FitchRatings

Fund & Asset Managers
PE CFOs
Singapore

Astrea VI Pte. Ltd.

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Ratings are not a recommendation to buy, sell or hold any security. The prospectus and other material should be reviewed prior to any purchase.

Capital Structure

Class	Rating	Outlook	Amount (Mil.)	Curr-ency	Interest Rate (%)	Legal Final Maturity	Approximate % of NAV	Approximate Cumulative LTV (%)
A-1	A+sf	Stable	382	SGD	3.00	March 2031	19.6	19.6
A-2	Asf	Stable	228	USD	3.25	March 2031	15.7	35.3
B	BBBsf	Stable	130	USD	4.35	March 2031	8.9	44.2
Equity	N.A.	N.A.	841	USD	N.A.	N.A.	55.8	N.A.

N.A. –Not applicable at launch.

Fitch Ratings has assigned ratings to the classes A-1, A-2 and B bonds issued by Astrea VI Pte. Ltd. (Astrea VI, or the issuer), as displayed in the table above. Astrea VI is a private equity collateralized fund obligation (PE CFO) backed by interests in a diversified pool of private equity (PE) funds, including buyout and growth strategies, with approximately $1.5 billion in net asset value (NAV) and $156 million of unfunded capital commitments as of Nov. 30, 2020. Astrea VI holds all of the shares of AsterSix Assets I (AsterSix, or the AssetCo), a Singapore company, which holds the fund interests. The investment manager of the transaction is Azalea Investment Management Pte. Ltd. (Azalea, or the manager), an indirect wholly owned subsidiary of Temasek Holdings (Private) Limited (Temasek). The sponsor and equity holder is Astrea Capital VI, which is owned by an Azalea affiliate and ultimately Temasek.

The underlying funds will distribute cash as they generate income or exit investments, and will make capital calls when they require additional cash to invest. Cash flows generated by the funds will be used to pay off the bonds, as well as pay interest and expenses.

Key Rating Drivers

Loan-to-Value: The class A-1, A-2 and B bonds make up approximately 19.6%, 35.3% and 44.2% of cumulative loan-to-value (LTV) of the NAV at issuance, respectively, providing a sufficient level of credit enhancement at the indicated rating levels. An LTV test will redirect cash flows to de-lever the transaction at a constant 50% threshold during the transaction's life.

Stressed Cash Flow Analysis: Fitch measured the ability of the structure to withstand weak performance in the underlying funds in combination with adverse market cycles. The class A-1 and class A-2 bonds are rated 'A+sf and 'Asf', respectively, in line with their ability to withstand fourth-quartile-level performance in the underlying funds. The class B bonds are rated 'BBBsf', in line with their ability to withstand third quartile level performance in the underlying funds.

Liquidity: The transaction's liquidity position is strong, underpinned by the portfolio's positive net cash flow profile, and the large contingent liquidity facility. Fitch's estimated one-year pro-forma liquidity coverage ratio for the transaction is 4x.

Portfolio Composition: The portfolio of PE fund interests is diversified by vintage, geography, general partners (GPs), funds, underlying holdings and sectors. As of Nov. 30, 2020, the portfolio was comprised of 35 funds with strong past performance, managed by 28 primarily large and well-established fund managers. On a look-through basis the portfolio had 802 underlying investments as of the same date. Approximately 20% of the portfolio NAV relates to EUR-denominated funds, of which approximately 75% is hedged.

Transaction Manager and Sponsor: Fitch believes that Azalea has the capability and resources required to manage this transaction. Azalea's management team has extensive experience and institutional knowledge in the private equity industry, in addition to having experience

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structuring a number of PE CFO transactions. The sponsor's and bondholders' interests are strongly aligned, as the sponsor holds the entire equity stake, approximately 56% of NAV, in Astrea VI. During the market volatility in 2020, the sponsor took actions beyond what was required by transaction documents of two existing Astrea deals to provide additional credit enhancement to senior bonds.

Counterparties: Certain structural features of the transaction involve reliance on counterparties, such as the credit facility provider, account banks, and hedge counterparties, and the rating on the bonds could be negatively affected in the event of a key counterparty downgrade. Fitch believes this risk is mitigated by counterparty replacement provisions in the transaction documents that align with Fitch's criteria.

Ratings Capped at Eligible Investments: The money in reserves accounts for the benefit of the A-1 and A-2 bonds will be invested in securities or bank deposits, as specified in transaction documents. As these investments can have long-dated maturities and could have a material impact on the performance of the rated bonds, the ratings of the A-1 and A-2 bonds may be capped at the ratings of investments in the reserves accounts.

If the investments in the reserves account are downgraded below the rating level of the class A bonds at a future date, this may cause a corresponding downgrade to the ratings, absent mitigating factors. At launch, these investments are rated at the same level or higher than the rating of the class A-1 and A-2 bonds and, therefore, do not constrain the rating. Furthermore, any loss realized by the investments held in reserve does not result in a loss to the bonds. Losses would be reimbursed in subsequent distribution periods through the application of payments within the transaction's waterfall prior to the call/maturity date.

Asset Isolation and Legal Structure: Legal opinions reviewed by Fitch indicate that the issuer is structured as a special-purpose, bankruptcy-remote entity, the issuer has 100% shareholding in the AssetCo and the assets held by AssetCo have been transferred to it as a true sale.

Rating Cap at 'A+sf': Fitch has a rating cap at 'A+sf' for PE CFO transactions, driven by the less proven nature of the PE CFO asset class relative to other structured finance asset classes, the uncertainty related to investment performance and the timing of cash flows, the variability of asset valuations and lags in performance reporting.

Rating Notching of the Class A-1 Bonds

The class A-1 bonds' rating of 'A+sf' is one notch above the model-implied 'Asf' rating, reflecting a high quality portfolio comprised primarily of funds managed by large and well established GPs, funds that have exhibited good performance to date, portfolio diversification across multiple metrics, a focus on relatively strong sectors, continued strong cash flow generation through the recent downturn, very high liquidity, consistently strong modelling results through stress scenarios Fitch ran, a high-quality sponsor that exhibited its willingness to provide voluntary support to the bonds of previous deals and a low LTV relative to other 'Asf' rated PE CFO bonds.

Structure Overview

The issuer is structured as a special-purpose entity that is the sole equity holder of AssetCo. The issuer's capitalization will include the class A-1, A-2 and B bonds, as well as an equity tranche. The net cash received by the issuer via the issuance of the bonds will be used by the issuer to repay a certain portion of existing loans from the sponsor, which were incurred in connection with AssetCo's acquisition of the fund investments.

AssetCo holds the fund investments as a limited partner (LP) for each of the underlying interests. AssetCo will transfer cash distributions from the fund investments to the issuer, which will apply the distributions semiannually in accordance with the priority of payments.

Applicable Criteria

Private Equity Collateralized Fund Obligations (PE CFO) Rating Criteria (December 2020)

Global Structured Finance Rating Criteria (June 2020)

Structured Finance and Covered Bonds Counterparty Rating Criteria (January 2020)

Structured Finance and Covered Bonds Counterparty Rating Criteria: Derivative Addendum (January 2020)

Fitch's Foreign-Currency Stress Assumptions for Residual Foreign-Exchange Exposures in Covered Bonds and Structured Finance - Supplementary Data File (June 2020)

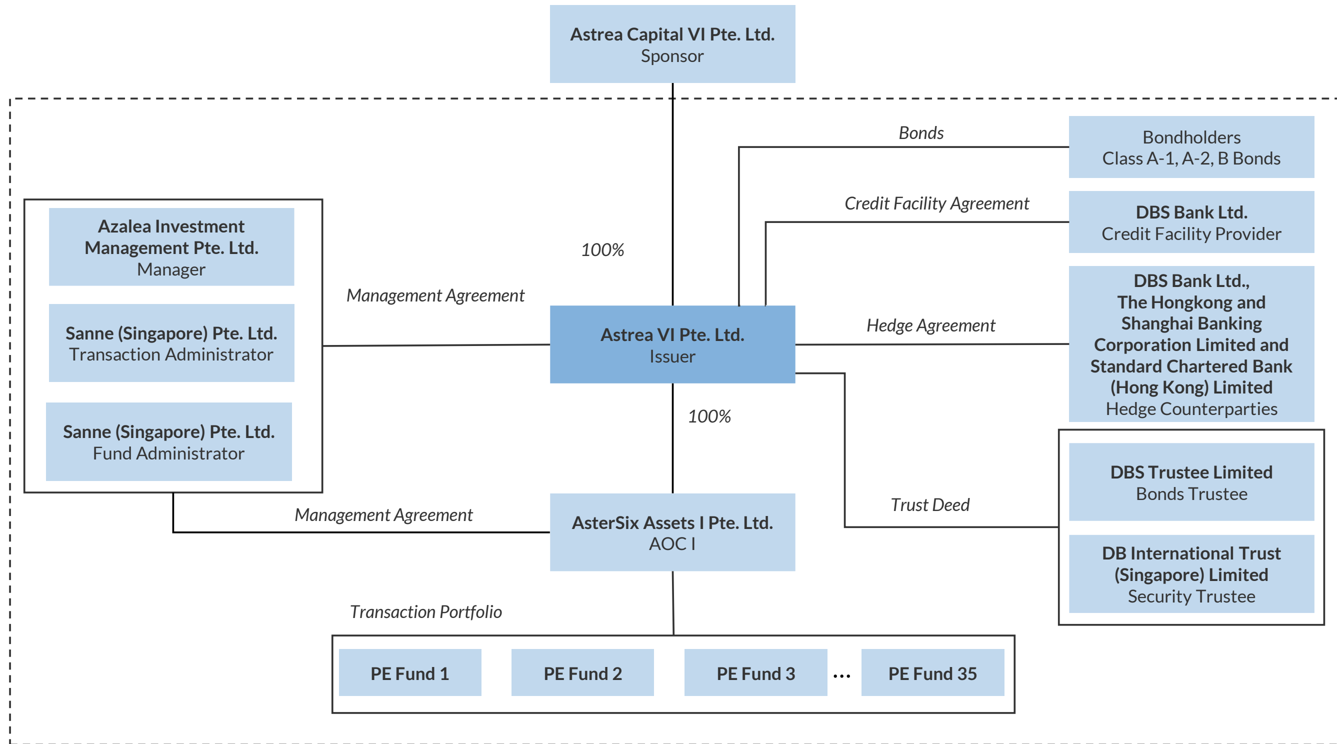
Related Research

Global PE CFO Outlook Stable for 2021 (December 2020)

PE CFOs Weather Coronavirus-Driven Downturn (December 2020)

PE CFOs: Securitizing Private Equity Fund Interests (October 2019)

Structure Diagram



Source: Fitch Ratings, Astrea VI Pte. Ltd.

Portfolio Overview

The funds were acquired by the sponsor from its affiliates for the PE CFO transaction. 81% of the Astrea VI portfolio is comprised of the same funds as in the Astrea V portfolio, as weighted by NAV. The portfolio is expected to be static, as reinvestments in new funds are not permitted after the transaction closes, and while selling fund interests is allowed as described below, it is not expected under normal circumstances.

The portfolio is comprised of buyout and growth funds and is diversified across vintages, geography, GPs, funds, underlying holdings and sectors. After combining exposure to the same portfolio companies across the portfolio, the top portfolio company made up 2.6% exposure as of Nov. 30, 2020. The highest concentration to an underlying sector was in information technology, as shown on the table on the right.

Portfolio Stratification by Fund Strategy and Age

(% of Total Exposure, As of Nov. 30, 2020)

Fund Strategy	5 Years Old (2016 Vintage)	6 Years Old (2015 Vintage)	7 Years Old (2014 Vintage)	8 Years Old (2013 Vintage)	9 Years Old (2012 Vintage)	Total
Buyout	20	15	20	17	11	83
Growth	—	8	7	—	2	17
Total	**20**	**23**	**27**	**17**	**13**	**100**

Source: Fitch Ratings, Astrea VI Pte. Ltd.

The funds on average are more seasoned than some previous PE CFOs rated by Fitch, with a weighted average vintage of 2014 and $156 million of remaining unfunded capital commitments, which is approximately 10% of total commitments, or 11% of NAV. The portfolio has been net cash flow positive, and the seven-year weighted average age of the portfolio's funds at time of launch and historical data suggests future distributions will continue to outstrip contributions.

The portfolio consists of U.S, European and Asian funds, managed primarily by large GPs with established track records. Fitch reviewed each fund and GP in the portfolio using quantitative and qualitative metrics, including reviewing the GP's history, resources, capital-raising success and previous fund performance based on information available publicly, from third-party data providers and from the sponsor. Overall, the funds in the portfolio have exhibited good performance. Based on this review of the funds and GPs, Fitch determined that no performance-based haircuts were warranted beyond the base case scenario analysis in accordance with Fitch's rating criteria.

The full portfolio is included in the appendix.

Underlying Investment Sector Breakdown

(As of Nov. 30, 2020)	(% of NAV)
Information Technology	28
Health Care	20
Consumer Discretionary	13
Industrials	12
Financials	8
Communication Services	5
Energy	4
Consumer Staples	4
Materials	3
Real Estate	2
Utilities	1

Source: Astrea VI Pte. Ltd.

Transaction Comparison — At Launch

Name	Astrea VI Pte. Ltd.	MCA Fund III Holding LLC	Nassau 2019 CFO LLC	Astrea V Pte. Ltd.	SWC Funding LLC	Astrea IV Pte. Ltd.	Astrea III Pte. Ltd.
Sponsor Type	Gov.-Linked	Insurance	Insurance	Gov.-Linked	Asset Manager	Gov.-Linked	Gov.-Linked
Closing Date	March 2021	October 2020	September 2019	June 2019	August 2018	June 2018	June 2016
Total Debt Issuance (USD Mil.)	643[a]	402	263	600	216	501	510
Bond Legal Final Maturities (Years)	10	15	15	10	15	10	10
Capital Structure (Class LTV % and Cumulative LTV %)							
'A+sf'	19.6 (19.6)	—	—	—	—	—	—
'Asf'	15.7 (35.3)	40.0 (40.0)	50.0 (50.0)	34.8 (34.8)	50.0 (50.0)	35.6 (35.6)	29.8 (29.8)
'BBBsf'	8.9 (44.2)	17.5 (57.5)	—	10.5 (45.3)	—	10.0 (45.6)	8.8 (38.5)
'BBsf'	—	12.5 (70.0)	20.0 (70.0)	—	—	—	—
Unrated Debt	—	—	—	—	—	—	6.1 (44.7)
Equity	55.8	30	30	54.7	50	54.4	55.3
Portfolio							
Collateral NAV (USD Mil.)	1,456	575	376	1,324	432	1,098	1,142
Unfunded Commitment (USD Mil.)	156	190	79	215	84	168	201
Total Exposure (USD Mil.)	1,612	764	455	1,539	516	1,267	1,343
Unfunded (As % of Total Exposure)	10	25	17	14	16	13	15
Weighted Average Fund Age (By Total Exposure)	7	4	6	5	5	7	7
No. of Funds	35	66	109	38	32	36	34
No. of Co-investments	N.A.	5	N.A.	N.A.	7	N.A.	N.A.
No. of Managers	28	57	69	32	19	27	26
No. of Portfolio Holdings	802	1,336	1,273	862	244	596	592
Allowed to Reinvest	No	No	No	No	Yes (Two-Year Period)	No	No
Allowed to Sell Investments (Up to % of NAV)	Yes (15)	Yes (35)	Yes (35)	Yes (15)	Yes (35)	Yes (10)	No
Largest Fund Strategy (% of Total Exposure)	Buyout (83)	Buyout (27)	Buyout (43)	Buyout (82)	Natural Resources — Excl. Oil & Gas (51)	Buyout (87)	Buyout (77)
Second Largest Fund Strategy (% of Total Exposure)	Growth Equity (17)	Mezzanine (20)	Mezzanine (41)	Growth Equity (18)	Natural Resources — Oil & Gas (22)	Growth Equity (11)	Growth Equity (23)
Third Largest Fund Strategy (% of Total Exposure)	—	Secondaries (12)	Venture Capital (14)	—	Venture Capital (11)	Private Debt (2)	—
Contingent Liquidity	Liquidity facility to cover expenses, interest, and capital calls. Facility is sized in two parts: (A) starts at $130 mil. and steps down and (B) is sized to 50% of unfunded. Initial size is $208 mil.	CMFG is contractually obligated to fund 100% of capital calls. Funds will be reserved to cover one distribution period's interest on the class A and B notes, to be funded from clause 5 of the priority of payments. Interest on all note classes is deferrable.	Liquidity facility is available to cover expenses, interest, and capital calls. The facility is sized to one year of expenses and class A interest, plus 25% of unfunded. Initial size is $30 mil. Interest on class B notes is deferrable. Also option to require sponsor to cover capital calls.	Liquidity facility to cover expenses, interest, and capital calls. Facility is sized in two parts: (A) starts at $130 mil. and steps down and (B) is sized to 50% of unfunded. Initial size is $238 mil.	Liquidity facility is available to cover expenses, interest, and capital calls. The facility is sized to one year of class A interest plus 50% of unfunded. Initial size is $50 mil. Also option to require sponsor to cover capital calls.	Two separate facilities; Capital call facility sized to cover the entire unfunded amount of the portfolio. Liquidity facility to cover interest and expenses, initially sized at $100 mil.	Prefunded reserve account to cover the entire unfunded amount of the portfolio. Liquidity facility to cover interests and expenses, initially sized at $90 mil.

[a]SGD:USD Spot Rate of 0.7462, as of March 12, 2021. N.A. – Not applicable.
Source: Fitch Ratings, Astrea VI.

Structural Features

Given the uncertain nature of PE fund distributions and the reliance on market valuations, the transaction includes structural protections to help the rated bonds potentially weather negative market cycles and depressed valuations when PE fund distributions may be low. Class A-1 and class A-2 bonds both have a scheduled call date of five years, but all classes of bonds issued (including the class B bonds) have longer legal maturities of 10 years, which could be supportive in weathering a potential market downturn. Fitch's ratings address the timely repayment of the bonds at their legal final maturities, not the potential repayment at the earlier scheduled call dates. Capital calls will be funded primarily by distributions from the underlying portfolio.

The reserves accounts will retain cash distributions for the repayment of both the class A-1 and A-2 bonds. The structure also has a credit facility sized to 50% of the amount of unfunded commitments to the underlying funds plus an amount that steps down to cover operating expenses and interest on the bonds. These features help mitigate the cyclicality of PE fund performance that Fitch considered in its analysis.

Reserves Accounts

The principal amounts of the class A-1 and A-2 bonds are to be reserved semi-annually over the period until their expected call dates, as per the table on the right. Additionally, clause 13 of the priority of payments allows for additional payments to the reserves accounts when the performance threshold is met. If available cash on any distribution date is insufficient to satisfy the reserve amount, the unpaid balance carries forward to subsequent distribution dates until paid through the priority of payments.

Scheduled Call Date Scenarios

Balance of Reserves Account at the Scheduled Call Date	Class A-1 Bonds Status	Class A-2 Bonds Status
Less than the principal amount of the class A-1 bonds	Not Redeemed	Not Redeemed
Greater than or equal to the principal of the class A-1 bonds but less than the aggregate principal amount of the class A-1 and A-2 bonds	Redeemed	Partially Redeemed
Greater than or equal to the aggregate principal amount of the class A-1 and A-2 bonds	Redeemed	Redeemed

Note: Assumes there is no balance drawn on the credit facility.
Source: Astrea VI Pte. Ltd.

If at end of year five on the scheduled call date of the class A-1 and A-2 bonds, the total balance of the reserves accounts and reserves custody account is at least equal to the principal of the class A-1 bonds and there is no balance drawn on the credit facility, then the class A-1 bonds will be fully redeemed with the remaining balance used to redeem part or all of the principal amount of the class A-2 bonds on the same date as the redemption of the class A-1 bonds. Any remaining outstanding class A-2 bonds will be redeemed on subsequent distribution dates using available cash flows.

In a default scenario, the class A-1 and class A-2 bonds have equal claim on monies in the reserves accounts. Outside of a default scenario, under expected case scenarios and under some stress scenarios, the class A-1 and class A-2 bonds are likely to be called and paid off at the same time; however, under more stressful conditions, the class A-1 bonds may be called and paid off before the class A-2 bonds. Fitch believes these dynamics create a degree of time subordination between the class A-1 and class A-2 bonds in periods of stress and support the rating notching differentiation between the A-1 and A-2 bonds.

Maximum LTV Ratio

The priority of payments provides for the deleveraging of the bonds on any distribution date at which the LTV exceeds 50% (maximum LTV ratio), subject to available funds in the structure. The purpose of this feature is to de-lever the structure to reduce bondholders' exposure to the risk of portfolio valuation declines or the risk of cash flow exiting the structure and rendering

Reserves Accounts

Distribution Date	Total Class A-1 and A-2 Reserve Amount (USD Mil.)
First	51.5
Second	51.5
Third	51.5
Fourth	51.5
Fifth	51.5
Sixth	51.5
Seventh	51.5
Eighth	51.5
Ninth	51.5
Tenth	51.5
Total (USD)	515

Note: Final amounts are based on foreign exchange forwards at close.
Source: Astrea VI Pte. Ltd.

the remaining NAV insufficient to provide future distributions to support the bonds. There is no requirement to sell fund interests upon a breach of the LTV ratio.

LTV is calculated as the outstanding balance of the credit facility and the bonds (net of the class A-1 and class A-2 reserves accounts balance and any principal repayments on the class B bonds) divided by the portfolio NAV. If LTV exceeds the 50% threshold, 100% of the remaining cash flow after payment of amounts due under clauses 1 through 9 of the priority of payments in the appendix will be paid in accordance with clause 10. If the class A-1 bonds are still outstanding, the cash flow will be used to fund the reserves accounts until the reserves accounts cap is reached and then to pay down the class B bonds until the maximum LTV ratio is no longer in breach. If the class A-1 bonds have been redeemed, the cash flows will be applied to the principal repayment of the class A-2 bonds and then to the class B bonds until the maximum LTV ratio is no longer in breach.

Credit Facility

The credit facility will be a senior standby multicurrency liquidity facility to be established with DBS Bank Ltd. (DBS; AA–/F1+/Negative) to fund (i) taxes, administrative expenses, management fees, hedging-related payments and interest on the class A-1, class A-2 and class B bonds (payments due under clauses 1 through 4, except for clause 4(iii), and clause 5 through 6 of the priority of payments) and (ii) capital calls in the event of a shortfall in distributions in certain payment periods. The credit facility fully matures upon the earlier of the end of year 10 or the date on which all classes of bonds are fully redeemed (termination date).

The amount available under the facility will be $208 million at issuance. The total amount available to draw under the credit facility will be sized in two parts, “A” and “B”. Facility “A” will step down in accordance with the table at right, while facility “B” will be sized to 50% of the unfunded capital commitments.

Interest on the amount drawn will be paid at a rate of the relevant London Interbank Offering Rate (LIBOR) plus 1.65%. There is an annual 50-basis-point (bp) commitment fee on the undrawn portion. In the event that either no banks or only one bank is utilized to determine the relevant LIBOR rate for a given period, the lender and the borrower shall enter negotiations to agree on a substitute for determining the rate of interest.

Per clause 4 of the priority of payments in the Appendix, any cash in the operating account on any distribution date will be used to pay the credit facility up to the lesser of the outstanding loan balance or the full amount of cash in the operating account. Any loan amount outstanding after this payment is repayable on the next distribution date if there is sufficient cash in the operating account. In any event, the full amount of the loan balance must be repaid by the termination date.

DBS can cancel the commitment or declare the outstanding amount due and payable if there is an event of default under the credit facility agreement. Such events include nonpayment of loan principal or interest when due, insolvency or nonpayment of any debt of the issuer and any event of default under the bonds.

The credit facility provider will be required to be replaced if the provider’s rating falls below the lower of ‘A–’ and ‘F1’ or the then prevailing rating of the most senior class of outstanding Astrea VI bonds (credit facility minimum rating requirement), provided the replacement would not cause a downgrade to the then prevailing rating of the most senior class of outstanding Astrea VI bonds. The documents provide that the issuer and lender make “commercially reasonable” efforts to affect the replacement within 30 days. These eligibility thresholds and replacement language are in line with Fitch’s “Structured Finance and Covered Bonds Counterparty Rating Criteria” report. However, Fitch’s counterparty criteria report anticipates that credit facilities will be fully drawn if the bank provider’s rating falls below the relevant rating thresholds, which in the case of Astrea VI would be a rating of ‘BBB’ for the bank provider. Fitch views this difference with the criteria as immaterial since DBS is currently rated higher than the most senior Astrea VI bond, and much higher than the ‘BBB’ threshold, and Fitch views the deal’s reliance on the credit facility as low. If DBS in the future is downgraded below the required rating threshold and is not replaced in a timely fashion, this could have an impact on the Astrea VI bond ratings.

Credit Facility Availability

Stepdown Provision	Amount (USD Mil.)
Years 1–3 of the Transaction	130
Years 4–6 of the Transaction	100
Year 7 of the Transaction through the Termination Date	40

Source: Astrea VI Pte. Ltd.

The amount of liquidity available is sufficient for the projected use of the facility under Fitch's stress scenarios and is in line with other Fitch-rated PE CFOs. The highest level of utilization of the facility was $59 million under Fitch's 2009 fourth quartile, Capital Call Increase — 30% sensitivity scenario.

Hedging Counterparties

Full principal and semiannual interest on the class A-1 bonds is payable in Singapore dollars, unlike the other bond classes, which are payable in U.S. dollars. The fund investments are denominated in US dollars and euros, creating a currency mismatch between Astrea VI's assets and liabilities. These currency mismatches introduce currency risk, for which the issuer will employ hedge agreements to help mitigate foreign exchange (FX) rate volatility that may negatively affect the cash flows needed to fund the required payments under the bonds. These agreements are with DBS, the Hongkong and Shanghai Banking Corporation Limited (HSBC; AA–/F1+/Negative) and Standard Chartered Bank (Hong Kong) Limited (SCB; A+/F1/Negative).

Fitch notes that clause 12 of the priority of payments is a "flip clause," which places any termination payments due to a hedge counterparty that is in default in a junior position in the transaction's priority of payments. The purpose of this provision is to mitigate the potential impact caused by the default or non-performance of the counterparty. In case the issuer does not pay a hedge counterparty, the transaction documents include a "non-petition" clause that prevents the counterparty from causing the issuer to file for bankruptcy.

A hedge counterparty will be replaced if its rating falls below the lower of 'A–' and 'F1' or the then prevailing rating of the most senior outstanding class of Astrea VI bonds (hedge counterparty minimum rating requirement), provided the replacement would not cause a downgrade to the then prevailing rating of the most senior outstanding class of Astrea VI bonds. The documents provide that the issuer and hedge counterparty make "commercially reasonable" efforts to effect the replacement within 30 days. These eligibility thresholds and replacement language are in line with Fitch's "Structured Finance and Covered Bonds Counterparty Rating Criteria" report.

Class A-1 Bonds — Principal Amounts Hedge

To mitigate the class A-1 bonds' FX mismatch risk, the issuer will be entering into forward contracts to buy Singapore dollars and sell U.S. dollars to hedge 100% of the principal amount of the class A-1 bonds.

The issuer will take delivery of the SGD382 million to fully repay the class A-1 bonds across fixed forwards that will be settled before the scheduled call date. If, for any forward contract, the reserves accounts are funded with less than the amount required to settle the forward contract, the issuer will settle the forward for the amount of U.S. dollars that has been accumulated. For the underfunded U.S. dollar amount, the issuer has the discretion to roll over the hedge by entering into a six-month or longer FX forward transaction with the counterparty. The forward transaction will result in cash flows to the issuer based on the difference between the initial forward transaction versus the spot rate of the new forward. There would be a net cash inflow if the U.S. dollar has depreciated and a net cash outflow if the U.S. dollar has appreciated since closing.

At the discretion of the issuer, if at year 5.5 the reserves accounts are still not fully funded, the rollover process would be repeated with another six-month FX forward for the underfunded USD amount. The FX forward would expire at the next distribution date, and at the issuer's discretion, the process would repeat until class A-1 bonds are fully repaid.

If the reserves accounts are funded with less than the USD amounts required to settle the hedge, the issuer will be required to make a payment to the counterparty to settle the hedge if the USD appreciated against the SGD compared to the forward rate. However, this situation is unlikely because even if the reserves accounts contain only half the scheduled reserves, this would be sufficient to settle the hedge. Under all of the adverse scenarios Fitch ran, model results indicate there would be sufficient funds in the reserve account to fully settle the hedge for the class A-1 bonds.

Class A-1 Bonds — Interest Amounts

At closing, the issuer will enter into ten separate forward contracts with the hedge counterparties in amounts to fully match the ten semiannual interest payments on the class A-1 bonds.

If the reserves accounts are underfunded and the class A-1 bonds are not redeemed at the scheduled call date, the issuer may enter into a six-month forward contract for the interest payment due at year 5.5. If at year 5.5, the reserves accounts are still not fully funded, it will be at the discretion of the issuer to enter into a new six-month forward contract for the interest payment due at the next distribution date and, at the issuer's discretion, continue the process until the class A-1 bonds are fully repaid.

Euro NAV Hedge

FX risk in the portfolio is viewed as manageable, as the bulk of fund investments provide distributions in USD. Of the 35 funds in the portfolio, eight funds, totaling about USD290 million of NAV (20% of total NAV), call capital and make distributions in euros. To mitigate FX risk posed by the euro-denominated funds (compared to the USD- and SGD-denominated bonds), the issuer has entered into a series of fixed forward contracts (with fixed forward rates and fixed forward dates), ranging in tenor from six months to six years, to hedge approximately 75% of the initial euro NAV, subject to change before closing. The tenors and notional amounts of euro hedges were set by Azalea to match the manager's projections of euro NAV distributions and are subject to change until closing. This leaves 25% of the initial euro NAV unhedged, or approximately USD73 million of NAV (5% of total NAV).

As the timing and amounts of distributions from PE funds are uncertain, fully hedging the FX exposure is impossible. Not hedging at all would leave Astrea VI vulnerable to significant FX exposure but attempting to hedge 100% of NAV could still leave the structure over-hedged and exposed to FX risk if distributions come in lower than projected and the FX moves against the structure when it needs to settle the forwards. Hedging a sufficient portion of the NAV, and providing the manager flexibility to hedge further over time if deemed necessary, is a prudent approach, in Fitch's opinion.

Any underperformance in the euro-denominated funds would create an additional FX risk, as the structure is required to deliver euros for each foreign exchange hedge as they become due. As discussed in the Euro Hedge Stresses section, Fitch conducted stress scenarios to model the sensitivity of the structure to underperformance in European funds and to adverse moves in USD/EUR exchange rates and the rated bonds passed at their assigned rating levels.

Euro NAV Hedge

No.	Forward Tenor	Euro Hedge Amount (EUR Mi.)
1	0.5 Year	16
2	1.0 Year	16
3	1.5 Year	18
4	2.0 Year	18
5	2.5 Year	18
6	3.0 Year	18
7	3.5 Year	16
8	4.0 Year	16
9	4.5 Year	13
10	5.0 Year	13
11	5.5 Year	10
12	6.0 Year	10

Source: Astrea VI Pte. Ltd.

Fund Dispositions

Astrea VI at its discretion is allowed to sell stakes in the underlying PE fund interests, up to 15% of the initial portfolio NAV. Proceeds from the sale or disposal of any underlying fund interests will be received in the collection accounts and then swept into the operating accounts.

At each distribution date, net cash proceeds received from a fund disposition will be distributed in accordance with the priority of payments. The portion of fund disposition proceeds remaining after payment of clauses (1) through (6) will be distributed in accordance with clause 7. Clause 7 dictates that any proceeds from fund dispositions will be applied to the reserves accounts of the class A-1 and A-2 bonds. If the bonds are fully reserved, the proceeds will be applied to principal repayment of the class B bonds. Fitch views positively that fund disposition proceeds will be used to reserve principal as a positive, as it may allow the manager to realize some of the outstanding NAV if organic distributions come in lower and/or slower than needed to pay Astrea VI's liabilities. Selling fund interests on the secondary market in a stressed environment will likely require a steep discount and, in its modelling, Fitch assumed that the fund disposition option was not used.

Account Banks and Eligible Investments

Account banks and investments held in various accounts within the structure are subject to certain requirements. The funds in the reserves accounts may be placed in security instruments or bank deposits in accordance with eligibility requirements defined in transaction documentation. The transaction documentation permits these investments to

mature as late as the class A-1 scheduled call date (i.e. five years from transaction launch), which significantly exceeds the maturity levels contemplated in Fitch's counterparty criteria as it relates to eligible investments. Owing to the significant long-dated exposure bondholders may have to investment counterparties, the ratings of the Astrea VI A-1 and A-2 bonds will be capped at the ratings of investments in the reserves accounts or the ratings allowed for investments in the reserves accounts by the transaction documentation, whichever is lower. Therefore, if a security in the reserves accounts is downgraded in the future below the ratings of the class A bonds, the ratings of the bonds may also be downgraded, depending on the materiality of the exposure.

The transaction documents specify that eligible investments require a rating of at least 'AA–' by Fitch. Bank deposits are required to be invested with banks rated at least 'AA–' by Fitch for amounts covering the class A-1 bonds principal, while for amounts above the principal of the class A-1 bonds (i.e. for the benefit of the A-2 bonds in a nondefault scenario), banks must be rated at least 'A+' by Fitch. As noted, the documents permit these investments to mature at the class A-1 scheduled call date or, if the bonds are not called on the call date, by the next distribution date. In the case of deposits, a downgrade below the minimum levels requires the account bank to be replaced within 60 days by a bank meeting the transaction documents' minimum rating requirements.

Since the ratings of the investments and bank deposits are at the same level or higher than the ratings of the Astrea VI bonds, the rating linkage to the investments does not affect the Astrea VI bond ratings assigned at launch. However, in the event of a future downgrade to an investment or bank deposit, and absent other mitigants, the ratings of the Astrea VI bonds may be downgraded to the ratings of the investment or institution if the exposure is deemed material.

Transaction Accounts Overview

Account Name	Owner	Bonds Have Security Interest in the Account?	Account Description
Collection Account	AssetCo	Yes, via the daily cash sweep to the operating account in an enforcement event/following the daily cash sweep.	This account will receive any cash distributions from the funds in the structure or from the operating account to fund capital calls. Cash from this account will be used to fund capital calls and will be swept to the operating account on a daily basis.
Operating Account	Issuer	Yes	Moneys will be swept here on a daily basis from the collection account. Any proceeds from credit facility drawdowns will also be deposited to this account. Proceeds (in excess of the retained amount) in this account will be applied to the priority of payments at each distribution date. Cash in this account may be used to satisfy a capital call on the structure.
Bonus Redemption Premium Reserves Account	Issuer	Yes	This account will receive cash in accordance with clause 13(ii) of the priority of payments if the performance threshold has been met prior to the class A-1 call date. The monies will be paid with the redemption of the class A-1 bonds.
Reserves Accounts	Issuer	Yes	This account will receive funds from the priority of payments to hold for ultimate repayment of principal on the class A bonds. In the interim, monies will be used to fund investments in eligible assets.
Reserves Custody Account	Issuer	Yes	Custody account used to hold the eligible investments made from funds in the reserves account.
Distributions-in-Kind Custody Account	AssetCo	Yes, via sale of the distribution-in-kind on the behalf of bondholders, subsequently swept into the operating account in an enforcement event/following the daily cash sweep.	This account will receive any in-kind distributions from the funds in the structure. Funds from this account will be swept to the collection account on a daily basis. This account will only be set up in the future if needed to take in-kind distributions.

Source: Fitch Ratings, Astrea VI Pte. Ltd.

Cash Flow Scenario Analysis

As described in Fitch's criteria, when rating PE CFOs the structure's projected performance and distributions over different market cycles are reviewed to assess whether cash flows are sufficient to pay off the rated obligations based on the transaction's structural features.

The performance scenarios for Astrea VI were constructed based on historical data that matched the characteristics of Astrea VI's portfolio, primarily the strategies of the funds (buyout and growth) and the ages of the funds. Fitch classified each fund's strategy based on the fund's stated strategy, investments and historical cash flow curve, as available.

For example, about 7% of the portfolio's exposure comprises growth funds that are to be approximately seven-year-old funds as of the launch of Astrea VI in 2021. As a result, Fitch reviewed how seven-year-old growth funds performed over different economic cycles. These scenarios correspond to previous economic cycles observed over 10-year intervals to match the legal final maturity of the Astrea VI rated bonds.

For example, in one scenario, Fitch reviewed how a portfolio similar to Astrea VI's current profile would have performed during the 10-year period between 2001 and 2010 (in the tables of the results section referred to as the start-year 2001 scenario, labeled "2001"). The key data points in the analysis are (1) how much capital the underlying funds called, (2) how much cash the underlying funds distributed and (3) the NAV appreciation or depreciation that was driving distributions.

In addition, Fitch stressed the resilience of the structure to potential underperformance in Astrea VI's underlying funds. For example, in some of the scenarios Fitch ran, all the funds' performance was assumed to have deteriorated to fourth-quartile levels, which negatively affected their projected distributions and other performance measures. In measuring the results of the scenarios, Fitch focused on key metrics, such as the ability to make timely interest and principal payments with respect to the legal final maturity of the rated bonds, total cash flow as a percentage of the transaction NAV, the repayment periods, the use of distributions in the structure and how various structural protections drove performance of the transaction (LTV triggers, credit facility usage and so on).

The key launch year scenarios Fitch ran are displayed in the tables below.

Results

The 'A+sf' rating of class A-1 bonds reflects that, under all fourth-quartile performance projections Fitch ran, class A-1 bonds made all interest and principal payments with respect to their legal final maturity of 10 years. In all cases, the class A-1 bonds were called on the scheduled call date (fifth year). Class A-1 bonds were fully paid off in year 5 under all fourth-quartile scenarios.

The 'Asf' rating of class A-2 bonds reflects that, under all fourth-quartile performance projections Fitch ran, class A-2 bonds made all interest and principal payments with respect to their legal maturity of 10 years. The class A-2 bonds were called by the scheduled call date in five scenarios out of 17 scenarios. The class A-2 bonds were called in year 7.0 under the most punitive scenario.

The 'BBBsf' rating of class B bonds reflects that, under all of the third-quartile performance projections Fitch ran, the bonds made all interest and principal payments with respect to the legal maturity of 10 years. The principal payback period for class B bonds varied between approximately 5.5 years and 6.5 years. Class B bonds passed 16 out of 17 fourth-quartile performance projections.

Launch Year Scenarios

	Class A-1		Class A-2		Class B			Uses of Distributions				
Launch Year Scenario	Payback Period (Years)	Max LTV (%)	Payback Period (Years)	Max LTV (%)	Payback Period (Years)	Max LTV (%)	Distri-butions and Income (% of Initial NAV)	Capital Calls Paid (% of Initial NAV)	Expenses and Interest Paid (% of Initial NAV)	Payment to Reserves	Class B Payment	Equity Distributions (% of Initial NAV)
Fourth-Quartile Performance												
1999	5.00	18	6.00	35	8.00	51	78	8	11	35	9	15
2000	5.00	20	6.00	47	9.00	70	70	5	11	35	9	9
2001	5.00	22	5.00	46	6.50	62	87	5	10	35	9	27
2002	5.00	24	5.00	44	6.50	56	81	4	10	35	9	22
2003	5.00	16	5.00	32	7.00	41	98	4	10	35	9	39
2004	5.00	19	5.00	37	8.50	47	98	5	11	35	9	38
2005	5.00	19	7.00	37	Not Paid	56	93	6	12	35	9	31
2006	5.00	18	6.00	35	8.00	50	99	8	11	35	9	36
2007	5.00	18	6.00	35	7.00	49	90	8	11	35	9	27
2008	5.00	24	6.00	45	7.50	57	74	9	11	35	9	9
2009	5.00	21	5.00	36	6.00	44	95	9	11	35	9	31
2010	5.00	17	5.00	32	6.50	41	89	10	10	35	9	25
2011	5.00	19	5.50	35	7.00	45	77	8	11	35	9	15
2012	5.00	17	5.50	33	7.00	42	80	8	11	35	9	17
2013	5.00	16	5.50	32	8.00	41	85	8	11	35	9	22
2014	5.00	17	6.00	33	8.50	43	74	8	11	35	9	10
2015	5.00	18	6.00	36	8.00	47	77	8	11	35	9	13
Third-Quartile Performance												
1999	5.00	18	5.00	35	5.50	45	116	6	10	35	9	55
2000	5.00	17	5.00	34	5.50	44	103	6	10	35	9	43
2001	5.00	18	5.00	37	6.00	50	103	6	10	35	9	43
2002	5.00	20	5.00	39	5.50	49	119	7	10	35	9	59
2003	5.00	16	5.00	32	6.00	41	141	5	10	35	9	81
2004	5.00	18	5.00	36	6.50	46	136	7	10	35	9	75
2005	5.00	18	5.00	36	6.00	46	133	7	10	35	9	72
2006	5.00	17	5.00	33	5.50	42	133	8	10	35	9	71
2007	5.00	17	5.00	35	6.00	49	116	9	10	35	9	53
2008	5.00	22	5.00	43	6.00	56	101	9	10	35	9	38
2009	5.00	18	5.00	32	5.50	41	139	7	10	35	9	78
2010	5.00	16	5.00	31	5.50	40	135	6	10	35	9	74
2011	5.00	17	5.00	33	5.50	43	115	8	10	35	9	53
2012	5.00	16	5.00	32	5.50	41	125	7	10	35	9	63
2013	5.00	16	5.00	32	5.50	41	123	9	10	35	9	60
2014	5.00	17	5.00	34	6.00	44	118	9	10	35	9	54
2015	5.00	18	5.00	35	6.00	44	121	9	10	35	9	58
All-Quartile Performance												
1999	5.00	16	5.00	34	5.50	46	174	6	10	35	9	114

Launch Year Scenarios

	Class A-1		Class A-2		Class B			Uses of Distributions				
Launch Year Scenario	Payback Period (Years)	Max LTV (%)	Payback Period (Years)	Max LTV (%)	Payback Period (Years)	Max LTV (%)	Distri-butions and Income (% of Initial NAV)	Capital Calls Paid (% of Initial NAV)	Expenses and Interest Paid (% of Initial NAV)	Payment to Reserves	Class B Payment	Equity Distributions (% of Initial NAV)
2000	5.00	19	5.00	38	5.50	56	112	5	9	35	9	54
2001	5.00	19	5.00	38	5.50	50	113	5	10	35	9	54
2002	5.00	18	5.00	36	5.50	47	128	6	10	35	9	68
2003	5.00	16	5.00	32	6.00	41	154	7	10	35	9	93
2004	5.00	19	5.00	37	7.00	47	146	7	10	35	9	85
2005	5.00	19	5.00	38	6.00	48	148	7	10	35	9	87
2006	5.00	18	5.00	35	5.50	45	141	8	10	35	9	79
2007	5.00	19	5.00	42	6.00	59	120	9	10	35	9	57
2008	5.00	22	5.00	46	6.00	60	103	10	10	35	9	40
2009	5.00	17	5.00	32	5.00	40	148	8	10	35	9	86
2010	5.00	16	5.00	31	5.50	40	140	9	10	35	9	77
2011	5.00	17	5.00	35	5.50	44	123	7	10	35	9	62
2012	5.00	17	5.00	33	5.50	43	132	8	10	35	9	70
2013	5.00	17	5.00	33	5.50	42	133	8	10	35	9	72
2014	5.00	17	5.00	34	6.00	44	124	8	10	35	9	62
2015	5.00	18	5.00	35	5.50	45	130	8	10	35	9	68

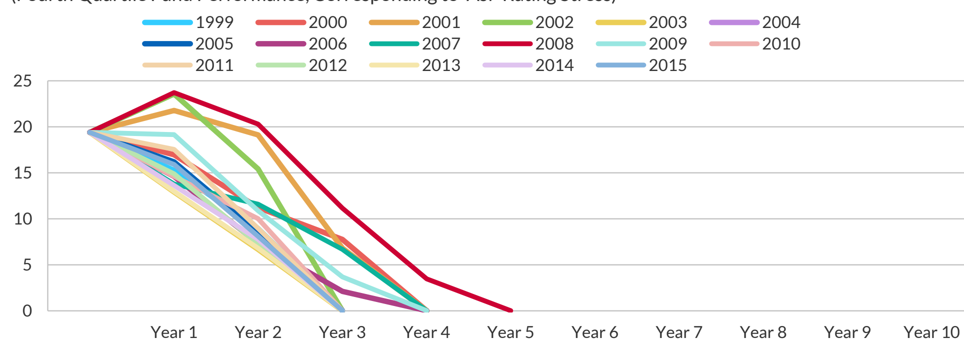
Note: Uses of distributions may not sum due to rounding.
Source: Fitch Ratings.

In addition, the disposal option discussed above is a positive qualitative factor to consider, which was not specifically modeled in the scenarios Fitch ran since it is at the discretion of the manager. By exercising the disposal option, the manager may accelerate realization of the NAV on the secondary market but likely at a steep discount in a stressed market.

The charts below show the progression of the LTV ratio over the life of the transaction in different start year scenarios. An additional chart below shows the projected annual progression of the transaction under the 2008 (fourth-quartile performance) launch year scenario.

Class A-1 LTV Progression in Stress Scenarios: by Start Year Scenario

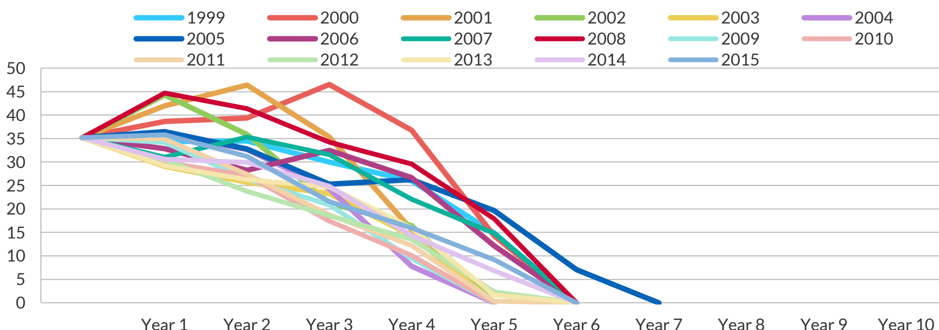
(Fourth Quartile Fund Performance, Corresponding to 'Asf' Rating Stress)



Source: Fitch Ratings.

Class A-2 LTV Progression in Stress Scenarios: by Start Year Scenario

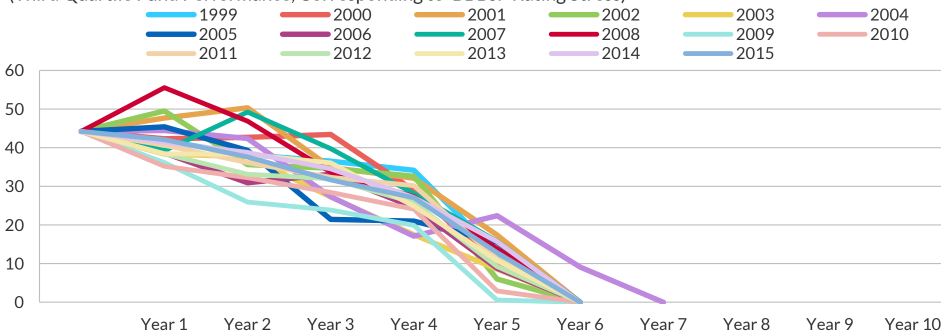
(Fourth Quartile Fund Performance, Corresponding to 'Asf' Rating Stress)



Source: Fitch Ratings.

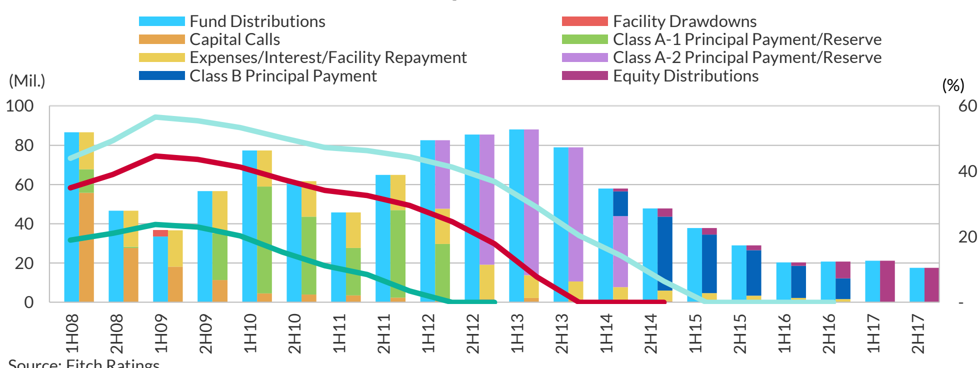
Class B LTV Progression in Stress Scenarios: by Start Year Scenario

(Third Quartile Fund Performance, Corresponding to 'BBBsf' Rating Stress)



Source: Fitch Ratings.

2008 Transaction Launch Year — Fourth Quartile



Source: Fitch Ratings.

Euro Hedge Stress

Given the portfolio's exposure to European funds that distribute NAV in euros, Fitch considered the impact of potential foreign exchange fluctuation on the structure. As outlined in Fitch's criteria, Fitch's PE CFO cash flow modelling incorporates FX stress scenarios for any unhedged exposure within a portfolio. The scenarios are incorporated into Fitch's base case scenarios and sensitivity analyses and are based on stress assumptions for currency movements, as outlined in Fitch's "Foreign-Currency Stress Assumptions for Residual Foreign-Exchange Exposures in Covered Bonds and Structured Finance Criteria" report. The FX movements are applied to periodic cash flows, factoring in the PE CFO's hedges. For this rating analysis, the unhedged euro exposure represents approximately USD73 million, or 5% of total NAV.

Valuations

PE fund valuations are generally made available quarterly or semi-annually on an unaudited basis and annually on an audited basis. Fund managers apply various valuation methods

(discounted cash flow analysis, multiple analysis and so on) to the underlying holdings of the funds. Valuations are made as of a certain date and are reported to the LPs a few months following the valuation reference date. Valuation methods can vary from fund to fund as managers have discretion on the applied techniques. However, these valuations are prepared in accordance with International Financial Reporting Standards or generally accepted accounting principles in the U.S. or elsewhere.

The initial valuation of Astrea VI was based on the reported NAVs of the funds as of the latest reported NAV valuation date, Sept. 30, 2020. The NAV valuations for each fund were then adjusted for any capital calls and distributions made between the valuation date and Nov. 30, 2020.

Going forward, the transaction's NAV will be calculated at each determination date based on the most recent audited or unaudited NAVs provided by the underlying GPs. The valuations provided by each GP will be adjusted for any distributions (subtracted from NAV) and capital calls (added to NAV) made between the reference date of the GP's valuation and the distribution date of the structure. Recording the NAVs of the underlying funds, and then building those into the overall PE CFO NAV is the responsibility of the transaction manager.

Liquidity Analysis

Astrea VI's liquidity profile is strong, with a Fitch estimated one-year pro forma liquidity coverage ratio of 4x, taking into account portfolio distributions and calls over the one-year period ending Sept. 30, 2020, as well as pro-forma expenses and interest for the first year of the transaction, and availability on the liquidity facility. The portfolio generated significant positive net cash flow over the past few quarters, and the transaction will retain a minimum cash balance of $15 million. In addition, over time the level of capital calls is expected to decline as funds mature. Therefore, contingent liquidity is unlikely to be needed, although a few of Fitch's stress scenarios showed the liquidity facility drawn temporarily.

The Manager

Fitch considers Azalea suitably qualified, competent and capable of executing its transaction functions as the manager of Astrea VI.

Azalea was set up in 2015 with a goal of developing products based on private assets and broadening the investor base for such products in Singapore. While the manager has a short track record as an independent entity, Azalea's management team has extensive experience and institutional knowledge in the private equity sector, and it draws on and benefits from its connection with Temasek. Temasek and its affiliates have been investing in private equity funds for over two decades and remain active in this space. Additionally, Temasek and its affiliates have successfully launched five prior Astrea vehicles. However, Temasek and its affiliates are not providing financial support to the bonds or the transaction. Azalea had $5.6 billion of assets under management as of Nov. 30, 2020, including its interests in the prior Astrea transactions.

During the recent coronavirus pandemic, the sponsor, as the equity holder of Astrea IV and V, waived its right to receive its distributions despite the transactions exhibiting relatively stable cash flows throughout 2020. This resulted in excess cash being directed toward the senior bonds' reserves accounts, thus further deleveraging the bonds.

Fullerton Fund Management Company Ltd. (Fullerton) acted as the manager of Astrea III. For Astrea IV, Astrea V and Astrea VI, Fullerton is or will be advising the manager on managing the cash and FX hedges of the transactions. Fullerton is licensed under the Securities and Futures Act and regulated by the Monetary Authority of Singapore (MAS). Fullerton has been regulated by the MAS since 2004 and holds a Capital Markets Services License issued by the MAS for carrying on business in fund management with all types of investors. As of April 30, 2020, Fullerton had total assets under management of $35.4 billion.

The manager will manage the fund investments, administer key fund matters, supervise the administration of assets and bonds, make drawdowns from the credit facility as needed, manage cash flows in accordance with the priority of payments, manage investor relations and

reporting to stakeholders, hedge non-USD assets and obligations and perform various other administration and management services with respect to AssetCo and the issuer.

The manager has entered into a management agreement with the issuer and will receive a 17.5-bp (on NAV) management fee semi-annually for performing such services.

Either the issuer or the AssetCo can terminate the services of Azalea as manager for a termination event as specified in the management agreement, such as breach of duty or bankruptcy. Absent the occurrence of a specific termination event, either the issuer or the AssetCo can terminate the manager with 90 days' written notice. Upon any termination of Azalea from the role of manager, the issuer and AssetCo will use commercially reasonable efforts to appoint a substitute manager that agrees to perform the requisite duties and whose appointment would not result in a downgrade to the then prevailing rating of the most senior class of bonds. Upon receipt of termination notice, the manager will use commercially reasonable efforts to assist the issuer and AssetCo in the appointment of a substitute.

Alternatively, Azalea may choose to resign from the role of manager by providing 90 days written notice; however, the resignation will not be effective until a replacement that will not result in a downgrade to the then prevailing rating of the most senior class of bonds is found. In the event the AssetCo does not appoint a substitute within 90 days of the resignation date, Azalea may select as substitute an entity willing to perform the requisite duties and whose selection will not result in a downgrade of the then prevailing rating of the most senior class of bonds. Fitch believes these terms provide a sufficient procedural framework to find a suitable manager in the unlikely event it should become necessary.

Alignment of Interests

The sponsor will hold all the equity interests in Astrea VI as of the settlement date and intends to maintain its equity position. As the owner of the equity, the sponsor will bear any losses of the structure prior to bondholders, providing for the alignment of interests.

Security and Bankruptcy Remoteness

Bondholders, credit facility and hedge counterparties are secured by :

- A first fixed charge by the issuer over its shares in AssetCo and the dividends in respect of those shares;
- A first fixed charge by the issuer over its bank accounts and custody accounts;
- An assignment of the issuer's rights under the shareholder loan agreements between the issuer and the AssetCo, respectively;
- A first floating charge by the issuer of its undertaking and all its assets.

Legal opinions that Fitch reviewed indicate that the issuer is bankruptcy remote, that its assets is unlikely to be consolidated with those of the sponsor and that the transfer of the fund investments under the purchase agreements would be characterized as a sale of rights over the fund investments and would not be regarded as property of the seller in the event of the seller's insolvency.

The Model

Fitch performed the cash flow analysis of the structure using a model to forecast hypothetical portfolio cash flows using historical PE data. PE data were sourced from a third-party data provider and covered all quartiles of funds with vintages ranging from 1990 to 2019. The dataset encompassed buyout and growth strategies to parallel the underlying breakdown of the Astrea VI portfolio. The major data points driving the analysis include historical capital calls, historical distributions and historical NAV appreciation and depreciation. The historical data within each dataset were extrapolated to simulate the average historical cash flow of a representative PE fund. The historical cash flows were built up, as described in the Cash Flow Scenario Analysis section, to forecast the cash flows of Astrea VI's portfolio of PE holdings.

The model applied the cash flows, as described above, to the priority of payments *(See Appendix)* to simulate the performance of the transaction.

Additionally, the model allowed hypothetical launch dates for the transaction to forecast performance if Astrea VI was launched during various market cycles. This analysis used observed historical cash flows where available and applied these to the underlying portfolio based on the PE fund age and strategy profile of Astrea VI's holdings. This model provided the ability to run the analyses described in the Cash Flow Scenario Analysis section.

Fitch reviewed each underlying fund to determine the most appropriate asset class mapping relative to the sponsor provided classification and the third-party cash flow dataset. Fitch mapped each fund to the most relevant strategy to align with the performance cohorts that drive Fitch's modeling using historical cash flows and information provided by the sponsor and other third parties. Furthermore, Fitch did not find instances where there was insufficient data to appropriately map funds to relevant historical proxy data and, therefore, Fitch did not apply haircuts to the NAV and unfunded commitments of underlying funds in its base case cash flow analysis.

Surveillance of the Transaction

Fitch relied on information on the underlying funds for its analysis and will continue to do so for the ongoing surveillance of Astrea VI. Fitch will also receive monthly and semiannual reporting from the issuer on an ongoing basis throughout the life of the transaction, which will include cash flows (distributions, capital calls and so on) and valuations for the underlying portfolio, LTV calculations and other information about the transaction's financial profile.

Rating Sensitivities

PE collateralized fund obligations have many inherent risks, including the uncertainty of the amount and timing of distributions, illiquid nature of investments, the degree of transaction leverage and the subjective nature of NAV calculations.

The ratings for the bonds may be subject to downgrade if cash flows are lower than modeled in stress scenarios, creating a risk that the funds will not generate enough overall cash to repay the issuer's obligations. A material decline in NAV that, in Fitch's view, would indicate insufficient forthcoming cash distributions to support the bonds could also lead to rating downgrades.

A ratings downgrade of a counterparty may also materially affect the ratings of the bonds given the reliance of the issuer on counterparties to provide functions, including providers of the credit facility and bank accounts.

The ratings are also sensitive to significant depreciation of the euro versus the U.S. dollar, which could affect absolute returns and the U.S. dollar value of distributions. Payments on the currency hedges that are larger than anticipated may leave less cash available to pay interest on the bonds, fund the reserves account and meet capital calls.

As noted, the ratings of the bonds are capped at the ratings of the investments and deposits in the reserve accounts, and a downgrade or default of these investments can negatively affect the bonds, including a potential downgrade.

Fitch relied in its analysis on the legal documentation and opinions for the transaction. If any relevant party to the transaction does not follow its responsibilities and procedures as described in the documentation, the ratings on the bonds may be impacted.

Rating Assumptions Sensitivities

Fitch runs a range of sensitivity analyses on key input parameters to examine the rating stability of each rated bond. The objective of this stress testing is not to eliminate rating migration through unrealistically conservative assumptions but rather to test the rating impact of changes in input parameters.

Fitch reviewed the impact on the rating for the following sensitivities.

Rating sensitivity to NAV: Portfolio NAV immediately reduced by 10%, 20% and 30%.

Rating sensitivity to fund distributions: Portfolio-level fund distributions reduced by 5%, 10% and 15% in each period. For purposes of calculating the ending-period NAV for each period, the full modelled distributions will be taken into account before reducing the cash flow generated by the percentages listed above.

Rating sensitivity to fund capital calls: Portfolio-level fund capital calls increased by 10%, 20% and 30%.

The table below shows the modelling results under the base case scenarios (the initial rating scenarios) and under the various sensitivities. The modelling results are generated at the rating category level (i.e. 'Asf', not 'A+sf'), and the final rating may be adjusted up or down from the model-implied rating based on other qualitative factors as described in the rating criteria.

Model-Implied Ratings' Sensitivity to Assumptions

	Class A-1	Class A-2	Class B
Initial Rating	Asf	Asf	BBBsf
NAV — 10% Haircut	Asf	Asf	BBBsf
NAV — 20% Haircut	Asf	Asf	BBBsf
NAV — 30% Haircut	Asf	BBBsf	BBBsf
Distribution — 5% Haircut	Asf	Asf	BBBsf
Distribution — 10% Haircut	Asf	Asf	BBBsf
Distribution — 15% Haircut	Asf	Asf	BBBsf
Capital Call — 10% Increase	Asf	Asf	BBBsf
Capital Call — 20% Increase	Asf	Asf	BBBsf
Capital Call — 30% Increase	Asf	Asf	BBBsf

Source: Fitch Ratings.

Criteria Application and Data Adequacy

Criteria Application

Fitch Ratings applies the Private Equity Collateralized Fund Obligations (PE CFO) Rating Criteria as its sector-specific criteria under the overarching framework provided by the Global Structured Finance Rating Criteria, which is the master criteria for the sector. The Structured Finance and Covered Bonds Counterparty Rating Criteria and the Structured Finance and Covered Bonds Counterparty Rating Criteria: Derivative Addendum outlines Fitch Ratings' approach to counterparty risk that is relevant for the ratings. The Covered Bonds Rating Criteria and Fitch's Foreign-Currency Stress Assumptions for Residual Foreign-Exchange Exposures in Covered Bonds and Structured Finance - Supplementary Data File provide the framework for Fitch Ratings' analysis of the foreign currency exposure for the ratings.

Data Adequacy

As the timing and size of PE fund cash flows is uncertain, Fitch used historical PE fund performance data from a well-known third-party data provider, which covers all performance quartiles of buyout, mezzanine, energy, secondaries, growth, venture, special situations, real estate, natural resources and debt with vintages ranging from 1990 to 2019 to model expected distributions, capital calls and NAVs of the PE funds.

Appendix A: Portfolio Composition

Astrea VI Portfolio

(As of Nov. 30, 2020)

No.	Funds	Fund Managers	Vintage	Strategy	Geography	Commit -ment (USD Mil.)	NAV (USD Mil.)	% of NAV	Undrawn Capital Commit- ments (USD Mil.)	Total Ex- posure (USD Mil.)	% of Total Ex- posure
1	Permira V L.P.1	Permira	2014	Buyout	Europe	59.8	78.1	5.4	3.5	81.6	5.1
2	Silver Lake Partners IV, L.P.	Silver Lake	2013	Buyout	U.S.	50.0	79.4	5.5	2.1	81.5	5.1
3	PAG Asia II L.P.	PAG Asia Capital	2016	Buyout	Asia	50.0	65.1	4.5	13.2	78.3	4.9
4	General Atlantic, L.P.	General Atlantic Partners	2015	Growth	U.S.	40.0	69.2	4.8	1.4	70.6	4.4
5	Bain Capital Fund XI, L.P.	Bain Capital	2014	Buyout	U.S.	60.0	55.8	3.8	10.2	66.0	4.1
6	TPG Partners VII, L.P.	TPG	2015	Buyout	U.S.	60.0	51.2	3.5	13.0	64.2	4.0
7	Warburg Pincus Private Equity XII, L.P.	Warburg Pincus	2015	Growth	U.S.	50.0	60.4	4.1	0.7	61.1	3.8
8	Blackstone Capital Partners VII L.P.	Blackstone Group	2016	Buyout	U.S.	50.0	54.0	3.7	6.9	60.9	3.8
9	Insight Venture Partners (Cayman) IX, L.P.	Insight Venture Partners	2014	Growth	U.S.	25.0	57.8	4.0	0.8	58.6	3.6
10	KKR North America Fund XI L.P.	KKR	2012	Buyout	U.S.	55.0	51.3	3.5	2.9	54.2	3.4
11	Advent International GPE VIII-E Limited Partnership	Advent International	2016	Buyout	U.S.	35.0	51.6	3.5	1.8	53.4	3.3
12	Yunfeng Fund II, L.P.	Yunfeng Partners	2014	Growth	Asia	20.0	51.3	3.5	0.1	51.4	3.2
13	Vista Equity Partners Fund VI-A, L.P.	Vista Equity Partners	2016	Buyout	U.S.	30.0	44.4	3.0	5.8	50.2	3.1
14	Nordic Capital VIII Alpha, L.P.	Nordic Capital	2013	Buyout	Europe	29.9	28.2	1.9	20.7	48.9	3.0
15	A8 - B (Feeder) L.P. (Apax VIII Feeder Fund)	Apax Partners	2012	Buyout	Europe	54.0	40.5	2.8	4.0	44.5	2.8
16	EQT VII (NO.1) Limited Partnership	EQT Partners	2015	Buyout	Europe	41.9	38.5	2.6	5.5	44.0	2.7
17	AEA Investors Fund VI LP	AEA Investors	2015	Buyout	U.S.	35.0	40.4	2.8	2.0	42.4	2.6
18	Carlyle Partners VI, L.P.	Carlyle Group	2013	Buyout	U.S.	35.0	40.0	2.7	2.2	42.2	2.6
19	Providence Equity Partners VII-A L.P.	Providence Equity Partners	2012	Buyout	U.S.	40.0	33.4	2.3	7.1	40.5	2.5
20	Platinum Equity Capital Partners IV, L.P.	Platinum Equity	2016	Buyout	U.S.	32.5	33.1	2.3	5.8	38.9	2.4
21	TPG Asia VI, L.P.	TPG	2012	Buyout	Asia	37.0	30.9	2.1	4.7	35.6	2.2
22	Bain Capital Europe Fund IV, L.P.	Bain Capital	2015	Buyout	Europe	29.9	30.4	2.1	5.1	35.5	2.2
23	Clayton, Dubilier & Rice Fund IX, L.P.	Clayton, Dubilier & Rice	2013	Buyout	U.S.	35.0	32.1	2.2	2.4	34.5	2.1
24	CVC Capital Partners VI (B) L.P.	CVC Capital Partners	2014	Buyout	Europe	29.9	30.1	2.1	4.3	34.4	2.1
25	Warburg Pincus Private Equity XI, L.P.	Warburg Pincus	2012	Growth	U.S.	60.0	33.8	2.3	0.0	33.8	2.1
26	Bain Capital Asia Fund III, L.P.	Bain Capital	2016	Buyout	Asia	25.0	29.6	2.0	3.8	33.4	2.1
27	Onex PartnerS IV LP	Onex	2014	Buyout	U.S.	45.0	30.2	2.1	2.9	33.1	2.1
28	Hopu USD Master Fund II, L.P.	Hopu Investment Management	2013	Buyout	Asia	30.0	31.8	2.2	1.1	32.9	2.0
29	Apollo Overseas Partners VIII, L.P.	Apollo Global Management	2013	Buyout	U.S.	35.0	27.2	1.9	4.8	32.0	2.0
30	CVC Capital Partners Asia Pacific IV L.P.	CVC Capital Partners	2014	Buyout	Asia	40.0	28.0	1.9	3.5	31.5	2.0
31	Bridgepoint Europe V A1, L.P.	Bridgepoint Advisors	2015	Buyout	Europe	29.9	30.0	2.1	1.3	31.3	1.9

Astrea VI Portfolio

(As of Nov. 30, 2020)

No.	Funds	Fund Managers	Vintage	Strategy	Geography	Commit-ment (USD Mil.)	NAV (USD Mil.)	% of NAV	Undrawn Capital Commit-ments (USD Mil.)	Total Ex-posure (USD Mil.)	% of Total Ex-posure
32	Littlejohn Fund V, L.P.	Littlejohn Partners	2014	Buyout	U.S.	30.0	24.3	1.7	5.2	29.5	1.8
33	KKR European Fund IV L.P.	KKR	2015	Buyout	Europe	29.9	28.6	2.0	0.5	29.1	1.8
34	PAI Europe VI	PAI Partners	2014	Buyout	Europe	29.9	25.7	1.8	2.2	27.9	1.7
35	Vista Equity Partners Fund V-A, L.P.	Vista Equity Partners	2014	Buyout	U.S.	18.0	19.8	1.3	4.1	23.9	1.5
Total — Astrea VI Portfolio						**1,357.6**	**1,456.2**	**100.0**	**155.6**	**1,611.8**	**100.0**

Source: Astrea VI Pte. Ltd.

Appendix B: Terms of the Bonds

Priority of Payments

Unless and until an enforcement event occurs, the payments to be made on each distribution date from the available cash flow (defined below) of the issuer as of the distribution reference date relating to such distribution date shall be made in the following order of priority:

1. Payment of taxes (if any) of the issuer and the asset-owning companies and expenses (other than those provided for in clauses 2 through 13 of the priority of payments) up to an aggregate cap of $0.9 million per distribution period (which will be proportionately adjusted for a distribution period that is longer or shorter than six months, the “clause 1 cap”).
2. Payment of amounts due and payable to the hedge counterparty under any hedge agreement in respect of swap transactions entered into by the issuer (save for the amounts payable under clause 12).
3. Manager fees.
4. Payment for the following uses relating to the credit facility agreement in the following order:

    (i) Credit facility commitment fees;

    (ii) Credit facility interest expense and any other payables; and

    (iii) Credit facility principal repayment.
5. Class A-1 bonds and class A-2 bonds interest expense on a pari passu and pro rata basis.
6. Class B bonds interest expense.
7. If net cash proceeds are received from sale or disposal of fund investments pursuant to the exercise of the disposal option, payment of 100% of cash flow remaining after clauses 1 through 6:

    (i) so long as any class A-1 bond is outstanding, to the reserves accounts until the reserves accounts cap has been met and thereafter to the repayment of the outstanding principal amount of the class B bonds (regardless of whether the class A-1 bonds or the class A-2 bonds have been redeemed); or

    (ii) upon and after full redemption of all class A-1 bonds, to the repayment of the outstanding principal amount of the class A-2 bonds and thereafter to the repayment of the outstanding principal amount of the class B bonds.

    In either case, until the amount so paid under this clause 7 is equal to (but not exceeding) the total amount of net cash proceeds so received.
8. Payment for the following uses in the following order:

    So long as any class A-1 Bond is outstanding

    Payment to the reserves accounts for the following uses in the following order:

    (i) payment for the amount of any losses realized on investments held in the reserves custody account until such losses have been recouped;

(ii) payment for the unpaid reserve amount applicable to such distribution date; and

(iii) payment for the reserve amount applicable to such distribution date.

Upon and after full redemption of all class A-1 bonds

(iv) payment of the amount available under this clause 8 to the principal repayment of the class A-2 bonds.

9. Upon and after full redemption of all class A bonds, payment of 90% of cash flow remaining after clauses 1 through 8 to the principal repayment of the class B bonds.

10. If the maximum LTV ratio has been exceeded, payment of 100% of cash flow remaining after clauses 1 through 9:

   (i) so long as any class A-1 bond is outstanding, to the reserves accounts until the reserves accounts cap has been met and thereafter to the repayment of the outstanding principal amount of the class B bonds (regardless of whether the class A-1 or A-2 bonds have been redeemed); or

   (ii) upon and after full redemption of all class A-1 bonds, to the repayment of the outstanding principal amount of the class A-2 bonds and thereafter to the repayment of the outstanding principal amount of the class B bonds.

   In either case, until the maximum LTV ratio is no longer exceeded.

11. Payment of expenses referred to in clause 1 above which are in excess of the clause 1 cap and any other expenses.

12. Payment of amounts due and payable to any hedge counterparty under any hedge agreement in respect of the early termination of swap transactions entered into by the issuer where such early termination is due to an event of default with respect to which such hedge counterparty is the defaulting party (as defined in such hedge agreement) or a termination event (as defined in such hedge agreement) with respect to which such hedge counterparty is the affected party (as defined in such hedge agreement).

13. Payment for the following uses in the following order:

   Prior to and until the performance threshold has been met on any distribution date falling on or before the class A-1scheduled call date

   (i) payment of 100% of the cash flow remaining after application of clause 1 through clause 12 of the priority of payments to the sponsor until the performance threshold has been met;

   If and after the performance threshold has been met on a distribution date falling on or before the class A-1 scheduled call date, the following order shall apply to the cash flow remaining after application of clause 13(i) on that distribution date as well as to cash flow available under clause 13 on each subsequent distribution date up to and including the distribution date falling on the class A-1 scheduled call date

   (ii) payment to the bonus redemption premium reserves accounts until the aggregate amount so paid under this clause 13(ii) is equal to 0.5% of the principal amount of the class A-1 bonds as of the issue date;

   (iii) payment to the sponsor and the reserves accounts in equal proportions until the reserves accounts cap has been met; and

(iv) after the reserves accounts cap has been met, payment of 100% of the cash flow remaining after application of clause 1 through clause 12 of the priority of payments to the sponsor.

On each distribution date falling after the class A-1 scheduled call date

(v) payment of 100% of the cash flow remaining after application of clause 1 through clause 12 of the priority of payments to the sponsor,

provided always that:

(i) all capital calls will be paid first from the total cash balance in the operating accounts when due (even if such due date falls on a distribution date);

(ii) for any taxes or administrative expenses of any of the issuer and the asset-owning companies due on any date that is not a distribution date, such taxes or expenses will be paid from the total cash balance in the operating accounts when due. The amount of such payments will, on the next distribution date, be included in the calculation for determining whether the clause 1 cap has been met;

(iii) for any interest or principal repayment due on any loan made under the credit facility agreement (each a CF loan) on a date that is not a distribution date, such interest or principal repayment will be paid from the total cash balance in the operating accounts when due; and

(iv) for any payment due on any swap transaction under clause 2 above on any date that is not a distribution date, such payment will be paid from the total cash balance in the operating accounts.

In relation to each distribution reference date, "available cash flow" is defined as the total cash balance in the operating accounts as of such distribution reference date less the retained amount. For the avoidance of doubt, the total cash balance in the operating accounts includes, without limitation:

(i) any amounts transferred from the collection accounts;

(ii) interest income and realized gains received from the reserves accounts and the reserves custody account;

(iii) the proceeds of any CF loans;

(iv) any retained amount and additional retained amount from the preceding distribution period;

(v) the proceeds of any equity investments; and

(vi) the transfer of the residual balance from the settlement accounts (after the bond proceeds have been used for (a) repaying a certain portion of the existing shareholder loan(s) from the sponsor that was incurred in connection with the asset-owning company's acquisition of the fund investments and (b) payment of fees and expenses incurred in connection with the issue and offering of the bonds.

Post-Enforcement Priority of Payments

If an event of default has occurred and the bonds have been accelerated (together, an enforcement event), all cash in the collection accounts will be swept to the operating accounts

(via a daily cash flow sweep) and all available funds in the operating accounts, reserves accounts, bonus redemption premium reserves accounts and settlement accounts (except for amounts that have been set aside for repaying a certain portion of the existing shareholder loans from the sponsor incurred in connection with the acquisition of fund investments and payment of fees and expenses incurred in connection with the issue and offering of the bonds) will be applied according to the following post-enforcement priority of payments:

1. Payment of amounts due under clause 1 of the priority of payments provided that (i) with regard to amounts due for payments of administrative expenses under clause 1 of the priority of payments, only those amounts required for the enforcement of the security documents or the bonds will be paid under this clause 1 and (ii) the amounts paid under this clause 1 will be paid without regard to any caps.
2. Payment of any amounts due and outstanding to the hedge counterparty under any hedge agreement in respect of swap transactions entered into by the issuer (save for the amounts payable under clause 10 below).
3. Payment for the following uses relating to the credit facility agreement in the following order:
   (i) credit facility commitment fees;
   (ii) credit facility interest expense and any other payables; and
   (iii) credit facility principal repayment.
4. Payment of accrued and unpaid interest on the class A-1 and A-2 bonds on a pari passu and pro rata basis.
5. Repayment of outstanding principal amount (and, if applicable, premium) of the class A-1 and A-2 bonds on a pari passu and pro rata basis.
6. Payment of accrued and unpaid interest on the class B bonds.
7. Repayment of outstanding principal amount of the class B bonds.
8. Payment of any unpaid expenses or any other expenses not included in clause 1 above.
9. Payment of any capital calls.
10. Payment of amounts due and payable to any hedge counterparty under any hedge agreement in respect of the early termination of swap transactions entered into by the issuer where such early termination is due to an event of default with respect to which such hedge counterparty is the defaulting party (as defined in such hedge agreement) or a termination event (as defined in such hedge agreement) with respect to which such hedge counterparty is the affected party (as defined in such hedge agreement).
11. Payment to sponsor.

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