CREDIT OPINION
11 September 2024

New Issue

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Closing date

11 September 2024

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Bauhinia ILBS 2 Limited

New Issue – A project finance and infrastructure loan-backed transaction

Capital structure

Exhibit 1
Definitive ratings

Class	Ratings	Amount ($ millions)	Share of Capital Structure (%)	Effective Subordination (%)(a)	Coupon(b)
Class A1-SU Notes	Aaa (sf)	107.00	74.8	25.2	6m Term SOFR + 1.35%
Class A1 Notes	Aaa (sf)	209.50			6m Term SOFR + 1.40%
Class B Notes	Aa1 (sf)	34.00	8.0	17.2	6m Term SOFR + 1.80%
Class C Notes	A2 (sf)	20.50	4.8	12.4	6m Term SOFR + 3.40%
Class D Notes	Baa3 (sf)	15.70	3.7	8.6	6m Term SOFR + 3.95%
Subordinated Notes	Not rated	36.59	8.6	n/a	6m Term SOFR + 5.50%
Total		423.29	100.00		

(a) Effective subordination is based on the $423.29 million target par amount of the portfolio. Class A1-SU notes and Class A1 notes rank pari passu with each other in the issuer's priority of payments.
(b) Upon a change in the notes' payment frequency from semiannual to quarterly, the benchmark rate would change to three-month Term Secured Overnight Financing Rate (term SOFR).
Sources: Sole Global Coordinator and Moody's Ratings

Summary

Bauhinia ILBS 2 Limited (the issuer) is the second project finance and corporate infrastructure collateralized loan obligation (the CLO or the transaction) cash flow securitization transaction sponsored by The Hong Kong Mortgage Corporation Limited (HKMC [the collateral manager], Aa3/P-1 negative).

The notes issued by the issuer were backed by a $423.29 million portfolio of bank-syndicated project finance loans and corporate infrastructure loans predominantly in Asia-Pacific, the Middle East and Latin America at closing. As of the closing date, the issuer had acquired the portfolio directly from or by way of funded participation with HKMC or rated bank(s). Of the $423.29 million portfolio, $1.90 million relates to undrawn commitments, which was deposited in the issuer's bank account at closing, pending to be drawn by the relevant borrower.

In our credit analysis, we considered the attributes of the underlying assets, including the assets' default probability, recovery rate, asset correlation, loan participation exposure, loan term, spread, industry sectors and subsectors, and geographic concentration.

HKMC was established in Hong Kong SAR, China in 1997 and is wholly owned by the Hong Kong government through the Exchange Fund, with reported total assets of HKD219.3 billion as of the end of December 2023. This CLO transaction will be managed by the Infrastructure Financing and Securitisation Division (IFS) of HKMC. Based on our knowledge of HKMC's organizational structure, staffing of the IFS division, and its experience in the infrastructure and project finance sectors, systems and controls, we believe that HKMC is capable of managing this transaction. For further discussion about the collateral manager, see the “Asset description” section of this report.

The issuer issued five classes of rated notes: Class A1, A1-SU, B, C and D notes. The Class A1 notes and the Class A1-SU notes rank pari passu with each other, and rank senior to the Class B, C, D and the unrated subordinated notes.

The issuer issued unrated subordinated notes to HKMC that receive only residual interest and principal payments. HKMC provided a bridging sponsor loan to the issuer at closing to fund the transaction's fees and expenses reserve account, and to bridge the timing differences between interest receipts and the amount required to meet the first payment. In addition, HKMC provided a risk protection sponsor loan to the issuer at closing to fund payments to procure and/or renew risk protections as and when necessary to safeguard the issuer against risks associated with the underlying assets.

We measured the credit risk of the notes using our CDOROM™ and CDOEdge™ models, which incorporate the transaction's structural features and asset characteristics noted above.

In general, Environmental, Social and Governance (ESG) credit risks for this transaction are low to moderate. Environmental and social credit risks are moderate based on the risks of the industries that are represented in the CLO’s asset portfolio. However, these risks are mitigated by the diversified nature of the portfolio. Governance credit risk is low, largely mitigated by various features of the transaction. For further details, please see “ESG Considerations.”

Credit strengths

» ***High credit quality portfolio:*** The weighted average rating factor (WARF) of the identified portfolio, primarily based on credit estimates, is 836 before applying the credit estimate notching adjustments, and 1,004 after applying the credit estimate notching adjustment. (See “Asset description”)

» ***High asset recovery prospects:*** The portfolio consists of predominantly bank-syndicated senior secured project finance loans (78.1% of the pool), which historically have had high recovery rates. The remaining portion of the pool consists of corporate and corporate-guaranteed project finance loans (21.9%). About 2.0% of the portfolio also benefits from external credit support or credit support from highly rated entity, which will improve loan recovery prospects. (See “Asset analysis - Additional asset analysis”)

» ***Short transaction life:*** The weighted average life of the identified portfolio is about five to six years. The transaction has a three-year replenishment period, and the portfolio is not likely to be actively traded. (See “Asset description - Assets as of the closing date”)

» ***No currency mismatch:*** Both the loans and the notes are denominated in US dollars. (See “Asset description”)

» ***No long-dated assets:*** All the loans in the identified portfolio have maturities before the legal maturity date of the transaction. The collateral manager has no right to consent to asset maturity amendments that result in the asset's maturity extending beyond the transaction's legal maturity date. (See “Asset analysis - Additional asset analysis”)

» ***Remote likelihood of an OC-based event of default:*** An over-collateralization (OC)-based event of default and the associated liquidation of the portfolio are unlikely because the event of default par ratio trigger of 102.5% is well below the initial Class A OC level of about 133.7%. (See “Securitization structure analysis - Additional structural analysis”)

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

Credit challenges

» ***Unrated loan portfolio:*** The identified portfolio includes loans relating to 26 projects. The credit quality of most of the loans in the portfolio has been assessed via the assignment of a credit estimate, while a handful of loans are assessed by reference to our ratings. (See "Asset description" and "Asset analysis - Additional asset analysis")

» ***High project and sector concentration risk:*** The identified portfolio has a high exposure to a few projects and in a few sectors. The exposures to the two largest obligor groups are about 9.4% and 9.0% of the portfolio, greater than the subordination of the Class D notes. Certain projects also involve common off-takers, operators or sponsors. A significant credit deterioration at any of these projects would have a negative rating impact on the rated notes. In our analysis, we considered several stress scenarios assuming default of the largest obligor group or higher asset correlation. (See "Asset analysis - Additional asset analysis")

» ***High country risk:*** Of the identified portfolio, about 50% portfolio exposure is to projects that are exposed to countries with a foreign-currency country ceiling (FCC) of single-A or below. The geographic distribution of the portfolio is widely diversified across 14 countries in different regions. Exposure to top three countries that have non-Aaa FCC are India (16.8%, A3 FCC), Indonesia (11.8%, A3 FCC) and Mexico (9.4%, A1 FCC) (See "Asset analysis - Additional asset analysis")

» ***High participation loan risk:*** The issuer invested in 23.8% of the portfolio via funded participation with HKMC (Aa3/P-1 negative) or rated bank(s). The issuer will rely on HKMC or the rated bank(s) to enforce its rights against the borrower, and take the credit performance risk of HKMC and the rated bank(s). We considered this in our analysis. (See "Asset analysis - Additional asset analysis")

» ***Recovery period may be long:*** The recovery after a loan default may take several years because liquidity for defaulted loans in these regions is uncertain and any workout may take a long time. (See "Asset analysis - Additional asset analysis")

» ***Undrawn commitment amount:*** Of the identified portfolio, about 0.45% is pending to be drawn before closing. The issuer set aside cash in its bank account to ensure it has sufficient liquidity to fulfill its lending obligations. (See "Asset description")

» ***Floating-rate basis mismatch risk:*** The issuer is exposed to floating-rate basis mismatch as all the rated notes are linked to term SOFR, while 59% of the initial target portfolio is linked to daily compounded overnight SOFR, 33% is linked to term SOFR and the remaining 8% is linked to USD-Libor. Our analysis considered this mismatch, and also assumed zero credit adjustment spread for loans linked to USD-Libor. (See "Asset description")

» ***Construction risk:*** About 8.0% of the portfolio relates to one project that is in the advanced stage of construction. The credit estimate of this project loan factors in the construction risk. (See "Asset analysis - Additional asset analysis")

Key characteristics

Exhibit 2
Asset characteristics

Portfolio Metrics	Identified Pool*	Project loans sub-pool	Corporate infrastructure loans sub-pool**
Portfolio Par Amount	$423,290,085	$330,496,883	$92,793,202
Weighted Average Rating Factor (WARF) before notching adjustment***	836	664	1,449
Weighted Average Rating Factor (WARF) after notching adjustment***	1,004	879	1,449
Weighted Average Recovery Rate (WARR)	63%	68%	42%
Weighted Average Spread (WAS)****	2.3%		
Weighted Average Life (WAL)	About 5 years		
Moody's Asset Correlation	25.3%		
Key Asset Types			
Participation Loan	23.8%		
Long-Dated Assets	Nil		
Key Party			
Collateral Manager	The Hong Kong Mortgage Corporation Limited		
Sponsor	The Hong Kong Mortgage Corporation Limited		

*The identified portfolio represents the assets in the portfolio at closing, including project loan sub-pool and corporate infrastructure loan sub-pool.
**This includes $17 million of corporate-guaranteed project loans.
***A two-notch haircut to the largest CE on material pool exposures that collectively represent up to 30% of the total portfolio was applied in accordance with our Global Approach to the Use of Credit Estimates cross-sector rating methodology. Credit estimate rating factors reflect credit estimates without consideration of the higher recovery rate assumed for covered exposures. The WARF incorporates the latest change in the CE level of a loan in the corporate infrastructure loan sub-pool in accordance with our CE update process.
****The WAS over the applicable benchmark rate of each respective loan is around 2.3% as of the expected closing date. About 92% of the portfolio is currently linked to either term SOFR or daily SOFR compounding in arrear, and the remaining is still linked to USD-Libor.
Source: Moody's Ratings

Exhibit 3
Securitization structure characteristics

Key Dates	
Closing Date	11 September 2024
Latest Effective Date	Closing date
Payment Date and Payment Frequency	19 April and 19 October of each year
End of Non-Call Period	19 October 2027
End of Replenishment Period	19 October 2027
Legal Final Maturity	19 October 2044
Key Parties	
Issuer	Bauhinia ILBS 2 Limited
Collateral Manager	The Hong Kong Mortgage Corporation Limited
Trustee	DB Trustees (Hong Kong) Limited
Transaction Administrator	Deutsche Bank AG, Hong Kong Branch
Account Bank	Deutsche Bank AG, Hong Kong Branch
Sole Global Coordinator	Standard Chartered Bank
Joint Bookrunners	China International Capital Corporation Hong Kong Securities Limited ING Bank N.V., Singapore Branch, MUFG Securities Asia Limited Natixis Hong Kong Branch Standard Chartered Bank
Class	**Effective Subordination(%)**
A1 Notes	25.2
A1-SU Notes	25.2
B Notes	17.2
C Notes	12.4
D Notes	8.6

Source: Sole Global Coordinator

Asset description

The transaction is backed by a portfolio of 28 bank-syndicated senior secured project finance and corporate infrastructure loans to 26 projects in various countries in Asia-Pacific, the Middle East, the Americas and Europe at closing.

The collateral manager selected the identified portfolio for an amount equal to $423.29 million, the target initial par amount of the portfolio. Of the $423.29 million portfolio, about $1.9 million relate to undrawn commitment amounts and are deposited in the issuer's bank account at closing, pending to be drawn by the relevant borrower. The availability period of the undrawn commitment will expire in March 2026.

Assets as of the closing date

Target initial par amount

The transaction's target initial par amount represents the aggregate par amount of assets in the initial portfolio.

Asset acquisition guidelines

Identified portfolio

The exhibits below provide information about the identified portfolio. All the loans in the identified portfolio are denominated in US dollars. About 59% of the initial target portfolio is linked to daily SOFR compounded in arrear, 33% is linked to term SOFR and the remaining 8% is linked to USD-Libor. All the loans in the portfolio pay interest either monthly, quarterly or semiannually.

The credit quality of most loans in the portfolio has been assessed via the assignment of a credit estimate, while a handful of loans are assessed by reference to our ratings. We have assessed some of them at the investment-grade level (our credit estimate rating factor of 610 or lower) and some of them at the non-investment-grade level (our credit estimate rating factor of 940 or higher).

Exhibit 4

Rating factor distribution of the identified portfolio

Percentage relative to the identified portfolio's par amount

Rating Factor	% of pool (after notching adjustment)* **	% of pool (before notching adjustment)**
10-40	4.3%	4.3%
70-180	18.7%	18.7%
260-610	28.5%	37.9%
940-1766	30.4%	30.0%
2220-3490	18.2%	9.2%
Total	**100.0%**	**100.0%**

*A two-notch downward adjustment was applied to the largest credit estimates representing up to 30% of the total portfolio in accordance with the our Global Approach to the Use of Credit Estimates cross-sector rating methodology.
** Rating Factors reported in this report reflect the credit quality without consideration of the higher recovery rate assumed for covered exposures.
Percentages quoted in the table are rounded numbers, hence do not add up to 100%.
Source: Moody's Ratings

Exhibit 5

Sector and subsector distribution of the identified portfolio

Percentage relative to the identified portfolio's par amount

Sectors and Sub-sectors	% of Identified Pool	Project loans sub-pool	Corporate infrastructure loans sub-pool
Regulated Assets/Utilities			
Gas distribution or transmission	12.5%	11.8%	0.7%
Regulated Telecom	15.6%	0.5%	15.1%
Water, Sewage	2.1%		2.1%
Oil/Gas and Commodities			
LNG	15.3%	11.3%	4%***
Oil	12.9%	12.9%	
Power Generation Non-Renewables			
Power-Electricity Contracted (Coal/Gas)*	12.7%	12.7%	
Power Generation Renewables			
Power –Renewables: Solar**	9.0%	9.0%	
Power –Renewables: Wind	3.7%	3.7%	
PPP/PFI			
Schools/Education	9.3%	9.3%	
Large Infrastructure (Market Risk)			
Airports/Ports	7.0%	7.0%	
Total	**100.0%**	**78.1%**	**21.9%**

*There is no coal-fired power generation project in the Power-Electricity Contracted (Coal/Gas) category of the identified portfolio.
**There is a project within the Power-Renewables: Solar category that includes both solar- and wind-based power generation capacity.
***This represents corporate-guaranteed project loans.
Percentages quoted in the table are rounded numbers, hence do not add up to 100%.
Source: Moody's Ratings

Exhibit 6

Distribution of the identified portfolio by country of risk

Percentage relative to the identified portfolio's par amount

Country of Project	Foreign Currency Country Ceiling	Foreign Currency Country Rating	% of Identified Pool
United Arab Emirates	Aaa	Aa2	20.5%
Qatar	Aaa	Aa2	4.7%
Australia	Aaa	Aaa	4.3%
New Zealand	Aaa	Aaa	2.4%
United States of America	Aaa	Aaa	2.1%
United Kingdom	Aaa	Aa3	1.9%
Japan	Aaa	A1	1.0%
Korea	Aaa	Aa2	0.7%
Saudi Arabia	Aa1	A1	8.0%
China	Aa1	A1	3.7%
Malaysia	Aa2	A3	0.5%
Mexico	A1	Baa2	9.4%
India	A3	Baa3	16.8%
Indonesia	A3	Baa2	11.8%
Brazil	Baa2	Ba2	8.6%
Vietnam	Ba1	Ba2	3.7%
Total			100.0%

Country of risk in this table has not factored in credit enhancement or cover policy.
Percentages quoted in the table are rounded numbers, and may not add up to 100%.
Source: Moody's Ratings

Collateral manager and sponsor

The Hong Kong Mortgage Corporation Limited (HKMC or the collateral manager) (Aa3/P-1 negative) is the collateral manager of this transaction. This transaction is HKMC's second sponsored transaction. HKMC invested in the subordinated notes issued by the issuer, and provided a bridging sponsor loan to the issuer at closing to fund the transaction's fees and expenses reserve account and to support the liquidity of the issuer in meeting interest payments on the rated notes on the first payment date.

HKMC was established in March 1997 and is wholly owned by the Government of the Hong Kong Special Administrative Region of the People's Republic of China through the Exchange Fund, a fund under the control of the Financial Secretary of the Hong Kong government as provided under the Exchange Fund Ordinance.

HKMC, as the sponsor for the transaction, selected the initial portfolio of loans, and carried out the credit review and approval process, including financial, industry, technical, insurance, environmental and social, and legal due diligence to understand the technical, legal, commercial and financial considerations for each of the loan, as well as the current operating or construction status of each project.

During the transaction period, HKMC will be responsible for identifying new assets for the issuer to purchase following the receipt of unscheduled principal collections, and on cancellation or expiry of the availability period in connection with undrawn loan commitments and proceeds from the sale of assets during the replenishment period; refinancing of loans which the obligor intends to refinance during the replenishment period; monitoring the credit performance of each loan, including credit reviews, covenant monitoring, processing of waivers and other notices, and maintenance of credit estimates; identifying credit-risk assets, and deciding whether or not to sell credit-risk assets, defaulted assets or non-eligible sustainability assets during the transaction life; and ensuring that the transaction is in compliance with its contractual obligations and periodic reporting, along with the transaction’s trustee and transaction administrator.

The exhibit below details the key attributes of the collateral manager.

Exhibit 7
Collateral manager details

Attribute	Collateral Manager
Management Entity	The Hong Kong Mortgage Corporation Limited
Infrastructure projects under management	Over 53 infrastructure projects with commitments amounting to approximately US$1.47 billion as of 30 June, 2024
CLO Team	Five management members of the IFS division team will be dedicated to CLO transaction
Number of investment professionals	Six IFS Collateral Manager Committee voting members
Average Number of Years of Experience	Over 20 years
Number of CLOs Currently Managed	Nil
Number of Obligors Covered by Credit Analysts	10-15
Size of operation team	Not disclosed

Source: HKMC

Assets after the closing date

The portfolio is not likely to be actively traded during the entire life of the transaction.

The collateral manager may direct the issuer to sell defaulted assets, certain credit-risk assets, non-eligible sustainability assets or assets that are subject to tax event.

The sale of credit-risk assets and non-eligible sustainability assets is subject to the satisfaction of all OC and interest coverage (IC) tests (the coverage tests).

The aggregate principal amount of credit-risk assets that are sold within 12 months cannot exceed 30% of the initial portfolio par amount. Any further sale of credit-risk assets would be subject to it not resulting in a reduction or withdrawal of the then outstanding rating of each class of the rated notes.

The sale of non-eligible sustainability assets is only allowed during the reinvestment period and is subject to the ability of the collateral manager to identify eligible sustainability assets that pass the reinvestment criteria.

The trading of assets at the collateral manager's discretion is not allowed.

Undrawn loan commitments

In the identified portfolio, project loans relating to one project currently stand to be partially disbursed. The undrawn loan amount aggregates to about $1.9 million, or 0.45% of the portfolio size, and the availability period will expire in March 2026. An amount equal to the aggregate of all undrawn loan amount is held in an account in the name of the issuer to ensure it has sufficient liquidity to fulfill its lending obligations to these loans.

Upon cancellation or expiry of the availability period for each undrawn loan amount, the collateral manager has the option to either replenish the portfolio, during the replenishment period in accordance with the replenishment criteria, or repay the senior-most outstanding class of notes.

Replenishment period

There is a three-year replenishment period in this transaction, which begins on the closing date. During the replenishment period, the collateral manager may direct the issuer to use unscheduled principal collections, the undrawn loan amount that is canceled (or in respect of which the availability period expires), the outstanding principal amount of any loan that is due to be refinanced and proceeds from the sale of assets to purchase new assets, provided no event of default is occurring, all coverage tests are satisfied and the proposed asset purchase does not result in a reduction or withdrawal of the then outstanding rating of each class of rated notes. The collateral manager would have a period of 45 business days to identify eligible investment. All new purchased assets must have a public rating or a credit estimate assigned by us.

During the replenishment period, all scheduled asset collections, and if no eligible investment can be found, all unscheduled collections, the undrawn loan amount that is canceled (or in respect of which the availability period expires), the outstanding principal amount of any loan that is due to be refinanced and sale proceeds will be used to amortize the rated notes sequentially according to the principal priority of payment.

Amortization period

The transaction does not permit any reinvestment or asset purchase after the replenishment period. Scheduled and unscheduled principal collections and proceeds from the sale of assets will be used to amortize the rated notes sequentially during the amortization period.

Asset analysis

Primary asset analysis

Modeling

Our CDOROM™ and CDOEdge™ models are the principal models that we use to rate this transaction. We apply the Monte Carlo simulation framework in CDOROM™ to model the collateral loss distribution for this transaction. The simulated defaults and recoveries for each of the Monte Carlo scenarios define the pool's loss distribution.

The country ceiling event risk is modeled in two steps in CDOROM™. In the first step, we simulate whether a country ceiling event occurs. All loans with projects domiciled in countries where country ceiling events are simulated to occur would be simulated to default in the model.

In the second step, for loans with projects in countries where country ceiling events are simulated not to occur in the first step, we simulate whether the loans default.

For loans under participation agreements, the loans would default if either the loan or the counterparty to the participation agreement is simulated to default in CDOROM™.

The identified portfolio is used in our initial rating analysis because the portfolio is likely to be fully acquired at closing and is not likely to be actively traded by the collateral manager, with no discretionary trading. Furthermore, the credit characteristics of the portfolio will be reassessed by us at the time we receive each new asset purchase proposal from the collateral manager.

We note the following portfolio characteristics of the identified portfolio.

Exhibit 8

Base-case modeling assumptions

Attribute	Metric
Portfolio Par Amount	423,290,085
WARF (after credit estimate adjustment)	1,004
Asset correlation of the portfolio	25.3%
WAS*	2.3%
WARR	63%

*The WAS over the applicable benchmark rate of each respective loan is around 2.3% as of the expected closing date. About 8% of the portfolio is currently linked to USD-Libor, and the remaining is linked to either term SOFR or daily SOFR with compounding.

Source: Moody's Ratings

Comparables

Comparison with previous similar transactions

Bauhinia ILBS 2 Limited is similar to the previous transaction, with some differences in portfolio characteristics.

Exhibit 9

Comparison of characteristics with the previous similar transaction

Deal	Bauhinia ILBS 2 Limited	Bauhinia ILBS 1 Limited
Number of loans and projects	28 loans to 26 projects	35 loans to 25 projects
Floating loan proportion	100.0%	100.0%
Portfolio Par Amount (in USD millions)	423.29	404.78
Covered pool proportion*	2.0%	3.8%
Uncovered pool proportion	98.0%	96.2%
Corporate infrastructure loan proportion	21.9%	19.2%
Project loan proportion	78.1%	80.8%
Top 3 sector exposure		
Largest	Regulated Assets/Utilities - 30.2%	Oil/Gas and Commodities- 31.9%
Second largest	Oil/Gas and Commodities - 28.2%	Power Generation Non-Renewables - 20.7%
Third largest	Power Generation Non-Renewables - 12.7%	Power Generation Renewables - 16.1%
Weighted Average Rating Factor (WARF) – Before applying the credit estimate notching adjustment	836	772
Corporate infrastructure loan pool	1,449	1,571
Project loan pool	664	582
Weighted Average Rating Factor (WARF) – After applying the credit estimate notching adjustment	1,004	936
Corporate infrastructure loan pool	1,449	1,571
Project loan pool	879	785
Weighted Average Spread (WAS) **	2.3%	2.3%
Weighted Average Recovery Rate (WARR)	62.5%	64%
Weighted Average Life (WAL)	About 5 years	About 6 years

*For Bauhinia ILBS 2 Limited, covered pool proportion included 1.3% of pool proportion benefiting from external credit support and 0.7% of pool proportion benefiting from credit support from highly rated entity.

**For Bauhinia ILBS 2 Limited, the WAS over the applicable benchmark rate of each respective loan is around 2.3% as of the expected closing date. About 92% of the portfolio is currently linked to either term SOFR or daily SOFR compounding in arrear, and the remaining is still linked to USD-Libor.

Source: Moody's Ratings

Additional asset analysis

Notch-down adjustment on credit estimates

The credit quality of most loans in the portfolio has been assessed via the assignment of a credit estimate, while a handful of loans are assessed by reference to our ratings.

The loans related to the largest credit estimates, representing up to 30% of the pool, will be subject to a two-notch haircut. This two-notch haircut adjustment is primarily to account for the unmonitored nature of credit estimates (hence, credit estimates are subject to potentially higher volatility than ratings) and also the fact that credit estimates are typically assigned based on more limited information than for ratings.

We expect to review the credit estimates as the collateral manager requests and provides updated information to us at least once every 12 months from each of the last assignment date.

Adjustment on default probability on project finance and infrastructure loans

We apply a default probability adjustment on the loans so that along with applying high recovery assumptions of the loans, the modeled expected loss would be equal to the idealized expected loss commensurate with the credit estimate of the loans.

For instance, for project finance and infrastructure loans with a mean recovery rate assumption of 75%, the default probability stress is 120%, and for project finance and infrastructure loans with a mean recovery rate assumption of 65%, the default probability stress is around 57%.

Our ratings or credit estimates of the loans address the expected loss of the loans, which quantitatively is the product of default probability and loss severity of the loan. The adjustment on the modeled default probability is to counterbalance our high mean recovery rate assumptions (that is, low severity) on the project finance and infrastructure loans such that the expected loss of the loans represented by the ratings or credit estimates will be maintained.

High project concentration

The portfolio is highly concentrated in a few sectors with 28 loans across 26 projects only. The exposures to the two largest obligor groups are about 9.4% and 9.0% of the portfolio, greater than the subordination of the Class D notes.

There are four other projects each of which constitutes between 7% and 9% of the portfolio. More than 80% of the portfolio in terms of portfolio par amount comprises projects each of which constitutes more than 3% of the portfolio at closing.

We correlate loans at 100% for those loans that relate to the same project or same sponsor so that when one of them defaults, all of them would default in the same simulation.

In our analysis, we considered several stress scenarios assuming default of the largest obligor group or higher asset correlation.

High sector concentration

The identified portfolio of loans is concentrated in a few subsectors such as regulated telecom (15.6% of the pool), LNG (15.3%) and oil (12.9%). A deterioration in credit quality in a single sector may have a significant negative impact on the transaction. External credit support and notes' subordination are key mitigants to this risk.

We considered the stress scenarios of assuming generally higher asset correlation or higher default probability for a few projects. We determined that the potential rating volatility in the notes under these stress scenarios was acceptable.

High country risk

The underlying projects are exposed to risk in various countries in Asia-Pacific, the Middle East, the Americas and Europe. More than half of these countries have a non-Aaa FCC assigned by us (see Exhibit 6). Of the total portfolio exposure, 4% is to projects located in countries with FCC at non-investment-grade. A further 47% of the portfolio exposure is to projects located in countries with FCCs in the single-A and Baa range.

We take the country risk into account in our quantitative analysis. Geographic diversification, external credit support and notes' subordination are key mitigants to this risk.

High loan participation exposure

The issuer has acquired indirect exposures for about 23.8% of identified portfolio by entering into participation agreements with HKMC or the lenders of record of those loans, instead of purchasing them directly.

Therefore, the transaction is exposed to the counterparty risk of the lenders and HKMC, the risk that they do not comply with its covenants under the participation agreements and the operational risk of relying on them to pass on the cash flow of the loans to the transaction.

We take this counterparty risk into account in our quantitative analysis.

Long recovery period for defaulted loans

The recovery period following the default of project finance and infrastructure loans may span several years because the liquidity of the trading market in Asia and the Middle East may be low and the workout may take a long time. The collateral manager is not obliged to direct the issuer to sell the defaulted loans by a certain date.

In our default study research (Default and recovery rates for project finance bank loans, 1983-2021), we observed a longer recovery period for defaulted bank project finance and infrastructure loans in Asia and the Middle East, compared with that in North America and Western Europe. Default history in the Middle East has been limited, with only 10 defaults in the study data set; however, we do observe long recovery periods in those instances.

For the project finance loan portion of the pool, we model that recoveries will be received three years following loan default and assume that the recoveries will increase at an accretion rate equal to SOFR plus 1.5% per annum. This accretion rate has taken into consideration the weighted average interest margin of the identified project finance loan portion of the portfolio during the transaction term. For the corporate loan and bond portion of the pool, we assume recoveries will be received 1.5 years following loan and bond defaults, and assume that the recoveries will increase at an accretion rate equal to 7.0% per annum.

One project is under construction
About 8.0% of the portfolio relates to one project that is in the advanced stage of construction. The credit estimate of this project loan has taken into consideration the construction risk.

Common off-takers' or guarantors' risks
Certain underlying projects involve common off-takers or guarantors, thus increasing the asset correlation of the portfolio. We take into account this additional asset correlation in our quantitative analysis.

Withholding tax on some assets
Withholding tax applies to about 13.6% of the identified portfolio of the loans either because of the incorporation of the issuer or the lender of record of loans under a participation agreement. We model the net interest earnings on the identified portfolio in our quantitative analysis.

External credit support or credit support from highly rated entity
About 1.3% of the identified portfolio benefits from external credit support such as commercial risk insurance (covered loans) provided by export credit agencies or insurers such that the issuer (or lender of record in the case of a loan under a participation agreement) will be able to recover losses from the cover providers.

About 0.7% of the identified portfolio benefits from credit support from highly rated entity.

In our analysis of credit estimates for covered loans, we take into account the terms and coverage of the credit support arrangements. To the extent these exposures have a higher recovery prospect, we use a higher mean and lower standard deviation as the recovery assumptions of the covered portion.

Other risk protections
After closing, if based on the reasonable judgment of the collateral manager that a loan is at risk of becoming credit-risk asset or credit impaired, the collateral manager may on behalf of the issuer procure and/or renew risk protections, including, but not limited to, insurance, to safeguard the issuer against the relevant risk or potential financial loss.

The payments to procure and/or renew risk protection will be made using the transaction's risk protection reserve account, which will be funded either by the risk protection sponsor loan provided by the sponsor, or by the available amount of interest proceeds under the payment waterfall. The risk protection reserve account will be used to procure and/or renew any risk protection.

The risk protection sponsor loan is a subordinated revolving loan facility of $2 million provided by the sponsor, which the issuer can draw from time to time after closing to fund the risk protection reserve account.

No long-dated asset and certain restrictions on asset maturity amendment
There is no long-dated asset in the identified portfolio. The collateral manager may not consent to amendments that extend the maturity of any asset beyond the legal maturity date of the notes. In addition, the collateral manager may not consent to an asset maturity amendment for a total principal par amount of assets exceeding 10% of the initial portfolio par amount during the transaction life. These factors reduce the risk that the collateral manager would need to liquidate assets remaining at the transaction's maturity date (long-dated assets).

Collateral manager and sponsor assessment
The CLO transaction will be managed by the IFS of HKMC. We had an operations review meeting with HKMC in August 2024. The IFS division is supported by other business functions of HKMC, including corporate risk management, legal and compliance, financial control and treasury functions. Its staffing, experience in the infrastructure loan market, operational systems and controls is adequate to support its CLO platform.

Securitization structure description

The issuer issued several classes of notes that receive semiannual interest payments and certain principal payments following asset scheduled payments, prepayments and sale of certain assets, in order of seniority. The transaction structure allows for the collateral manager to consider a change in payment frequency of the notes from semiannual to quarterly upon satisfaction of certain conditions.

In addition, the issuer also issued one unrated class of subordinated notes to HKMC that receives only residual interest and principal payments.

We measure the credit risk of the notes using our CDOROM™ and CDOEdge™ models; the latter model incorporates both the transaction's structural features and asset characteristics.

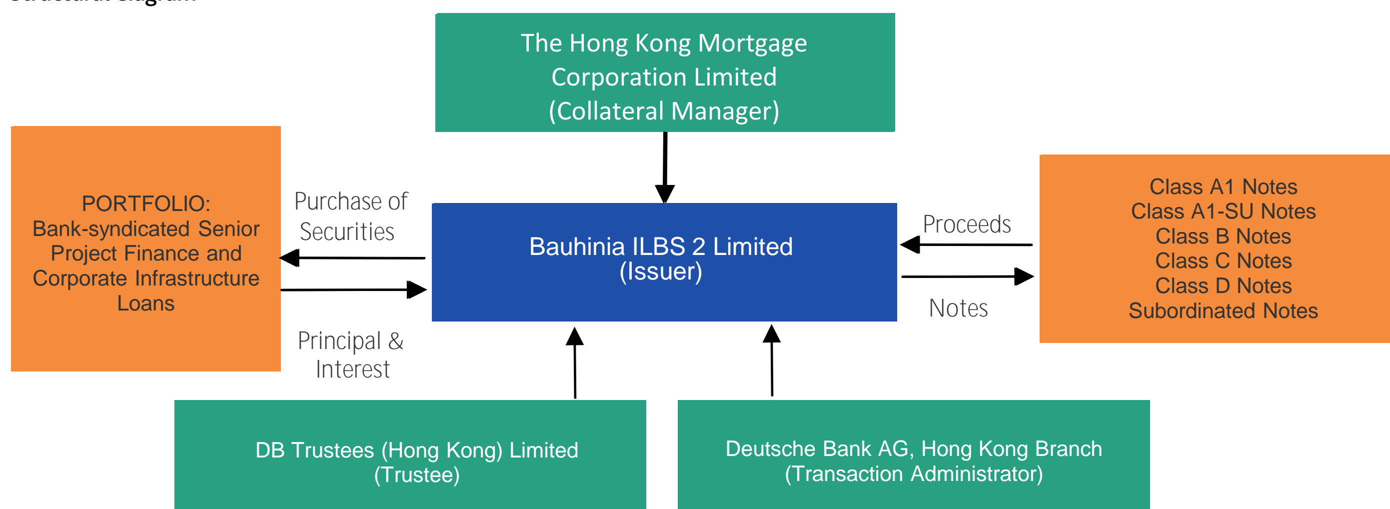
This transaction is structured using a bankruptcy-remote special-purpose entity incorporated in Hong Kong that issues liabilities on the closing date as listed in Exhibit 1.

The proceeds from the issuance were partly used to repay the existing warehousing loan previously extended by HKMC, which the issuer had used to acquire part of the loan portfolio. The issuer also used the issuance proceeds to acquire the remaining part of the loan portfolio. The portfolio generates cash flow from loan interest and principal collections, as we described in the "Asset description" section above. The cash flow is distributed in accordance with the transaction's priority of payments, subject to the coverage tests.

Structural diagram

The exhibit below shows the transaction's key parties and cash flow.

Exhibit 10
Structural diagram



Source: Moody's Ratings

Detailed description of the structure

Priority of payments

This transaction's payment waterfall is consistent with that of a typical CLO. This transaction pays the notes sequentially in both the interest and principal waterfalls, although on a pro rata basis among Class A1 and A1-SU notes. Both waterfalls include coverage tests (see the "Appendices - Priority of payments" for interest and principal waterfall details).

Coverage tests

Exhibit 11
OC and IC tests

Coverage Tests	Trigger Level	Initial level
Class A/B OC Test	115.7%	120.8%
Class C OC Test	110.0%	114.1%
Class D OC Test	106.4%	109.5%
Class A/B IC Test	110.0%	n/a
Class C IC Test	107.5%	n/a
Class D IC Test	102.5%	n/a

IC tests are applicable starting from the second notes' payment date.
Source: Sole Global Coordinator

OC test: OC tests, present in all CLOs, provide protection for the CLO's notes. If the OC level for a particular class or several classes of notes falls below the OC trigger for that class, the deal diverts cash flow to repay the senior-most outstanding class of notes until the breached OC ratio meets the trigger level.

Common to most CLOs, excess Caa assets are carried at the lower of their market values and our mean recovery rate assumption in the calculation of the OC ratios. Excess Caa assets are those Caa securities whose aggregate principal balance exceeds 10% of the portfolio's principal balance.

IC test: IC tests, which measure a CLO's excess interest cash flow, also provide protection for the CLO's notes. If the IC level for a particular class or several classes of notes falls below the IC trigger for that class, the deal diverts cash flow to repay the senior-most outstanding class of notes until the breached IC ratio meets the trigger level.

Security interest, bankruptcy remoteness and safeguards against involuntary bankruptcy

Security interest: With minor exceptions, the assets of the transaction are pledged to the trustee for the benefit of the noteholders. The security interest granted can provide noteholders with additional protection and a greater degree of control in cases where difficulties have emerged with the transaction’s structure.

Bankruptcy remoteness: The issuer is a special-purpose entity, has no prior operating history except when it used the warehousing loan provided by HKMC to acquire a part of the loan portfolio, and is established for the limited purposes of acquiring the assets, issuing the notes and performing certain related activities. The issuer repaid the warehousing loan on the closing date using the note issuance proceeds. Given this legal structure, we are able to analyze this transaction as bankruptcy remote.

Safeguards against the transaction's involuntary bankruptcy: The transaction incorporates certain safeguards against the issuer's involuntary bankruptcy.

Note redemption

The issuer can effect an optional redemption of all rated notes in whole if the collateral manager confirms with the trustee in writing before selling the portfolio that there will be sufficient proceeds to fully redeem all of the notes, and if sufficient sales proceeds to redeem the notes are received by the issuer at least one business day before the optional redemption date. If any of these conditions are not met, the issuer will cancel the optional redemption, and such a cancellation is not an event of default of the notes.

Securitization structure analysis

Primary structural analysis

Expected loss and modeling analysis

We expect the losses on the rated notes to be consistent with our benchmark rating targets. This expectation is based on our analysis using our CDOROM™ and CDOEdge™ models.

We apply the Monte Carlo simulation framework in CDOROM™ to model the portfolio loss distribution for this transaction. The simulated defaults and recoveries for each of the Monte Carlo scenarios define the pool's loss distribution.

CDOEdge™ is a cash flow model. We input pool default and recoveries assumptions, which maintain the pool loss distribution generated from CDOROM™, and also other modeling assumptions such as recovery delay, portfolio amortization schedule and yield vector to the model to estimate the expected losses of each class of notes.

The CDOEdge™ model incorporates various scenarios for default timing and interest rate paths, and allocates the cash flow arising from the portfolio in accordance with the transaction's documentation.

We fully describe our approach to modeling and rating this transaction in the rating methodologies Corporate Synthetic CDOs and Project Finance and Infrastructure Asset CLOs.

Additional structural analysis

OC analysis

Remote likelihood of an OC-based event of default: We view the occurrence of an OC-based event of default and the associated liquidation of the portfolio as unlikely. The event of default par ratio trigger is set at 102.5%, below the initial Class A OC level of 133.7%. The calculation, which is based on the ratio of the portfolio's par amount to the outstanding principal amount of the Class A1 and A1-SU notes, incorporates haircuts for defaulted assets, but not for Caa or deep-discount assets. The portfolio's par amount includes without duplications, amounts on deposit in the issuer's principal account and principal fixed deposit account. Portfolio liquidation following an event of default based on breach of the trigger requires consent from either a supermajority of the controlling class or a supermajority of each class of notes, voting separately.

No currency mismatch risk

No currency mismatch: As the target closing portfolio and the notes are denominated in US dollars, there is no currency mismatch risk in this transaction at closing.

Floating-rate basis mismatch risk

Floating-rate basis mismatch risk: The issuer is exposed to floating-rate basis mismatch as all the rated notes' interest payments are linked to term SOFR, while about 59% of the initial target portfolio is linked to term SOFR, 33% is linked to daily compounded SOFR and the remaining 8% is still linked to USD-Libor, with a potential transition date before closing. The loans that are currently USD-Libor may transition to other floating-rate indexes such as term SOFR or daily non-cumulative compounded SOFR or costs of funds of the lenders. In our analysis, we considered zero credit adjustment spread for USD-Libor loans.

Note redemption and cancellation analysis

Note redemption: The issuer can effect an optional redemption of the notes, which relies on the collateral manager's certification that there will be sufficient proceeds to fully redeem all the notes.

Although many other CLOs apply haircuts to the assets' market values when determining the sufficiency of such proceeds, thereby providing a buffer against market value declines, this transaction does not incorporate such haircuts. Therefore, the transaction could face a situation in which there are insufficient liquidation proceeds to redeem the notes in full if a large decline in asset prices occurs during the redemption process.

A mitigant to these risks is the fact that the issuer can cancel the optional redemption, and such a cancellation does not constitute an event of default under the terms of the transaction.

Note cancellation: No notes may be surrendered in this transaction.

Legal structure analysis

Safeguards against the issuer's bankruptcy: The transaction includes provisions that we view as helpful to protect it against bankruptcy.

ESG considerations

The overall ESG risk is low to moderate. We assess ESG credit risks in our analysis based on general principles described in detail in the ESG cross-sector rating methodology available on moodys.com.

The ESG considerations included in this report are based on the identified portfolio, draft transaction documents, and the structure and characteristics of the transaction provided to us on 6 September 2024. The exhibits below showing the related credit risk scores for all US CLOs that we rate are based on data as of 5 August 2024. Accordingly, the ESG considerations are current as of the date of this report.

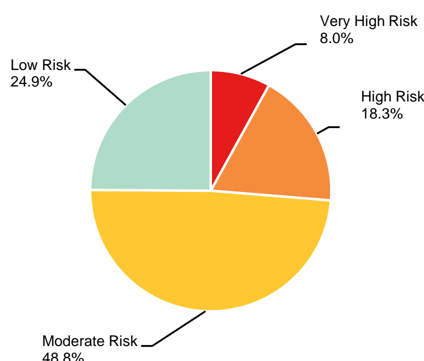
ESG - Environmental considerations

We consider this transaction to have moderate environmental credit risk because most of the underlying issuers in the CLO's identified portfolio are categorized within sectors that have been assigned an environmental credit risk score of low, as Exhibit 12 shows. Our overall sector environmental credit risk scoring scale includes scores of “very high risk”, “high risk”, “moderate risk” and “low risk”.

Exhibit 12

Environmental risk scores, and high-risk industries

Identified portfolio level

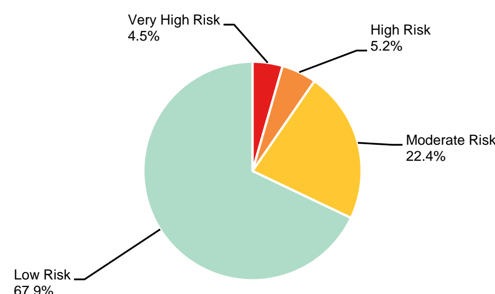


“Very high risk” industry exposures: Oil and Gas - Independent Exploration and Production.
“High risk” industry exposures: Oil and Gas - Midstream Energy; Oil and Gas - Oil Field Service.
Source: Moody's Ratings

Exhibit 13

Environmental risk scores

All US CLOs rated by us



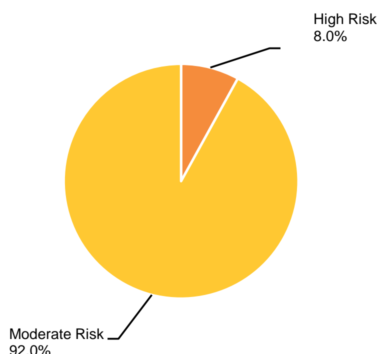
“Very high risk” industry exposures: Chemicals - Commodity; Oil and Gas - Refining and Marketing; Oil and Gas - Independent Exploration and Production.
“High risk” industry exposures (five largest): Oil and Gas - Midstream Energy; Surface Transportation and Logistics; Airlines; Unregulated Utilities and Power Companies; Steel.
Source: Moody's Ratings

The environmental credit risk scores and industries shown in the exhibits above are based on taxonomies that differ from the Moody's Industry Classifications, described in Appendix 6 of our CLO methodology. Our environmental sector classifications are broadly based on our rating methodologies and reflect only entities we rate within a given sector.

ESG - Social considerations

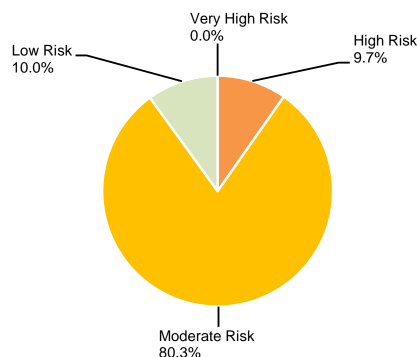
Social credit risks for this transaction are moderate because most of the underlying issuers in the CLO's identified portfolio are categorized within sectors that have been assigned a social credit risk score of moderate, as Exhibit 14 shows. Our overall sector social risk scoring scale includes scores of “very high risk”, “high risk”, “moderate risk” and “low risk”.

Exhibit 14
Social risk scores and moderate risk industries
Identified portfolio level



"Very high risk" industry exposures: None.
"High risk" industry exposures: Oil and Gas - Independent Exploration and Production.
Source: Moody's Ratings

Exhibit 15
Social risk scores
All US CLOs rated by us



"Very high risk" industry exposures: None.
"High risk" industry exposures (five largest): Chemicals; Gaming and Gambling Industry; Pharmaceuticals; Unregulated Utilities and Power Companies; Construction.
Source: Moody's Ratings

The social credit risk scores and industries shown in the exhibits above are based on taxonomies that differ from the Moody's Industry Classifications, described in Appendix 6 of our CLO methodology. Our social sector classifications are broadly based on our rating methodologies and reflect only entities we rate within a given sector.

ESG - Governance considerations

This transaction's governance risk is low, which is typical of other CLOs in the market. Various transaction features contribute to our assessment, such as:

1. Financial strategy and risk management – The transaction limits the issuer's permitted activities as described in the "Securitization structure description - Detailed description of the structure - Bankruptcy remoteness" section above.

2. Collateral manager's credibility and track record – Collateral manager characteristics are described in the "Asset analysis - Additional asset analysis - Collateral manager and sponsor assessment" section above.

3. Organizational/transaction structure – The issuer is structured as a bankruptcy-remote special-purpose entity and there is an alignment of interests among the transaction parties, as detailed in the "Securitization structure description - Detailed description of the structure - Security interest, bankruptcy remoteness and safeguards against involuntary bankruptcy" section above.

4. Board structure – The issuer has an independent director. In addition, the transaction has an independent trustee and transaction administrator, as outlined in the first paragraph of the "Securitization structure description" section above.

5. Compliance and reporting – The transaction's consistency and quality of financial reporting in the form of quarterly investor reports are described in the "Asset description - Asset acquisition guidelines - Collateral manager and sponsor" section above.

In addition to the ESG considerations mentioned above, we also note the following ESG-related details:

» In 2022, HKMC established its Social, Green and Sustainability Financing Framework (SGS Framework). The SGS Framework is developed in alignment with the following sustainable finance principles and guidelines to ensure that E&S risks associated with HKMC-sponsored transactions are effectively identified, assessed and managed:

  – International Capital Market Association Green Bond Principles 2021 and appendix 1 updated in 2022

  – International Capital Market Association Social Bond Principles 2021 and appendix 1 updated in 2022

  – International Capital Market Association Sustainability Bond Guidelines 2021

- All the loans in the portfolio have been screened by HKMC before their acquisition for compliance with HKMC's SGS Framework. HKMC will apply this framework on an ongoing basis to its assessment and monitoring of the portfolio.

Methodology and monitoring

Rating methodologies

Project Finance and Infrastructure Asset CLOs

To access this report, click on the link above. Note that this reference is current as of the date of publication of this report and that a more recent report may be available. All research may not be available to all clients.

Monitoring

We will monitor the ratings on an ongoing basis. We will announce and disseminate any subsequent changes in the ratings on www.moodys.com.

Appendices

Modeling scenarios

Apart from considering the characteristics of the identified portfolio in determining our base-case modeling assumptions, we considered additional sensitivity analysis, including the following:

1. Change the credit estimate of the most significant loan exposures that relate to the same group of companies or projects to Caa2.
2. Change the credit estimate of the second most significant loan exposures that relate to the same group of companies or projects to Caa2.
3. Apply two notches of downward adjustment to the rating of HKMC as the participation agent.
4. Increase correlations for all power-electricity projects to 60% and all oil and LNG projects to 60%.
5. Adjust the credit estimates of the loans in the power generation (non-renewables), and oil and gas sectors down by one notch.

Priority of payments

Application of interest proceeds

1. Taxes and fees
2. Trustee fees and expenses, subject to a cap
3. Administrative expenses, subject to a cap
4. Top-up fees and expenses reserve account, subject to a cap
5. Senior collateral management fees
6. Pari passu and ratably:
    a. Class A1 notes interest
    b. Class A1-SU notes interest
7. Interest on Class B notes
8. Class A/B coverage tests
9. Interest on Class C notes
10. Class C coverage tests
11. Deferred interest on Class C notes
12. Interest on Class D notes
13. Class D coverage tests
14. Deferred interest on Class D notes
15. Remaining trustee fees and expenses
16. Remaining administrative expenses
17. Risk protection reserve account in such amount (if any) as directed by the collateral manager to procure and/or renew risk protection
18. Interest on risk protection sponsor loan

19. Interest on the bridging sponsor loan
20. Principal payment to the risk protection sponsor loan
21. Principal payment to the bridging sponsor loan
22. Junior collateral management fees
23. Deferred collateral manager fees
24. Residual to the subordinated notes

Application of principal proceeds

1. Steps 1 through 7 of the interest waterfall if not fully paid
2. Class A/B coverage tests
3. Interest on Class C notes if Class C notes are the controlling class of notes
4. Class C coverage tests
5. Deferred interest on Class C notes if Class C notes are the controlling class of notes
6. Interest on Class D notes if Class D notes are the controlling class of notes
7. Class D coverage tests
8. Deferred interest on Class D notes if Class D notes are the controlling class of notes
9. On a redemption date or a special redemption date, make payments on the notes in accordance with the notes' principal payment sequence
10. During the reinvestment period, to reinvest in additional assets, subject to the satisfaction of replenishment criteria, or to the principal account of the issuer pending for reinvestment at the discretion of the collateral manager
11. Make payments on the notes in accordance with the principal payment sequence
12. Deferred collateral manager fees
13. Residual to the subordinated notes

*See Moody's Clarifies Policy for the issuance of RACs (January 2012), which makes clear that the provision of a rating agency confirmation (RAC) remains entirely within our discretion, and it may be that we will not provide a RAC even if the transaction documents, to which we are not a party, require it.

Sources used in this report

The sources we used in preparation of this report include:

» Moody's Ratings

» Information from the Sole Global Coordinator

» Information from the collateral manager

» CLO's legal documents

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