0	5.5	2.6	1.9	0.9	0.0	0.0	0.6	0.6	0.1	0.0	0.9	1.1	5.4	2.8
Golub	5.6	0.1	12.3	0.4	12.0	3.7	2.9	2.0	7.7	10.7	0.6	0.5	6.6	3.9	0.0	0.0	0.0	0.1	1.1		2.8	0.0	8.8	7.1	4.1	4.0	1.6	3.9	1.5	0.3	0.5	0.8	0.3	0.4	0.6	2.2
Guggenheim	2.2	0.0	2.2	1.0	7.0	4.0	0.4	0.1	6.5	4.4	0.6	0.0	1.4	2.5	0.0	0.0	0.0	2.6	1.3	2.8		1.6	6.4	5.9	4.9	0.0	0.9	0.5	1.1	3.1	3.3	0.0	0.5	0.0	2.9	2.3
H.I.G.	0.0	1.0	0.0	1.9	0.7	0.4	2.0	0.7	0.5	0.4	0.0	0.4	0.0	1.2	2.5	0.0	0.0	0.9	0.0	0.0	1.6		2.2	2.3	0.6	3.8	1.4	0.8	3.4	1.6	1.6	0.0	0.0	0.9	0.9	1.0
HPS	4.4	0.0	6.0	0.7	8.0	3.0	0.5	0.7	6.8	14.0	0.6	1.1	5.9	2.9	0.1	0.2	0.0	0.3	5.5	8.8	6.4	2.2		8.7	1.3	5.0	0.9	2.1	3.2	1.8	2.0	0.0	1.3	0.0	1.2	1.7
Jefferies	4.5	0.0	6.0	2.4	6.1	2.8	3.9	1.1	9.0	8.2	0.9	0.0	7.0	3.6	0.0	0.0	0.0	1.3	2.6	7.1	5.9	2.3	8.7		0.8	4.5	0.4	3.4	1.9	0.4	0.0	0.0	1.1	0.0	0.4	4.8
KCAP/Garrison	3.2	0.0	2.9	2.4	4.6	7.8	2.2	2.8	3.0	0.3	6.2	0.8	2.7	2.5	2.0	1.8	1.8	3.2	1.9	4.1	4.9	0.6	1.3	0.8		0.0	1.2	1.5	1.8	7.4	0.8	1.9	5.9	0.0	1.7	1.9
KKR	3.2	0.0	3.0	1.0	4.3	1.3	0.0	1.3	4.2	4.3	0.0	1.5	6.1	0.7	0.0	0.0	0.0	0.1	0.9	4.0	0.0	3.8	5.0	4.5	0.0		1.1	0.2	1.3	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Maranon	0.3	3.7	2.3	0.0	1.7	3.6	0.0	1.3	3.3	1.1	2.7	1.0	1.2	2.6	5.3	0.0	0.0	1.5	0.0	1.6	0.9	1.4	0.9	0.4	1.2	1.1		5.4	0.1	2.1	0.0	1.0	2.1	0.0	1.4	1.4
MCF/Apogem	2.1	0.0	7.6	3.1	6.6	5.2	1.0	2.2	4.4	2.7	4.4	0.4	3.3	9.2	1.2	0.0	1.6	2.1	0.0	3.9	0.5	0.8	2.1	3.4	1.5	0.2	5.4		6.1	1.5	1.0	4.1	3.0	0.9	0.2	6.6
Midcap	2.4	0.5	3.2	33.2	3.1	1.5	3.2	2.3	2.0	0.7	1.8	1.6	3.2	5.8	0.0	0.4	0.0	3.4	0.6	1.5	1.1	3.4	3.2	1.9	1.8	1.3	0.1	6.1		3.5	0.5	1.4	3.4	1.6	0.3	2.3
Monroe	1.2	0.0	2.7	2.2	7.7	14.2	1.5	2.8	6.5	0.9	2.2	0.8	0.8	7.8	4.9	0.1	0.6	6.3	0.6	0.3	3.1	1.6	1.8	0.4	7.4	0.0	2.1	1.5	3.5		1.4	1.5	5.0	0.0	0.0	4.5
MSD	0.5	0.0	0.6	1.0	0.6	0.5	0.1	0.6	0.3	3.0	0.0	1.0	0.2	0.4	0.0	0.0	0.0	0.1	0.1	0.5	3.3	1.6	2.0	0.0	0.8	1.6	0.0	1.0	0.5	1.4		0.0	2.3	0.0	5.2	3.8
NXT Capital	0.3	0.0	1.6	1.5	0.3	0.2	0.0	3.6	0.6	0.7	4.0	0.0	0.6	0.5	0.0	0.0	0.2	0.9	0.0	0.8	0.0	0.0	0.0	0.0	1.9	0.0	1.0	4.1	1.4	1.5	0.0		2.5	0.0	0.0	1.7
Pennantpark	1.0	1.0	2.4	1.4	2.8	5.6	1.2	2.7	4.5	0.9	0.5	1.3	1.3	2.2	1.3	0.0	1.4	3.5	0.9	0.3	0.5	0.0	1.3	1.1	5.9	0.0	2.1	3.0	3.4	5.0	2.3	2.5		0.7	0.0	7.3
PGIM	0.0	1.3	0.0	2.1	0.1	0.0	3.6	0.0	2.0	0.0	1.1	1.0	0.5	0.6	2.4	0.0	13.1	1.6	1.1	0.4	0.0	0.9	0.0	0.0	0.0	0.0	0.9	1.6	0.0	0.0	0.0	0.7		0.0	0.3	
Silver Point	1.1	0.0	0.5	0.7	0.1	0.7	0.0	0.7	1.9	1.9	0.0	0.0	4.9	0.3	0.0	0.0	0.0	0.0	5.4	0.6	2.9	0.9	1.2	0.4	1.7	0.0	1.4	0.2	0.3	0.0	5.2	0.0	0.0	0.0		1.1
Willow	3.8	0.9	3.2	1.4	6.9	3.5	1.6	6.2	6.4	1.2	1.1	3.9	2.3	3.2	6.6	1.3	1.6	3.5	2.8	2.2	2.3	1.0	1.7	4.8	1.9	0.0	1.4	6.6	2.3	4.5	3.8	1.7	7.3	0.3	1.1	

The overlap metric we calculate considers dollar weighted exposure (% exposure) and is the sum of the like exposures (as a percentage) between two managers. Specifically, it is the sum of the lower % exposure of each exposure between two managers. For example, assume manager A and manager B have asset ABC and asset XYZ in common, and ABC is worth 5% of manager A exposure while XYZ is worth 2% of manager A exposure. ABC is worth 2% of manager B exposure, while XYZ is worth 5% of manager B exposure. The overlap between manager A and B is 2% + 2% = 4%. Source: S&P Global Ratings.

Managers | CLO Asset Credit Distribution By Manager

Credit distribution across rated MM CLO assets

Manager (S&PGR MM CLOs)	BBB- or above (%)	'BB+' (%)	'BB' (%)	'BB-' (%)	'B+' (%)	'B' (%)	'B-' (%)	'CCC+' (%)	'CCC' (%)	'CCC-' (%)	No rating/ CE (%)	Below 'CCC-' (%)	Earliest trustee report in data set	Latest trustee report in data set
Alliance Bernstein(13)	0.00	0.00	0.00	0.00	0.00	2.34	79.28	10.55	1.88	2.32	3.62	0.00	1/15/2025	2/18/2025
Angelo Gordon/Twin Brook(2)	0.00	0.00	0.00	0.00	0.00	3.45	89.98	0.00	2.82	0.00	3.75	0.00	1/6/2025	2/6/2025
Antares(17)	0.00	0.00	0.00	0.00	0.00	9.40	74.75	9.24	4.27	1.09	0.99	0.27	1/7/2025	2/13/2025
Apollo(2)	0.00	0.00	1.05	5.49	4.44	10.57	60.78	10.34	0.00	0.69	5.27	1.37	12/31/2024	1/31/2025
Ares(11)	0.00	0.00	0.00	0.07	0.00	7.29	78.82	5.12	1.62	1.04	4.96	1.08	12/31/2024	3/3/2025
Audax(9)	0.00	0.00	0.00	0.00	0.61	21.78	65.15	8.49	1.56	1.30	1.10	0.00	2/6/2025	2/6/2025
Bain(4)	0.12	0.00	0.41	0.00	0.24	4.07	71.66	12.30	5.43	0.00	5.41	0.36	1/6/2025	2/10/2025
Barings(7)	0.00	0.00	0.00	0.00	0.08	5.18	71.19	7.74	7.48	1.96	6.37	0.00	1/8/2025	2/7/2025
Blackrock(9)	0.00	0.00	0.00	0.00	1.69	12.84	57.71	11.64	4.24	2.71	6.58	2.58	11/5/2024	2/7/2025
Blue Owl(34)	0.00	0.00	0.00	0.00	0.36	6.81	80.51	8.14	0.86	0.25	3.03	0.04	11/5/2024	3/4/2025
BMO(5)	0.00	0.00	0.00	0.00	0.00	3.42	75.94	4.95	5.12	3.24	6.43	0.90	1/3/2025	1/31/2025
Brightwood(6)	0.00	0.00	0.00	0.00	1.07	11.06	74.37	1.59	2.25	0.81	4.98	3.87	1/3/2025	2/5/2025
Carlyle(2)	0.00	0.00	0.00	0.00	1.44	5.78	82.79	4.68	0.00	0.00	4.95	0.37	1/23/2025	2/12/2025
Churchill(10)	0.00	0.00	0.00	0.00	0.36	6.95	81.00	3.97	3.39	0.75	3.39	0.20	11/21/2024	2/7/2025
CIFC(1)	0.00	1.72	0.00	0.00	0.00	3.74	82.47	6.55	3.21	0.00	0.75	1.57	2/5/2025	2/5/2025
Comvest(2)	0.00	0.00	0.00	0.00	0.00	4.31	85.33	0.00	0.00	0.00	6.24	4.11	12/31/2024	2/3/2025
Deerpath(8)	0.00	0.00	0.00	0.00	0.00	2.24	83.11	2.25	2.35	4.31	5.73	0.00	11/13/2024	2/11/2025
First Eagle/NewStar(5)	1.35	0.00	0.07	0.44	1.02	9.92	60.60	12.47	3.61	7.08	1.01	2.43	1/15/2025	2/18/2025
Fortress(6)	0.00	0.00	0.42	5.13	0.66	13.38	65.00	5.96	2.06	2.59	2.75	2.05	12/31/2024	2/28/2025
Golub(27)	0.00	0.00	0.00	0.00	0.00	3.32	76.92	13.59	2.18	0.81	2.78	0.39	9/23/2024	2/24/2025
Guggenheim(3)	0.00	0.00	0.03	0.09	2.11	11.32	55.86	8.50	2.96	0.57	13.40	5.16	1/15/2025	2/11/2025
H.I.G.(2)	0.00	0.00	0.00	0.00	2.33	7.26	76.86	2.92	0.90	2.59	7.15	0.00	2/5/2025	2/10/2025
HPS(4)	0.00	0.00	0.00	0.00	2.00	6.33	73.20	4.13	1.50	1.19	10.92	0.73	1/3/2025	2/10/2025
Jefferies(1)	0.00	0.00	0.00	0.00	0.00	6.96	75.86	8.78	0.00	0.00	8.40	0.00	2/10/2025	2/10/2025
KCAP/Garrison(3)	0.00	0.00	0.00	0.00	0.95	6.33	55.32	10.82	8.63	4.03	4.07	9.86	1/3/2025	2/7/2025
KKR(2)	0.00	0.00	0.00	0.00	0.00	2.82	62.07	9.42	6.75	5.22	13.71	0.00	1/31/2025	1/31/2025
Maranon(8)	0.00	0.00	0.00	0.00	0.00	4.26	81.03	3.68	4.54	1.55	4.15	0.78	1/3/2025	2/5/2025
MCF/Apogem(11)	0.00	0.00	0.00	0.00	0.00	6.51	75.94	2.35	1.67	4.36	8.78	0.39	1/31/2025	2/11/2025
Midcap(9)	0.00	0.00	0.00	0.00	0.00	8.84	72.97	7.56	3.55	2.90	2.89	1.29	9/4/2024	2/10/2025
Monroe(2)	0.00	0.00	0.00	0.00	0.54	19.33	60.00	9.22	1.88	0.89	7.26	0.87	2/10/2025	2/28/2025
MSD(1)	0.00	0.00	0.00	2.64	3.95	14.23	56.54	14.73	0.00	0.00	7.91	0.00	2/3/2025	2/3/2025
NXT Capital(1)	0.00	0.00	0.00	0.00	0.00	0.00	66.28	10.15	6.21	3.30	13.55	0.50	2/7/2025	2/7/2025
Pennantpark(10)	0.00	0.00	0.00	0.00	0.31	3.66	83.71	4.19	1.17	3.10	2.65	1.21	1/3/2025	3/6/2025
PGIM(2)	0.00	0.00	0.00	0.00	1.52	4.22	84.09	1.41	1.23	2.27	3.98	1.28	11/30/2024	1/31/2025
Silver Point(3)	0.00	0.00	0.00	0.00	2.73	25.26	58.79	5.38	2.01	0.00	3.05	2.79	2/3/2025	2/3/2025
Willow(1)	0.00	0.00	0.00	0.00	0.00	7.77	75.98	7.60	0.00	2.09	6.56	0.00	2/5/2025	2/5/2025

Based on most recent trustee report available to us and ratings/credit estimates as of that date. *All portfolios across rated transactions are amortizing. §Some transactions recently reset.

MM--Middle market. CLO--Collateralized loan obligation. CE--Credit estimate. Source: S&P Global Ratings.

Cov-Lite | Recent Vintage MM CLO Indentures Allow For More Covenant-Lite

Range of covenant-lite limits across rated MM CLOs by vintage

COV-lite limit	2021	2022	2023	2024	2025
Avg.	15.96%	22.50%	17.58%	21.99%	24.96%
Min.	5.00%	5.00%	5.00%	2.50%	0.00%
10th percentile	10.00%	10.00%	10.00%	10.00%	10.00%
25th percentile	10.00%	10.00%	10.00%	15.00%	15.00%
median	15.00%	15.00%	15.00%	15.00%	25.00%
75th percentile	21.25%	25.00%	25.00%	25.00%	25.00%
90th percentile	25.00%	49.00%	25.00%	50.00%	50.00%
Max	35.00%	70.00%	50.00%	80.00%	70.00%

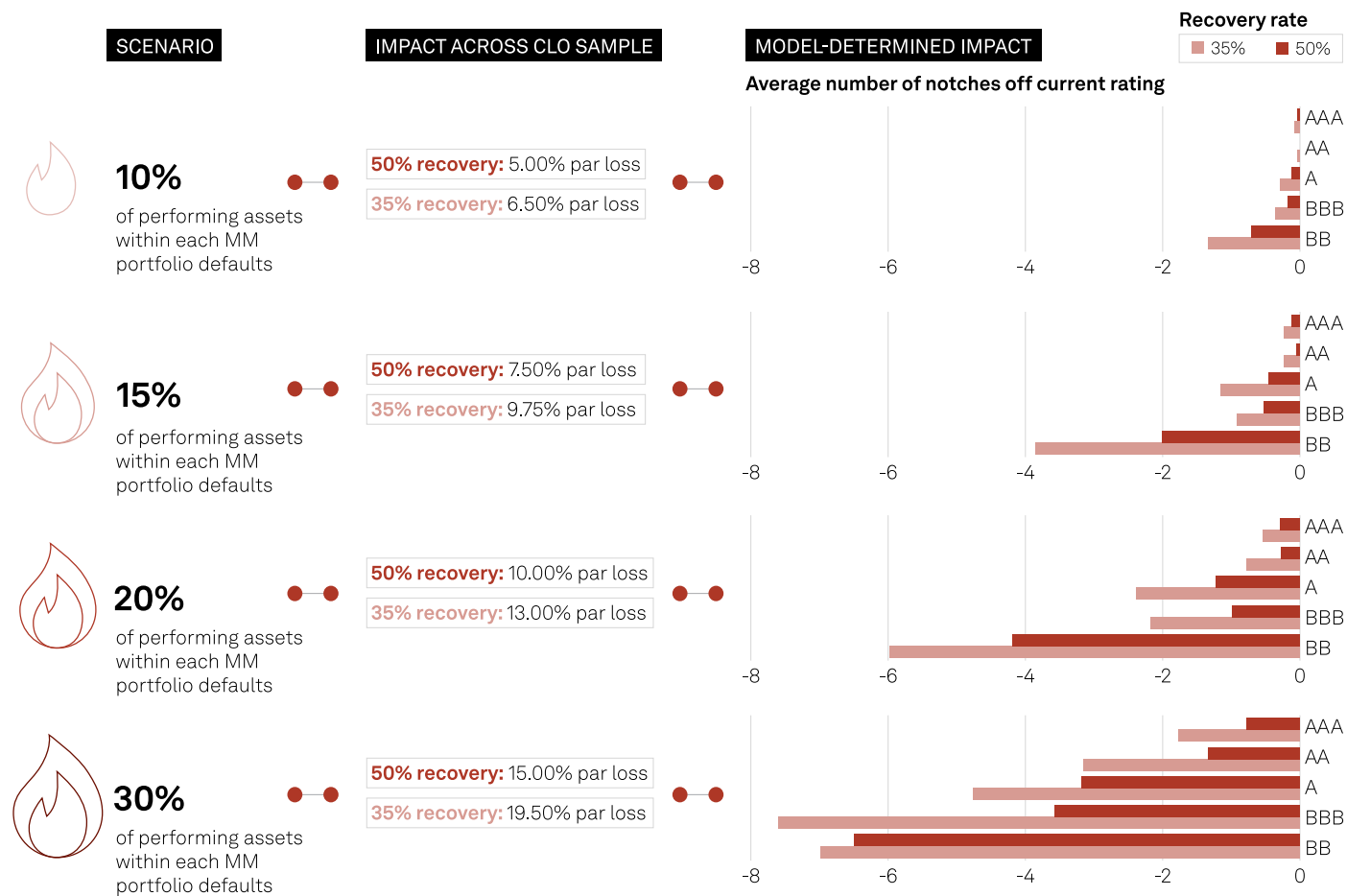
Adjusted EBITDA of credit estimated exposures – first-quarter 2025	Distribution across credit estimated exposures within MM CLOs	Weighted average spread	Proportion reported as cov-lite (% of EBITDA cohort)
Less than \$25 mil.	22.00%	5.71	1.29%
\$25 mil.-\$50 mil.	22.92%	5.62	3.46%
\$50 mil.-\$75 mil.	17.45%	5.57	6.35%
\$75 mil.-\$100 mil.	10.33%	5.58	8.66%
\$100 mil.+	27.30%	5.56	11.75%
Grand total	100.00%	5.61	6.29%

- On average, the covenant-lite limit has increased to 25% across the MM CLOs issued in the first quarter of 2025 from about 16% across the 2021 vintage MM CLOs .
- There is a wide range of covenant-lite limits across rated U.S. MM CLOs, from as little as 0% to as high as 80% (some of the warehouse transactions have higher covenant-lite limits).
- Reported covenant-lite exposures range from 0% to 64% across recent MM CLO trustee reports.
- About 6.3% of credit-estimated MM CLO exposures are reported as covenant-lite.
- A larger proportion of MM CLO exposures to larger issuers (higher EBITDA) are reported as covenant-lite.

Excludes non credit-estimated exposures. Based on most recent trustee report available to us and ratings/credit estimates as of that date.
MM--Middle market. CLO--Collateralized loan obligation. CE--Credit estimate. Source: S&P Global Ratings.

Scenario Analysis | MM CLO Ratings Withstand Stress Scenarios With Only Modest Downgrades (2024 Update)

MM CLO summary of stress scenarios and rating impact



- Middle-market CLO (MM CLO) ratings have shown impressive resilience, with less than 1% of total ratings lowered since 2020 despite credit estimate downgrades on companies in MM CLO collateral pools outpacing upgrades.
- As we've done in previous years, we subjected our U.S.MMCLO ratings to a series of hypothetical stress scenarios to see how they might perform under different levels of collateral defaults (10%, 15%, 20% and 30% of total assets).
- In addition to the 50% recovery scenarios we published in previous years, this year we've added stresses with a 35% recovery stress in order to provide a range of assumptions.
- This year's study continues to show the CLO structure protecting senior noteholders, with no 'AAA' CLO tranche downgraded below 'A-' under any of the scenarios, and 99% of the non-deferrable 'AA' CLO tranches remaining within investment grade even under our most punitive scenario (30% loans defaults with a 35% recovery assumption).

Source: [Scenario Analysis: Middle-Market CLO Ratings Withstand Stress Scenarios With Modest Downgrades \(2024 Update\)](#).

Scenario Analysis | MM CLO Ratings Withstand Stress Scenarios With Only Modest Downgrades (2024 Update)

Downgrade notches under scenarios (50% recovery) (%)

Current rating category	Affirm	-1	-2	-3	-4	-5	-6	≥ -7	Notch avg.	SG	'CCC'	Below 'CCC-'
Scenario One: 10% default/5% par loss												
'AAA'	96.20	3.51	0.29						0.04			
'AA'	99.53	0.47							0.00			
'A'	91.52	5.45	2.42	0.61					0.12			
'BBB'	83.46	15.04	1.50						0.18	14.29		
'BB'	72.94	15.29	3.53		2.35		2.35	3.53	0.71	100.00	4.71	3.53
Scenario Two: 15% default/7.5% par loss												
'AAA'	88.30	11.40	0.29						0.12			
'AA'	95.28	4.25	0.47						0.05			
'A'	72.12	13.94	10.91	2.42	0.61				0.45	0.61		
'BBB'	54.14	41.35	3.76		0.75				0.52	44.36		
'BB'	30.59	32.94	5.88	7.06	5.88	5.88	1.18	10.59	2.00	100.00	12.94	10.59
Scenario Three: 20% default/10% par loss												
'AAA'	72.51	27.19	0.29						0.28			
'AA'	80.19	12.74	7.08						0.27			
'A'	40.61	15.76	31.52	5.45	5.45	1.21			1.23	3.03		
'BBB'	29.32	56.39	7.52	1.50	3.76	0.75	0.75		0.99	68.42		
'BB'	15.29	8.24	5.88	11.76	8.24	7.06	10.59	32.94	4.18	100.00	25.88	32.94
Scenario Four: 30% default/15% par loss												
'AAA'	33.63	58.48	6.43	0.58	0.88				0.77			
'AA'	38.68	17.92	27.83	6.60	4.72	4.25			1.33			
'A'	23.03	3.64	9.09	2.42	23.03	36.97	1.21	0.61	3.18	45.45		
'BBB'	11.28	16.54	9.77	10.53	23.31	11.28	5.26	12.03	3.57	85.71	5.26	6.77
'BB'	2.35	2.35	2.35	1.18	2.35		2.35	87.06	6.49	100.00	5.88	85.88

Source: [Scenario Analysis: Middle-Market CLO Ratings Withstand Stress Scenarios With Modest Downgrades \(2024 Update\)](#).

Downgrade notches under scenarios (35% recovery) (%)

Current rating category	Affirm	-1	-2	-3	-4	-5	-6	≥ -7	Notch avg.	SG	'CCC'	Below 'CCC-'
Scenario One: 10% default/6.5% par loss												
'AAA'	93.27	6.43	0.29						0.07			
'AA'	96.70	3.30							0.03			
'A'	82.42	7.88	8.48	1.21					0.28			
'BBB'	69.17	27.82	2.26	0.75					0.35	29.32		
'BB'	50.59	23.53	7.06	5.88	2.35	2.35		8.24	1.34	100.00	4.71	8.24
Scenario Two: 15% default/9.75% par loss												
'AAA'	76.90	22.81	0.29						0.23			
'AA'	81.60	13.68	4.72						0.23			
'A'	42.42	15.76	31.52	5.45	3.64	1.21			1.16	3.03		
'BBB'	33.08	54.14	6.02	2.26	3.01	1.50			0.92	65.41		
'BB'	15.29	11.76	5.88	14.12	9.41	9.41	4.71	29.41	3.85	100.00	22.35	29.41
Scenario Three: 20% default/13% par loss												
'AAA'	48.25	50.29	0.58	0.88					0.54			
'AA'	56.13	15.57	24.06	2.83	1.42				0.78			
'A'	27.88	4.24	18.79	10.91	26.67	11.52			2.39	15.15		
'BBB'	15.79	33.08	16.54	12.03	15.04	0.75	1.50	5.26	2.18	81.95	4.51	0.75
'BB'	4.71	4.71	7.06	1.18		1.18	3.53	77.65	5.98	100.00	5.88	76.47
Scenario Four: 30% default/19.5% par loss												
'AAA'	23.10	30.70	10.53	20.18	14.04	0.29	1.17		1.77	0.00		
'AA'	22.64	3.77	15.57	8.02	14.62	23.11	5.66	6.60	3.15	1.42		
'A'	16.97	0.61	4.85	3.03	1.82	39.39	9.09	24.24	4.76	74.55	3.03	
'BBB'	4.51	8.27	0.75	3.76	6.02	1.50	5.26	69.92	7.59	95.49	15.79	54.14
'BB'	1.18			1.18				97.65	6.98	100.00		97.65

CLO Rating Actions | No U.S. CLO ‘AAA’ Tranche Ratings Lowered Since 2012

- No ‘AAA’ rated U.S. CLO tranche has been downgraded since 2012, and that was for a CLO 1.0 transaction. No CLO ‘AAA’ tranche has ever defaulted.
- Our outlook for both BSL and MM CLO ratings remains stable, especially for more senior, higher-rated CLO tranches, given the structural protections built into CLOs and rating cushions available to support most tranches. CLO tranche rating downgrades should mostly be from subordinate tranches of amortizing CLOs originated prior to the 2020 pandemic.
- From 2021 onward, each year has seen more CLO ratings raised than lowered, despite the challenging economic environment in 2022 and 2023.

U.S. BSL and MM CLO rating upgrades and downgrades (2020-Q1 2025)

UPGRADES

U.S. BSL CLO

Original rating category	2020	2021	2022	2023	2024	Q1 2025
AAA						
AA	5	39	14	29	68	15
A	6	47	18	30	60	12
BBB	1	46	20	18	31	5
BB		73	24	7	3	2
B	1	45	5	1		1
Grand total	13	250	81	85	162	35

U.S. MM CLO

Original rating category	2020	2021	2022	2023	2024	Q1 2025
AAA						
AA		3	3		14	5
A		5	4	2	14	5
BBB		4	3	3	6	6
BB		3	2	2	2	3
B						1
Grand total	0	15	12	7	36	20

DOWNGRADES

U.S. BSL CLO

Original rating category	2020	2021	2022	2023	2024	Q1 2025
AAA						
AA	3					
A	11					
BBB	91	5		2	1	
BB	282	7	5	31	32	2
B	105	5	5	15	11	
Grand total	492	17	10	48	44	2

U.S. MM CLO

Original rating category	2020	2021	2022	2023	2024	Q1 2025
AAA						
AA						
A	1					
BBB					1	
BB	5				2	
B	1					
Grand total	7	0	0	0	3	0

BSL--Broadly syndicated loan. MM--Middle market. Source: S&P Global Ratings.

Defaults | Thirty Years And 65 CLO Tranche Defaults

- S&P Global Ratings has rated **more than 23,000** U.S. CLO tranches since our first CLOs in the mid-1990s. Our CLO ratings history **spans three recessionary periods**: the dot.com bust of 2000-2001, the global financial crisis in 2008-2009, and the recent COVID-19-driven downturn in 2020.
- Over that period, a total of 60 U.S. CLO tranches **have defaulted**: 40 U.S. CLO tranches from CLO 1.0 transactions originated in 2009 or before, and another 25 U.S. CLO 2.0 tranches.
- Across two other CLO 2.0s, there are two tranches rated ‘CC (sf)’ that are **likely to default** in the future for similar reasons and another two tranches rated ‘CCC- (sf)’ that may default.

U.S. BSL and middle-market CLO 1.0 and 2.0 default summary by original rating (no.)

	CLO 1.0 transactions (2009 and prior)			CLO 2.0 transactions (2010 and later)		
	Original ratings(i)	Defaults(ii)	Currently rated	Original ratings(i)	Defaults(ii)	Currently rated
AAA (sf)	1,540	0	0	5,210	0	2,211
AA (sf)	616	1	0	3,996	0	1,641
A (sf)	790	5	0	3,349	0	1,402
BBB (sf)	783	9	0	3,394	0	1,691
BB (sf)	565	22	0	2,497	13	1,150
B (sf)	28	3	0	486	12	214
Total	4,322	40	0	18,932	25	8,309

(i)Original rating counts as of September 16, 2024. (ii)CLO tranche default counts as of January 21, 2025.
Source: S&P Global Ratings Credit Research & Insights and S&P Global Market Intelligence's CreditPro®.

Data For Selected Slides

Download a copy of the data from many of the charts and tables in the slides.

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