S&P Global Ratings

Research

Presale:

Barings CLO Ltd. 2019-IV/Barings CLO 2019-IV LLC

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Preliminary Ratings

Class	Preliminary rating	Balance (mil. $)	Overcollateralization (%)	Subordination (%)	Par Subordination (%)	Interest rate (%)
A-1	NR	230.00	156.25	36.81	36.00	Three-month LIBOR + 1.33
A-2	NR	26.00	156.25	36.81	36.00	3.02
B-1	AA (sf)	36.50	131.93	25.15	24.20	Three-month LIBOR + 1.80
B-2	AA (sf)	10.70	131.93	25.15	24.20	3.54
C (deferrable)	A (sf)	24.00	122.25	19.23	18.20	Three-month LIBOR + 2.80
D (deferrable)	BBB- (sf)	24.00	113.90	13.31	12.20	Three-month LIBOR + 4.40
E (deferrable)	NR	16.80	108.70	9.16	8.00	Three-month LIBOR + 7.39
Subordinated notes	NR	37.10	N/A	N/A	N/A	Residual

Note: This presale report is based on information as of Nov. 21, 2019. 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

Barings CLO Ltd. 2019-IV is a $405.10 million broadly syndicated CLO managed by Barings LLC. This is Barings LLC's fifth CLO rated by S&P Global Ratings in 2019.

Based on provisions in the transaction documents and portfolio characteristics:

- The transaction will be collateralized by at least 90.0% senior secured loans, with a minimum of 85% of the loan issuers required to be based in the U.S. or Canada.
- A maximum of 60.0% of the loans in the collateral pool can be covenant-lite.
- 100.00% of the identified underlying collateral obligations have credit ratings assigned by S&P Global Ratings.

- 98.72% of the identified underlying collateral obligations have recovery ratings assigned by S&P Global Ratings.

Key Credit Metrics

Selected Credit Metrics

	Barings CLO Ltd. 2019-IV	Three-month average(i)
Total leverage (x)(ii)	9.92	9.89
Subordination ('BBB') (%)	13.31	13.84
Weighted average cost of debt (%)(iii)	1.94	1.94
Portfolio WAS (excluding LIBOR floors) (%)	3.55	3.53
Excess spread (%)(iv)	1.61	1.58
SDR ('BBB') (%)	43.49	39.33
WA portfolio recovery ('BBB') (%)	63.98	65.69

(i)The three-month average comprises S&P Global Ratings-rated deals for the three months ended Oct. 31, 2019. (ii)Total debt/equity (excluding any class X notes, if applicable). (iii)Spread over LIBOR for all classes, excluding the subordinated notes and, if applicable, any class X notes (if there is a fixed-rate tranche, LIBOR is subtracted from the fixed coupon in the calculation). (iv)WAS minus the weighted average cost of debt. WA--Weighted average. WAS--Weighted average spread. SDR--Scenario default rate.

Deal comparison

Compared to other broadly syndicated CLOs that we assigned preliminary ratings to in the three months ended Oct. 31, 2019, Barings CLO Ltd. 2019-IV has:

- A lower total leverage and a lower 'BBB' subordination.
- A similar weighted average cost of debt.
- A higher weighted average spread (WAS) and a higher available excess spread, which show a stronger underlying portfolio from a cash flow perspective.
- A higher scenario default rate and a lower weighted average recovery rate (WARR), which show a weaker underlying portfolio from a credit perspective.

Transaction Timeline/Participants

Transaction Timeline

Expected closing date	Dec 19, 2019.
Effective date	TBD.
Non-call period end date	Jan. 15, 2022.
Reinvestment period end date	Jan. 15, 2025.
Stated maturity date	Jan. 15, 2033.
Note payment frequency	Quarterly, beginning July 15, 2020.

Participants

Collateral manager	Barings LLC
Arranger	Morgan Stanley & Co. LLC
Trustee	Wells Fargo Bank, N.A.

Rationale

The preliminary ratings assigned to Barings CLO Ltd. 2019-IV's floating-rate notes reflect our assessment of:

- The diversified collateral pool, which consists primarily of broadly syndicated speculative-grade (rated 'BB+' and lower) senior secured term loans that are governed by collateral quality tests.
- The credit enhancement provided through the subordination of cash flows, excess spread, and overcollateralization.
- The collateral manager's experienced team, which can affect the performance of the rated notes through collateral selection, ongoing portfolio management, and trading.
- The transaction's legal structure, which is expected to be bankruptcy remote.

Rating Considerations

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

Table 1

Rating Considerations

Risk	Risk description	Mitigating factors
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 by the indenture. Larger concentrations in certain obligations can introduce additional risks to the rated notes.	S&P Global Ratings' cash flow analysis generally assumes the underlying portfolio contains the maximum allowable amount of certain types of collateral obligations to stress test the transaction for concentration risk. Examples include: 7.5% 'CCC' rated, 2.5% current pay, 7.5% fixed rate, 0.0% deferrable, 0.0% long dated, and 5.0% assets paying less frequently than quarterly (but not less than semiannually). 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, see table 8.

Table 1

Rating Considerations (cont.)

Risk	Risk description	Mitigating factors
Collateral manager trading performance	During the reinvestment period (and, subject to additional restrictions, after the reinvestment period), 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, the collateral manager can also continue to reinvest proceeds from credit risk sales or unscheduled prepayments after the reinvestment period.	The transaction documents require that any collateral obligation sold is replaced with another of equal or higher par value, or that the trade maintains or increases the level of the transaction's overcollateralization. In addition, the indenture generally requires that each additional purchase satisfy, maintain, or improve concentration limits, coverage tests, and certain collateral quality tests. After the reinvestment period, in addition to some other requirements, the asset purchased must have the same or higher S&P Global Ratings' credit rating and the same or lower stated maturity than the asset being replaced and the O/C tests must be satisfied.
Divergence of effective date portfolio from preliminary assumptions	Most underlying portfolios are not fully purchased by closing. Therefore, there is a risk that the fully ramped-up portfolio at the transaction's effective date will be materially different than 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 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.
Exposure to covenant-lite loans	The collateral manager can purchase covenant-lite loans (those that do not contain incurrence or maintenance covenants for the benefit of the lending party) 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% under a 'AAA' level of stress versus 50% 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 covenant-lite loan of the same obligor, or which contains a cross-default provision with such loan, will also use the reduced recovery rates regardless of whether these pari passu or cross-defaulting loans are counted as covenant-lite for the purposes of portfolio concentration limits.
Long-dated collateral obligation can introduce market value risk	A portfolio containing long-dated collateral obligations exposes a transaction to market value risk. To repay the noteholders at the transaction's maturity, the collateral manager will be forced to sell such obligations at the prevailing market price, which may be below par.	According to the transaction documents, the collateral manager cannot purchase any long-dated collateral obligations, nor vote in favor of any waiver, modification, or amendment that would extend a collateral obligation's maturity beyond the notes' stated maturity. The weighted average life test must generally be satisfied (or subject to additional conditions found in the transaction documents, maintained or improved) following any maturity amendment.

WARR--Weighted average recovery rate. WAS--Weighted average spread. I/C--Interest coverage. O/C--Overcollateralization.

Collateral Manager

As of October 2019, Barings LLC managed nine CLOs rated by S&P Global Ratings with $10.6 billion in total CLO assets under management (AUM). In all, including non-CLO assets, Barings LLC had more than $303.0 billion in total AUM as of April 2019.

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

- An average overlap in collateral composition of 50.23%, which is lower than the average of 57.15% for all CLO 2.0 transactions rated by S&P Global Ratings.
- An average portfolio turnover rate of 18.30% over the past 12 months, which is lower than the average of 19.83% for all CLO 2.0 transactions rated by S&P Global Ratings.
- An average margin of 26.63% between the quantity of covenant-lite assets held versus the maximum allowable amount, as reported by the trustee.
- Industry concentration favors software and air freight and logistics.
- Of the transactions that are still in the reinvestment period, 66.67% % have a current par amount that is at or above the effective date target par.
- An average senior overcollateralization cushion of 10.13% 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 scenario default rates (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 most recent 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 break-even default rate (BDR) for each rated class of notes (see chart 2).

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

Chart 1

CDO Evaluator Model

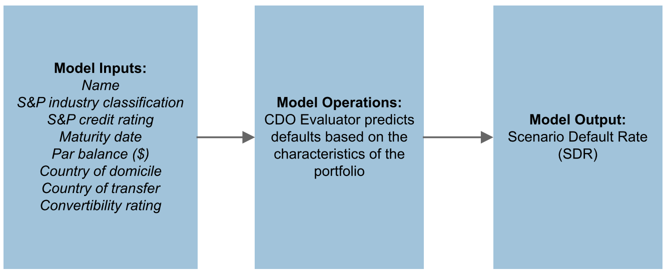
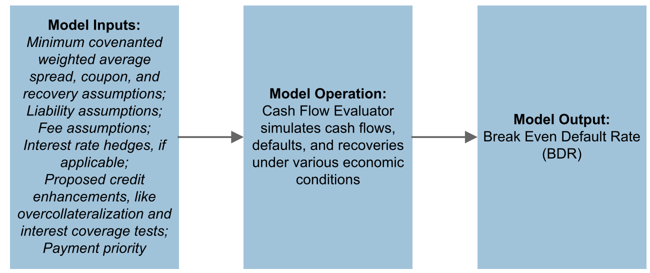


Chart 2

Standard & Poor's Cash Flow Evaluator

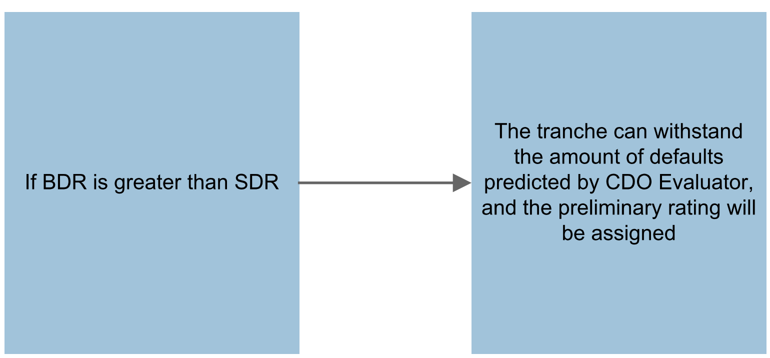


Connecting the portfolio and cash flow analyses

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



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

Table 2

Credit Enhancement

Class	Subordination (%)	BDR (%)	SDR (%)	BDR cushion (%)
B-1	25.15	59.89	55.10	4.79
B-2	25.15	59.89	55.10	4.79
C	19.23	53.05	49.19	3.86

Table 2

Credit Enhancement (cont.)

Class	Subordination (%)	BDR (%)	SDR (%)	BDR cushion (%)
D	13.31	43.18	39.61	3.56

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

Supplemental tests

We also conduct a largest-industry default test and largest-obligor default test according to "Global Methodology And Assumptions For CLOs And Corporate CDOs," published June 21, 2019. Under these assumptions, the notes 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. $)
B-1	AA (sf)	36.50	52.05	36.55
B-2	AA (sf)	10.70	52.05	36.55
C (deferrable)	A (sf)	24.00	N/A	28.40
D (deferrable)	BBB- (sf)	24.00	N/A	18.98

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	Weighted average	Covenant	Margin
Weighted average life (years)(i)	5.15	9.00	3.85
Weighted average spread (including LIBOR floors) (%)	3.55	3.51	0.04
Weighted average LIBOR floor (%)	0.98	N/A	N/A
Weighted average fixed coupon (%)(ii)	N/A	7.00	N/A
Weighted average rating	B	N/A	N/A

(i)Calculated value may include an adjustment to some asset maturity inputs if the resulting pool's weighted-average 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. 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. $)	391.91
Par balance of collateral not yet identified (mil. $)	8.09
Ramp-up completion (% of target par balance identified)	97.98
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	155
Avg. obligor holding (%)	0.65
Largest-obligor holding (%)	1.28

Smallest-obligor holding (%)

In the portfolio data referenced for this analysis, the issuer had identified approximately 97.98% 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.

Table 6

Top Obligor Holdings As Of Nov. 21, 2019

						Notional amount (mil. $)		Notional amount (%)	
Obligor reference	**Industry**	**Security type**	**S&P Global Ratings' credit rating**	**S&P Global Ratings' implied rating**	**CreditWatch/Outlook**	**Obligor**	**Cumulative**	**Obligor**	**Cumulative**
1	Media	Senior secured	B+	N/A	Stable	5.00	5.00	1.25	1.25
2	Commercial services and supplies	Senior secured	B	N/A	Stable	4.99	9.99	1.25	2.50

Table 6

Top Obligor Holdings As Of Nov. 21, 2019 (cont.)

						Notional amount (mil. $)		Notional amount (%)	
Obligor reference	**Industry**	**Security type**	**S&P Global Ratings' credit rating**	**S&P Global Ratings' implied rating**	**CreditWatch/Outlook**	**Obligor**	**Cumulative**	**Obligor**	**Cumulative**
3	Software	Senior secured	B-	N/A	Stable	4.99	14.99	1.25	3.75
4	Software	Senior secured	B	N/A	Stable	4.99	19.98	1.25	4.99
5	Health care equipment and supplies	Senior secured	B-	N/A	Stable	4.98	24.96	1.24	6.24

N/A--Not applicable.

Industry and ratings distribution

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

Chart 4

Industry Distribution

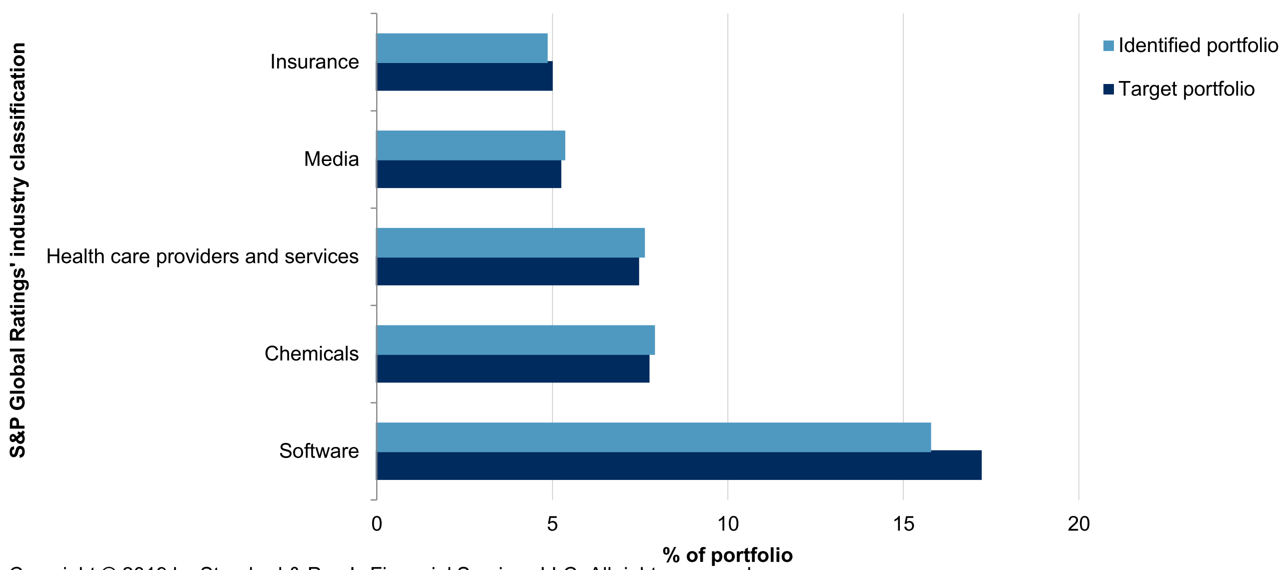
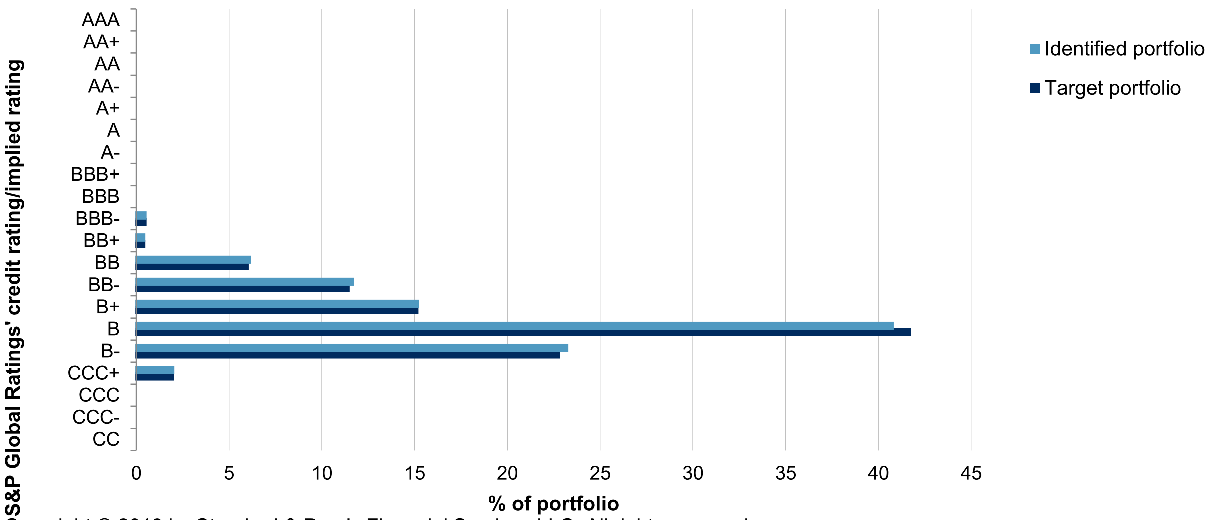


Chart 5

Rating Distribution



Recovery rating and maturity distribution

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

Table 7

Performing Identified Collateral Modeled WARR

Liability rating category	WARR (%)	Min. covenanted WARR (%)
AA (sf)	51.88	50.38
A (sf)	57.57	56.50
BBB (sf)	63.98	62.86

WARR--Weighted average recovery rate.

Chart 6

Recovery Rating Distribution

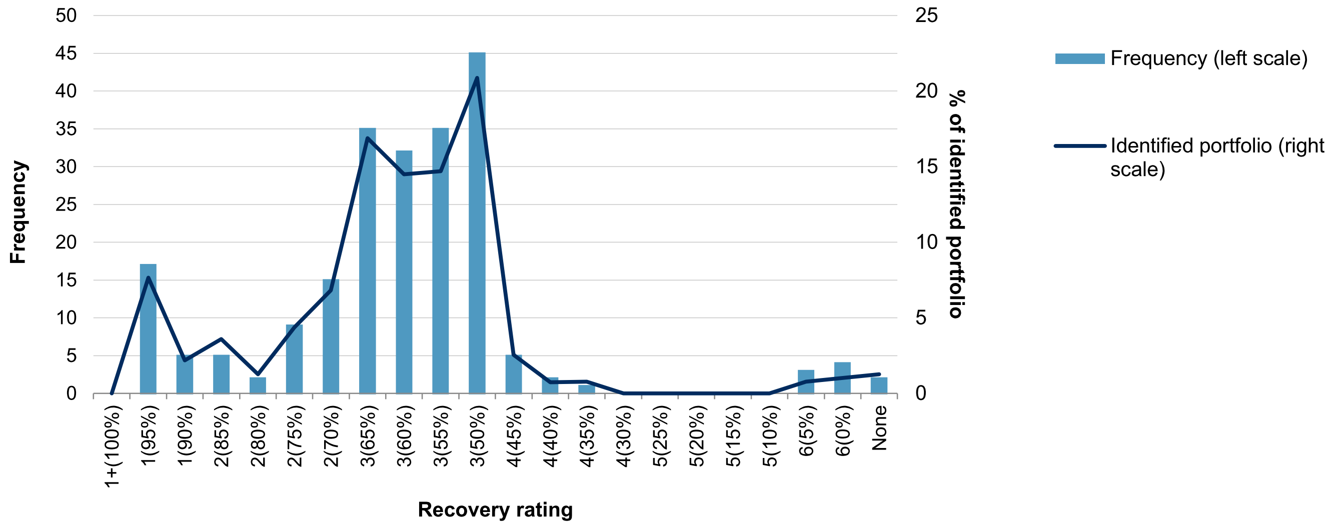
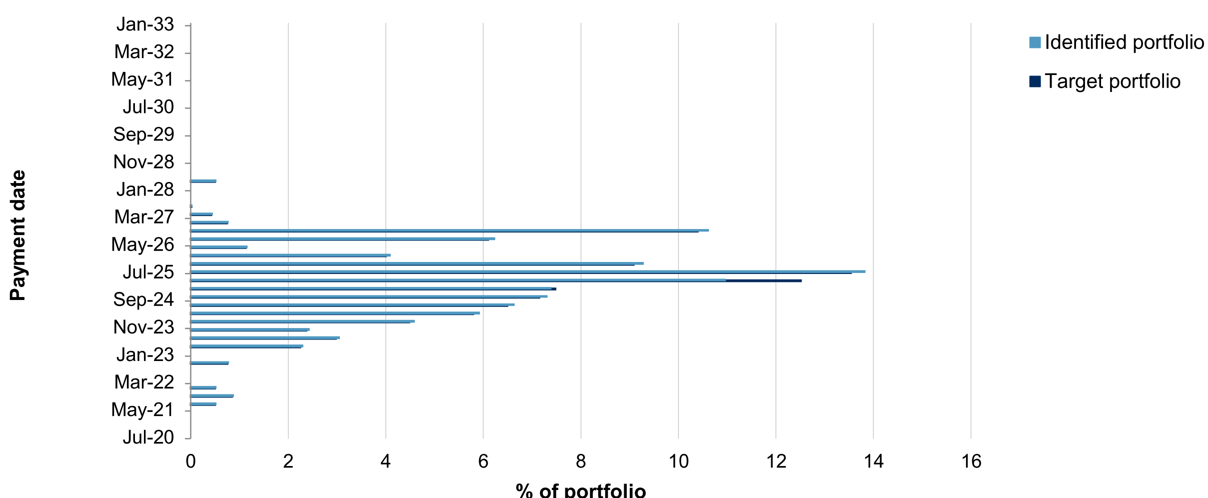


Chart 7

Maturity Distribution
Based on the legal final maturity date



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 effective date and reinvestment guidelines are expected to comply with the limitations shown in table 8.

Table 8

Collateral Pool Guidelines

	Limit (%)
Type of obligation	
Other than senior secured loans, cash, and eligible investments	10.0
Covenant-lite loans(i)	60.0
Current-pay obligations(ii)	2.5
Debtor-in-possession obligations	7.5
Deferrable obligations(ii)	0.0
Delayed-drawdown and revolving obligations	10.0
Fixed-rate obligations(ii)	5.0
Long-dated obligations(ii)	0.0
Obligations that pay interest less frequent than quarterly(ii)	10.0
Obligor and its affiliates: single/up to 5	2.0/2.5
Participation interests	20.0
Second-lien and senior unsecured loans	10.0
S&P Global Ratings' industry classification single/second- and third-largest largest	10.0/13.5/15.0
S&P Global Ratings' credit rating of 'CCC+' or below (ii)	7.5
Structured finance obligations	0.0
Location	
Other than the U.S.	20.0
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 that 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. CLO--Collateralized loan obligation. N/A--Not applicable.

Risk of concentration in certain obligation types

S&P Global Ratings considers larger concentrations in the types of obligations shown in table 9 to pose additional risk to the transaction. If the transaction can purchase such collateral obligations, our quantitative analysis would consider the risk associated with such types of obligations (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 are carried at 'CCC' in the portfolio analysis, which will increase the SDRs produced by the CDO Evaluator.

Table 9

Risks Of Obligation Types (cont.)

Obligation type	Risk specific to the obligation
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 noteholders. 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 the majority of the rated notes are tied to LIBOR, obligations in the underlying portfolio that pay a fixed rate create exposure to interest rate movements. Should market rates change significantly over the transaction's life, this may reduce excess spread. To account for such 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.
Long-dated obligations	Collateral obligations scheduled to mature after the transaction's stated maturity date introduce market value risk, as the collateral manager must sell the obligations at the prevailing market price to pay the rated noteholders. To account for this risk, in the event that the allowable bucket exceeds 5% of the asset balance and 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 transactions typically require quarterly interest payments to be made to the noteholders, 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 noteholders. 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.
S&P Global Ratings' rating of 'CCC+' or below	Transaction documents typically limit the amount of obligations rated 'CCC+' or below that the collateral manager can purchase. A higher concentration of obligations rated 'CCC+' or below will increase the SDRs produced by the CDO Evaluator.

BDRs--Break-even default rates. SDRs--Scenario default rates.

Note Payment Considerations

Overcollateralization, interest coverage, and reinvestment overcollateralization tests

The rated notes benefit from certain structural features that require sequential mandatory redemption upon a breach of any overcollateralization or interest coverage test. Additionally, during the reinvestment period, the rated notes benefit from the reinvestment of up to a certain amount of the excess interest proceeds, captured upon breach of the transaction's reinvestment O/C test (see table 10).

Table 10

Overcollateralization, Interest Coverage, And Reinvestment Overcollateralization Tests

Class	Actual O/C (%)	Min. O/C required (%)	Min. I/C required (%)
A/B	131.93	121.93	120.00
C	122.25	114.25	115.00

Table 10

Overcollateralization, Interest Coverage, And Reinvestment Overcollateralization Tests (cont.)

Class	Actual O/C (%)	Min. O/C required (%)	Min. I/C required (%)
D	113.90	107.90	110.00
E	108.70	104.20	105.00
Reinvestment O/C(i)	108.70	104.70	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).
2	Base management fee and interest on base management fee.
3	Class A-1 and A-2 note interest, pro rata.
4	Class B-1 and B-2 note interest, pro rata.
5	Class A/B coverage tests(i).
6	Class C note interest.
7	Class C coverage tests(i).
8	Class C deferred interest.
9	Class D note interest.
10	Class D coverage tests(i).
11	Class D note deferred interest.
12	Class E note interest.
13	Class E coverage tests(i).
14	Class E deferred interest.
15	Effective date ratings confirmation. If it is not obtained, deposit to collection account as proceeds for distribution on next payment date. After effective date, if it is not obtained, purchase additional collateral obligations or, at discretion of manager with consultation with majority of subordinated notes, pay according to the note payment sequence(ii) in each case to the extent necessary to obtain a 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 or the amount needed to satisfy the test to either purchase additional collateral obligations or after the non-call period, at discretion of manager with consent of majority of subordinated note, apply in accordance with note payment sequence(ii).
17	Subordinated management fee and deferred subordinated management fee.
18	Administrative expenses (uncapped).
19	At direction of collateral manager, for deposit into the permitted use account, then to the contributors, pro rata, then to the holders of the subordinated notes to realize IRR of 12%.
20	20% of remaining proceeds to the incentive management fee and 80% of remaining proceeds to the holders of the subordinated notes.

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

Table 12

Principal Waterfall Payment Priority

Priority	Payment
1	Items 1-4 of the interest waterfall.
2	Item 5 of the interest waterfall.
3	Item 7 of the interest waterfall.
4	Item 10 of the interest waterfall.
5	Item 13 of the interest waterfall.
6	Item 6 then item 8 of the interest waterfall (iii).
7	Item 9 then item 11 of the interest waterfall (iii).
8	Item 12 then item 14 of the interest waterfall (iii).
9	On any redemption date or special redemption (other than for a partial redemption or special redemption), pay redemption price of each class of secured notes in sequential order, in respect to special redemption, pay principal of secured notes in sequential order.
10	During the reinvestment period, invest in eligible investments and/or purchase additional collateral obligations. After the reinvestment period, reinvest in eligible investments and/or purchase substitute obligations.
11	Note payment sequence (ii).
12	Item 17 of the interest waterfall.
13	Item 18 of the interest waterfall.
14	To pay each contributor, pro rata, then to the holders of the subordinated notes to realize IRR of 12%.
15	20% of remaining proceeds to the incentive management fee and 80% of remaining proceeds to the holders of the subordinated notes.

(i)If it fails, pay according to the note payment sequence until each test is satisfied. (ii)See table 11 footnotes for the note payment sequence. (iii)In each case, only to the extent that the relevant class is the controlling class.

Note redemption circumstances

Under the transaction documents, the notes can be redeemed before the stated maturity date of the transaction in the circumstances outlined in table 13.

Table 13

Note Redemption

Redemption events	Redemption terms
Optional redemption	On any business day after the non-call period, the notes may be redeemed at their applicable redemption price, in whole but not in part, at the direction of more than 50% of the subordinated notes' aggregate outstanding amount and with the collateral manager's consent.
Mandatory redemption	If any coverage test is not met on any applicable determination date, the issuer will apply amounts available in the payment account according to the payment priority.
Refinancing	On any business day after the non-call period, any class of notes may be redeemed at their applicable redemption price, in whole but not in part, at the direction of the holders of more than 50% of the subordinated notes' aggregate outstanding amount by the issuance of refinancing replacement notes and with the collateral manager's consent. Under the indenture, the issuer will obtain a partial refinancing only if certain conditions are met.
Re-pricing	After the non-call period, at the direction of the holders of more than 50% of the subordinated notes' aggregate outstanding amount and with the collateral manager's consent, the spread over LIBOR on any class of notes (other than the class A notes) can be reduced. It is expected that any nonconsenting noteholder will be repaid in full at their applicable redemption price.
Tax redemption	If a tax event occurs, the secured notes may be redeemed at their applicable redemption price, in whole but not in part, before their legal final maturity. Redemption can occur at the direction of the holders of at least 50% of the affected class' or the subordinated notes' aggregate outstanding amount.
Issuer purchases of secured notes	During the reinvestment period, the collateral manager, on the issuer's behalf, may purchase secured notes, in whole or in part, using principal proceeds in the collection account or other amounts designated for such purpose under the indenture. These purchases of secured notes will be subject to conditions in the transaction documents, and will occur sequentially according to the payment priority.

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 defaulted obligation.

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 details, see "Standard & Poor's Introduces Non-Model Version Of CDO Monitor," published Dec. 8, 2014 , and "S&P Global Ratings' Updated Assumptions For CDO Monitor Non-Model Version," published June 21, 2019).

Table 14 illustrates the benchmarks for Barings CLO 2019-IV Ltd. in the context of average values by vintage.

Table 14

CDO Monitor Metrics

	Barings CLO Ltd. 2019-IV	Trailing 12-month average	Difference	Typical values
S&P Global Ratings' weighted average rating factor (SPWARF) (%)(i)	2666.02	2823.14	(157.12)	2,500-3,000
Default rate dispersion (%)(ii)	669.12	688.89	(19.77)	500-1,000
Obligor diversity measure(iii)	137.00	165.04	(28.04)	100-250
Industry diversity measure(iv)	16.90	21.49	(4.59)	12-22
Regional diversity measure(v)	1.22	1.15	0.07	1.0-1.3 for U.S. CLOs (higher for Euro CLOs)
Weighted average life (years)(vi)	5.15	4.90	0.25	4-7

(i)S&P Global Ratings' weighted average rating factor (SPWARF): The SPWARF is calculated by multiplying the par balance of each collateral obligation (with a rating from S&P Global Ratings of 'CCC-' or higher) by S&P Global Ratings' rating factor, then summing the total for the portfolio, and then dividing this result by the aggregate principal balance of all of the collateral obligations included in the calculation. (ii)Default rate dispersion (DRD): The DRD is calculated by multiplying the par balance for each collateral obligation (with a rating from S&P Global Ratings of 'CCC-' or higher) by the absolute value of the difference between the S&P Global Ratings' rating factor and the S&PWARF, then summing the total for the portfolio, and then dividing this result by the aggregate principal balance of the collateral obligations included in the calculation. (iii)Obligor diversity measure (ODM): the measure of 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()^2]. (iv)Industry diversity measure (IDM): the effective number of industries in the pool obtained in the same way as ODM above. (v)Regional diversity measure (RDM): the effective number of regions in the pool obtained the same way as ODM and IDM. (vi)Weighted average life (WAL): 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 notes until the notes mature or are retired, or until S&P Global Ratings' credit ratings on the transaction have been withdrawn. The purpose of surveillance is to assess whether the rated notes are 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 notes. For more information on our CLO surveillance process, see "CDO Spotlight: Standard & Poor's Surveillance Process For Monitoring U.S. Cash Flow CLO Transactions," published Oct. 19, 2016.

Related Criteria

- 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: Incorporating Sovereign Risk In Rating Structured Finance Securities: Methodology And Assumptions, Jan. 30, 2019

- General Criteria: Guarantee Criteria, Oct. 21, 2016
- Criteria | Structured Finance | General: Structured Finance Temporary Interest Shortfall Methodology, Dec. 15, 2015
- General Criteria: Principles For Rating Debt Issues Based On Imputed Promises, Dec. 19, 2014
- Criteria - Structured Finance - General: Global Framework For Cash Flow Analysis Of Structured Finance Securities, Oct. 9, 2014
- Criteria | Structured Finance | CDOs: CDOs Of Project Finance Debt: Global Methodology And Assumptions, March 19, 2014
- General Criteria: Global Investment Criteria For Temporary Investments In Transaction Accounts, May 31, 2012
- Criteria | Structured Finance | CDOs: Global CDOs Of Pooled Structured Finance Assets: Methodology And Assumptions, Feb. 21, 2012
- 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

- S&P Global Ratings' Updated Assumptions For CDO Monitor Non-Model Version, June 21, 2019
- Global Structured Finance Scenario And Sensitivity Analysis 2016: The Effects Of The Top Five Macroeconomic Factors, Dec. 16, 2016
- S&P Global Ratings' Surveillance Process For Monitoring U.S. Cash Flow CLO Transactions, Oct. 19, 2016
- New Version Of CDO Evaluator (7.1) Includes Updated Corporate Industry Codes, Sept. 13, 2016
- How Standard & Poor's Assesses Operational And Administrative Risks Of CLO Collateral Managers, April 19, 2016
- Global Corporate Rating Trends 2016: Largest Negative Swing Since 2009, Jan. 11, 2016
- Items Updated In Corporate CDO Criteria Used To Rate CLO Transactions, Sept. 17, 2015
- S&P Adds Transparency To Its Effective Date Process For CLOs, April 20, 2015
- CDO Monitor Non-Model Approach General Definitions, March 11, 2015
- Standard & Poor's Introduces Non-Model Version Of CDO Monitor, Dec. 8, 2014
- Use Of CDO Monitor Simplified, April 7, 2014
- How Typical CLO Document Provisions Affect Maintenance Of Collateral Characteristics For Managed CLOs, Nov. 6, 2013
- How Deferrable Assets In CLOs Are Treated Under Standard & Poor's Methodology, Oct. 1, 2012
- CDO Spotlight: The Relationship Between Long-Dated Assets And Market Value Risk In U.S. Cash Flow CLOs, April 26, 2012
- Credit FAQ: What Are Credit Estimates And How Do They Differ From Ratings? April 6, 2011

- CLO Collateral Managers' Treatment Of First-Lien-Last-Out Loans Could Affect Payments To Investors, Oct. 14, 2010
- Standard & Poor's Provides Guidance For Collateral Managers And Trustees Regarding CDO Monitor, Nov. 11, 2009

In addition to the criteria specific to this type of security (listed above), the following criteria articles, which are generally applicable to all ratings, may have affected this rating action: "Counterparty Risk Framework: Methodology And Assumptions," March 8, 2019; "Post-Default Ratings Methodology: When Does Standard & Poor's Raise A Rating From 'D' Or 'SD'?," March 23, 2015; "Global Framework For Assessing Operational Risk In Structured Finance Transactions," Oct. 9, 2014; "Methodology: Timeliness of Payments: Grace Periods, Guarantees, And Use of 'D' And 'SD' Ratings," Oct. 24, 2013; "Criteria For Assigning 'CCC+', 'CCC', 'CCC-', And 'CC' Ratings," Oct. 1, 2012; "Methodology: Credit Stability Criteria," May 3, 2010; and "Use of CreditWatch And Outlooks," Sept. 14, 2009.