MOODY'S
INVESTORS SERVICE

RATING METHODOLOGY

Closed-End Funds Methodology

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This rating methodology replaces the *Closed-End Funds Methodology* published in December 2020. We have added a separate metric under the Asset Coverage factor to calculate or estimate the Risk-adjusted Asset Coverage sub-factor for cash-flow closed-end funds (CEFs); introduced a set of advance rates under the Asset Coverage factor for the direct lending assets of market-value CEFs; clarified the criteria for an upward adjustment to the Fixed-charge Coverage sub-factor scores; clarified instrument-level notching for US closed-end funds not governed by the Investment Company Act of 1940; and, in the Scope section, clarified the criteria for cash-flow CEFs rated using this methodology. We have also made editorial changes to enhance readability.

Introduction

In this rating methodology, we explain our general approach to assessing credit risk of closed-end investment funds globally, also known as closed-end funds (CEFs), including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector.

We discuss the scorecard used for this sector. The scorecard[1] is a relatively simple reference tool that can be used in most cases to approximate credit profiles in this sector and to explain, in summary form, many of the factors that are generally most important in assigning ratings in this sector. The scorecard factors may be evaluated using historical or forward-looking data or both.

We also discuss other considerations, which are factors that are assessed outside the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. In addition, some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.[2] Furthermore, since ratings are forward-looking, we often incorporate directional views of risks and mitigants in a qualitative way.

1 In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.
2 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

As a result, the scorecard-indicated outcome is not expected to match the actual rating for each closed-end fund.

Our presentation of this rating methodology proceeds with (i) the scope of this methodology; (ii) a sector overview; (iii) the scorecard framework; (iv) a discussion of the scorecard factors; (v) other considerations not reflected in the scorecard; (vi) the assignment of issuer-level and instrument-level ratings; (vii) methodology assumptions; and (viii) limitations. In Appendix A, we describe how we use the scorecard to arrive at a scorecard-indicated outcome. Appendix B shows the full view of the scorecard factors, sub-factors, weights and thresholds. Appendix C provides an overview of the advance rates used for calculating the risk-adjusted asset coverage metric. Appendix D lists the sector codes used to estimate sector concentration.

Scope

This methodology applies to CEFs globally that principally invest in financial assets domiciled in countries with developed capital markets and transparency of the pricing and fair value of investments.[3] A CEF issues shares in an initial public offering or private placement. Under normal circumstances, the holders of the shares cannot seek redemption from the fund. The lack of continuous redemption rights distinguishes the CEFs rated using this methodology from open-end mutual funds or funds that grant put rights to holders,[4] which typically issue shares on a continuous basis and periodically redeem shares at net asset value. CEFs are generally not structured as special purpose companies or vehicles.

This methodology is used to rate closed-end funds that we define as "market-value CEFs" and "cash flow CEFs."

- Market-value CEFs are those that typically have assets that are transparently priced in liquid markets, and such CEFs often have asset coverage requirements with respect to their liabilities.
- Cash-flow CEFs hold primarily corporate debt securities or corporate loans that are illiquid. To service their obligations, these funds rely on streams of cash flow from interest payments and amortization, as well as prepayments or maturity of principal amounts. These CEFs typically have cash flow coverage requirements with respect to the interest they pay on their liabilities. For cash-flow CEFs, the methodology applies only to funds that have defined investment and harvest periods, financing obligations with a defined maturity and a limited ability to roll over debt.

This methodology does not apply to securities issued by bankruptcy-remote special purpose vehicles (e.g., collateralized loan obligations, collateralized fund obligations or structured investment vehicles), to business development companies, or to subscription credit facilities used by private capital funds. This methodology also does not apply to funds primarily holding real assets, private or illiquid equity investments concentrated in certain sectors for which asset-class specific methodologies apply (e.g., real estate) nor to funds that have a relatively concentrated portfolio of investments where the fund has some level of operational control (e.g., minority holding companies and investment holding companies).[5]

3 The methodology does not apply to closed-end funds that have more than 5% of assets under management domiciled in countries with an absence of developed capital markets or a lack of transparency of the pricing of publicly traded investments. More specifically, this means a lack of transparency in terms of market value for market-value CEFs or a lack of transparency in fair value for cash-flow CEFs for more than 5% of assets under management.

4 For clarity, we do not use this methodology to rate funds that offer a put option to holders of the fund. We may use this methodology to rate closed-end funds that have the right to make periodic repurchase offers of no more than 25% of the fund's shares.

5 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

Sector Overview

CEFs invest in a variety of asset types. The funds often seek to enhance their returns by issuing debt, preferred stock or both, with the proceeds typically invested in new assets.

CEFs repay their liabilities, including debt service obligations and preferred dividends, using cash flow (interest, dividends, distributions and paydowns from underlying assets), as well as proceeds from the sale of those assets. Market-value CEFs typically have both these principal sources of repayment of debt obligations: cash flow from the investments and liquidation of the investments. For cash-flow CEFs, debt obligations are typically repaid from cash flow because their ability to sell portfolio assets, which are typically private corporate debt and other illiquid investments, is generally limited.

Compared with open-end mutual funds, CEFs have certain advantages. A perpetual CEF does not have to sell assets under normal circumstances to meet common share redemptions; whereas open-end funds must typically maintain a portion of their portfolio in highly liquid (and lower-yielding) investments in the event of share redemptions. In addition, any CEF with a finite life can structure its portfolio to be prepared for its maturity date, so that it will be able to retire or redeem debt and preferred stock and distribute its net assets to shareholders.

In the US, many CEFs are organized as publicly traded investment companies under the Investment Company Act of 1940, with common shares that trade on an exchange where the value is driven by supply and demand, not solely by the fund's net asset value (NAV).[6] For these funds, leverage restrictions have helped to mitigate the risks associated with excessive leverage, because breaches of asset coverage thresholds require the suspension of common dividends. As a result, funds have a strong incentive to avoid a regulatory breach, for example by selling assets to deleverage the fund and restore asset protections. In the event of a breach, a CEF is incentivized to cure it quickly, because a fund that suspends common dividends for more than two years would no longer qualify for certain meaningful tax exemptions. There are also closed-end funds whose common shares are not listed on exchanges and that are not organized as registered investment companies. These funds may be referred to as non-traded closed-end funds or private funds and are typically limited to qualified high-net-worth or institutional investors. These closed-end funds typically invest in less liquid or illiquid assets and may have a perpetual term or a finite life (e.g., 10 years).

The UK equivalent of US closed-end funds registered with the US Securities and Exchange Commission under the Investment Company Act of 1940 (the "1940 Act") are referred to as investment trusts; in continental Europe, they are classified as a form of Alternative Investment Funds or Long-term Investment Funds.[7] In Australia, they are called Listed Investment Trusts or Listed Investment Companies. This methodology applies to these investment vehicles, provided they are closed-end.

6 However, a CEF's NAV is typically an important driver of the price of its shares over time.

7 Some Alternative Investment Funds are open-ended, and some are closed-ended.

Scorecard Framework

The scorecard in this rating methodology is composed of four factors. Some of the factors comprise a number of sub-factors.

The scorecard-indicated outcome is an alphanumeric score expressed on our 21-point rating scale and is oriented to our assessment of the CEF's senior unsecured debt rating.

EXHIBIT 1

Closed-End Funds Scorecard Overview

Factor	Factor Weighting	Sub-factor	Sub-factor Weighting
Asset Coverage	40%	Risk-adjusted Asset Coverage	40%
Portfolio Profile	25%	Asset Profile	10%
		Sector Concentration	7.5%
		Issuer Concentration	7.5%
Fixed-charge Coverage	20%	Fixed-charge Coverage	10%
		Five-Year Average Fixed-charge Coverage	10%
Financial Policy	15%*	**	15%
Total	**100%**		**100%**
Scorecard-Indicated Outcome			

* We weight lower scores for the Financial Policy factor more heavily than higher scores. See Appendix A for more details.

** This factor has no sub-factors.

Source: Moody's Investors Service

Please see Appendix A for general information about how we use the scorecard and for a discussion of scorecard mechanics. The scorecard does not include or address every factor that a rating committee may consider in assigning ratings in this sector.[8]

Discussion of the Scorecard Factors

In this section, we explain our general approach for scoring each scorecard factor or sub-factor, and we describe why they are meaningful as credit indicators.

Factor: Asset Coverage (40% Weight)

Why It Matters

For market-value CEFs, the market value of a fund's risk-adjusted assets relative to the total nominal (face) value of its outstanding debt and preferred stock is a critical indicator of credit strength, because asset sales are a primary source of repayment for outstanding obligations. Asset coverage indicates the extent of a fund's cushion against future losses and its ability to withstand periods of market stress. We use a risk-adjusted metric rather than a more traditional loan-to-value metric, because riskier assets are more likely to decrease in value in market downturns.

8 Please see the "Other Considerations" and "Limitations" sections.

For cash-flow CEFs, the value of a fund's stressed cash flow and assets relative to its leverage is a critical indicator of credit strength. These funds have a greater reliance on cash flow as a primary source of debt repayment, because the ability of these CEFs to liquidate assets is generally limited.

How We Assess It for the Scorecard

RISK-ADJUSTED ASSET COVERAGE:

Market-Value CEFs

In assessing this sub-factor for market-value CEFs, we compare the fund's assets, risk-adjusted using various advance rates, and its leverage, as defined.

To arrive at the numerator of this ratio, we multiply each of the assets in the CEF's portfolio by an advance rate[9] that generally reflects historical volatility and liquidity, and we sum the results. We apply an additional liquidity haircut of 50% to all securities that are reported in the CEF's financial statements as Level 3 securities, which are illiquid securities whose fair value cannot be determined by observable market measures.

The denominator of this ratio is the fund's total amount of debt and debt-like obligations plus the next 90-days of fund operating expenses including non-traditional leverage, such as tender option bonds (TOBs).[10]

To arrive at a score for this sub-factor, we sequentially apply advance rates, starting with Aaa (the lowest advance rates), to all securities in the CEF, based on asset type. If the discounted asset value (using Aaa advance rates) is lower than the fund's total amount of debt and debt-like obligations plus the next 90-days of fund operating expenses, we then use Aa1 advance rates and compare the discounted asset value to the fund's total amount of debt and debt-like obligations plus the next 90-days of fund operating expenses, and we continue, as needed, down the scale. The first set of advance rates that allow the CEF to cover its obligations fully is the initial sub-factor score.

We typically consider all of the fund's invested assets in our assessment of this sub-factor.

For assets where advance rates are based on rating levels,[11] we use our ratings where available. If the investment is unrated, we may use one of the following as a substitute: (i) rating equivalents that are derived from our ratings of different classes of debt of the same entity or debt of a closely related entity; (ii) specific sector-based assumptions (for US municipal securities, examples of specific sectors include public hospitals, public universities and charter schools); (iii) Q-scores, estimates derived from Moody's Analytics' RiskCalc™, Moody's Analytics' CreditEdge™ or similar types of model-based estimates of probabilities of default and loss;[12] or (iv) credit estimates.[13] In the absence of the above, we may use the advance rate corresponding to the lowest rating category for a given asset type or sector, or an advance rate based on the credit profile indicated by the fund's strategy. As examples, for unrated US municipal securities, we may use the non-investment grade advance rate, and for unrated corporate bonds held by funds primarily invested in single-B-like assets, we may use the Caa advance rate.

9 Please see Appendix C for information on advance rates.

10 In addition to TOBs with recourse to the CEF, we also include TOBs without recourse in our calculation or estimation of leverage, because these types of TOBs represent senior claims against the fund's high-quality assets, with only the residual available to cover the fund's other obligations.

11 Please see Appendix C for information on advance rates.

12 We may adjust a model-based estimate where the instrument in the fund has a different priority of claim or pledge type, or where the instrument is issued by a different entity that is closely related to the entity for which the model-indicated estimate is available. For more information on Q-scores, refer to *Rating Symbols and Definitions*. A link can be found in the "Moody's Related Publications" section.

13 For more information, see our cross-sector methodology that discusses credit estimates.

Where a CEF uses derivatives, we typically consider the derivative's mark-to-market value. For example, the exposure from an interest rate swap is the net value of the long and short legs. If the net value is positive, a payment is owed to the fund by the swap counterparty. As a result, the CEF has incremental credit exposure to the derivative counterparty, absent any posted collateral. We haircut the mark-to-market value using the advance rate corresponding to the Counterparty Risk Rating (CRR) of the counterparty, or if the counterparty does not have a CRR, we use the issuer rating or senior unsecured debt rating. However, for insurers, we use the insurance financial strength rating.

If the net value is negative, the CEF is in the position of payor, in which case we subtract the net value from the fund's total market value.

Certain derivative instruments, such as credit default swaps and forward purchase contracts, can add credit risk to the fund. For example, if a fund were to sell credit protection on a reference credit (via an option or a credit default swap), it would then have credit exposure to that reference credit. In such a case, we would simulate the economic equivalent of the same exposure in the cash market in our calculation or estimation of the risk-adjusted asset coverage metric, adding the notional amount of the swap and using the relevant rating of the reference security (typically, the issuer rating or senior unsecured rating). We would also add an amount of senior debt to the fund's obligations equal to the notional amount of the swap.

If the fund instead were to purchase credit protection on an investment in its portfolio, the rating we would use to determine the advance rate would be the higher of (i) the credit quality of the swap provider (the Counterparty Risk Assessment if the provider is a bank, otherwise the counterparty's issuer rating or senior unsecured rating[14] and (ii) the rating of the investment.

Market-Value CEFs: Adjustments to the Sub-factor Score

Please see the "Measurement or Estimation of Factors in the Scorecard" section in Appendix A for a general description of how we apply adjustments. Typical considerations that may lead to adjustments to the initial Risk-adjusted Asset Coverage sub-factor score include the following:

» **Derivatives.** CEFs typically use derivatives to either hedge an existing investment, to increase leverage or to speculate on an asset's movement. Derivatives commonly used by CEFs include futures, options and interest rate swaps. In addition to the specific quantitative adjustments described above that we make in calculating or estimating the initial sub-factor score, we typically assess the overall risk to asset values and to the liabilities and cash outflows that may result from the use of derivatives, which may include stress scenarios. In the case of futures or interest rate swap positions, we typically consider how changes in bond prices or interest rates would affect the fund's NAV and the source of cash used to fund margin payments and collateral posting requirements. In our assessment, we consider the credit quality of the derivative counterparty to assess the risk of the counterparty defaulting on its obligation. We would consider a downward adjustment to the initial sub-factor score if, based on our scenario analysis, the use of derivatives indicates a risk of lower asset coverage than the initial score suggests.

» **Asset coverage trend.** The assigned sub-factor score is forward-looking, and we may adjust the initial score upward or downward to reflect important trends in asset coverage that are not fully captured in the initial score. We typically also consider the potential for the trend to improve or deteriorate.

» **Potentially illiquid asset classes.** Assigned sub-factor scores incorporate our view of how local market conditions may affect the liquidity of certain asset classes. We may adjust the initial sub-factor score

[14] When the counterparty is unrated, we typically consider the rating of the parent, if rated, as a proxy for the credit quality of the counterparty. If no parent rating is available, we would typically use a credit estimate. See our cross-sector methodology that discusses the use of credit estimates. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

downward to arrive at the assigned sub-factor score if we consider that one or more asset classes are or are likely to become illiquid, such that the standard advance rates are not representative of potential sale prices in a relevant stress scenario. Structured finance securities are examples of securities whose market value may be extremely reduced in a stressed market. We may consider how lower advance rates for one or more asset classes would affect the score, or we may make a qualitative scenario assessment of how stressed market conditions would affect the portfolio.[15]

Cash-Flow CEFs

In assessing this sub-factor for cash-flow CEFs, we use the following ratio, which essentially compares a fund's stressed assets and cash flow to its leverage, as defined. The stress is highest at the Aaa scoring level and decreases for each alphanumeric scoring level down to Caa3. The initial sub-factor score is the highest alphanumeric level for which the ratio value is at least 1.

EXHIBIT 2

Cash-flow CEFs: Risk-adjusted Asset Coverage Ratio

$$\frac{\begin{array}{c}(1 - \text{Corp Debt EL}) * (\text{Corp Debt \% of Portfolio}) + \text{Advance Rate on Other Investments} * \min(\text{Other Investments \% of Portfolio, 15\%}) \\ + \text{WAL} * (\text{Asset Coupon} * (1\text{-Stress on Asset Coupon}) * (\text{Corp Debt \% of Portfolio})) \\ - \text{WAL} * (\text{Leverage} * \text{Liability Coupon} + \text{Annual Fee Rate})\end{array}}{\text{Leverage}}$$

Source: Moody's Investors Service

To arrive at the expected loss on corporate fixed-income assets (Corp Debt EL), we multiply an assumed probability of default rate by a default stress factor and by an assumed loss given default.

» Across all the alphanumeric scoring levels, we use the average of Moody's idealized cumulative expected default rates for the B3 to Caa3 rating categories for the weighted average life of the fund's fixed-income assets.[16] When the weighted average life is not an integer (e.g., 2.6 years), we interpolate between the two nearest values (e.g., the default rate for two years and the default rate for three years) to derive the probability of default. When the WAL is less than one year, we use the one-year probability of default rate.

» Default probability stress factors specific to an alphanumeric scoring level (Exhibit 3) are then applied.

» We use a standard loss given default rate of 55% to arrive at an expected loss rate.

By subtracting the expected loss rate from 1 and multiplying by the percentage that fixed-income assets represent in the portfolio, we arrive at a corporate fixed-income asset recovery rate for the portfolio.

EXHIBIT 3

Default Probability Stress Factors

	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3
Stress factors	1.95	1.80	1.78	1.76	1.73	1.71	1.69	1.67	1.65	1.63	1.50	1.35	1.20	1.00	1.00	1.00	1.00	1.00	1.00

Source: Moody's Investors Service

We then add an amount equal to an advance rate for Other assets category (Exhibit 4, which is the same rate used for the Other assets category in the table of advance rates in Appendix C) multiplied by the lesser

15 Potentially illiquid asset classes may be a constraining factor to the rating. For more information, please see the "Other Considerations" section.

16 We believe that the credit quality of the underlying corporate fixed-income assets of these funds is low, representative of highly-leveraged loans. A link to Moody's Idealized Cumulative Expected Default Rates table and Idealized Cumulative Expected Loss Rates table can be found in Rating Symbols and Definitions. A link to this publication can be found in the "Moody's Related Publications" section.

of the percentage that other assets (i.e., assets other than corporate-fixed-income assets[17]) represent in the portfolio and 15%. In effect, the advance rate is 0% for other assets in excess of 15% of the fund's invested assets.

EXHIBIT 4

Advance Rates for Other Assets

	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3
Other	13%	17%	18%	19%	22%	24%	26%	30%	32%	35%	38%	41%	44%	55%	57%	61%	64%	67%	74%

Source: Moody's Investors Service

To that amount, we then add the stressed coupon income. We stress the asset coupon rate on the corporate fixed-income assets by multiplying this asset coupon rate by 1 minus the stress shown in Exhibit 5 and by the percentage that fixed-income assets represent in the portfolio. We then multiply this product by the weighted average life of the fixed-income assets (WAL).

From this product, we subtract an amount equal to the WAL times the sum of (i) the product of the coupon on the cash flow CEF's liabilities and the fund's leverage (defined below) and (ii) the combined annual fee rate paid by the fund to the asset manager and the annual rate of fees for other services.

The denominator of the ratio is the fund's leverage, defined as debt and debt-like obligations, including preferred stock, as a percentage of the cash flow CEF's invested assets. Where the structure includes the presence of a master and feeder funds, a feeder fund's total leverage would equal the leverage at the feeder fund plus the feeder fund's share of leverage at the master fund, if any.

EXHIBIT 5

Stress on Asset Coupon*1

	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3
Stress on asset coupon	47.0 %	43.9 %	43.5 %	43.0 %	42.4 %	42.0 %	41.6 %	41.1 %	40.7 %	40.3 %	37.5 %	34.3 %	31.1 %	26.8 %	26.8 %	26.8 %	26.8 %	26.8 %	26.8 %

*1 The stress on asset coupon percentage is rounded to one decimal place.

Source: Moody's Investors Service

For the above calculation or estimation, we assess preferred stock or securities with convertible features to make a determination of whether these are more debt-like or equity-like. Where, for example, preferred equity holdings mature within the life of the fund and pay dividends cumulatively in cash, we may consider they are more debt-like and classify them as part of the corporate debt percentage of the portfolio (Corp Debt % of portfolio) for the purposes of the RAAC sub-factor calculation. If the characteristics of such holdings indicate they are more equity-like, the securities would be considered assets other than corporate-fixed income and the above "Other" assets treatment would apply.

Cash-Flow CEFs: Adjustments to the Sub-factor Score

Please see the "Measurement or Estimation of Factors in the Scorecard" section in Appendix A for a general description of how we apply adjustments. Typical considerations that may lead to adjustments to the initial Risk-adjusted Asset Coverage sub-factor score are below. In aggregate, the notching can result in an upward adjustment of up to three notches or a downward adjustment of up to six notches to the initial RAAC sub-factor score:

17 For clarity, we include cash-flow CEFs' cash holdings in neither fixed-income assets nor other assets because we typically expect that cash holdings will be transitory. Cash position may be considered qualitatively in our assessment of the Fixed-charge Coverage sub-factors.

- **Portfolio credit quality.** We may adjust the initial sub-factor score upward or downward to arrive at the assigned sub-factor score in order to reflect i) actual or expected default performance that is different from the assumed idealized default rates; ii) higher or lower credit quality of the portfolio of corporate fixed-income assets than what is captured in our probability of default inputs. For example, we may adjust the initial sub-factor score upward or downward if we consider that the credit quality of the portfolio is in the upper or lower part of the credit quality underlying the assumed probability of default rate on the corporate fixed-income assets incorporated into the initial sub-factor score. We may use estimates derived from Moody's Analytics' RiskCalc™, Moody's Analytics' CreditEdge™ or similar types of model-based assessments of probabilities of default and loss to inform our assessment. In limited cases, we may consider that the overall credit quality of the assets is higher than the expected B3 to Caa3 range, and we may apply a larger upward adjustment. We would generally apply an adjustment only in cases where our view is informed by robust credit assessments, including credit estimates,[18] that cover a large proportion of the portfolio of corporate fixed-income assets.

- **Asset coverage trend.** The assigned sub-factor score is forward-looking, and we may adjust the initial score upward or downward to reflect important trends in cash-flow coverage that are not fully captured in the initial score. We typically also consider the potential for cash flow trend to improve or deteriorate based on our projections of overall default rates. Mismatches between a fund's assets and its liabilities absent effective hedging programs may result in a downward adjustment. For example, for a cash-flow CEF we may adjust the initial sub-factor score downward where a fund's return on assets is based on a floating interest rate and its debt obligations are based on a fixed rate. The volatility of the mismatch between assets and liabilities could lead to a cash flow coverage shortfall, especially in an environment of decreasing interest rates. Similarly, where a meaningful portion of the fund's assets are structured to permit deferral of interest (e.g., payment-in-kind) or principal, there could be a mismatch between assets and liabilities.

- **Structural considerations.** Where underlying investments of a fund are structured to enable obligors to defer payments (e.g., make payments-in-kind), we may apply a downward adjustment to the initial sub-factor score in consideration of the uncertainty of cash flows that this creates. However, we would typically not apply this downward adjustment where the fund's liabilities are also structured with deferral features that provide matching flexibility to the fund in meeting its obligations.

- **Prepayment risk and distributions.** We may adjust the initial sub-factor score downward where we consider that there are material risks of cash flows being reduced or diverted away from debt repayment. The stress applied on the asset coupon under the Risk-adjusted Asset Coverage sub-factor incorporates some level of pre-payment risk, but we may consider that the risk is higher than what is incorporated into our stress case for a particular CEF. Our view would typically be informed by the fund's track record of pre-payment as well as the strength of the fund's protections against early pre-payment requests by obligors and the importance of the financial penalty applied in case of pre-payment. In addition, while distributions are typically subject to compliance with certain coverage ratios, thus limiting the risk of cash flow leakage,[19] we may consider whether there is insufficient headroom to meet coverage ratios or the size of a fund's distributions relative to its debt obligations.

- **Derivatives.** Cash-flow CEFs may use derivatives to either hedge an existing investment, to increase leverage or to speculate on an asset's movement. Derivatives commonly used by CEFs include futures, options and interest rate swaps. In addition to the specific quantitative adjustments described above that we make in calculating or estimating the initial sub-factor score, we typically assess the overall risk to asset values and to the liabilities and cash outflows that may result from the use of derivatives,

[18] For more information, see our cross-sector methodology that discusses credit estimates. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

[19] Distributions are typically prorated proportionally to debt and equity. If the coverage ratio is not met, the CEF would need to deleverage in order to meet the coverage ratio.

which may include stress scenarios. In the case of futures or interest rate swap positions, we typically consider how changes in bond prices or interest rates would affect the fund's NAV and the source of cash used to fund margin payments and collateral posting requirements. In our assessment, we consider the credit quality, of the derivative counterparty to assess the risk of the counterparty defaulting on its obligation. We would consider a downward adjustment to the initial sub-factor score if, based on our scenario analysis, the use of derivatives indicates a risk of lower cash-flow coverage than the initial score suggests.

Factor: Portfolio Profile (25% Weight)

Why It Matters

The credit quality, liquidity and diversity of a CEF's asset portfolio are important indicators of its ability to pay debt service and dividends during periods of market stress. Portfolios with material issuer or sector concentration may experience higher losses during a downturn than more diversified funds. For example, pressure in the high-yield market may exacerbate declines for a portfolio comprising mostly high-yield corporate debt.

This factor comprises three sub-factors:

Asset Profile

CEFs whose assets are characterized by strong credit quality and robust liquidity are typically more resilient to market swings and have more stable revenue and earnings than funds with lower-quality assets.

Sector Concentration

Sector concentration is important because weaknesses in a particular industry or geographic region expose the fund to higher investment losses relative to a fund whose assets are diversified across many industries or markets.

Issuer Concentration

Portfolios with limited issuer diversification are vulnerable to higher losses due to the weakness of any one issuer.

How We Assess It for the Scorecard

ASSET PROFILE:

We assess this sub-factor qualitatively based on the overall credit quality of the assets in a CEF and their liquidity. Our assessment considers the overall composition of the portfolio and the fund's track record and strategy (i.e., this is not a security-by-security analysis).

Credit profile. Our assessment of credit quality is typically based on the ratings of the underlying securities. Please see the discussion of Risk-adjusted Asset Coverage for an explanation of how we typically treat unrated securities and how we consider the credit profile of corporate fixed-income assets of cash-flow CEFs. We may also consider the security type and the historical credit performance of similar securities. For purposes of scoring this sub-factor, we typically consider that equity instruments have a Caa-equivalent credit quality.

Liquidity profile. We form an overall assessment of a fund's liquidity profile, typically by considering the depth of the market for different types of assets as well as the frequency and volume of trading. Although our assessment is informed by historical performance, it also incorporates our forward-looking views of market conditions and the underlying liquidity of different asset types. We may also incorporate our views of how assets will perform during periods of market dislocation. Exchange-traded instruments with transparent pricing in deep markets, such as the New York Stock Exchange, typically have higher liquidity. Dealer-traded instruments typically have a somewhat weaker liquidity profile than publicly traded stocks, although some dealer-traded asset classes may have a strong liquidity profile, such as US Treasury securities and securities of other highly rated sovereigns that benefit from reserve currency status, as well as the bonds of certain highly rated sub-sovereigns (including highly rated US municipalities). A portfolio characterized by certain other asset classes that are more thinly traded, such as leveraged loans, typically receives a lower score for this sub-factor.

For funds with multiple asset types, liquidity scoring is typically based on the clearly predominant liquidity profile category described in Exhibit 6 or, where there isn't a clearly predominant category, our view of the blend of assets in the portfolio.

Exhibit 6 provides indicative guidance for scoring the credit and liquidity profiles of fund assets based on credit quality level, asset type and trading volumes. For example, a predominantly US corporate fund holding securities with low investment-grade credit quality would typically receive a score of "Medium" for the credit profile score and 'Medium+" for the liquidity profile score. In assigning the sub-factor score, we may also consider circumstances specific to a fund, for example the impact of high-risk, illiquid asset classes on the overall profile of the fund.

EXHIBIT 6

Asset Profile Sub-factor: Our General Approach for Scoring Credit and Liquidity Profiles

Category	Credit Profile	Liquidity Profile
High	High investment grade (Aa to Aaa)	Highly rated sovereign bonds (e.g., US Treasury securities); large- and mid-capitalization equities traded on major exchanges and bonds of highly rated sub-sovereign entities (including highly rated US municipalities) with solid daily trading volumes
Medium+	Mid investment grade (A to high Baa)	Investment-grade sovereign, sub-sovereign and corporate bonds
Medium	Low investment grade to high non-investment grade (Mid Baa to mid Ba)	Small-cap stocks, high-yield government bonds
Medium–	Mid non-investment Grade (Low Ba to mid B)	High-yield corporate bonds and other fairly large but less liquid asset classes (including low-rated government bonds)
Low	Low non-investment grade (Low B and below)	Leveraged loans, structured finance and other illiquid asset classes, including impaired assets

Source: Moody's Investors Service

We combine the credit profile and liquidity profile scores using the matrix in the table below to arrive at the Asset Profile sub-factor score.

EXHIBIT 7

Overall Asset Profile Assessment

		Liquidity Profile				
		High	Medium +	Medium	Medium –	Low
Credit Profile	High	Aaa	Aa	A	Baa	Ba
	Medium+	Aa	Aa	A	Baa	Ba
	Medium	A	A	Baa	Ba	B
	Medium –	Baa	A	Ba	B	Caa
	Low	Ba	Ba	B	Caa	Caa

Source: Moody's Investors Service

SECTOR CONCENTRATION:

We assess sector concentration based on the Herfindahl-Hirschman Index (HHI) score,[20] using the sector classification of assets described in Appendix D. The higher the score, the less diversified the portfolio.

ISSUER CONCENTRATION:

We assess issuer concentration based on the HHI score, using issuer classification codified by the first six characters of a security's CUSIP in the US and Canada. Outside of the US and Canada, we may use different security codes such as ISIN or SEDOL based on a sufficient number of characters to identify unique obligors. Internal obligor identifiers used by a CEF may also be considered if the first six characters of the security identification number do not represent unique obligors.

FACTOR

Portfolio Profile (25%)

Sub-factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Asset Profile	10%	See Exhibits 6 and 7 above.						
Sector Concentration	7.5%	< 10%	10% - 20%	20% - 30%	30% - 40%	40% - 60%	60% - 80%	≥ 80%*1
Issuer Concentration	7.5%	< 2.5%	2.5% - 5%	5% - 7.5%	7.5% - 10%	10% - 15%	15% - 20%	≥ 20%*2

*1 The Caa endpoint is 100%.

*2 The Caa endpoint is 25%.

Source: Moody's Investors Service

Adjustments to the Sub-factor Scores

Please see the "Measurement or Estimation of Factors in the Scorecard" section in Appendix A for a general description of how we apply adjustments. Typical considerations that may lead to adjustments to the initial sub-factor scores include the following:

» **Asset profile and concentration trends.** We may adjust the initial Asset Profile sub-factor score upward or downward to reflect important trends in this ratio that are not fully captured in the initial score. We would typically also consider the potential for a trend to improve or deteriorate.

[20] The Herfindahl-Hirschman Index is a commonly used measure of market concentration in an industry and is defined as $H = \sum_{i=1}^{N} s_i^2$ where "S_i" is the market share of firm "i" in a market, and "N" is the number of firms in that market. In using this index to calculate or estimate a closed end fund's sector and issuer concentration, S_i is the relative size of the fund's exposures to individual sectors and issuers, respectively, in relation to total assets under management.

» **Asset correlation.** The Sector Concentration and the Issuer Concentration sub-factor scores implied by the Herfindahl-Hirschman Index may be adjusted downward based on a qualitative assessment of concentration, in particular where we consider that sectors or issuers identified as separate under our scoring classification show material correlations. For example, we would typically consider the overall percentage of the portfolio that is invested in structured securities in addition to an analysis based on sub-sectors. As another example, we may consider the asset correlation risk to be high for issuers in small countries, provinces or states where economic actors are heavily interdependent or reliant on a specific industry or sector, which may not be apparent in the initial score. For example, we typically score sector and issuer concentration factors for Municipal State Funds in the US one alpha scoring category lower than indicated by the ratio. We may also consider whether a fund has a concentration in industries or sectors that have a high exposure to environmental, social or governance risks.

Factor: Fixed-charge Coverage (20% Weight)

Why It Matters

A CEF's ability to fund periodic payments from recurring income is an important indicator of credit strength because, all else being equal, a CEF with stronger coverage of fixed charges is less likely to need to sell assets to satisfy periodic payments. Considering this coverage ratio over a multi-year period is important, because a CEF's income may be volatile and many CEFs have variable-rate interest costs and dividend payments, while considering the ratio over a recent period can provide additional insights into future coverage and the stability of the longer-term ratio.

How We Assess It for the Scorecard

FIXED-CHARGE COVERAGE:

The numerator is net investment income, before any financing costs over the most recently reported 12-month period. We exclude capital gains (or losses) to the extent included in the fund's income.

The denominator is the fund's financing costs over the same period, including interest and dividend payments, plus any fees for bank liquidity/commitment lines.

FIVE-YEAR AVERAGE FIXED-CHARGE COVERAGE:

In considering historical fixed-charge coverage, we calculate the ratio as the average of the annual fixed charge coverage ratios over the five most recently reported fiscal years.[21]

FACTOR

Fixed-charge Coverage (20%)

Sub-factor	Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Fixed-charge Coverage	10%	≥ 5x	3 – 5x	2 – 3x	1 – 2x	0.5 – 1x	0.1 – 0.5x	< 0.1x*3
Five-Year Average Fixed-charge Coverage	10%	≥ 5x	3 – 5x	2 – 3x	1 – 2x	0.5 – 1x	0.1 – 0.5x	< 0.1x*4

*3 The Caa endpoint is 0.0x.

*4 The Caa endpoint is 0.0x.

Source: Moody's Investors Service

21 In cases where the fund has been in operation for less than five years, we typically use the ratio over the life of the fund.

Adjustments to the Sub-factor Scores

Please see the "Measurement or Estimation of Factors in the Scorecard" section in Appendix A for a general description of how we apply adjustments. Typical considerations that may lead to adjustments to the initial sub-factor scores include the following:

» **Capital gains and losses.** In the case of a CEF that historically has had high levels of realized capital losses, or where we think volatile capital gains indicate a risky or inconsistent strategy, the assigned fixed-charge coverage sub-factor scores may be lower than the initial scores to reflect the higher risks of very active trading strategies.

Where a fund has posted consistent realized capital gains as part of its trading strategy and we consider the related risks to be limited, or it has maintained a consistent cash position that is expected to continue over the long term, we may consider these resources available to cover a CEF's fixed charges and may assign fixed-charge coverage sub-factor scores that are higher than the initial sub-factor scores. In assessing whether to apply an upward adjustment to the initial scores, we typically consider the materiality and sustainability of the CEF's trading results and cash balances. Where there is a track record of realized gains, but we do not consider these gains sustainable on a forward-looking basis, we would typically not apply an upward adjustment. Conversely, if there is no or limited operating history, but we consider that the investment strategy of the fund is likely to generate realized gains on a sustainable basis, we may apply a limited upward adjustment. Overall, upward adjustments, which may be made to one or both of the sub-factor scores would typically be limited to three notches.

» **Cash-based fixed-charge coverage.** In cases where there are material differences between reported investment income and financing costs and cash-based investment income and financing costs, we may adjust the initial fixed-charge coverage sub-factor scores upward or downward to reflect cash-based coverage levels.

» **Fixed-charge coverage trend.** We may adjust the initial sub-factor scores upward or downward to reflect important trends in this ratio that are not fully captured in the initial scores. We would typically also consider the potential for the trend to improve or deteriorate.

Factor: Financial Policy (15% Weight)

Why It Matters

Financial policy encompasses management and board tolerance for financial risk, the strength of the regulatory frameworks governing the funds combined with the fund's adherence to such regulation, liquidity and asset-liability management, and the fund's commitment to maintaining strong credit, liquidity, and asset-liability management profiles. It is an important rating determinant, because it directly affects debt levels, investment portfolio credit quality and risk in the financing structure (e.g., refinancing risk, counterparty risk, or exposure to adverse interest rate or foreign exchange rate movements).

Financial risk tolerance serves as a guidepost to investment and capital allocation. An expectation that management will be committed to sustaining an improved credit profile is often necessary to support an upgrade. For example, we may not upgrade the securities issued by a closed-end fund if we believe it will soon increase its leverage or investments in riskier assets. Conversely, a rating may be better able to withstand a moderate leveraging event if management places a high priority on returning leverage to pre-transaction levels and has consistently demonstrated the commitment to do so through prior actions. Liquidity management[22] is an important aspect of overall risk management and can provide insight into risk tolerance.

[22] Liquidity management is distinct from the level of liquidity, which is assessed under the Asset Profile sub-factor, although an issuer's overall liquidity management typically affects our view of the trend in liquidity.

CEFs have many ways that they can leverage the investment portfolio (e.g., credit facilities, preferred stock or TOBs). Many of these instruments have a stated liquidation value that the CEF is required to pay in cash at the stated maturity or redemption date. These forms of leverage increase the liquidity demands and refinancing risk of CEFs that use them. In addition, the maturities or cash demands of some liabilities (e.g., variable-rate demand preferred shares (VRDPs) and total return swaps) may be difficult to predict due to put rights or margin requirements.

The strength and, particularly, the prudential nature of the regulatory framework are important determinants of the investment and leverage risks that a CEF takes.

Regulatory tolerance to financial risk can vary widely globally, including permissive frameworks characterized by a purely supervisory role of the regulator and an absence of rule-based policies on leverage, investment composition, distribution policies or liquidity management, or more stringent frameworks with strict enforcement rules.

How We Assess It for the Scorecard

In assessing financial policy, we consider the fund's own policies and actions as well as how they are shaped by the regulatory framework; we also assess the funds adherence to regulatory guidelines. We typically assess the issuer's desired capital structure or targeted credit profile, its history of prior actions, including its track record of risk and liquidity management, and its adherence to its commitments. In particular, we assess the presence and prudential nature of the rules governing leverage and the fund's track record of adherence to regulations, as well as the fund's investment and liquidity risk management, investment valuation policies and procedures, and shareholder distributions.

For example, we consider how closed end funds manage distributions to their common equity investors. The potential sources of funds for these distributions include interest income, dividends received, realized capital gains and return of capital. We would typically view as negative in our assessment of this factor a fund that tends to distribute more than current earnings, causing it to rely on returns of capital to pay distributions. A common dividend distribution policy is based on the closed end fund's ability to generate trading gains or to liquidate investment assets would also typically weigh negatively on the factor score.

The sponsor's business profile, track record and behavior are also generally important considerations. The asset manager's track record during periods of market stress is usually important in assessing expected future behavior. Where a CEF is required to perform coverage or leverage tests in order to comply with regulations, debt covenants or self-imposed risk management parameters, we typically assess the level of cushion that a CEF has maintained relative to these thresholds. We also consider whether the CEF has breached or is approaching a breach of any of these tests and, if it has, the manager's past actions under such circumstances. For example, suspension of common dividends by a US CEF is typically considered credit negative, because this means of maintaining compliance cannot be indefinitely continued due to potential tax consequences and is thus a less creditor-friendly action than deleveraging. Where a CEF has obligations with coupon-deferral features, we also consider the extent of use of these securities, the CEF's cushion relative to deferral triggers and whether a CEF is approaching a deferral event. A track record of limited cushion is typically an indication of high risk tolerance and is credit negative.

In addition, we also typically consider sponsor credit strength which, in the case of material weakness could have a negative impact on CEF's ability to meet its obligations.

We typically assess liquidity management qualitatively by considering the CEF's overall liability structure and liquidity management and monitoring. We generally consider the track record of maintaining sufficient liquidity to manage refinancing risk (taking into account the size and timing of debt and preferred stock maturities and propensity to have staggered or concentrated maturities) and to meet liquidity requirements in embedded transaction structures, such as irrevocable liquidity facilities in VRDP transactions, liquidity ladders in variable-rate municipal term preferred and municipal term preferred securities and contingent cash calls and margining requirements arising from derivatives transactions. For a fund with a finite life approaching its redemption dates, liquidity management takes on greater importance. Weaknesses in liquidity management weigh negatively on our overall assessment of the factor.

In our assessment of the strength of the regulatory framework, we typically consider the comprehensiveness and effectiveness of the rules in place, the consequences of breaching the rules, as well as the capacity of regulators to enforce corrective actions as a result of any breach in a manner that protects CEF creditors. Across jurisdictions, regulatory provisions may focus on different aspects of a fund's financial policies or risk management framework, e.g., investment composition or distribution policies. We typically also consider the frequency of reporting to regulators and the overall ability of regulators to monitor funds. Regulations that impose transparency in distribution policies typically weigh positively in our assessment of the factor score, provided the fund's policies are commensurate with its earnings capacity and do not lead to an erosion in capitalization. A strong regulatory framework typically leads to a higher score for this factor, provided the fund's adherence to regulations has also been and is expected to remain strong.

We typically assess a fund's policies in the context of local regulations. For example, a fund that operates under a very robust regulatory framework but has a history of breaches or near breaches of regulatory thresholds or its own risk parameters, including those that do not result in penalties or require corrective action, typically receive a lower score for this factor. Conversely, we may assign a score that is higher than would be indicated by the strength of a regulatory framework in cases where we consider a fund's own policies and practices are conservative and thus creditor-friendly, in particular where we consider the regulatory framework weak. In the US, for example, the factor score may be informed by the cushion maintained relative to the fund's Investment Company Act of 1940 leverage restrictions. A fund that has a recent history of breaching regulatory limits or a very limited buffer would typically receive a relatively low score for this factor.

FACTOR

Financial Policy (15%)

Factor	Factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Financial Policy	15%*	Expected to have extremely conservative financial policies (including risk, investment and liquidity management) with a track record of extremely strong compliance with self-imposed and regulatory-driven limits; and operates under an extremely strong regulatory framework characterized by concrete limitations on leverage in order to pay common dividends; very stable metrics; and public commitment to a very strong credit profile over the long term.	Expected to have very conservative financial policies (including risk, investment and liquidity management) with a track record of very strong compliance with self-imposed and regulatory-driven limits; typically operates under a very strong regulatory framework including concrete limitations that protect creditor interests; stable metrics; and public commitment to a strong credit profile over the long term.	Expected to have predictable financial policies (including risk, investment and liquidity management) with a track record of strong compliance; typically operates under a strong regulatory framework with effective limitations that preserve creditor interests; any exposure to interest rates, foreign-exchange rate movements or valuation risks would have a small impact on metrics; strong commitment to a solid credit profile.	Expected to have financial policies (including risk, investment and liquidity management) that carry some risks for creditors with a track record of compliance; typically operates under a moderately strong regulatory framework that generally preserves creditor interests; or exposure to interest rates, foreign-exchange rate movements or valuation risks could have a moderate impact on metrics.	Expected to have financial policies (including risk, investment and liquidity management) that carry substantial risk for creditors; effective limits on leverage with a track record of cured one-off breaches, or relatively weak limits (e.g., on leverage); typically operates under a developing regulatory framework; or exposure to interest rates, foreign-exchange rate movements or valuation risks could have a high impact on metrics.	Expected to have financial policies (including risk, investment and liquidity management) that carry elevated risk for creditors; or a track record of regular breaches of limits on leverage, or monitoring of leverage is lax; or exposure to interest rates, foreign-exchange rate movements or valuation risks could have a very high impact on the metrics.	Expected to have financial policies (including risk, investment and liquidity management) that carry extremely elevated risk for creditors: or a track record of frequent or severe breaches of leverage limits or essentially no limits on leverage; or exposure to interest rates, foreign-exchange rate movements or valuation risks could have a severe impact on the metrics.

* We overweight low scores for Financial Policy factor in line with our view that credit strength of closed end funds is dependent on strong regulation or individual fund leverage or dividend limitations. See Appendix A for more details.

Source: Moody's Investors Service

Other Considerations

Ratings may reflect consideration of additional factors that are not in the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. Such factors include financial controls and the quality of financial reporting; legal structure; the quality and experience of management; assessments of corporate governance as well as environmental and social considerations; exposure to uncertain licensing regimes; and possible government interference in some countries. Regulatory, litigation, liquidity, technology and reputational risk as well as changes to consumer and business spending patterns, competitor strategies and macroeconomic trends also affect ratings.

Following are some examples of additional considerations that may be reflected in our ratings and that may cause ratings to be different from scorecard-indicated outcomes.

Regulatory Considerations

While our view of regulations plays an important role in our assessment of a fund's financial policy and our forward-looking views of asset coverage and liquidity, regulatory considerations may also be a rating factor outside the scorecard, for instance when regulatory change is swift.

Environmental, Social and Governance Considerations

Environmental, social and governance (ESG) considerations may affect the ratings of closed-end funds. For information about our approach to assessing ESG issues, please see our methodology that describes our general principles for assessing these risks.[23]

Environmental and social risks in this sector are typically related to the companies and securities that CEFs invest in, while governance issues may relate to these investments as well as to the fund itself. CEFs that invest in the securities of entities that are more exposed to environmental, social or governance risks may be more susceptible to sudden declines in market value or cash flow than funds with lower exposure to such securities. For example, an equity CEF that invests exclusively in oil- and gas-related companies would likely be more exposed to carbon transition risks, such as declining demand for fossil fuels, than an equity CEF invested principally in media and entertainment companies. In limited cases, a CEF's own governance structure may create risks for creditors, including for example the quality and independence of a CEF's board or trustees.

Sponsor Management, Strategy and Potential for Support

The quality of the sponsor's management can be an important factor to a CEF's credit strength. Assessing the execution of the sponsor's business plans over time can be helpful in assessing management's business strategies, policies and philosophies and in evaluating management performance relative to performance of competitors. A record of consistency provides insight into management's likely future performance in stressed situations and can be an indicator of management's tendency to depart significantly from its stated plans and guidelines.

We also typically assess the importance of the CEF's business to a sponsor's overall strategy in assessing the likelihood of the sponsor stepping in to ensure that a CEF respects its payment obligations, including the payment of preferred dividends. A sponsor may provide direct financial support to a CEF or through other

[23] A list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

means, for instance by purchasing illiquid assets at the CEF's book value. We typically do not incorporate support in CEF ratings and expect that a sponsor will provide support only in cases where it is in the sponsor's best economic interest and the supporter has the clear ability and willingness to provide support.

Liquidity

While liquidity is an important factor in the scorecard, when it is very weak, the impact it has on ratings may be much greater than the standard scorecard weight would imply. This could be the case, for example, where a fund has a high dependence on short-term debt and does not maintain liquidity buffers that could withstand market disruptions, or where we consider that a large portion of its assets will likely be illiquid or have an unpredictable or highly volatile value during a downturn (e.g., structured finance securities). We form an opinion on likely near-term liquidity requirements from the perspective of both sources and uses of cash. A ratio of the CEF's cash and most liquid investments relative to its near-term outflows, including interest, dividends and maturing debt and preferred stock, may inform our analysis. For more information on general principles for assessing liquidity, please see our liquidity cross-sector methodology.[24]

Financial Controls

We rely on the accuracy of audited financial statements to assign and monitor ratings in this sector. The quality of financial statements may be influenced by internal controls, including the proper tone at the top, centralized operations, and consistency in accounting policies and procedures. Auditors' reports on the effectiveness of internal controls, auditors' comments in financial reports and unusual restatements of financial statements or delays in regulatory filings may indicate weaknesses in internal controls.

Event Risk

We also recognize the possibility that an unexpected event could cause a sudden and sharp decline in an issuer's fundamental creditworthiness, which may cause actual ratings to be lower than the scorecard-indicated outcome. Event risks — which are varied and can range from leveraged recapitalizations to sudden regulatory changes or liabilities from an accident — can overwhelm even a stable, well-capitalized firm. Some other types of event risks include litigation, pandemics, significant cyber-crime events and geopolitical conflicts.

Structural Features

Structural features in debt, preferred stock or derivatives agreements may amplify risk for a CEF. For example, covenants or acceleration rights that require a fund that is meeting its debt service requirements to sell assets upon certain loss thresholds could materially reduce the fund's operating flexibility and could require liquidation of assets into a dislocated market, exacerbating losses and generally increasing risk to creditors. As another example, variable-rate demand preferred shares (VRDPs) typically have a put feature, which allows the bank that acts as liquidity provider to require the CEF to repurchase the preferred shares in the event of a failed remarketing, if bank is unable to remarket them for six months. In our assessment, we typically also consider the strength of covenants that allow or limit dividends to shareholders. In cases where structural features introduce material risks, the assigned senior credit profile may be lower than the scorecard-indicated outcome. We also consider structural features in instrument ratings.

A closed-end fund's structural features may reduce or increase the likelihood it will default or the severity of loss upon an event of default. For example, cash flow CEFs are typically structured as standalone funds. Where a cash-flow CEF comprises one or more feeder funds that invest in a master fund, our initial assessment is performed using the leverage of the feeder fund and the master fund. Our assessment of the impact of structural features on the fund's credit quality would reflect the extent of subordination of the

[24] A link to a list of our cross-sector methodologies can be found in the "Moody's Related Publications" section.

feeder fund's obligations relative to the master fund's obligations, which would typically cause the rating of a feeder fund to be at least one notch lower than that of the master fund. As another example, a CEF with coupon-deferral features in its obligations may have greater financial flexibility than a CEF without the option to defer interest or preferred dividend payments, which may decrease the likelihood of defaulting on its obligations generally, while increasing the risk of impairment for the holders of securities with deferral features. The extent of a fund's use of coupon-deferral features may also affect our assessment of its financial policy.

Limited History

Many rated closed-end funds and their sponsors have many years of operating history and lengthy track records of portfolio performance that generally act as the basis for our forward-looking credit analysis, but in some cases, this history is limited. Closed-end funds with limited history may undergo rapid evolution initially, before developing a stable portfolio whose performance through cycles can be readily distinguished.

We differentiate the operating financial history of sponsors and the portfolio performance history of funds. When started by an established sponsor with an extensive track record in managing similar funds, the track records of those funds provide important insights into the likely strategy, objectives and risk parameters of a new fund.

The fund management business is confidence-sensitive. New sponsors or those with a limited track record generally have less ability to attract investors and investment management professionals. New sponsors also tend to lack product depth, market share and a record of resilience through a full market cycle. Their systems, policies and procedures tend to be less robust than those of established fund sponsors.

In cases where the sponsor lacks an operating history of at least several years, or where a new closed-end fund is very different from the sponsor's other funds, the operating and portfolio history provides less insight into the future results of the fund and its credit profile.

In these cases, our baseline projections related to asset coverage, portfolio profile, fixed charge coverage ratios and other key considerations may reflect more-conservative expectations than management's projections. In addition, we are likely to make downward adjustments to several factors in the scorecard in order to reflect the considerable uncertainty around our baseline expectations of future portfolio profile, operations and asset coverage. We may also make a negative adjustment related to sponsor behavior where the track record is limited. To the extent these risks and uncertainties are not fully captured in the scorecard, they may be reflected in an assigned senior credit profile that is lower than the scorecard-indicated outcome.

Assigning Issuer-Level and Instrument-Level Ratings

After considering the scorecard-indicated outcome, other considerations and relevant cross-sector methodologies, we typically assign a senior credit profile, which is our assessment of what the CEF's senior unsecured rating would be if it were to issue unsecured debt.

Individual debt instrument ratings may be notched up or down from the senior credit profile to reflect our assessment of differences in expected loss related to an instrument's seniority level, collateral and structural features. We may also assign an issuer rating or, for speculative-grade issuers, a corporate family rating (CFR).[25]

The senior securities and senior credit facilities of CEFs typically have covenants and events of default that allow investors to accelerate payment of the outstanding balance under certain circumstances (e.g., non-payment of credit facility interest or principal after the expiry of any grace period, entering bankruptcy/insolvency proceedings), which may help to mitigate potential loss in a deteriorating credit scenario. Senior obligations may also benefit from a first lien on pledged assets of the fund. Preferred stock and subordinated debt instruments typically do not include acceleration or put rights and have a junior claim on assets relative to senior debt and general creditors.

US 1940 Act Closed-End Funds

CEFs that are governed by the US Investment Company Act of 1940 (1940 Act) and regulated by the US Securities and Exchange Commission have meaningful restrictions on their total debt and preferred stock relative to their assets. These regulations generally permit greater levels of preferred stock relative to assets than debt relative to assets, and many funds that issue preferred stock choose not issue debt. For funds governed by the 1940 Act, we use the notching guidance described below in this section.

We typically rate senior secured debt one notch higher than the senior credit profile, unless the senior secured debt represents more than two thirds of the fund's total debt and preferred stock, in which case senior secured debt is typically rated on par with the senior credit profile.

Senior unsecured debt and issuer ratings are typically at the same level as the senior credit profile. However, they are typically rated one notch below the senior credit profile if they are subordinated to a thick layer of more-senior obligations (a layer of more-senior obligations equal to two-thirds or more of a fund's total debt, preferred stock and other hybrids is typically considered a thick layer).

We typically rate subordinated debt, preferred stock and other hybrids below the senior credit profile to reflect higher expected loss, and the potential for these securities classes to be primed by the issuance of senior debt. We typically rate these junior securities, one notch below the senior credit profile. Junior securities that are subordinated to a thick layer of more-senior obligations are typically rated two notches below the senior credit profile, or potentially more, depending on the extent of their subordination. Securities that have coupon deferral features or material weaknesses, such as ambiguous procedures for curing asset breaches, or similar structural weaknesses, may be rated significantly lower than the senior credit profile.

US Closed End Funds Not Governed by the 1940 Act and Closed-End Funds Outside the US

For US closed-end funds not governed by the Investment Company Act of 1940 and for funds outside the US, the documents that provide broad guidance for notching decisions are the rating methodology on loss given default for speculative-grade non-financial companies and the methodology for notching corporate instrument ratings based on differences in security and priority of claim.[26]

We also consider the specific structural features of an instrument. For securities with coupon deferral features (e.g., payment-in-kind), downward notching is based on our assessment of the increased likelihood

[25] For CEFs that allow for or have structured securities that exceed 30% of total assets, we add an (sf) indicator to assigned ratings.

[26] A link to a list of our sector and cross-sector rating methodologies can be found in the "Moody's Related Publications" section.

that a deferral will occur relative to the likelihood of a default of senior secured or unsecured obligations that do not contain deferral features, as well as the associated severity (e.g., duration) of impairment. For clarity, we view coupon deferral as an impairment.

Short-term Ratings

We may assign short-term ratings to CEF securities that have demand features. In these cases, the short-term rating is typically based on the applicable short-term rating or assessment of the liquidity provider. Where the liquidity is in the form of a letter of credit or bank guarantee, we would typically use the Counterparty Risk (CR) Assessment of the liquidity provider. If a bank does not have a CR Assessment or an equivalent, the relevant benchmark would be the bank's short-term senior unsecured rating.

Key Rating Assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.[27]

Limitations

In the preceding sections, we have discussed the scorecard factors and many of the other considerations that may be important in assigning ratings. In this section, we discuss limitations that pertain to the scorecard and to the overall rating methodology.

Limitations of the Scorecard

There are various reasons why scorecard-indicated outcomes may not map closely to actual ratings.

The scorecard in this rating methodology is a relatively simple tool focused on indicators for relative credit strength. Credit loss and recovery considerations, which are typically more important as an issuer gets closer to default, may not be fully captured in the scorecard. The scorecard is also limited by its upper and lower bounds, causing scorecard-indicated outcomes to be less likely to align with ratings for issuers at the upper and lower ends of the rating scale.

The weights for each sub-factor and factor in the scorecard represent an approximation of their importance for rating decisions across the sector, but the actual importance of a particular factor may vary substantially based on an individual fund's circumstances.

Factors that are outside the scorecard, including those discussed above in the "Other Considerations" section, may be important for ratings, and their relative importance may also vary from fund to fund. In addition, certain broad methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.[28] Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers and the assessment of credit support from other entities.

[27] A link to *Rating Symbols and Definitions* can be found in the "Moody's Related Publications" section.

[28] A link to a list of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

We may use the scorecard over various historical or forward-looking time periods. Furthermore, in our ratings we often incorporate directional views of risks and mitigants in a qualitative way.

General Limitations of the Methodology

This methodology document does not include an exhaustive description of all factors that we may consider in assigning ratings in this sector. CEFs may face new risks or new combinations of risks, and they may develop new strategies to mitigate risk. We seek to incorporate all material credit considerations in ratings and to take the most forward-looking perspective that visibility into these risks and mitigants permits.

Ratings reflect our expectations for an issuer's future performance; however, as the forward horizon lengthens, uncertainty increases and the utility of precise estimates, as scorecard inputs or in other considerations, typically diminishes. Our forward-looking opinions are based on assumptions that may prove, in hindsight, to have been incorrect. Reasons for this could include unanticipated changes in any of the following: the macroeconomic environment, general financial market conditions, industry competition, disruptive technology, or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

Appendix A: Using the Scorecard to Arrive at a Scorecard-Indicated Outcome

1. Measurement or Estimation of Factors in the Scorecard

In the "Discussion of the Scorecard Factors" section, we explain our analytical approach for scoring each scorecard factor or sub-factor,[29] and we describe why they are meaningful as credit indicators.

The information used in assessing the sub-factors is generally found in or calculated from monthly information from the CEF manager, independent third-party administrators, derived from other observations or estimated by Moody's analysts. We may also incorporate non-public information.

Our ratings are forward-looking and reflect our expectations for future financial and operating performance. However, historical results are helpful in understanding patterns and trends of a fund's performance as well as for peer comparisons. Financial ratios, unless otherwise indicated, are typically calculated based on most recent monthly data. However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for periods of several years or more.

Quantitative credit metrics may incorporate analytical adjustments that are specific to a particular fund.

The initial score for each sub-factor is based on historical or projected financial data, as described in the "Discussion of the Scorecard Factors" section, and is a useful starting point for our analysis of a sub-factor. The CEF scorecard provides the ability to show how our forward-looking expectations for financial metrics (which are incorporated into the final scoring) may vary from historical results. The assigned score for each quantitative sub-factor incorporates this forward view and other pertinent considerations. The magnitude of any adjustment to the score is primarily based on our analytical interpretation of the extent to which the initial score is not an accurate reflection of future trends. In our forward-looking expectations, we may consider events (wide-ranging or issuer-specific) that may recently have occurred, or that are likely to occur in the foreseeable future, that could significantly affect the CEF's future results and financial position. In addition, we may also perform asset value and cash flow stress tests, and consider a CEF's resilience or susceptibility to a stress scenario in our assigned scores. Some typical reasons why our assigned scores for each of the financial ratio sub-factors may be different from a score based on historical results are described in the "Discussion of the Scorecard Factors" section.

2. Mapping Scorecard Factors to a Numeric Score

After estimating or calculating each sub-factor, the outcomes for each of the sub-factors are mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B or Caa, also called alpha categories) and to a numeric score.

Qualitative factors are scored based on the description by broad rating category in the scorecard. The numeric value of each alpha score is shown in Exhibit 8.

Quantitative factors are scored on an alphanumeric scale. For each metric, the scorecard shows the range by alpha category. To arrive at an alphanumeric score, the alpha range is divided into three equal alphanumeric ranges, to which the metric is mapped. For example, if the scorecard indicates that a Ba range for a particular metric is 3.0x to 4.5x (with 4.5x being strongest), the alpha range is divided into a range of 3.0x to 3.5x, which corresponds to a score of Ba3; a range of 3.5x to 4.0x, corresponding to a score of Ba2; and a

[29] When a factor comprises sub-factors, we score at the sub-factor level. Some factors do not have sub-factors, in which case we score at the factor level.

range of 4.0x to 4.5x, corresponding to a score of Ba1. We provide the Caa endpoints in the scoring tables. The scorecard shows the corresponding unadjusted alphanumeric score for the sub-factor. The numeric value of each alphanumeric score is shown in Exhibit 8.

EXHIBIT 8

Numeric Equivalents for Alphanumeric and Broad Alpha Scores

Alphanumeric	Broad Alpha	Numeric Equivalent
Aaa	Aaa	1
Aa1		2
Aa2	Aa	3
Aa3		4
A1		5
A2	A	6
A3		7
Baa1		8
Baa2	Baa	9
Baa3		10
Ba1		11
Ba2	Ba	12
Ba3		13
B1		14
B2	B	15
B3		16
Caa1		17
Caa2	Caa	18
Caa3		19

Source: Moody's Investors Service

3. Determining the Overall Scorecard-Indicated Outcome

The numeric score for each sub-factor (or each factor, when the factor has no sub-factors) is multiplied by the weight for that sub-factor (or factor).

We overweight low scores for Financial Policy factor in line with our view that credit strength of closed end funds is dependent on strong regulation or individual fund leverage or dividend limitations. For this factor, a further weighting is applied by scoring category as shown in the table below, i.e., the standard weighting is multiplied by the number in this table, and the product is the adjusted weighting. For all other factors and sub-factors, the adjusted weighting is equal to the standard weighting.

Aaa	Aa	A	Baa	Ba	B	Caa
1	1	1	1.15	1.3	1.5	2

Source: Moody's Investors Service

The actual weighting applied to each sub-factor (or factor) is that sub-factor or factor's standard weighting (or over-weighting in the case of Financial Policy) divided by the sum the adjusted weights for all the sub-factors (or factors, where the factor has no sub-factors). This adjustment brings the sum of all the sub-factor weightings back to 100%).

The sum of the products of the numeric score for each sub-factor and its respective weights produces an aggregate numeric score. The aggregate numeric score (the scorecard-indicated outcome) is then mapped back to an alphanumeric scorecard-indicated outcome based on the ranges in the table below.

EXHIBIT 9

Scorecard-Indicated Outcome

Scorecard-Indicated Outcome	Aggregate Numeric Score
Aaa	x ≤ 1.5
Aa1	1.5 < x ≤ 2.5
Aa2	2.5 < x ≤ 3.5
Aa3	3.5 < x ≤ 4.5
A1	4.5 < x ≤ 5.5
A2	5.5 < x ≤ 6.5
A3	6.5 < x ≤ 7.5
Baa1	7.5 < x ≤ 8.5
Baa2	8.5 < x ≤ 9.5
Baa3	9.5 < x ≤ 10.5
Ba1	10.5 < x ≤ 11.5
Ba2	11.5 < x ≤ 12.5
Ba3	12.5 < x ≤ 13.5
B1	13.5 < x ≤ 14.5
B2	14.5 < x ≤ 15.5
B3	15.5 < x ≤ 16.5
Caa1	16.5 < x ≤ 17.5
Caa2	17.5 < x ≤ 18.5
Caa3	x >18.5

Source: Moody's Investors Service

For example, an issuer with an aggregate numeric score of 11.7 would have a Ba2 scorecard-indicated outcome.

Appendix B: Closed-End Funds Scorecard

	Factor or Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor: Asset Coverage (40%)								
Risk-adjusted Asset Coverage	40%	See Discussion of the Scorecard Factors						
Factor: Portfolio Profile (25%)								
Asset Profile	10%	See Discussion of the Scorecard Factors						
Sector Concentration	7.5%	<10%	10% - 20%	20% - 30%	30% - 40%	40% - 60%	60% - 80%	≥80%*1
Issuer Concentration	7.5%	<2.5%	2.5% - 5%	5% – 7.5%	7.5% - 10%	10% - 15%	15% - 20%	≥20%*2
Factor: Coverage (20%)								
Fixed-charge Coverage	10%	≥ 5x	3 – 5x	2 – 3x	1 – 2x	0.5 – 1x	0.1 – 0.5x	< 0.1x*3
Five Year Average Fixed-charge Coverage	10%	≥ 5x	3 – 5x	2 – 3x	1 – 2x	0.5 – 1x	0.1 – 0.5x	< 0.1x*4

	Factor or Sub-factor Weight	Aaa	Aa	A	Baa	Ba	B	Caa
Factor: Financial Policy (15%*5)								
Financial Policy	15%	Expected to have extremely conservative financial policies (including risk, investment and liquidity management) with a track record of extremely strong compliance with self-imposed and regulatory-driven limits; and operates under an extremely strong regulatory framework characterized by concrete limitations on leverage in order to pay common dividends; very stable metrics; and public commitment to a very strong credit profile over the long term.	Expected to have very conservative financial policies (including risk, investment and liquidity management) with a track record of very strong compliance with self-imposed and regulatory-driven limits; typically operates under a very strong regulatory framework including concrete limitations that protect creditor interests; stable metrics; and public commitment to a strong credit profile over the long term.	Expected to have predictable financial policies (including risk, investment and liquidity management) with a track record of strong compliance; typically operates under a strong regulatory framework with effective limitations that preserve creditor interests; any exposure to interest rates, foreign-exchange rate movements or valuation risks would have a small impact on metrics; strong commitment to a solid credit profile.	Expected to have financial policies (including risk, investment and liquidity management) that carry some risks for creditors with a track record of compliance; typically operates under a moderately strong regulatory framework that generally preserves creditor interests; or exposure to interest rates, foreign-exchange rate movements or valuation risks could have a moderate impact on metrics.	Expected to have financial policies (including risk, investment and liquidity management) that carry substantial risk for creditors; effective limits on leverage with a track record of cured one-off breaches, or relatively weak limits (e.g., on leverage); typically operates under a developing regulatory framework; or exposure to interest rates, foreign-exchange rate movements or valuation risks could have a high impact on metrics.	Expected to have financial policies (including risk, investment and liquidity management) that carry elevated risk for creditors; or a track record of regular breaches of limits on leverage, or monitoring of leverage is lax; or exposure to interest rates, foreign-exchange rate movements or valuation risks could have a very high impact on the metrics.	Expected to have financial policies (including risk, investment and liquidity management) that carry extremely elevated risk for creditors: or a track record of frequent or severe breaches of leverage limits or essentially no limits on leverage; or exposure to interest rates, foreign-exchange rate movements or valuation risks could have a severe impact on the metrics.

*1 The Caa endpoint is 100%.

*2 The Caa endpoint is 25%.

*3 The Caa endpoint is 0.0x.

*4 The Caa endpoint is 0.0x.

*5 We weight lower scores for the Financial Policy factor more heavily than higher scores. See Appendix A.

Source: Moody's Investors Service

Appendix C: Advance Rates for Closed-End Funds

In developing the advance rates we use to assess asset coverage, we typically take into consideration historical performance of each asset class (e.g., corporate bonds, municipal and sub-sovereign bonds) as well as asset volatility. The advance rates generally reflect a 10-year maturity for fixed income securities. We develop advance rates based on market volatility observed during a period of severe market stress. We may use data for the principal country or region where the CEF invests, or we may consider that advance rates based on data gathered from a country or region can be used in another, similar country or region.

For the data in Exhibit 10 below, where available and appropriate, we used data from periods that encompassed the recent periods of severe market stress, including the global financial crisis, i.e., between January 2008 and June 2009. The worst decline observed in the index for that sector over a 90-day interval during that period informed our advance rates. We made some smoothing adjustments to the advance rates to reflect our views on relative risk among the listed asset classes.

We use the advance rates in Exhibit 10 for assets domiciled in the US, Canada, Western Europe, Singapore, Australia and Japan. To rate CEFs with assets domiciled in other countries, we may from time to time develop advance rates using the principles described above and update this methodology.

EXHIBIT 10

	Security Code	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3
Large-Cap Equity	T1	31%	37%	39%	40%	44%	45%	48%	52%	53%	56%	60%	62%	65%	73%	75%	78%	80%	83%	88%
Mid-Cap Equity	T2	28%	34%	36%	37%	41%	42%	45%	49%	51%	54%	57%	60%	62%	71%	73%	76%	79%	81%	87%
Small-Cap Equity	T3	23%	28%	29%	31%	34%	36%	39%	42%	44%	47%	51%	54%	57%	66%	69%	71%	74%	77%	83%
Emerging Market Equity	T4	15%	19%	20%	22%	25%	26%	29%	33%	34%	37%	41%	44%	47%	57%	60%	63%	66%	69%	76%
Preferred Security	T5	13%	17%	18%	19%	22%	24%	26%	30%	32%	35%	38%	41%	44%	55%	57%	61%	64%	67%	74%
Master Limited Partnership (MLP)	T6	23%	28%	29%	31%	34%	36%	39%	43%	44%	48%	51%	54%	57%	66%	69%	71%	74%	77%	83%
Real Estate Investment Trust (REIT)	T7	15%	20%	21%	23%	26%	27%	30%	34%	36%	39%	42%	45%	48%	58%	61%	64%	67%	70%	77%
Convertible Security	T8	31%	37%	39%	40%	44%	45%	48%	52%	53%	56%	60%	62%	65%	73%	75%	78%	80%	83%	88%
Bank Loan - Performing >90	T9	70%	74%	75%	76%	78%	79%	81%	83%	84%	85%	87%	88%	90%	93%	94%	95%	96%	98%	100%
Bank Loan - Performing 80-90	T9	63%	68%	69%	70%	73%	74%	76%	78%	79%	81%	83%	85%	86%	90%	92%	93%	95%	96%	99%
Bank Loan - Performing <80	T9	52%	57%	58%	60%	63%	64%	67%	69%	71%	73%	76%	78%	80%	85%	87%	89%	91%	92%	96%
Bank Loan - Non-Performing >90	T10	60%	65%	66%	68%	70%	71%	73%	76%	77%	79%	81%	83%	85%	89%	90%	92%	94%	95%	98%
Bank Loan - Non-Performing 80-90	T10	43%	49%	51%	52%	55%	57%	59%	63%	64%	67%	70%	72%	74%	81%	83%	85%	87%	89%	94%
Bank Loan - Non-Performing <80	T10	22%	27%	28%	30%	33%	35%	38%	41%	43%	46%	50%	53%	56%	65%	68%	71%	73%	76%	82%
Corporate Bond (Aaa Rating)	T11	69%	73%	74%	75%	77%	78%	80%	82%	83%	85%	87%	88%	89%	93%	94%	95%	96%	97%	100%
Corporate Bond (Aa Rating)	T11	52%	57%	59%	60%	63%	64%	67%	69%	71%	73%	76%	78%	80%	85%	87%	89%	91%	93%	96%
Corporate Bond (A Rating)	T11	49%	54%	56%	57%	60%	61%	64%	67%	69%	71%	74%	76%	78%	84%	85%	87%	89%	91%	95%
Corporate Bond (Baa Rating)	T11	47%	53%	54%	56%	59%	60%	63%	66%	68%	70%	73%	75%	77%	83%	85%	87%	89%	91%	95%
Corporate Bond (Ba Rating)	T11	38%	44%	46%	47%	51%	52%	55%	58%	60%	63%	66%	68%	71%	78%	80%	82%	85%	87%	92%
Corporate Bond (B Rating)	T11	31%	37%	39%	40%	44%	45%	48%	52%	54%	56%	60%	62%	65%	73%	75%	78%	81%	83%	88%
Corporate Bond (Caa Rating)[30]	T11	23%	28%	30%	31%	34%	36%	39%	43%	44%	48%	51%	54%	57%	66%	69%	71%	74%	77%	83%

[30] We assign an advance rate of zero percent to Corporate and Sovereign/Sub-sovereign/US Municipal Bond with a Ca or C rating.

	Security Code	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3
Sovereign (non-reserve currency)/Sub-sovereign/US Municipal Bond (Aaa Rating)	T12	71%	75%	76%	77%	79%	80%	82%	83%	84%	86%	88%	89%	90%	93%	94%	95%	97%	98%	100%
Sovereign/Sub-sovereign/US Municipal Bond (Aa Rating)	T12	67%	71%	72%	73%	75%	76%	78%	80%	82%	83%	85%	87%	88%	92%	93%	94%	95%	97%	100%
Sovereign/Sub-sovereign/US Municipal Bond (A Rating)	T12	63%	67%	68%	70%	72%	73%	75%	77%	79%	81%	83%	84%	86%	90%	91%	93%	94%	96%	99%
Sovereign/Sub-sovereign/US Municipal Bond (Baa Rating)	T12	52%	57%	58%	60%	63%	64%	66%	69%	71%	73%	76%	78%	80%	85%	87%	89%	91%	92%	96%
Sovereign/Sub-sovereign/US Municipal Bond (Non-Investment Grade)	T12	36%	42%	44%	45%	48%	50%	53%	56%	58%	61%	64%	67%	69%	77%	79%	81%	83%	86%	91%
Structured Finance Securitizations	T13	13%	17%	18%	19%	22%	24%	26%	30%	32%	35%	38%	41%	44%	55%	57%	61%	64%	67%	74%
Sovereign Aaa (reserve currency, <2 Year Maturity) [1]	T14	95%	96%	96%	96%	97%	97%	97%	97%	98%	98%	98%	99%	99%	99%	100%	100%	100%	100%	100%
Sovereign Aaa (reserve currency, 2-10 Year Maturity) [1]	T14	82%	85%	86%	86%	88%	88%	89%	91%	91%	92%	93%	94%	95%	97%	97%	98%	99%	100%	100%
Sovereign Aaa (reserve currency, 10-30 Year Maturity) [1]	T14	73%	77%	78%	79%	81%	82%	83%	85%	86%	87%	89%	90%	91%	94%	95%	96%	97%	98%	100%
Sovereign and Sub-Sovereign (Other countries) [1]	T15	Please see text above																		
Commercial Paper	T16	94%	95%	95%	96%	96%	96%	97%	97%	97%	98%	98%	99%	99%	100%	100%	100%	100%	100%	100%
Money Market Fund	T17	94%	95%	95%	96%	96%	96%	97%	97%	97%	98%	98%	99%	99%	100%	100%	100%	100%	100%	100%
Cash and Cash Equivalent	T18	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Other [2]	T19	13%	17%	18%	19%	22%	24%	26%	30%	32%	35%	38%	41%	44%	55%	57%	61%	64%	67%	74%
Direct Lending	T20	27%	32%	34%	35%	39%	40%	43%	47%	49%	52%	56%	58%	61%	70%	72%	75%	77%	80%	86%

[1] In cases where a CEF holds sovereign bonds issued by sovereigns outside of the countries/regions listed in the paragraph immediately preceding this table, we use the Other advance rates.

[2] For market-value CEFs, the usage of the Other advance rates is limited to 5% of a CEF's total assets under management. To the extent that a fund's assets that do not fit into the prior categories in this table exceed 5%, the advance rate for these assets is 0%.

Source: Moody's Investors Service

Appendix D: Sector Codes

Sector codes are used in assessing the Sector Concentration sub-factor. We typically assign a sector code to each of a closed end fund's securities.

EXHIBIT 11

Sector	Sub-sector	Sector Code
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Aerospace & Defense	S1
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Automotive	S2
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Banking	S3
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Beverage, Food, & Tobacco	S4
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Capital Equipment	S5
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Chemicals, Plastics, & Rubber	S6
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Closed End Fund	S7
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Construction & Building	S8
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Consumer Goods: Durable	S9
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Consumer Goods: Non-durable	S10
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Containers, Packaging, & Glass	S11
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Energy: Electricity	S12
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Energy: Oil & Gas	S13
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Environmental Industries	S14
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Finance	S15
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Forest Products & Paper	S16
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Healthcare & Pharmaceuticals	S17
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	High Tech Industries	S18
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Hotel, Gaming & Leisure	S19
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Insurance	S20
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Media: Advertising, Printing & Publishing	S21
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Media: Broadcasting & Subscription	S22
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Media: Diversified & Production	S23
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Metals & Mining	S24
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Real Estate	S25
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Retail	S26
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Services: Business	S27
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Services: Consumer	S28
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Sovereign & Public Finance	S29
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Telecommunications	S30
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Transportation: Cargo	S31
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Transportation: Consumer	S32
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Utilities: Electric	S33
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Utilities: Oil & Gas	S34
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Utilities: Water	S35

Sector	Sub-sector	Sector Code
Corporates, Bank Loan, Convertibles, Equities (Excl REIT & MLP) & Preferred	Wholesale	S36
Government	Other Sovereigns	S37
Government	US Agencies	S38
Government	US Treasuries	S39
Liquid investment	Cash, Money Market Funds, Commercial Paper & Repurchase Agreements	S40
MLP	Coal MLP	S41
MLP	Midstream MLP	S42
MLP	Propane MLP	S43
MLP	Shipping MLP	S44
MLP	Upstream MLP	S45
Municipal	Airport/Port General Revenue	S46
Municipal	Airport/Port Special Facility	S47
Municipal	Charter Schools	S48
Municipal	Electric and Gas - Generation and Joint Power Authority	S49
Municipal	Electric and Gas - Transmission Only	S50
Municipal	Government-Affiliated Projects	S51
Municipal	Higher Education - Private	S52
Municipal	Higher Education - Public	S53
Municipal	Hospitals (Not-for-Profit) including Multi-State Hospital Systems	S54
Municipal	Hotel/Convention Center	S55
Municipal	Housing - Affiliated/Actively Managed	S56
Municipal	Housing - Unaffiliated/Passively Managed	S57
Municipal	Local Government General Obligation (GO)	S58
Municipal	Local Lease Obligation and Special Tax	S59
Municipal	Long-Term Care/Senior Living	S60
Municipal	Lottery Revenue	S61
Municipal	Mass Transit	S62
Municipal	Military Housing	S63
Municipal	Other Municipal	S64
Municipal	Other Not-for-Profit	S65
Municipal	Parking Enterprise	S66
Municipal	Pre-Refunded Bonds	S67
Municipal	Solid Waste/Resource Recovery	S68
Municipal	Special Assessment/Tax Increment -Established	S69
Municipal	Special Assessment/Tax Increment - Start-Up ("Dirt Bonds")	S70
Municipal	Stadiums and Other Projects	S71
Municipal	State Government General Obligation (GO)	S72
Municipal	State Lease Obligation and Special Tax	S73
Municipal	State Revolving Fund	S74

Sector	Sub-sector	Sector Code
Municipal	Toll Roads and Bridges - Established	S75
Municipal	Toll Roads and Bridges - Start-Up	S76
Municipal	Water/Sewer	S77
REIT	Diversified	S78
REIT	Healthcare	S79
REIT	Hotel	S80
REIT	Industrial	S81
REIT	Multi-Family	S82
REIT	Office	S83
REIT	Retail	S84
REIT	Self Storage	S85
Structured	Auto Receivables	S86
Structured	Cash Flow CDO & CLO	S87
Structured	CMBS	S88
Structured	Credit Card and other Consumer Unsecured Loans	S89
Structured	Market Value CDO & CDO-Squared	S90
Structured	Other Structured	S91
Structured	Prime RMBS	S92
Structured	Student Loans	S93
Structured	Subprime RMBS	S94
Structured	Synthetic CDO & CLO	S95
Structured	Tobacco Bonds	S96

Source: Moody's Investors Service

Moody's Related Publications

Credit ratings are primarily determined through the application of sector credit rating methodologies. Certain broad methodological considerations (described in one or more cross-sector rating methodologies) may also be relevant to the determination of credit ratings of issuers and instruments. A list of sector and cross-sector credit rating methodologies can be found here.

For data summarizing the historical robustness and predictive power of credit ratings, please click here.

For further information, please refer to *Rating Symbols and Definitions*, which is available here.

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