

Presale:

# 1988 CLO 4 Ltd./1988 CLO 4 LLC

April 25, 2024

## Preliminary ratings

Class	Preliminary rating	Balance (mil. \$)	Overcollateralization (%)	Par subordination (%)	Interest rate (%)
A-1	AAA (sf)	252.00	158.73	37.00	Three-month CME term SOFR + 1.64
A-2	AAA (sf)	12.00	151.52	34.00	Three-month CME term SOFR + 1.84
B	AA (sf)	40.00	131.58	24.00	Three-month CME term SOFR + 2.10
C (deferrable)	A (sf)	24.00	121.95	18.00	Three-month CME term SOFR + 2.60
D (deferrable)	BBB+ (sf)	24.00	113.64	12.00	Three-month CME term SOFR + 4.25
E (deferrable)	BB+ (sf)	14.00	109.29	8.50	Three-month CME term SOFR + 6.92
Subordinated notes	NR	41.84	N/A	N/A	Residual

Note: This presale report is based on information as of April 25, 2024. The ratings shown are preliminary. This report does not constitute a recommendation to buy, hold, or sell securities. Subsequent information may result in the assignment of final ratings that differ from the preliminary ratings. NR--Not rated. N/A--Not applicable.

## Executive Summary

1988 CLO 4 Ltd. is a \$407.84 million broadly syndicated collateralized loan obligation (CLO) managed by 1988 Asset Management LLC, a subsidiary of Muzinich & Co. This is 1988 Asset Management LLC's first CLO in 2024.

Based on provisions in the transaction documents and the portfolio characteristics:

- The transaction will be collateralized by at least 90% senior secured loans, cash, and eligible investments, with a minimum of 85% of the loan borrowers required to be based in the U.S. or Canada.
- Of the identified underlying collateral obligations, all have credit ratings (which may include confidential ratings, private ratings, and credit estimates) assigned by S&P Global Ratings.

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- Of the identified underlying collateral obligations, 93.63% have recovery ratings (which may include confidential and private ratings) assigned by S&P Global Ratings.

## Key Credit Metrics

### Selected credit metrics

	1988 CLO 4 Ltd.	Three-month average(i)
Total leverage (x)(ii)	8.75	10.05
Par subordination ('AAA'/'BBB') (%)	34.00/12.00	34.83/11.97
WA cost of debt (%) (iii)	2.13	2.07
Portfolio WAS (excluding floors) (%)	3.69	3.68
SDR ('AAA'/'BBB') (%)	58.59/39.22	58.67/39.93
WA portfolio recovery ('AAA'/'BBB') (%)	43.18/64.67	41.35/63.05

(i) The three-month average comprises transactions rated by S&P Global Ratings during the three months ended March 31, 2024. (ii) Total debt to equity (excluding any class X debt, if applicable). (iii) Spread over SOFR for all classes, excluding the subordinated notes and, if applicable, any class X debt. Additionally, if there is a fixed-rate tranche, SOFR is subtracted from the fixed coupon in the calculation. WA--Weighted average. WAS--Weighted average spread. SDR--Scenario default rate.

## Transaction Timeline/Participants

### Transaction timeline

Expected closing date	May 21, 2024.
Effective date	To be determined.
Debt payment frequency	Quarterly, beginning Oct. 15, 2024.
Non-call period end date	April 15, 2026.
Reinvestment period end date	May 21, 2029.
Stated maturity date	April 15, 2037.

### Participants

Collateral manager	1988 Asset Management LLC.
Initial purchaser	Citigroup Global Markets Inc.
Trustee	State Street Bank and Trust Co.

## Rationale

The preliminary ratings assigned to 1988 CLO 4 Ltd./1988 CLO 4 LLC's floating-rate debt reflect our assessment of:

- The diversification of the collateral pool, which consists primarily of broadly syndicated speculative-grade (rated 'BB+' and lower) senior secured term loans.
- The credit enhancement provided through subordination, excess spread, and overcollateralization.
- The experience of the collateral manager's team, which can affect the performance of the rated debt through portfolio identification and ongoing management.
- The transaction's legal structure, which is expected to be bankruptcy remote.

We may choose to make qualitative adjustments to our analysis when rating CLO tranches to reflect the likelihood that changes to the underlying assets' credit profile may affect a portfolio's credit quality in the near term. This is consistent with paragraph 15 of our criteria for analyzing CLOs (see "Global Methodology And Assumptions For CLOs And Corporate CDOs," published June 21, 2019). To do this, we may review the likelihood of near-term changes to the portfolio's credit profile by evaluating the transaction's specific risk factors. Based on our review of these factors, we believe there is adequate cushion between this CLO tranches' break-even default rates (BDRs) and scenario default rates (SDRs) to address the possibility of near-term changes to the portfolio's credit quality.

## **Environmental, Social, And Governance**

We regard the exposure to environmental, social, and governance (ESG) credit factors in the transaction as being broadly in line with our benchmark for the sector (see "ESG Industry Report Card: Collateralized Loan Obligations," published March 31, 2021). For CLOs, we view the exposure to environmental credit factors as below average, to social credit factors as below average, and to governance credit factors as average, primarily due to the diversity of the assets within the sector.

The transaction documents prohibit assets issued by obligors that derive more than half their revenue from certain activities, including but not limited to the following industries:

- Oil and gas exploration, extraction, production, or oil-based power generation, distribution, or storage;
- Thermal coal, coal mining, or coal-based power generation;
- Non-sustainable palm oil production;
- Controversial weapon production or trading;
- Hazardous chemicals;
- Adult entertainment;
- Marijuana-related business; and
- Endangered wildlife trading.

Accordingly, since the exclusion of assets from these industries does not result in material differences between the transaction and our ESG benchmark for the sector, we made no specific adjustments in our rating analysis to account for any ESG-related risks or opportunities.

## **Rating Considerations**

In our analysis, we considered the factors in table 1, among others.

Table 1

**Rating considerations**

<b>Risk</b>	<b>Risk description</b>	<b>Mitigating factors</b>
Reduction in cash flow	Defaults, adverse interest rate movements, and low recoveries can reduce the cash flow generated by the underlying portfolio and affect the issuer's ability to meet its obligations in a timely manner.	S&P Global Ratings' quantitative analysis simulates various default patterns and interest rate movements under various stress scenarios, considering portfolio characteristics, payment mechanics, covenants, collateral quality tests, and excess spread.
Excess concentration in certain types of collateral obligations	The collateral manager's ability to invest in certain types of collateral is outlined in the indenture. Larger concentrations in certain obligations can introduce additional risks to the rated debt.	S&P Global Ratings' cash flow analysis generally assumes that the underlying portfolio contains the maximum allowable amount of certain types of collateral obligations to stress test the transaction for concentration risk. Examples include obligations that are current-pay, fixed-rate, fully deferrable, and long-dated, as well as assets rated 'CCC+' or lower and assets paying less frequently than quarterly. For current-pay, long-dated, and 'CCC+' or lower obligations, we generally apply stresses when the exposure is greater than 10.0%, 5.0%, and 7.5%, respectively. For more details on allowable maximum concentrations for this transaction, see tables 8 and 9.
Collateral manager trading performance	During the reinvestment period (and after the reinvestment period, subject to additional restrictions), the collateral manager can change the underlying portfolio's composition, thus exposing the transaction to potential deterioration in credit enhancement. The collateral manager can reinvest all proceeds received during the reinvestment period. For this particular transaction, after the reinvestment period, the collateral manager can also continue to reinvest proceeds from credit risk sales or unscheduled prepayments, subject to additional restrictions.	The transaction documents generally require that any collateral obligation purchased will have equal or higher par value (or, with respect to proceeds from credit risk and defaulted obligations, that the obligation purchased with those sale proceeds will at least equal the related sale proceeds), or that the trade maintains or increases the transaction's O/C level. However, both during and after the reinvestment period, the principal collateral amount is not required to be maintained if the collateral manager has built sufficient excess par in the transaction so that the collateral balance exceeds the portfolio's reinvestment target par balance after the purchase. In addition, the indenture generally requires that each additional purchase satisfies (or, if not satisfies, either maintains, or improves) the concentration limits, coverage tests, and certain collateral quality tests. After the reinvestment period, in addition to some other requirements, any asset purchased must have the same or higher S&P Global Ratings' credit rating (or, as alternative to the rating requirement, the class SDR must be maintained or improved) and the same or lower stated maturity than the asset being replaced, and the O/C tests must be satisfied.
Divergence of the effective date portfolio from preliminary assumptions	Most underlying portfolios are not fully purchased by the transaction's closing date. Therefore, there is a risk that the fully ramped-up portfolio at the transaction's effective date will be materially different from the one presented to S&P Global Ratings for its preliminary analysis.	S&P Global Ratings offers collateral managers a formula-based version of its CDO Monitor at the transaction's closing. This tool is intended to assist the collateral manager in maintaining a similar credit risk and cash flow profile to what was initially presented for our preliminary analysis.

Table 1

**Rating considerations (cont.)**

<b>Risk</b>	<b>Risk description</b>	<b>Mitigating factors</b>
Exposure to covenant-lite loans	The collateral manager can purchase covenant-lite loans (those that do not contain regular financial maintenance covenants for the lending party's benefit) for up to a certain percentage of the underlying portfolio (see table 8). Exposure to these types of loans may reduce the transaction's recovery prospects.	For covenant-lite loans that do not have an asset-specific recovery rating, we apply reduced recovery rates in our cash flow analysis (41.0% under a 'AAA' stress scenario versus 50.0% for a senior secured first-lien loan that is not covenant-lite). In addition, the transaction documents mandate that any loan that is pari passu with a non-covenant-lite loan of the same obligor, or that contains a cross-default provision with such loan, will also use the reduced recovery rates regardless of whether these pari passu or cross-defaulted loans are counted as covenant-lite for the purposes of portfolio concentration limits. For covenant-lite loans that do have an asset-specific recovery rating, the absence of financial maintenance covenants is factored into our recovery analysis and generally results in lower estimated recovery rates.
Long-dated collateral obligations can introduce market value risk	A portfolio containing long-dated collateral obligations exposes a transaction to market value risk. To repay the debtholders at the transaction's maturity, the collateral manager will be forced to sell those obligations at the prevailing market price, which may be below par.	According to the transaction documents, the collateral manager can only purchase and/or receive a limited amount of long-dated collateral obligations under certain circumstances. Any long-dated collateral obligations will receive a haircut in the O/C numerator. The weighted average life test must generally be satisfied (or maintained or improved, subject to additional conditions found in the transaction documents) following any maturity amendment.
Ability to purchase assets with '(sf)' rating qualifiers from other NRSROs	The collateral manager has the ability to purchase assets that are assigned ratings with an '(sf)' rating qualifier from other NRSROs. Therefore, there is a risk that the portfolio could contain assets that S&P Global Ratings would consider structured finance obligations.	We expect the final transaction documents will contain the appropriate structured finance industry classification and recovery rate tables as outlined in our criteria, "Global CDOs of Pooled Structured Finance Assets: Methodology and Assumptions," published Feb. 21, 2012.

O/C--Overcollateralization. SDR--Scenario default rate. NRSRO--Nationally recognized statistical rating organization.

**Collateral Manager**

1988 Asset Management LLC currently manages three CLOs and has \$1.2 billion in total CLO assets under management (AUM). Including non-CLO assets, 1988 Asset Management LLC and its affiliates have \$34.7 billion in total AUM.

Analysis of past CLO 2.0 transactions (i.e., deals issued after the financial crisis) that are managed by 1988 Asset Management LLC and its affiliates and rated by S&P Global Ratings reveals:

- An industry concentration that favors media, as well as hotels, restaurants, and leisure.
- That of the transactions that are still in the reinvestment period, all have a current par amount above the effective date target par.
- An average senior overcollateralization cushion of 10.59% at the transaction's closing date.

Quantitative Analysis

In analyzing this transaction, S&P Global Ratings conducted a quantitative review consisting of two analyses: a portfolio analysis and a cash flow analysis.

Understanding our portfolio and cash flow analyses

For the portfolio analysis, S&P Global Ratings ran the portfolio presented to us through the CDO Evaluator model, which defaults portions of the underlying collateral based on the default probability and correlation assumptions defined in S&P Global Ratings criteria. This resulted in a set of SDRs that represent expected default levels for the portfolio under the different stress scenarios associated with each rating level (see chart 1).

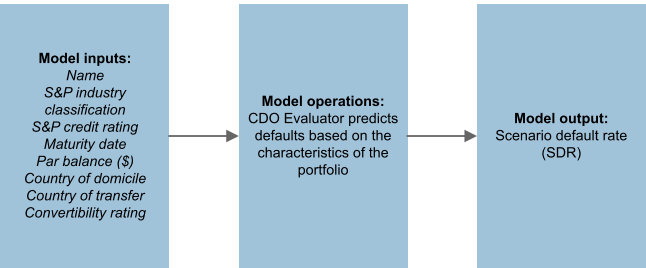
For example, the 'AAA' stress scenario assumes an extreme level of stress, one similar to what was experienced during the Great Depression, while the 'BBB' stress scenario assumes a high, but less severe, level of stress that is more akin to the 2008 recession. As a result, the portfolio will experience a higher level of defaults in the 'AAA' stress scenario than the 'BBB' stress scenario.

For the cash flow analysis, we input the transaction-specific structural features presented to us into the Standard & Poor's Cash Flow Evaluator model to generate a base case set of cash flows. These cash flows are then subjected to various default timing and interest rate stress scenarios to arrive at a BDR for each rated class of debt (see chart 2).

For each class, the BDR represents the maximum amount of defaults that the class can withstand while still being able to pay timely interest and ultimate principal to its debtholders. Classes with higher subordination typically have higher BDRs.

Chart 1

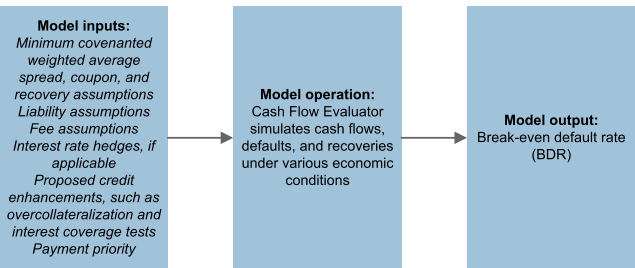
CDO Evaluator



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Chart 2

Cash Flow Evaluator



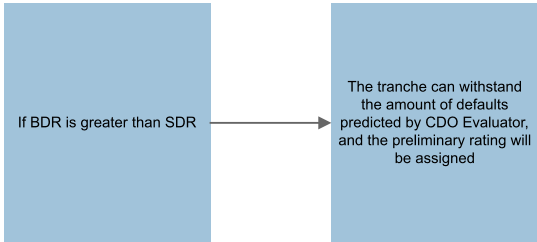
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Connecting the portfolio and cash flow analyses

For a tranche to achieve a particular rating, it must be able to withstand the level of defaults projected by the CDO Evaluator and still pay timely interest and principal (see chart 3).

Chart 3

Assignment of tranche rating



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The results shown in table 2 indicate that the rated debt has sufficient credit enhancement to withstand our projected default levels.

Table 2

Credit enhancement

Class	Preliminary rating	BDR (%)	SDR (%)	BDR cushion (%)
A-1	AAA (sf)	65.12	58.59	6.53
A-2	AAA (sf)	62.46	58.59	3.87
B	AA (sf)	61.85	50.59	11.27
C (deferrable)	A (sf)	54.18	44.77	9.41
D (deferrable)	BBB+ (sf)	43.04	40.57	2.48
E (deferrable)	BB+ (sf)	35.11	32.97	2.14

BDR--Break-even default rate. SDR--Scenario default rate.

Supplemental tests

We also conduct a largest-industry default test and a largest-obligor default test according to "Global Methodology And Assumptions For CLOs And Corporate CDOs," published June 21, 2019. Under these assumptions, the debt can withstand the loss amounts indicated in table 3 at their preliminary rating levels.

Table 3

Supplemental tests

Class	Preliminary rating	Preliminary amount (mil. \$)	Largest-industry default test loss amount (mil. \$)	Largest-obligor default test loss amount (mil. \$)
A-1	AAA (sf)	252.00	22.95	47.60
A-2	AAA (sf)	12.00	22.95	47.60
B	AA (sf)	40.00	22.95	38.58
C (deferrable)	A (sf)	24.00	N/A	29.08

Table 3

**Supplemental tests (cont.)**

Class	Preliminary rating	Preliminary amount (mil. \$)	Largest-industry default test loss amount (mil. \$)	Largest-obligor default test loss amount (mil. \$)
D (deferrable)	BBB+ (sf)	24.00	N/A	19.58
E (deferrable)	BB+ (sf)	14.00	N/A	14.83

N/A--Not applicable.

**Collateral Quality Tests**

In addition to the quantitative framework, we produce and review collateral quality metrics to assess specific risks inherent in a transaction. Results for the collateral quality tests, based on the identified portfolio provided to us, are shown in table 4.

Table 4

**Collateral quality metrics--performing identified collateral**

Test	WA	Covenant	Margin
WA life (years)(i)	5.31	9.00	3.69
WAS (including floors) (%)	3.69	3.67	0.02
WA fixed coupon (%) (ii)	N/A	7.00	N/A
WA rating	B+	N/A	N/A

(i)The calculated value may include an adjustment to some asset maturity inputs if the resulting pool's WA maturity is less than the length of the reinvestment period. (ii)The calculated value does not give credit to excess spread, which may positively adjust the calculation when determining compliance with the covenant. WA--Weighted average. WAS--Weighted average spread. N/A--Not applicable.

**Portfolio Characteristics**

Metrics based on the portfolio presented to S&P Global Ratings and the level of ramp-up completion are shown in tables 5A and 5B.

Table 5A

**Target collateral obligations**

Target par balance (mil. \$)	400.00
Par balance of identified collateral (mil. \$)	400.00
Par balance of collateral not yet identified (mil. \$)	0.00
S&P Global Ratings' ratings and confidential indications (%) of identified collateral)(i)	100.00

(i)May include confidential ratings, private ratings, and credit estimates.

Table 5B

**Identified collateral obligations (obligors)**

No. of obligors	208
Avg. obligor holding (%)	0.48
Largest-obligor holding (%)	1.50
Smallest-obligor holding (%)	0.01

In the portfolio data referenced for this analysis, the issuer identified all of the portfolio's collateral. As the portfolio composition changes, the information and results presented in tables 6



and 7 and charts 4-7 are also likely to change.

Obligor concentration

Table 6 shows the top five obligor holdings of the underlying portfolio presented to S&P Global Ratings as of the date of this publication.

Table 6

Top five obligor holdings

Obligor reference	Industry	Security type	S&P Global Ratings' credit rating	S&P Global Ratings' implied rating	CreditWatch/Outlook	Notional amount (mil. \$)		Notional amount (%)	
						Obligor	Cumulative	Obligor	Cumulative
1	Hotels, restaurants, and leisure	Senior secured	N/A	No	N/A	6.00	6.00	1.50	1.50
2	Food products	Senior secured	B+	No	Stable	5.61	11.61	1.40	2.90
3	Insurance	Senior secured	B	No	Stable	5.00	16.61	1.25	4.15
4	Hotels, restaurants, and leisure	Senior secured	B+	No	Positive	5.00	21.61	1.25	5.40
5	Software	Senior secured	B	No	Stable	5.00	26.61	1.25	6.65

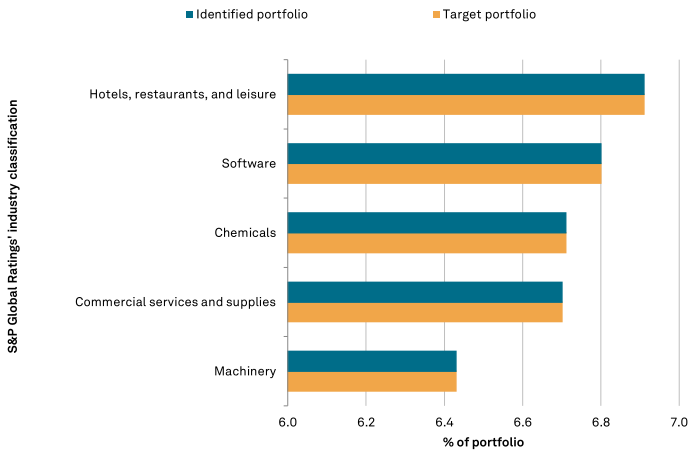
N/A--Not applicable.

Industry and rating distribution

Chart 4 shows the top five industry distribution in the portfolio, and chart 5 shows the rating distribution in the portfolio.

Chart 4

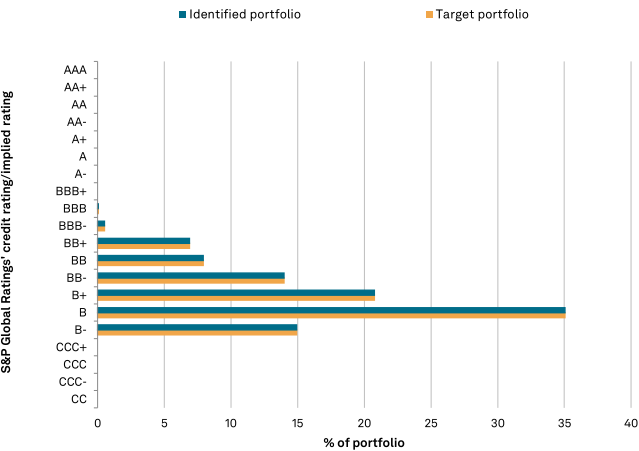
Industry distribution



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Chart 5

Rating distribution



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Recovery rating and maturity distribution

Table 7 and chart 6 present a summary of the S&P Global Ratings loan recovery rates for the identified portfolio. Chart 7 shows the maturity distribution in the identified portfolio.

Table 7

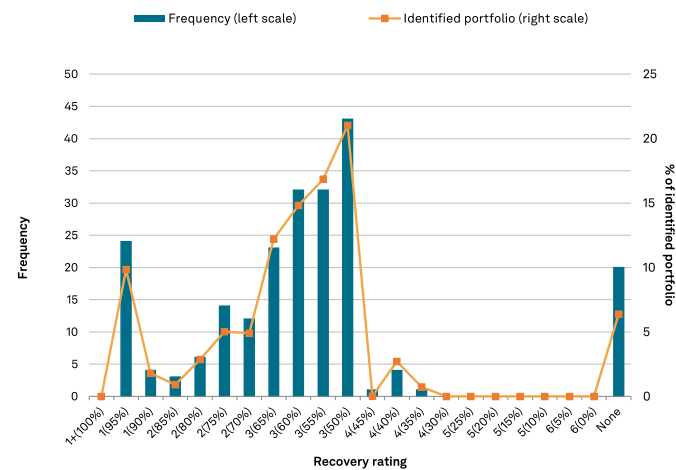
Performing identified collateral modeled WARR

Liability rating category	WARR (%)	Min. covenanted WARR (%)
AAA (sf)	43.18	42.95
AA (sf)	52.78	52.19
A (sf)	58.40	57.61
BBB (sf)	64.67	63.66
BB (sf)	69.98	69.34

WARR--Weighted average recovery rate.

Chart 6

Recovery rating distribution

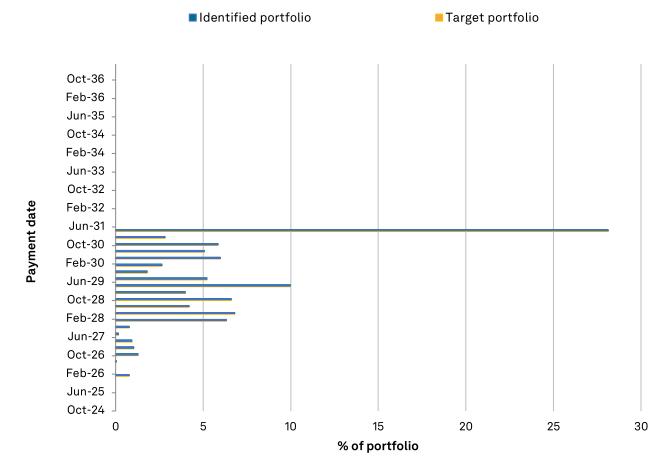


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Chart 7

Maturity distribution

Based on the legal final maturity date



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## Portfolio Investment Guidelines

The underlying portfolio will consist primarily of U.S. dollar-denominated senior secured loans to broadly syndicated corporate borrowers. The collateral portfolio's investment guidelines are expected to comply with the limitations shown in table 8.

Table 8

### Collateral pool guidelines

	Limit (%)
<b>Type of obligation</b>	
Other than senior secured loans, cash, and eligible investments	10.0
Bonds: secured/unsecured	5.0/2.5
Covenant-lite loans(i)	60.0
Current-pay obligations(ii)	7.5
Debtor-in-possession obligations	5.0
Deferrable obligations: fully(ii)/partially	0.0/5.0
Delayed-drawdown and revolving obligations	7.5
Discount obligations	25.0
Fixed-rate obligations(ii)	5.0
Long-dated obligations(ii)	2.0
Obligations purchased at a price less than 60.0% but greater than 50.0% of its principal balance	5.0
Obligations that pay interest less frequently than quarterly (but not less than semiannually)(ii)	7.5
Obligor and its affiliates: single/up to five/not a senior secured loan	2.0/2.5/1.0

Table 8

**Collateral pool guidelines (cont.)**

	Limit (%)
Participation interests	10.0
S&P Global Ratings' industry classification: single/fourth-largest/third- and second-largest/largest	10.0/11.0/12.5/15.0
S&P Global Ratings' credit rating of 'CCC+' or below(ii)	7.5
Second-lien and unsecured loans	10.0
Structured finance obligations	0.0
<b>Location</b>	
Other than the U.S. or Canada	15.0
Emerging markets	0.0

(i) Covenant-lite loans are assigned lower recovery ratings than similar obligations that require continued compliance with covenants. (ii) S&P Global Ratings generally conducts its cash flow analysis assuming the CLO holds the maximum amount of these types of obligations permitted under the transaction documents. For current-pay, long-dated, and 'CCC+' or lower obligations, we generally apply stresses when the exposure is greater than 10.0%, 5.0%, and 7.5%, respectively.

**Risk of concentration in certain obligation types**

S&P Global Ratings considers larger concentrations of the obligation types shown in table 9 to pose additional risk to the transaction. If the transaction can purchase those collateral obligations, our quantitative analysis would consider the associated risk (see table 8 above for transaction-specific limitations).

Table 9

**Risks of obligation types**

Obligation type	Risk specific to the obligation
Current-pay obligations	S&P Global Ratings' criteria allow transactions to purchase current-pay obligations as long as the collateral manager reasonably believes the obligor will remain current on all contractual payments (as well as other factors). Due to the increased risk associated with these obligations, they may be carried at the higher of their issue credit rating or 'CCC' in the portfolio analysis, which may increase the SDRs produced by the CDO Evaluator. In addition, any excess holding allowance above 10% is carried as defaulted in the cash flow analysis, which will decrease the BDRs produced by the Cash Flow Evaluator.
Deferrable obligations	Obligations where interest payments may be deferred can result in a discrepancy in the timing of cash inflows and outflows. If this mismatch is significant, it may result in a shortfall in cash available to pay the rated debtholders. S&P Global Ratings conducts its cash flow analysis assuming that the transaction holds the maximum amount of deferrable obligations permitted. The timing differences will be captured in the BDRs generated by the Cash Flow Evaluator.
Fixed-rate obligations	Because interest payments for most of the rated debt are tied to a floating reference rate (initially, three-month SOFR), obligations in the underlying portfolio that pay a fixed rate create exposure to interest rate movements. Excess spread may decline if market rates change significantly over the transaction's life. To account for this risk, S&P Global Ratings' cash flow analysis assumes the transaction holds the maximum amount of fixed-rate obligations permitted. The results are captured in the BDRs generated by the Cash Flow Evaluator.

Table 9

**Risks of obligation types (cont.)**

Obligation type	Risk specific to the obligation
Long-dated obligations	Collateral obligations scheduled to mature after the transaction's stated maturity date introduce market value risk because the collateral manager must sell the obligations at the prevailing market price to pay the rated debtholders. To account for this risk, if the allowable bucket exceeds 5% of the asset balance, absent any other risk mitigating factors, S&P Global Ratings' cash flow analysis haircuts the par amount of these obligations (10% per year after the transaction's stated maturity), which will lower the BDRs produced by the Cash Flow Evaluator. This stress may also be considered for long-dated assets that the transaction can hold after any maturity amendments.
Obligations that pay interest less frequently than quarterly	Because CLO transactions typically require quarterly interest payments to be made to the debtholders, a portfolio consisting of collateral obligations that pay interest less frequently creates a discrepancy in the timing of cash inflows and outflows. If this mismatch is significant, it may result in a shortfall in cash available to pay the rated debtholders. S&P Global Ratings conducts its cash flow analysis assuming that the transaction holds the maximum amount of non-quarterly obligations permitted. The timing differences will be captured in the BDRs generated by the Cash Flow Evaluator.
Obligations rated 'CCC+' or below by S&P Global Ratings	The transaction documents typically limit the amount of obligations rated 'CCC+' or below that the collateral manager can purchase. A higher concentration of these obligations will increase the SDRs produced by the CDO Evaluator.

SDR--Scenario default rate. BDR--Break-even default rate.

**Debt Payment Considerations****Overcollateralization, interest coverage, and reinvestment overcollateralization tests**

The rated debt benefits from certain structural features that require sequential mandatory redemption upon a breach of any overcollateralization or interest coverage test. In addition, during the reinvestment period, the rated debt benefits from potential diversion of excess interest proceeds captured upon breach of the transaction's reinvestment overcollateralization test as described in the payment priorities (see tables 10-12).

Table 10

**O/C, I/C, and reinvestment O/C tests**

Class	Actual O/C (%)	Min. O/C required (%)	Min. I/C required (%)
A/B	131.58	121.60	120.00
C	121.95	114.00	110.00
D	113.64	107.10	105.00
E	109.29	103.80	N/A
Reinvestment O/C(i)	109.29	104.30	N/A

(i)The reinvestment O/C test will be satisfied when the class E O/C test is equal to or higher than the specified level. O/C--Overcollateralization. I/C--Interest coverage. N/A--Not applicable.

## **Payment priorities**

Under the transaction documents, the collateral's interest and principal collections are payable according to separate payment priorities. On each payment date during and after the reinvestment period, unless an acceleration following an event of default occurs, the proceeds will be distributed in the priorities outlined in tables 11 and 12.

Table 11

**Interest waterfall payment priority**

Priority	Payment
1	Taxes and fees; then administrative expenses (capped); then, at the manager's discretion, deposit into the expense reimbursement account (capped).
2	Senior management fee; then the deferred senior management fee (capped).
3	Class A-1 interest; then class A-2 interest.
4	Class B interest.
5	Class A/B coverage tests(i)(ii).
6	Class C interest.
7	Class C coverage tests(i)(ii).
8	Class C deferred interest.
9	Class D interest.
10	Class D coverage tests(i)(ii).
11	Class D deferred interest.
12	Class E interest.
13	Class E overcollateralization test(i)(ii).
14	Class E deferred interest.
15	If, with respect to the first payment date, the effective date has not occurred, then deposit into the collection account; for any payment date following the effective date, if effective date ratings confirmation is not obtained, at the manager's direction, purchase collateral obligations or, with the consent of the majority of subordinated noteholders, pay according to the debt payment sequence(ii) (each to the extent necessary to obtain rating agency confirmation).
16	Interest diversion test (during the reinvestment period only). If it fails, use the lesser of 50% of the remaining interest proceeds and the amount needed to satisfy the test to invest in eligible investments and/or purchase additional collateral obligations; or, after the non-call period, pay according to debt payment sequence(ii).
17	Subordinated management fee; then the deferred subordinated management fee.
18	Administrative expenses (uncapped); then expenses related to optional redemption by refinancing, re-pricing, or issuance of additional notes.
19	Despoit into the supplemental reserve account, at the collateral manager's direction.
20	To the contributors, pro rata.
21	To the subordinated noteholders until the incentive management threshold is realized.

Table 12

**Principal waterfall payment priority**

Priority	Payment
1	Items 1 to 4 of the interest waterfall; then items 5 to 15 of the interest waterfall; however, for items 6, 8, 9, 11, 12, and 14, in each case, only to the extent that the relevant class is the controlling class.
2	On any redemption date (other than a refinancing date), pay according to the debt payment sequence(ii); on any other payment date, at the manager's election, pay the special redemption amount according to the debt payment sequence(ii).
3	During the reinvestment period, at the manager's discretion, invest in eligible investments and/or purchase additional collateral obligations. After the reinvestment period, in the case of post-reinvestment principal proceeds, at the manager's discretion, invest in eligible investments and/or purchase additional collateral obligations.
4	Pay according to debt payment sequence(ii).
5	Items 17, 18, and 20 of the interest waterfall.
6	To the subordinated noteholders until the incentive management threshold is realized.
7	At the manager's election, deferred incentive management fees; then 20% of remaining proceeds to the incentive management fee and remaining 80% to the subordinated noteholders.

(i) If it fails, pay according to the debt payment sequence until each test is satisfied. (ii) See table 11 footnotes for the debt payment sequence.

Table 11

**Interest waterfall payment priority (cont.)**

Priority	Payment
22	Deferred incentive management fees; then 20% of remaining interest proceeds to the incentive management fee and 80% of remaining interest proceeds to the subordinated noteholders.

(i) If it fails, pay according to the debt payment sequence until each test is satisfied. (ii) Debt payment sequence: class A-1 interest; then class A-1 principal; then class A-2 interest; then class A-2 principal; then class B interest; then class B principal; then class C interest; then class C deferred interest; then class C principal; then class D interest; then class D deferred interest; then class D principal; then class E interest; then class E deferred interest; and then class E principal.

## Application Of Standard & Poor's CDO Monitor/Compliance With Standard & Poor's CDO Monitor Test

Standard & Poor's CDO Monitor is a tool that collateral managers use during the reinvestment period to determine if a particular trade or series of trades increases the risk to the rated liabilities.

The CDO Monitor Test will be considered passing if the results indicate that the current portfolio produces an SDR that is equal to or below the transaction's BDR. There is no requirement that the CDO Monitor Test be considered after the reinvestment period, or when reinvesting proceeds from the sale of a credit risk or a defaulted obligation or proceeds from an equity security.

For this transaction, the non-model version of CDO Monitor may be used as an alternative to the model-based approach. This version of CDO Monitor is built on the foundation of six portfolio benchmarks, which are used to provide insight into the characteristics that inform the way S&P Global Ratings assesses credit quality. These benchmarks are meant to enhance transparency for investors and other CLO market participants by allowing them to compare metrics across transactions and assess changes within a given CLO over time (for more details, see "S&P Global Ratings' Updated Assumptions For CDO Monitor Non-Model Version," published June 21, 2019, and "Standard & Poor's Introduces Non-Model Version Of CDO Monitor," published Dec. 8, 2014).

Table 13 shows the benchmarks for 1988 CLO 4 Ltd. in the context of average values by vintage.

Table 13

**CDO Monitor metrics**

	1988 CLO 4 Ltd.	Trailing 12-month average	Difference	Typical values
S&P Global Ratings' weighted average rating factor(i)	2,324.83	2,581.51	(256.69)	2,500.00-3,000.00
Default rate dispersion(ii)	757.98	853.76	(95.78)	500.00-1,000.00
Obligor diversity measure(iii)	120.59	215.25	(94.66)	100.00-250.00
Industry diversity measure(iv)	24.60	23.34	1.26	12.00-22.00
Regional diversity measure(v)	1.22	1.19	0.03	1.00-1.30 for U.S. CLOs (higher for European CLOs)



Table 13

**CDO Monitor metrics (cont.)**

	1988 CLO 4 Ltd.	Trailing 12-month average	Difference	Typical values
Weighted average life (years)(vi)	5.31	4.59	0.71	4.00-7.00

(i) S&P Global Ratings' weighted average rating factor (SPWARF): The SPWARF is calculated by multiplying the par balance of each collateral obligation that has a 'CCC-' or higher rating from S&P Global Ratings by the S&P Global Ratings' rating factor, then summing the total for the portfolio, and then dividing the result by the aggregate principal balance of all collateral obligations included in the calculation. (ii) Default rate dispersion (DRD): The DRD is calculated by multiplying the par balance for each collateral obligation that has a 'CCC-' or higher rating from S&P Global Ratings by the absolute value of the difference between the S&P Global Ratings' rating factor and the SPWARF, then summing the total for the portfolio, and then dividing the result by the aggregate principal balance of the collateral obligations included in the calculation. (iii) Obligor diversity measure (ODM): The ODM is the measure of the effective number of obligors in the pool obtained by squaring the result for each obligor and taking the reciprocal of the sum of these squares [i.e.,  $1/\sum(i)^2$ ]. (iv) Industry diversity measure (IDM): The IDM is the effective number of industries in the pool obtained in the same way as the ODM. (v) Regional diversity measure (RDM): The RDM is the effective number of regions in the pool obtained in the same way as the ODM and IDM. (vi) Weighted average life: The portfolio's weighted average life is based on the remaining number of years to maturity for each loan.

**Surveillance**

S&P Global Ratings will maintain active surveillance on the rated debt until the debt matures or is retired, or until its credit ratings on the transaction have been withdrawn. The purpose of surveillance is to assess whether the rated debt is performing within the initial parameters and assumptions applied to each rating category. The issuer is required under the terms of the transaction documents to supply periodic reports and notices to S&P Global Ratings to maintain continuous surveillance on the rated debt. For more information on our CLO surveillance process, see "CLO Spotlight: S&P Global Ratings' Surveillance Process For Monitoring CLO Transactions," published Oct. 14, 2022.

**Related Criteria**

- General Criteria: Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- Criteria | Structured Finance | General: Global Framework For Payment Structure And Cash Flow Analysis Of Structured Finance Securities, Dec. 22, 2020
- Criteria | Structured Finance | General: Methodology To Derive Stressed Interest Rates In Structured Finance, Oct. 18, 2019
- Criteria | Structured Finance | CDOs: Global Methodology And Assumptions For CLOs And Corporate CDOs, June 21, 2019
- Criteria | Structured Finance | Legal: U.S. Structured Finance Asset Isolation And Special-Purpose Entity Criteria, May 15, 2019
- Criteria | Structured Finance | General: Counterparty Risk Framework: Methodology And Assumptions, March 8, 2019
- Criteria | Structured Finance | General: Incorporating Sovereign Risk In Rating Structured Finance Securities: Methodology And Assumptions, Jan. 30, 2019
- Legal Criteria: Structured Finance: Asset Isolation And Special-Purpose Entity Methodology, March 29, 2017

- General Criteria: Guarantee Criteria, Oct. 21, 2016
- Criteria | Structured Finance | General: Global Framework For Assessing Operational Risk In Structured Finance Transactions, Oct. 9, 2014
- Criteria | Structured Finance | CDOs: CDOs Of Project Finance Debt: Global Methodology And Assumptions, March 19, 2014
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- Criteria | Structured Finance | CDOs: Surveillance Methodology For Global Cash Flow And Hybrid CDOs Subject To Acceleration Or Liquidation After An EOD, Sept. 2, 2009
- Criteria | Structured Finance | General: Structured Finance Criteria Introduced For Cayman Islands Special-Purpose Entities, July 18, 2002

## **Related Research**

- Credit FAQ: A Closer Look At Uptier Priming And Asset Drop-Down Provisions In U.S. CLOs, July 26, 2023
- Global Structured Finance 2023 Outlook, Jan. 11, 2023
- Scenario Analysis: How Resilient Are Middle-Market CLO Ratings (2022 Update), Oct. 19, 2022
- CLO Spotlight: S&P Global Ratings' Surveillance Process For Monitoring CLO Transactions, Oct. 14, 2022
- Scenario Analysis: How The Next Downturn Could Affect U.S. BSL CLO Ratings (2022 Update), Aug. 4, 2022
- ESG Industry Report Card: Collateralized Loan Obligations, March 31, 2021
- Credit FAQ: Anatomy Of A Credit Estimate: What It Means And How We Do It, Jan. 14, 2021
- All You Need To Know About CDO Monitor, March 26, 2020
- Credit FAQ: Understanding S&P Global Ratings' Updated CLO And Corporate CDO Criteria, June 26, 2019
- CLO Spotlight: S&P Global Ratings' Updated Assumptions For CDO Monitor Non-Model Version, June 21, 2019
- Credit FAQ: Key Considerations For September 2018 Updates To CDO Evaluator Industry Codes, Sept. 26, 2018
- Global Structured Finance Scenario And Sensitivity Analysis 2016: The Effects Of The Top Five Macroeconomic Factors, Dec. 16, 2016
- New Version Of CDO Evaluator (7.1) Includes Updated Corporate Industry Codes, Sept. 13, 2016
- CLO Spotlight: How S&P Global Ratings Assesses Operational And Administrative Risks Of CLO Collateral Managers, April 19, 2016
- S&P Adds Transparency To Its Effective Date Process For CLOs, April 20, 2015

**Presale: 1988 CLO 4 Ltd./1988 CLO 4 LLC**

- How Typical CLO Document Provisions Affect Maintenance Of Collateral Characteristics For Managed CLOs, Nov. 6, 2013
- CDO Spotlight: How Deferrable Assets In CLOs Are Treated Under Standard & Poor's Methodology, Oct. 1, 2012

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