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## RATING METHODOLOGY

# Finance Companies Methodology

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This rating methodology replaces the *Finance Companies* methodology published in December 2018. In this update, we have revised our Macro-level Indicator scoring scales to align them with the scoring scales introduced in the November 2019 update to our rating methodology for sovereigns.

## Introduction

In this rating methodology, we explain our general approach to assessing credit risk for finance companies globally, 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<sup>1</sup> is a relatively simple reference tool that can be used, together with our Joint Default Analysis (JDA), 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 to companies in this sector. The scorecard factors may be evaluated using historical or forward-looking data or both.

We also discuss other rating considerations, which are factors that may be important for ratings but are not included in the scorecard, usually because they can be meaningful for differentiating credit profiles, but only in some cases. In addition, some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.<sup>2</sup> Furthermore, since ratings are forward-looking, we often incorporate directional views of risks and mitigants in a qualitative way.

<sup>1</sup> In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.

<sup>2</sup> A link to an index 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 company.

Our presentation of this rating methodology proceeds with (i) the scope of this methodology; (ii) our overall approach to rating finance companies; (iii) a discussion of the standalone assessment component; (iv) a discussion of the support provision component; (v) other rating considerations not reflected in the scorecard; (vi) a discussion of the issuer-level and instrument-level considerations component; (vii) methodology assumptions; and (viii) limitations.

In the appendices, we describe (i) how we use the scorecard to arrive at a scorecard-indicated standalone assessment; (ii) the Financial Profile ratio thresholds for each sub-sector; (iii) our JDA framework; (iv) how we employ JDA in assessing affiliate support and government support; (v) our stress test for finance companies; and (vi) characteristics of business development companies.

## Scope of This Methodology

This methodology applies globally to a range of non-bank finance companies<sup>3</sup> that provide commercial and consumer financing and associated services. The finance company universe includes a variety of financial services sub-sectors, which we classify into four broad sub-sectors. Traditional finance companies comprise three of these sub-sectors: lenders, commercial leasing companies<sup>4</sup> and business development companies (BDCs). The fourth sub-sector is service providers and other (service providers), which consists of companies that provide services related to financing but typically do not retain loans or leases on their balance sheets.

The sector includes finance companies with a broad range of business models, mix and quality of assets, geographies, regulatory environments and credit profiles. Some finance companies are well-diversified, while others are highly concentrated in a single, high-risk business line.

This methodology applies to lenders that we do not classify as banks or bank-like institutions. Please see our methodology for banks for a description of characteristics that define and differentiate banks from finance companies. Some institutions are hybrids. In such cases, we typically employ the methodology that we consider corresponds best to the institution's primary business activities, based on its earnings or assets, unless these are not representative of the preponderance of credit risks. We may also use the scorecard of an additional relevant methodology to supplement our analysis. For captive finance subsidiaries we use the broad principles in this methodology in conjunction with our methodology for captive finance subsidiaries. Please see our methodologies for banks and captive finance subsidiaries.<sup>5</sup>

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on [www.moodys.com](http://www.moodys.com) for the most updated credit rating action information and rating history.

<sup>3</sup> Finance companies include automotive finance companies, business development companies, commercial finance companies, commercial leasing companies, consumer finance companies, debt purchasers, factoring companies, fintech companies, payday lenders, residential mortgage companies and student-loan lending companies.

<sup>4</sup> We generally consider companies that originate operating leases to be lessors and companies that originate finance leases to be lenders. This distinction is based on the treatment of the asset on the finance company's balance sheet, irrespective of the treatment of the obligation on the lessee's or borrower's balance sheet.

<sup>5</sup> A link to an index of our sector and cross-sector methodologies can be found in the "[Moody's Related Publications](#)" section.

## Overall Approach to Rating Finance Companies

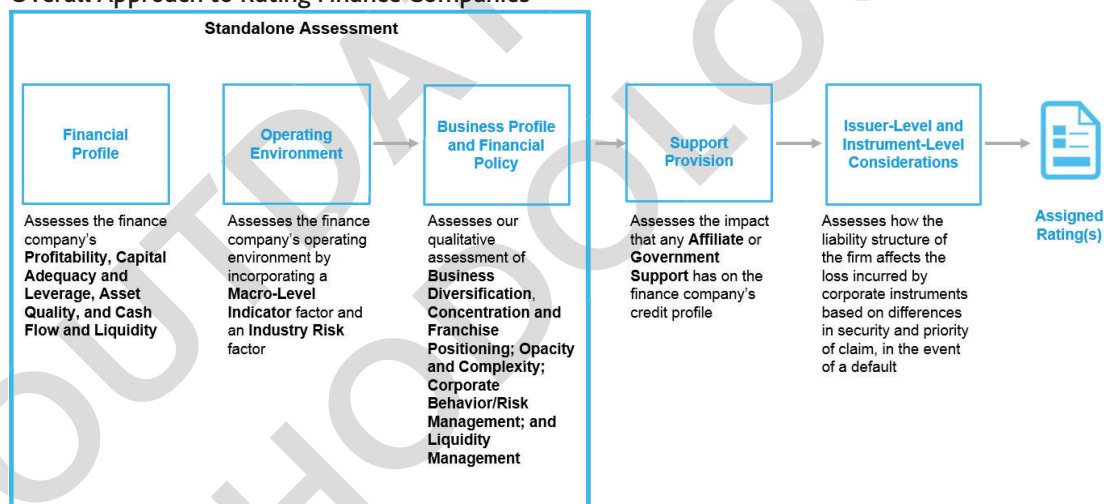
The finance company scorecard outcome is expressed as a three-notch range on our rating scale and is oriented to the firm's standalone assessment. The assigned standalone assessment is a lowercase, alphanumeric score expressed on our 21-point rating scale, which is often but not always within the indicated three-notch range.

We incorporate our JDA framework to the standalone assessment to adjust for affiliate and public support to the extent it is considered likely and would reduce expected loss. We use our Loss Given Default (LGD) methodology and model for assigning instrument-level ratings to speculative-grade finance companies in countries where that methodology is used for non-financial corporates. We use our methodology for notching corporate instrument ratings based on differences in security and priority of claim for assigning instrument-level ratings for investment-grade finance companies, and where the LGD methodology does not apply.

Our overall approach is illustrated in Exhibit 1.

EXHIBIT 1

### Overall Approach to Rating Finance Companies



Source: Moody's Investors Service

### Scorecard Framework

The scorecard for the standalone assessment is composed of three sub-components, all of which have factors. Some of the four Financial Profile factors comprise a number of sub-factors. Each of the four finance company broad sub-sectors has a slightly different scorecard.<sup>6</sup> An example of a finance company scorecard for lenders is shown below (Exhibit 2).

EXHIBIT 2  
Scorecard Example for Lenders

Financial Profile		Initial Score Factor Weights (% Of Total Financial Profile Weight)	Assigned Score Factor Weights (% Of Total Financial Profile Weight)	Historical Ratio	Initial Score	Assigned Score	Key driver #1	Key driver #2
<b>Profitability</b>								
Net Income / Average Managed Assets (%)		10%	10%	2.00%	Baa1	Baa1		
<b>Capital Adequacy and Leverage</b>								
Tangible Common Equity / Tangible Managed Assets (%)		25%	25%	5.00%	B3	B3		
<b>Asset Quality</b>								
Problem Loans / Gross Loans (%)		10%	10%	0.01%	Aaa	A2	Rapid growth	Portfolio composition
Net Charge-Offs / Average Gross Loans (%)		10%	10%	0.04%	Aaa	A1	Differences in accounting and reporting	Operating and Regulatory Risk
<b>Weighted Average Asset Risk Score</b>					Aaa	A2		
<b>Cash Flow and Liquidity</b>								
Debt Maturities Coverage (%)		0%	10%			Caa1	Near-to-medium term maturities	Stress tests
FFO / Total Debt (%)		25%	15%	2.00%	Caa2	Caa2		
Secured Debt / Gross Tangible Assets (%)		20%	20%	5.00%	Aa2	Aa2		
<b>Weighted Average Cash Flow and Liquidity Score</b>					Ba1	Ba1		
<b>Total Financial Profile Weight</b>		100%	100%					
<b>Financial Profile Score</b>		100%			Baa3	Ba1		
<b>Operating Environment</b>								
<b>Home Country</b>		Factor Weights		Sub-factor Score	Score			
Macro Level Indicator		0%			Aa3			
Economic Strength		25%		aa1				
Institutions and Governance Strength		50%		a3				
Susceptibility to Event Risk		25%		aaa				
Industry Risk		100%			B			
<b>Home Country Operating Environment Score</b>					B2			
<b>Operating Environment Score</b>		Factor Weights			Score	Comment		
Operating Environment Score		0%			Aa1			
<b>ADJUSTED FINANCIAL PROFILE</b>					Score			
Adjusted Financial Profile Score					Ba1			
Financial Profile Weight		100%						
Operating Environment Weight		0%						
<b>Business Profile and Financial Policy</b>					Adjustment	Comment		
Business Diversification, Concentration and Franchise Positioning					0			
Opacity and Complexity					0			
Corporate Behavior / Risk Management					0			
Liquidity Management					0			
<b>Total Business Profile and Financial Policy Adjustments</b>					Ba1			
<b>Sovereign or Parent Constraint</b>						Comment		
					Aa1			
						Comment		
Standalone Assessment Scorecard-indicated Range					baa3 - ba2			
Standalone Assessment Scorecard-indicated Midpoint					ba1			
Assigned Standalone Assessment					ba1			

\* The "Key Driver" columns summarize the reasons for adjusting the initial score.

Source: Moody's Investors Service

<sup>6</sup> The scorecard used for a finance company corresponds to its primary business activities, based on its earnings or assets, unless these are not representative of the preponderance of credit risks. In some cases, when a finance company has multiple business lines across broad sub-sectors, we may also consider scorecard-indicated outcomes based on the finance company's other broad sub-sectors.

For transparency, the finance company scorecard provides the ability to show how our forward-looking expectations for financial metrics (which are incorporated into the final scoring) vary from a finance company's historical results.

The finance company scorecard-indicated outcome is expressed as a three-notch range on our rating scale and is oriented to the issuer's standalone assessment. The use of a range acknowledges that factor weights for a particular issuer may be different from the fixed weights in the scorecard, due to its individual circumstances. The assigned standalone assessment is expressed as a lowercase alphanumeric on our rating scale, which may or may not be within the three-notch range for reasons described above, but is most often within it. Scorecards based on consolidated financial statements are oriented to the standalone assessment for the corporate family.

Where relevant, we apply our JDA framework<sup>7</sup> to incorporate any affiliate support, and then any government support, as detailed in Appendix 3. Both affiliate support and government support consider the probability that support will be provided and the capacity of the supporter (generally based on the standalone assessment of the affiliate or the long-term local-currency rating of the government). Affiliate support is applied to the issuer's standalone assessment and provides an indicated range of positive uplift<sup>8</sup> in notches. The assigned post-affiliate standalone assessment typically incorporates a level of upward notching within the affiliate support range produced by the JDA scorecard, but it may in some cases be outside that range. The application of government support JDA provides a range of suggested upward notching.<sup>9</sup> The assigned corporate family/issuer rating typically incorporates a level of upward notching within the government support range, but it may in some cases be outside that range, and, in all cases, the assigned corporate family/issuer rating incorporates the local-currency country ceiling.

In general, the outcome<sup>10</sup> that results from the combination of our scorecard (which provides a standalone assessment of a finance company's own creditworthiness, based on quantitative and qualitative considerations) and our JDA framework (which incorporates affiliate and government support to the extent it is considered likely and would reduce default or expected loss) is oriented to the corporate family rating (CFR) for speculative-grade finance companies and the senior unsecured rating or the issuer rating for investment-grade finance companies. Individual instrument ratings also factor into notching considerations based on seniority and collateral. The documents that provide broad guidance for such notching decisions are the rating methodology on loss given default for speculative-grade non-financial companies and the methodology for aligning corporate instrument ratings based on differences in security and priority of claim.<sup>11</sup> The latter document also discusses our general approach to analyzing structural subordination and its effect on ratings.

<sup>7</sup> For captive finance companies, this methodology is used to arrive at the standalone assessment, and we use our methodology for captive finance companies for other considerations incorporated into their ratings, including support from the industrial parent. A link to an index of our sector and cross-sector methodologies can be found in the "[Moody's Related Publications](#)" section.

<sup>8</sup> The suggested upward notching may be zero or more notches.

<sup>9</sup> The suggested upward notching may be zero or more notches.

<sup>10</sup> The outcome is expressed as an alphanumeric on our rating scale.

<sup>11</sup> A link to an index of our sector and cross-sector methodologies can be found in the "[Moody's Related Publications](#)" section.

## Measurement or Estimation of Factors in the Scorecard

We explain our general approach for scoring each scorecard factor and show the weights used in the scorecard. We also provide a rationale for why these scorecard components are meaningful as credit indicators. The information used in assessing the sub-factors is generally found in or calculated from information in the company's financial statements or regulatory filings, derived from other observations or estimated by Moody's analysts.

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 company's performance as well as for peer comparisons. Except where noted, historical financial ratios in the scorecard are generally calculated based on the most recent statement date for point-in-time balances (i.e., balance-sheet-oriented metrics). For income-statement-oriented or cash-flow-oriented metrics, we use the weaker of 1) the metric based on the most recently reported fiscal year; and 2) the arithmetic average of the metric based on each of the three most recently reported fiscal years.<sup>12</sup> However, the factors in the scorecard can be assessed using other time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for individual periods or periods of several years or more.

All of the quantitative credit metrics incorporate our standard adjustments to financial statements in the analysis of financial institutions and our adjustments for hybrid equity securities.<sup>13</sup> We may also make other analytical adjustments that are specific to a particular finance company.

For definitions of our most common ratio terms, please see Moody's Basic Definitions for Credit Statistics (User's Guide). For an explanation of our standard adjustments and hybrid equity adjustments, please see the cross-sector methodology that describes our financial statement adjustments in the analysis of financial institutions and the cross-sector methodology that describes equity credit for an issuer's hybrid securities. Links to these can be found in the "[Moody's Related Publications](#)" section.

The initial score for each sub-factor is based on historical or projected financial data,<sup>14</sup> as outlined below in the factor discussions, and is a useful starting point for our analysis of the sub-factor. The finance company scorecard provides the ability to show how our forward-looking expectations for financial metrics (which are incorporated into the final scoring) vary from historical results. The assigned score for each quantitative sub-factor incorporates this forward view and other pertinent considerations. Some reasons why our assigned scores for each of the financial ratio sub-factors may be different from a score based on historical results include the following: the effects of pro forma adjustments for recent or expected acquisitions, divestitures, leveraging or deleveraging events and other entity- or industry-related events, and non-public information that may cause our expectation of future results to be different from historical ratios. 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 transactions or events (wide-ranging or issuer-specific) that may recently have occurred, or are likely to occur in the foreseeable future, that could significantly affect the finance company's future results and financial position. In addition, we may also perform revenue, expense and cash flow stress tests, and consider a finance company's resilience or susceptibility to a stress scenario in our assigned scores.

<sup>12</sup> For further detail, please see Appendix 2, which shows scorecards for each sub-sector.

<sup>13</sup> A link to an index of our sector and cross-sector rating methodologies can be found in the "[Moody's Related Publications](#)" section.

<sup>14</sup> Historical financials are typically the most recent annual or latest 12-month numbers, incorporating standard adjustments as outlined in our cross-sector methodology that discusses standard adjustments in the analysis of financial institutions.

## Discussion of the Standalone Assessment Component

The standalone assessment is one of the three main components of our typical overall approach to assessing credit risk for finance companies. This component has three sub-components: the Financial Profile, the Operating Environment, and qualitative notching adjustments for Business Profile and Financial Policy.

### Standalone Assessment Sub-component: The Financial Profile

In this sub-component, we assess the standalone financial profile. This sub-component has four factors, which also have sub-factors, although these vary depending on the type of finance company, as shown in the table below.

EXHIBIT 3

#### Finance Companies: Financial Profile Factor and Sub-factor Weights\*

Factors	Sub-factors	Lenders Sub-factor Weighting	Lessors Sub-factor Weighting	BDCs Sub-factor Weighting	Service Providers Sub-factor Weighting
Profitability	Net Income / Average Managed Assets	10%	10%	10%	10%
	EBITDA / (Interest Expense & Preferred Dividends)	-	5%	-	20%
Capital Adequacy and Leverage	Tangible Common Equity / Tangible Managed Assets	25%	15%	-	10%
	Debt / EBITDA	-	10%	-	25%
	Asset Coverage Ratio Cushion	-	-	35%	-
Asset Quality <sup>†</sup>	Lease Residual Value Exposure / Tangible Common Equity	-	15%	-	-
	Problem Loans / Gross Loans	10%	-	10%	-
	Senior Secured Loans % of Total Investments	-	-	10%	-
	Net Charge-Offs / Average Gross Loans	10%	-	-	-
Cash Flow and Liquidity <sup>†</sup>	Debt Maturities Coverage	10%	10%	20%	10%
	FFO / Total Debt	15%	15%	-	25%
	Secured Debt / Gross Tangible Assets	20%	20%	15%	-
Financial Profile Total		100%	100%	100%	100%

\* The weight of a factor applying to a finance company category is equal to the sum of the weights of the corresponding sub-factors within that category. For example, Profitability for lessors has a 15% weight within the Financial Profile sub-component.

† The sub-factor weights in the table above reflect a case where all the metrics are available. For Asset Quality, for Lenders only, at least one of Problem Loans / Gross Loans or Net Charge-Offs / Average Gross Loans is required for scoring. If one of these metrics is not available, then we reallocate its weight by adding its weight to the existing weight of the other metric, for both the initial score and assigned score. For Cash Flow and Liquidity, for Lenders, Lessors and Service Providers, at least one of Debt Maturities Coverage or FFO / Total Debt is required for scoring. If FFO / Total Debt is not available, then we reallocate its weight and add it to the existing weight of Debt Maturities Coverage, for both the initial score and assigned score. If the Debt Maturities Coverage ratio cannot be calculated because the denominator is zero over the next 12 months, then we reallocate its weight and add it to the existing weight of FFO / Total Debt for the initial score. An assigned score is assessed as described in the sub-factor discussion that follows and is accorded the weight shown in the table above.

Source: Moody's Investors Service

### Factor 1: Profitability

#### Why It Matters

Earnings power is a key determinant of the long-term success or failure of a financial institution. A finance company's long-term profitability is a core element of its ability to generate capital and support creditor obligations. Core or recurring profitability is the first line of defense to absorb credit-related losses and losses stemming from market, operational and business risk. Solid profitability is also critical for investor confidence, given the significant scale and frequency of finance company debt-refinancing.

We evaluate a company's net income return on its average managed assets to analyze profitability. We use average managed assets (rather than total on-balance-sheet assets) because managed assets may include certain relevant off-balance-sheet assets, thereby providing a better measure of total earning assets.

Examples of off-balance-sheet assets may include securitized and sale-leaseback assets (depending on the accounting regime).

We also assess how amply earnings before interest, taxes, depreciation and amortization (EBITDA), an important measure of a company's operating income, can cover interest expense. This ratio is used only for finance companies with cash-flow-oriented business models – lessors and service providers. This is an important indicator of the ability of a lessor or service provider to finance or re-finance its business.

#### How We Assess It for the Scorecard

##### NET INCOME / AVERAGE MANAGED ASSETS (ALL FINANCE COMPANIES):

We use this ratio for lenders, lessors, BDCs and service providers.

The numerator is net income (i.e., bottom-line performance after all costs, including taxes), and the denominator is average managed assets.

We calculate the historical ratio by using the weaker of 1) the ratio based on the most recently reported fiscal year; and 2) the average of the annual ratios for the three most recently reported fiscal years.

##### EBITDA / INTEREST EXPENSE AND PREFERRED DIVIDENDS:

We use this ratio for lessors and service providers.

The numerator is EBITDA. For clarity, our calculation of EBITDA for this ratio adds back impairment charges associated with goodwill and other intangible assets, because we consider these charges similar to depreciation and amortization expense. We also typically adjust EBITDA gains and losses realized on debt repurchases, because we usually view such transactions as non-recurring. EBITDA can include expenses (e.g., stock-based compensation expense) that are not captured in traditional cash flow measures but that we consider important for gauging sustainable cash flows.

The denominator of the ratio includes interest expense and preferred dividends as a measure of debt service.

We calculate the historical ratio by using the weaker of 1) the ratio based on the most recently reported fiscal year; and 2) the average of the annual ratios for the three most recently reported fiscal years.

#### FACTOR 1

#### Profitability

Sub-factor	Sub-factor Weight	Sub-sector	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Net Income / Average Managed Assets (%)	10%	Lenders, Lessors, BDCs and Service Providers	≥ 8.5%	5.5 – 8.5%	2.5 – 5.5%	1 – 2.5%	0.5 – 1%	0 – 0.5%	(2.5) – 0%	< (2.5)%
EBITDA / (Int. Exp. + Pref. Div.) (x)	5%	Lessors	≥ 8.5x	7.5 – 8.5x	6.5 – 7.5x	4 – 6.5x	3 – 4x	1 – 3x	0.5 – 1x	< 0.5x
	20%	Service Providers	≥ 8x	7 – 8x	6 – 7x	5 – 6x	3.5 – 5x	1 – 3.5x	0.5 – 1x	< 0.5x

Source: Moody's Investors Service

#### Sub-factor Adjustments

Please see the "Measurement or Estimation of Factors in the Scorecard" section above for a general description of how adjustments are employed in the scorecard. Typical considerations that may lead to adjustments of the Profitability sub-factor scores include the following:



**Pro forma adjustments.** Our assigned scores for each of the Profitability sub-factors may be adjusted upward or downward from the initial sub-factor scores based on our pro forma adjustments, including adjustments for recent or expected acquisitions or divestitures and for unusual and non-recurring items recognized in recent reporting periods.

**Expected trend.** We may adjust Profitability sub-factor scores upward or downward to reflect important trends and trajectories in these ratios that we believe are not fully captured in the initial score. These adjustments may reflect trends that are company-specific as well as trends for the industry. For example, we may adjust a lender's Net Income/Average Managed Assets sub-factor score downward if we think it is not reflective of performance throughout a credit cycle, to capture the potential for higher loan impairments. We also may adjust Profitability sub-factor scores downward if a company has entered a riskier business and, in our view, reported profitability does not reflect the normalized level of loan impairments and charge-offs in a seasoned portfolio.

**Stress tests.** We may perform revenue, expense and cash flow stress tests, and consider the results of these in our assigned scores.

**Earnings volatility.** We may adjust the historical scores upward or downward to reflect earnings volatility. Earnings stability is an important benefit to bondholders: a finance company's ability to successfully navigate the highs and lows of business and market cycles is an important contributor to its relative credit strength. An entity that generates high profitability in good times, but low or negative earnings in bad times, has less-dependable cash flows than an entity that generates more-consistent, sustainable profits throughout cycles.

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## Factor 2: Capital Adequacy and Leverage

### Why It Matters

Capital adequacy is a key element in our assessment of a finance company's ability to absorb asset volatility, including write-downs, or the impact of a systemic crisis that causes dislocation in financial markets. Ample capital enhances financial flexibility, which may support access to capital markets in times of stress. Finance companies with lower leverage have more strategic alternatives; they are better able to fund growth and acquisitions or to divest themselves of non-core businesses and absorb losses on discontinued operations.

In addition to capitalization, which we assess for lenders, lessors and service providers by considering how much tangible capital supports the finance company's tangible assets, we also evaluate a leverage metric, debt/EBITDA, for lessors and service providers, which have cash flow characteristics similar to those of corporate enterprises. Debt leverage, measured by debt/EBITDA and funds from operations (FFO)/debt, is an important indicator of a finance company's ability to pay interest and meet debt maturities, finance its business and attract capital for investments. As with strong capitalization, low leverage enhances financial flexibility; conversely, high leverage constrains it and may severely limit these companies' access to capital markets.

We measure or estimate a BDC's capital adequacy and leverage by assessing the size of the cushion between the firm's asset coverage ratio (ACR) and ACR levels prescribed by regulators or credit facility covenants. This is because the credit profiles of BDCs are sensitive to event risk stemming from violations of their regulatory ACRs or ACR covenants in their credit facilities, which are usually set at or above the regulatory requirement. An ACR covenant breach represents a significant liquidity risk for BDCs, because it usually enables lenders to declare an event of default and accelerate debt repayment. ACR breaches usually reflect an erosion of equity from unrealized or realized (fair value) losses.

### How We Assess It for the Scorecard

#### **TANGIBLE COMMON EQUITY / TANGIBLE MANAGED ASSETS:**

We use this ratio for lenders, lessors and service providers.

The numerator is tangible common equity.<sup>15</sup> The denominator is tangible managed assets (TMAs), which represents total tangible assets of the company and includes off-balance-sheet assets, such as securitized and sale-leaseback assets.

The historical ratio is calculated based on the most recently reported period (i.e., fiscal or interim period).

#### **DEBT / EBITDA:**

We use this ratio for lessors and service providers.

The numerator is total debt, which includes unsecured and secured debt, including non-recourse debt, if the cash flows securing these obligations are included in EBITDA.

The denominator is EBITDA. Our calculation of EBITDA for this ratio adds back impairment charges associated with goodwill and other intangible assets, because we consider these charges similar to depreciation and amortization expense. We also typically adjust EBITDA gains and losses realized on debt repurchases, because we usually view such transactions as non-recurring. EBITDA can include expenses (e.g., stock-based compensation expense) that are not captured in traditional cash flow measures but that we consider important for gauging sustainable cash flows.

As with other metrics, we make standard adjustments according to our cross-sector methodology for financial statement adjustments for financial institutions.<sup>16</sup>

We calculate the historical ratio by using the weaker of 1) the ratio based on the most recently reported fiscal year; and 2) the average of the annual ratios for the three most recently reported fiscal years.

#### **ASSET COVERAGE RATIO CUSHION (ACR CUSHION):**

We use this metric for BDCs.

The ACR Cushion for any period, is the issuer's ACR minus the greater of the ACR required per covenants and the level required by regulation divided by the greater of the ACR required per covenants and the level required by regulation.

The numerator of the ACR is total assets less non-debt liabilities. The denominator is total debt. Certain types of indebtedness, such as borrowings under the US Small Business Administration program, are excluded from the ratio.

For the historical ACR ratio, we use the ACR disclosed in a BDC's most recent filings. If not disclosed, we estimate it based on the most recent quarterly results.

<sup>15</sup> TCE equals total shareholders' equity less the following: preferred stock, minority interest, fair value reserves/unrealized gains or losses on AFS securities, asset revaluation reserves, hedging reserves/adjustment for cash flow hedges, and goodwill and other intangible assets net of related deferred tax liabilities. TCE is also adjusted to reflect Moody's equity credit for hybrid securities. TCE is calculated for a number of other sub-factor metrics in this rating methodology.

<sup>16</sup> A link to an index of our sector and cross-sector methodologies can be found in the "[Moody's Related Publications](#)" section.

## FACTOR 2

## Capital Adequacy and Leverage

Sub-factor	Sub-factor Weight	Sub-sector	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Tangible Common Equity / Tangible Managed Assets (%)	25%	Lenders	> 50%	31 - 50%	16 - 31%	12 - 16%	8 - 12%	4 - 8%	(15) - 4%	< (15)%
	15%	Lessors	> 50%	35 - 50%	27 - 35%	20 - 27%	14 - 20%	11 - 14%	8 - 11%	< 8%
	10%	Service Providers	> 20%	16 - 20%	12 - 16%	8 - 12%	4 - 8%	0 - 4%	(10) - 0%	< (10)%
Debt / EBITDA (x)	10%	Lessors	< 0.5x	0.5 - 1.5x	1.5 - 2.5x	2.5 - 3.5x	3.5 - 4.5x	4.5 - 6.5x	6.5 - 10.0x	> 10x
	25%	Service Providers								
Asset Coverage Ratio Cushion(%)	35%	BDCs	> 50%	35 - 50%	25 - 35%	17.5 - 25%	10 - 17.5%	0 - 10%	(25) - 0%	< (25)%

Source: Moody's Investors Service

### Sub-factor Adjustments

Please see the "Measurement or Estimation of Factors in the Scorecard" section above for a general description of how adjustments are employed in the scorecard. Typical considerations that may lead to adjustments of the Capital Adequacy and Leverage sub-factor scores include the following:

**Pro forma adjustments.** Our assigned scores for each of the Capital Adequacy and Leverage sub-factors may be adjusted upward or downward from the initial sub-factor scores based on our pro forma adjustments, including recent or expected debt extinguishments or issuances, equity issuances, acquisitions or divestitures, unusual and non-recurring items recognized in recent reporting periods, and changes in financial policy, such as dividend distributions.

**Expected trend.** We may adjust the Capital Adequacy and Leverage sub-factor scores upward or downward to reflect important trends and trajectories in these ratios that we believe are not fully captured in the initial score. We evaluate whether the initial score represents an anomaly, as would be the case for a company holding large amounts of capital for a planned acquisition or other corporate event, because the high capitalization would be temporary. We also adjust capitalization and leverage scores upward or downward to reflect expected profitability trends and their effect on capital and leverage.

**Excessive growth.** Asset growth can be a leading indicator of increased risk appetite. Growth rates that are higher than the industry average suggest a more aggressive strategy. We may adjust the capital score downward when a finance company's growth rate is significantly higher than that of its peers, and such adjustments are more likely when the finance company's growth rate is exceeding or is likely to exceed the growth in its capital.

**Other adjustments.** Capitalization scores could be adjusted downward to reflect double leverage, when the holding company depends on the distributions from the subsidiary to service debt residing at the holding company, or for contingent liabilities. Another reason for a downward adjustment to the historical capital score would be a substantial related-party transaction (e.g., loans to shareholders). Project development could warrant a downward adjustment to sub-factor scores in instances where cash and capital are earmarked for project development, which entails high equity-like risks. We may also adjust the capital scores upward for finance companies that buy or originate highly liquid assets with strong and predictable contractual cash flows. We may adjust capitalization scores downward if we believe a company plans to de-capitalize. When a finance company owns and operates a material amount of real estate (for example, it owns office buildings and leases them to commercial tenants<sup>17</sup>), we may adjust the Tangible Common

<sup>17</sup> Issuers that are primarily engaged in the ownership and operation of commercial properties for long-term investment, are rated under our methodology for REITs and other commercial real estate firms. A link to an index of our sector and cross-sector methodologies can be found in the "Moody's Related Publications" section.

Equity/Tangible Managed Assets score upward after considering an adjusted ratio that removes the effect of real estate depreciation on a firm's capital and asset base.

### Factor 3: Asset Quality

#### Why It Matters

Asset quality is a primary driver of earnings and capital formation for lenders and BDCs. Finance companies often have a concentration in a single asset class or operate in niche sectors that are intrinsically higher risk (e.g., subprime) and that can be vulnerable to changing investor sentiment irrespective of expected asset quality performance. Asset quality deterioration in a cyclical downturn can be more pronounced for a finance company than for more-diversified lenders. In addition, unexpected asset quality problems often are among the most significant sources of risk that can negatively affect earnings, debt service capacity and capital for finance companies. Negative investor reaction to deterioration in asset quality or contagion risk when investors' tolerance for risk decreases can also impair a company's access to capital markets and its ability to raise needed capital.

The proportion of a traditional finance company's loan portfolio that is impaired or likely to become impaired, or that has created losses or is likely to create losses, is an important indicator of the sustainability of the business. The level of impairment or loss often corresponds to the nature of the company's underlying assets. For example, lenders with sizable subprime consumer portfolios often have high loan loss rates relative to more-diversified lenders. As loan quality deteriorates, the problem-loan ratio rises, signaling potential problems, including credit losses and consequent pressure on solvency that reduces the earnings and equity-capital buffers that protect bondholders.

For lessors, the level of residual lease value exposure relative to equity is an important indicator informing our view of future asset value performance.

For BDCs, it is important to consider the size of the senior secured loans in their investment portfolios relative to their total loan book. Generally, there is a greater risk of covenant breach associated with a comparatively large proportion of junior securities.

Service providers and similar companies that have predominantly cash flow-based businesses do not have a scorecard metric for Asset Quality.

#### How We Assess It for the Scorecard

##### **PROBLEM LOANS / GROSS LOANS:**

We use this ratio for lenders and BDCs.

The numerator of this ratio is total problem loans. Although companies may define problem loans differently, we define problem loans as: (1) "impaired loans" as defined under IAS 39 paragraph 59 (or its successor) for finance companies reporting under IFRS or a substantially similar accounting framework; or (2) nonaccrual loans plus accruing loans that are past due 90 days or more. Because problem loan disclosures by finance companies are not uniform, we may make adjustments to improve comparability.

The denominator of this ratio is gross loans. Gross loans include loans to customers and finance leases and exclude unearned income, allowances for loan losses and other deductions. For BDCs, the problem loan ratio is calculated on a fair value basis.

We calculate the historical ratio by using the weaker of 1) the ratio based on the most recently reported fiscal year; and 2) the average of the annual ratios for the three most recently reported fiscal years.

**NET CHARGE-OFFS / AVERAGE GROSS LOANS:**

We use this ratio for lenders.

The numerator is net charge-offs, which reflects debt unlikely to be collected, net of recoveries. Gross loans is defined above under the Problem Loans/Gross Loans sub-factor.

We calculate the historical ratio by using the weaker of 1) the ratio based on the most recently reported fiscal year; and 2) the average of the annual ratios for the three most recently reported fiscal years. When net charge-offs are not available, the weight for this sub-factor is allocated to the problem loans/gross loans sub-factor.

**LEASE RESIDUAL VALUE EXPOSURE / TANGIBLE COMMON EQUITY:**

We use this ratio for lessors.

The numerator is lease residual value. Lease residual values are calculated as the net investment in leases less the present value of minimum future lease payments. The denominator is tangible common equity. For ratios calculated on a historical basis, we typically use the most recently reported period (the most recent year-end or interim period).

**SENIOR SECURED LOANS / TOTAL INVESTMENTS:**

We use this ratio for BDCs.

The numerator is the amount of the BDC's senior secured loans, and the denominator is the total amount of the investment portfolio at fair value.

For ratios calculated on a historical basis, we typically use the most recently reported period (the most recent year-end or interim period).

## FACTOR 3

**Asset Quality**

Sub-factor	Sub-factor Weight	Sub-sector	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Problem Loans / Gross Loans (%)	10%	Lenders and BDCs	< 0.25%	0.25 - 0.5%	0.5 - 0.75%	0.75 - 2%	2 - 4%	4 - 7%	7 - 10%	> 10%
Net Charge-offs / Average Gross Loans (%)	10%	Lenders	< 0.5%	0.5 - 1%	1 - 1.5%	1.5 - 3%	3 - 5%	5 - 8%	8 - 15%	> 15%
Lease Residual Value Exposure / Tangible Common Equity (%)	15%	Lessors	< 10%	10 - 50%	50 - 100%	100 - 200%	200 - 300%	300 - 400%	400 - 500%	> 500%
Senior Secured Loans / Total Investments (%)	10%	BDCs	> 95%	90 - 95%	85 - 90%	70 - 85%	55 - 70%	45 - 55%	35 - 45%	< 35%

Source: Moody's Investors Service

**Sub-factor Adjustments**

Please see the "Measurement or Estimation of Factors in the Scorecard" section above for a general description of how adjustments are employed in the scorecard. Typical considerations that may lead to adjustments of the Asset Quality sub-factor scores include the following:

**Pro forma adjustments.** Our assigned scores for each of the Asset Quality sub-factors may be adjusted upward or downward from the initial sub-factor scores based on our pro forma adjustments, including recent or expected acquisitions or divestitures of businesses or portfolios of assets. For example, we may

adjust Asset Quality scores upward for a company that has exited a high-risk business line or entered a low-risk business line, and downward for a company that has entered a high-risk business line.

**Expected trend.** We may adjust sub-factor scores upward or downward to reflect important trends and trajectories in these ratios that we believe are not fully captured in the initial score. We typically consider whether historical Asset Quality metrics are consistent with recent or emerging trends. In this context, we may consider the potential for the credit cycle or other industry trends to affect the asset quality metrics. We may adjust the sub-factor score downward in cases where a company does not have a through-the-cycle history, to adjust for seasonality or if the finance company is entering a new business. We may also adjust Asset Quality scores downward if we believe that a company's underwriting standards loosened, but the expected asset deterioration is not yet apparent in the company's Asset Quality metrics.

**Rapid growth.** A rapid expansion of a loan, lease or investment portfolio could also lead to a downward adjustment because high growth can signal a large appetite for incremental risk and contribute to volatility. Rapidly growing companies can overwhelm the capacity of their risk management and control processes and systems. This can lead to significant risk management and control failures that harm credit quality.

**Portfolio composition.** We may adjust sub-factor scores upward or downward to reflect our view of the portfolio composition and granular risks. We may adjust the Asset Quality score downward if we believe a company has a substantial concentration that could create volatile performance, for example a high exposure to a small number of obligors, to a particular sector or in a particular geography. We may adjust Asset Quality sub-factor scores upward or downward to reflect our view of likely recoveries. For example, recoveries for an unsecured lender could be lower than for a mortgage lender or lessor with strong underlying collateral. For lessors, we may qualitatively distinguish risk quotients among asset classes in evaluating the measure of residual exposure.

**Differences in accounting and reporting.** We assess the need for a downward adjustment to Asset Quality scores where a finance company marks its assets to fair value and therefore does not record charge-offs, based on the risk of fair value write-downs. We may also make adjustments based on our assessment of accounting policy recognition of problem loans or charge-offs. For example, we adjust the problem loan sub-factor score downward for lenders (e.g., payday lenders) that originate short-term subprime loans because these loans can be charged off before they are placed on a non-accrual status.

**Operating and regulatory risk.** We may adjust the Asset Quality score for finance companies with elevated operating and regulatory risk, such as payday lenders or US residential mortgage companies that sell to government-sponsored enterprises (GSEs) and are exposed to repurchase risk.

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## Factor 4: Cash Flow and Liquidity

### Why It Matters

The ability of a finance company to access liquidity on a recurring basis is an essential component of its operating model. Most finance companies rely heavily on confidence-sensitive wholesale funding. This is a significant disadvantage compared to banks, which often have access to central bank funding and whose stable, low-cost retail deposits are often resilient to market-driven stresses. A liquidity crisis, whether company-specific or precipitated by a market event, can have a profound effect on even the strongest finance company, whereas strong liquidity can help an institution remain adequately funded during difficult times.

Because wholesale funding is sometimes unreliable, we gauge the availability of liquid resources (defined below) that would be available to cover debt maturities arising over the next 12 months. This is the basis of our debt maturities coverage metric, which is an important indicator of financial flexibility and the adequacy

of a finance company's readily available on-balance-sheet and committed contingent liquidity in relation to its near-term debt maturities.

Additionally, we consider the amount of a company's assets funded with secured debt. High reliance on secured debt reduces a finance company's financial flexibility, because encumbered assets are unavailable to be used as a liquidity source should an unexpected need arise. Cash flow generation relative to debt is an important indicator of a company's ability to attract and maintain liquidity facilities.

#### How We Assess It for the Scorecard

##### **DEBT MATURITIES COVERAGE (ALL FINANCE COMPANIES):**

The numerator (liquid resources) is unrestricted cash plus unencumbered investments in liquid sovereigns and government agencies plus availability under committed, unsecured bank lines with maturities of greater than one year plus US prime residential mortgage loans held for sale (incorporating a 20% haircut).

The denominator is debt maturities (excluding securitizations) over the next 12 months.

For liquid sovereigns and government agencies, we include investments in securities of the company's sovereign and investments in higher-rated sovereign securities.

This ratio is a measure of a finance company's ability to cover debt maturing in the next 12 months with what we consider to be highly reliable, readily available liquidity sources (after applying haircuts) and committed, unsecured bank line availability (with a maturity greater than one year from diversified pool of solid counterparties). Debt maturities includes all maturities of funded obligations except for non-recourse, fully self-liquidating structures, such as term securitization.

We calculate the historical ratio by using the most recently reported fiscal year.

##### **FUNDS FROM OPERATIONS (FFO) / TOTAL DEBT:**

We use this ratio for lenders, lessors and service providers.

The numerator is adjusted FFO, and the denominator is total debt.

For lenders, we adjust our standard definition of FFO, which represents the amount of cash flow from operations before changes in operating assets and liabilities. For lenders that report loan originations and collections in cash flow from operations, we exclude these items from the FFO calculation to better assess a company's internally generated funds in a steady state and to foster comparability across finance companies with varying disclosures. With this adjustment, we essentially reclassify loan losses, which represent the difference between loan collections and originations, out of cash flows from operations to cash flows from investing, which makes the FFO calculation consistent with that of lenders that report their loan collections and originations in cash flow from investing.

A second adjustment that we make for lenders brings together provision costs, which are non-cash items that are typically added back to reported cash flows from operations, and loan losses, which, either through companies' own disclosures or our adjustment, are included in cash flows from investing. We make this adjustment by subtracting net charge-offs (loans charged-off net of recoveries), a proxy for loan losses, from cash flows from operations. This adjustment largely offsets provision cost, which is a non-cash expense and accounts for a significant proportion of cash flows from operations for subprime lenders.

For debt purchasers, we typically adjust our standard definition of FFO by (i) adding back the purchase of loan portfolios, and (ii) excluding the amortization of the purchased portfolios from the cash flow from

operations. We make these adjustments to the FFO calculation to better assess a company's underlying cash generation by removing any distortion from growth or shrinkage related to debt purchases.

#### SECURED DEBT / GROSS TANGIBLE ASSETS:

The ratio applies to lenders, lessors and BDCs. Service providers typically do not have interest-earning assets that can be securitized to generate liquidity; hence their funding ability does not depend on asset encumbrance.

The numerator is secured debt, and the denominator is the amount of gross tangible assets (before credit loss reserves).

We calculate the historical ratio by using the most recently reported fiscal year.

#### FACTOR 4

#### Cash Flow and Liquidity

Sub-factor	Sub-factor Weight	Sub-sector	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
Debt Maturities Coverage (%)	10%	Lenders, Lessors, Service Providers	> 400%	300 - 400%	200 - 300%	120 - 200%	60 - 120%	40 - 60%	5 - 40%	< 5%
	20%	BDCs	> 400%	300 - 400%	200 - 300%	120 - 200%	60 - 120%	40 - 60%	5 - 40%	< 5%
FFO / Total Debt (%)	15%	Lenders	> 65%	45 - 65%	30 - 45%	20 - 30%	12.5 - 20%	5 - 12.5%	0 - 5%	< 0%
	15%	Lessors								
	25%	Service Providers								
Secured Debt / Gross Tangible Assets (%)	20%	Lenders	0%	0 - 8%	8 - 15%	15 - 30%	30 - 45%	45 - 60%	60 - 80%	> 80%
	20%	Lessors								
	15%	BDCs								

Source: Moody's Investors Service

#### Sub-factor Adjustments

Please see the "Measurement or Estimation of Factors in the Scorecard" section above for a general description of how adjustments are employed in the scorecard. Typical considerations that may lead to adjustments of the Cash Flow and Liquidity sub-factor scores include the following:

**Pro forma adjustments.** Our assigned scores for each of the Cash Flow and Liquidity sub-factors may be adjusted upward or downward from the initial sub-factor scores based on our pro forma adjustments, including adjustments for recent or expected corporate events and other unusual and non-recurring items recognized in recent reporting periods. Examples of such events are debt extinguishments or issuances, cash set aside for project development or funding requirements, equity issuances and divestitures or acquisitions, and gains and losses realized on asset sales. Adjusted scores reflect our view of the amounts of alternative liquidity available to the company, as well as our estimate of internally generated funds available in a steady state.

**Expected trend.** We may adjust sub-factor scores upward or downward to reflect important trends and trajectories in these ratios that we believe are not fully captured in the initial score.

**Stress test.** We may adjust sub-factor scores upward or downward to reflect our view of the resilience of a company's liquidity position based on a liquidity stress test. The stress case is used to analyze a company's



liquidity and its flexibility to deal with market events and its ability to meet its funding commitments and fund asset originations under stress.

Our stress scenarios for finance companies are described in Appendix 5.

For BDCs, Cash Flow and Liquidity sub-factor scores may be adjusted downward based on the size of the ACR Cushion and the likelihood of a breach of an ACR covenant in a credit facility, or a regulatory ACR breach.

**Near-to-medium term maturities.** We may adjust the debt maturities coverage sub-factor score upward or downward based on the laddering of debt maturities. We would consider any debt maturities within the 12-month time horizon captured by the debt maturities coverage metric, but we may also consider any maturities beyond the next year, including over the medium term (e.g., within three to six years). We would also consider a firm's liquidity profile beyond 12 months in order to assign a score when the 12-month coverage ratio cannot be calculated because the denominator is zero. For example, we typically view a debt obligation with a sizable principal repayment scheduled in 24 months as relevant to a firm's liquidity profile even if that firm has no debt maturing in the next year. Concentrated maturities in the medium term may also be relevant, particularly for a firm that we believe will wait until the maturity is near-term before refinancing. For example, we may think the firm will opportunistically delay refinancing in a manner detrimental to liquidity when the spread or rate on its existing debt is more attractive than that of debt available in the current market.

**Other adjustments.** We may make additional adjustments to companies' Cash Flow and Liquidity sub-factor scores. We may adjust a finance company's Debt maturities coverage downward in cases where the sovereign and agency investments included in the debt maturities coverage metric are from low-rated issuers or there are market or structural limitations on the liquidity of those securities. In these cases, the adjusted score may reflect haircuts for these securities.

We may adjust a finance company's debt maturity coverage upward to reflect availability under its secured credit lines, provided that it has sufficient unencumbered assets to access those lines. We generally haircut the available unencumbered assets because the amount can change materially from period to period.

We may adjust lessors' debt maturities coverage and FFO/debt ratio scores downward when an adjusted ratio that includes account-for-purchase commitments as debt is materially different, because we view these as debt-like obligations. This adjustment mainly applies to aircraft lessors, although we may make a similar adjustment for large lending commitments of other traditional finance companies.

We may adjust the secured debt to gross assets ratio downward in the case of weak underlying asset quality that would not be attractive as collateral to a potential secured lender. We may also adjust downward based on our view of any weakness in the depth and liquidity of funding markets, or in the resiliency of investor demand. When a finance company owns and operates a material amount of real estate (for example, it owns office buildings and leases them to commercial tenants<sup>18</sup>), we may adjust the secured debt to gross assets score upward after considering an adjusted ratio that removes the effect of real estate depreciation on a firm's capital and asset base.

We may also adjust the liquidity scores upward for finance companies that buy or originate highly liquid assets with strong and predictable contractual cash flows.

<sup>18</sup> Issuers that are primarily engaged in the ownership and operation of commercial properties for long-term investment, are rated under our methodology for REITs and other commercial real estate firms. A link to an index of our sector and cross-sector methodologies can be found in the "[Moody's Related Publications](#)" section.

## Standalone Assessment Sub-component: Operating Environment

A key component of our analysis is the extent to which external conditions can have a meaningful influence on finance companies' credit profiles. The sub-component incorporates two factors: Macro-Level Indicator and Industry Risk. The score for the Operating Environment is combined with the Financial Profile score to determine the Adjusted Financial Profile score.

### Why It Matters

The Operating Environment sub-component captures relevant economic, judicial, regulatory, institutional and general operating conditions that may affect finance companies' creditworthiness. In some cases, these conditions can over time have as much, if not more, of a bearing on finance companies' long-term viability as the intrinsic strength of their own operations.

Macro-level indicators are Economic Strength, Institutions and Governance Strength and Susceptibility to Event Risk.

- » **Economic Strength:** The intrinsic strength of an economy provides critical indications of a sovereign's resilience to external shocks. A sovereign's ability to generate sufficient revenue to service debt over the medium term relies on sustained economic growth and prosperity, i.e., wealth. These considerations have a direct bearing on the credit quality of finance companies' assets and their ability to remain profitable over time.
- » **Institutions and Governance Strength:** The strength of institutions and governance are important determinants of a sovereign's creditworthiness because they influence the predictability and stability of the legal and regulatory environment, which is of importance to investors. Institutions and governance provide a strong indication of a government's willingness to repay its debt. They influence the sovereign's capacity and willingness to formulate and implement economic, fiscal and monetary policies that support growth, socioeconomic stability and fiscal sustainability, which in turn protect the interests of creditors over the long term. These considerations are important for the longer-term prospects of finance companies, and for creditors' rights.
- » **Susceptibility to Event Risk:** Susceptibility to sudden, extreme events that could severely impact a country's economy or its institutions, or strain public finances is an important indicator of a sovereign's creditworthiness. Event risks are varied and typically include domestic political and geopolitical risks, government liquidity risk, banking sector risk and external vulnerability risk. We believe that such events could have significant negative implications for financial institutions, including finance companies.

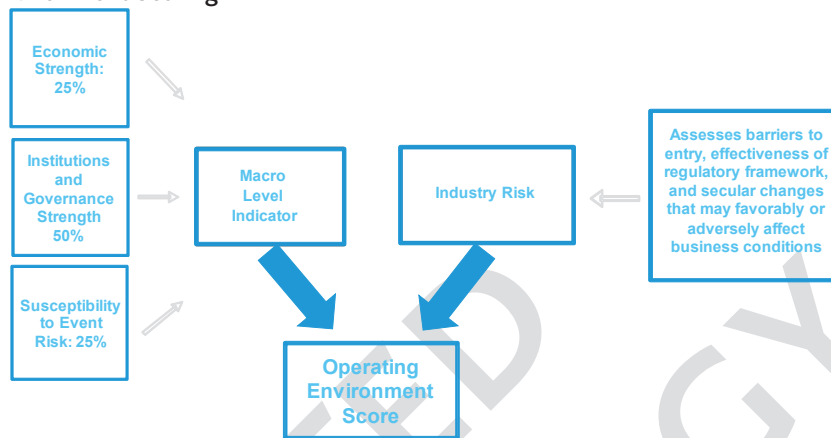
A finance company's competitive environment can have a profound impact on its financial and operating strategy as well as on current and future profitability. Similarly, the fundamental characteristics of the sub-sector (or sub-sectors) in which a finance company operates, including the extent of barriers to entry and regulatory oversight, and the pervasiveness of secular change, can present significant risks and opportunities that are important considerations in assessing its credit profile.

## How We Assess It for the Scorecard

Exhibit 4 summarizes how we assess the credit impact of a finance company's operating environment.

EXHIBIT 4

### Operating Environment Scoring



Source: Moody's Investors Service

### Factor 5: Macro-Level Indicator

The Macro-Level Indicator score is based on three factors from our sovereign rating methodology<sup>19</sup> and is assigned based on the country/countries in which a finance company operates.

**Economic Strength:** Our published factor score for a sovereign's Economic Strength contributes 25% of the Macro-Level Indicator score.

**Institutions and Governance Strength:** Our published factor score for a sovereign's Institutions and Governance Strength contributes 50% of the Macro-Level Indicator score.

**Susceptibility to Event Risk:** Our published factor score for a sovereign's Susceptibility to Event Risk contributes 25% of the Macro-Level Indicator score.

### Factor 6: Industry Risk

In assessing industry risk, we consider competitive position, exposure to cyclical economic forces and the track record of the product offering of a finance company's business line or business lines.

Within the four sub-sectors of finance companies that we have identified (lenders, lessors, BDCs, and service providers and others), we further differentiate industry risk among various business lines, which we believe have unique sets of risks. For example, among lenders we categorize mortgage finance companies, auto finance companies and aircraft lessors as distinct business lines. In some cases we define business line even more narrowly due to the specific niche an industry occupies within a broader product offering or due to a specific set of risks it faces. For instance, we view auto leasing as a distinct business line from auto lending, because auto lessors have exposure to residual value risk. Similarly, mortgage finance companies focusing on the subprime segment are distinct from the broader set of mortgage finance firms; thus, we view these as distinct business lines. Our view of a single business line (e.g., auto leasing) can be different in different countries, due for example to a different competitive or regulatory landscape.

<sup>19</sup> A link to an index of our sector and cross-sector rating methodologies can be found in the "[Moody's Related Publications](#)" section.

The Industry Risk score of a business line within a single country or region is consistent across finance companies. The scoring of a particular finance company is based on its mix of business lines and the countries or regions in which it operates.

The principal risk drivers we consider when evaluating Industry Risk include competitive position, industry stability and product risk. Our Industry Risk assessment for a business line is qualitative, but we may consult quantitative industry benchmarks.

Competitive position relates to the finance company sector's domestic market share (e.g., vis-a-vis banks and alternative capital providers in the consumer and mortgage finance industries) and to the extent to which the industry is internally concentrated or, conversely, fragmented. In essence, we assess the nature of the barriers to entry in a business line, the sector's pricing strength, and the existence of similar products and solutions offered by other sectors. Other things being equal, a business line where finance companies have a low market share or where there is a high degree of fragmentation typically has a lower Industry Risk score than a business line where pricing strength exists.

Industry stability relates the exposure of the business line to economic cycles, sudden shifts in regulation or the competitive landscape (e.g., due to technological change), or heightened event risk. Excessive exposure to the economic cycle could result in sharply rising non-performing loans during downturns. Thus, while we expect the majority of business lines to be generally correlated with the broader economic cycle, sub-sectors or business lines with high historical levels of volatility in asset quality typically score lower for Industry Risk than those with moderate exposure, other things being equal. Similarly, a very high rate of growth for finance companies in general or for a particular sub-sector or business line could indicate an unsustainable expansion of credit and vulnerability to sudden reversals. Conversely, business lines with long track records of stable performance or those insulated from domestic economic cycles (e.g., having a global footprint) typically have higher Industry Risk scores, other things being equal. Business lines exposed to technological disruption and change in regulatory treatment (even where current treatment is favorable) typically have a lower score. While finance companies have generally had less regulatory oversight than banks, they are often subject to fair lending and consumer protection rules, and they may be vulnerable when regulations change or new regulations are introduced. Technological developments can change how financial products are delivered, lower barriers to entry and create winners and losers, de-stabilizing the industry.

Product risk relates to the track record of the product offering in the business line. Other things being equal, business lines with low risk of product obsolescence and a strong track record of product performance typically have higher Industry Risk scores, whereas business lines dominated by new products with little to no track record or products reliant on unproven technology or with exposure to high-risk demographic segments of the population typically score quite low for Industry Risk.

We consider industry risk holistically based on our overall view of the main drivers for a business line in a particular country or region. For a finance company business line to achieve a particular score, the risk drivers across all of the above considerations would typically correspond to that score or could be in a higher category. Typically, a business line with one risk driver constituting a notable weakness would have a weak score even where other risk drivers exhibit relative strength. For instance, a stable business line with high barriers to entry but a high-risk product offering would typically have a low Industry Risk score, as would a business line with high regulatory risk.

In the case of firms operating in a number of business lines or across multiple countries or regions, we typically use a weighted average Industry Risk score, with the weights corresponding to the proportion of each business line in each country or region. For highly diversified finance companies, we assess the firm's industry risk, taken as a whole, and informed by the individual Industry Risk scores for the firm's principal sub-sectors or business lines.

Typically, finance companies are monoline, with limited operational diversification, which weighs on the Industry Risk score. Concentration exposes the industry to higher levels of intrinsic credit cycle volatility, and we cap Industry Risk scores at the Aa level. Our assessment of Industry Risk may also be informed by our assessment of credit conditions, funding conditions, and the structure of the banking sector in the country or region. Generally, we assign Industry Risk scores for a finance company business line in a particular country that are well below the comparable scores under our methodology for banks, because finance companies have less diversified funding profiles, more concentrated portfolios and a smaller scope of operations.

In some instances, our assessment includes additional considerations, including special regulatory or governmental policy considerations. For example, in some countries, certain finance companies carry out a specific function, acting as distressed asset management firms. In other countries, finance companies may carry out a quasi-policy role, intended to stimulate activity in a particular sector. In such cases, we assess the overall strength of the finance company's business line(s), considering the benefits and risks of these special situations.

## EXHIBIT 5

## Industry Risk Factor

Aa	A	Baa	Ba	B	Caa	Ca
Finance companies have monopolistic; oligopolistic pricing strength. Exceptionally stable industry with essentially no likelihood of technological disruption or adverse regulatory change; insulated from domestic economic cycle; exceptionally low historical volatility; absence of event risk. Exceptionally low risk of product obsolescence, with an exceptional track record of performance. Product aimed at broad segments of the population.	Concentrated industry led by finance companies; few or no new entrants; oligopolistic pricing strength; low to non-existent competition from banks and alternative capital providers. Highly stable industry with remote likelihood of technological disruption or adverse regulatory change; largely insulated from domestic economic cycle; extremely low historical volatility; very low event risk. Very Stable, extremely low risk of product obsolescence with an exceptional track record of performance. Product aimed at broad segments of the population.	Moderately concentrated industry with finance companies commanding high market share, very few new entrants; limited competitive threat from banks and alternative capital providers. Stable industry; little exposure to technological disruption or adverse regulatory change; low historical volatility; low event risk. Low risk of product obsolescence, with track record of stable performance for more than 10 years. Product aimed at broad segments of the population.	Finance companies have a moderate domestic market share in this business line; limited barriers to entry; limited pricing strength. Limited levels of exposure to technological disruption or adverse regulatory change; industry follows the domestic economic cycle, with moderate levels of volatility comparable to other industries; moderate event risk. Niche but stable product offering with a relatively low risk of obsolescence, with at least 10 years of track record. Part of industry may be exposed to higher-risk segments.	Finance companies have limited domestic market share in this business line; moderate levels of fragmentation; competitive pricing patterns. Moderate exposure to technological disruption or adverse regulatory change; industry moderately more volatile than the economic cycle, with higher levels of volatility than peer industries; moderate event risk. Limited track record of product performance. Moderately risky segments of the population.	Finance companies have low aggregate market share; fragmented industry with numerous new and established players or dominated by banks; highly competitive pricing patterns. Industry is highly correlated with cyclical economic forces, but with higher historical volatility; exposed to technological disruption; extremely high growth rates for the industry or reliance on key individual regulation; high event risk. New product with no track record, reliance on unproven technology or exposure to high-risk segments of the population.	Finance companies have extremely low aggregate market share; highly fragmented industry with many new players or very strong dominance by banks and highly competitive pricing patterns. Extremely high historical volatility with past examples of financial crises; current exposure to technological disruption or adverse regulatory change; very high event risk. Product with previous record of high losses or volatility, or aimed at high-risk segments of the population.

Source: Moody's Investors Service

### Material Operations in More Than One Business Line or Country

In cases where a finance company has material operations in more than one business line or country, we assign a score that is representative of the composite Operating Environment score for that issuer. Further details are provided in Appendix 1.

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### Standalone Assessment Sub-component: Business Profile and Financial Policy

In this sub-component, we consider how a particular finance company's business profile and financial policy affect its credit profile. We have identified four qualitative factors that supplement those considered in the Financial Profile and Operating Environment sub-components and that are important contributors to the creditworthiness of a finance company.

The four factors are:

**Business Diversification, Concentration and Franchise Positioning:** the breadth of a finance company's business activities, whether it is dependent on a single business, or spread across multiple activities or geographies, exposing it to, or protecting it from, concentration risk posed by a single activity or geography.

**Opacity and Complexity:** the extent to which a finance company's inherent complexity may heighten management challenges and the risk of strategic errors, and the degree to which financial statements are a reliable guide to its fundamentals.

**Corporate Behavior/Risk Management:** the extent to which a finance company's strategy, management and corporate policies may reduce or increase its overall risk profile.

**Liquidity Management:** the level of a finance company's preparedness for dealing with stress events or unexpected circumstances that might result in significant and sudden cash outflows or other factors that could strain a finance company's financial resources, including a burdensome and uneven debt maturity schedule, refinance risks, or an over-reliance on uncertain, short-term funding sources.

We incorporate these factors in the scorecard as one or more direct notching adjustments to the Adjusted Financial Profile. For clarity, these notching adjustments relate to credit considerations whose effects are not fully reflected in the Adjusted Financial Profile scoring (i.e., they are not double-counted). Notching adjustments may be upward or downward, as described below. All adjustments are in whole notches. The four Business Profile and Financial Policy factors and related notching are described below.

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### Factor 7: Business Diversification, Concentration and Franchise Positioning

**Business diversification** reflects the breadth of a finance company's business activities, whether it is dependent on a single business, or spread across multiple activities or geographies, exposing it to, or protecting it from, concentration risk posed by a single activity or geography. In general, a high concentration in a single geographic area with a relatively undiversified economy heightens an institution's credit risk profile. Conversely, good diversification across geographies that enjoy highly diversified economies lowers a firm's vulnerability to regional economic cycles, contributing to greater consistency in earnings. High reliance on one business line can make an institution highly vulnerable to potential changes in market dynamics that could be sudden and unpredicted with no offsetting earnings stream to protect the institution's economic solvency. Lack of business line diversification is often a credit weakness for finance companies.

We define a firm as monoline if it derives more than 80% of its net income from a single business line. Therefore, given that most finance companies are monoline, when there is a notching adjustment due to material business diversification that reduces exposure to economic and product cycles, it is normally an upward notching adjustment.

**Concentration**, when it poses a material risk, normally leads to a downward notching adjustment. A characteristic of many finance companies is concentrated key relationships with customers (including entities for which the finance company is providing customer financing or other financial services) or suppliers (i.e., companies that supply or refer financing opportunities). Sometimes this includes an ownership element, such as in the case of captive finance companies. Finance companies with concentrated customer exposures can face large impairment charges should those customers be unable or unwilling to repay their loans, lease rentals or receivables. The loss of a key customer can result in significant lost revenues and profits. The loss of a key supplier can impose significant operating challenges. Credit risks associated with relationship concentrations are obviously lower when the customer or supplier has a strong financial profile and higher when the credit profile is poor, or where information is limited. However, the financial strength of the customer does not remove the risk of other potential disruptions relating to relationship concentrations, such as changes in strategic direction of the customer or supplier, or inroads by competitors that threaten to erode the relationship. For BDCs, we typically consider the top 10 investments of a BDC in relation to its capital buffer and may notch downward when the ratio is high.

**Franchise Positioning** is the robustness and resilience of a finance company's market standing based on the strength of its competitive advantages. A solid and defensible franchise is a key element underpinning the ability of an institution to generate and sustain core earnings. When we analyze a finance company's franchise strength, we consider the company's overall market and its position in the market. Entities that have achieved superior franchise positioning and have a leading market share that is supported by unique or very established value propositions may receive an upward notching adjustment. Conversely, start-ups, new entrants or finance companies with very marginal market share relative to their peers may receive a downward notching adjustment.

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### Factor 8: Opacity and Complexity

A finance company's riskiness increases with its opacity and complexity, other things being equal. This is because opacity and complexity increase management challenges, heighten the risk of strategic and business errors, and heighten operational risk. In addition, complex organizations tend to be more opaque, because public disclosures necessarily provide a simplified view of their operations. By contrast, a relatively simple finance company can usually achieve more transparency with less voluminous disclosure.

We consider that finance companies with higher-than-average opacity or complexity may exhibit the following characteristics:

- » **Numerous business lines across many geographies and legal entities.** This brings diversification benefits, as discussed above, but also organizational complexity.
- » **Complex legal structure.** A finance company may have a complex legal or ownership structure (e.g., multiple minority ownership interests, offshore holding companies or pyramid structures).
- » **Unreliable accounting and controls.** Some accounting standards instill greater confidence than others. Generally, we believe that US Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) offer high standards. However, some local GAAP accounting standards are less demanding and, therefore, raise questions about the completeness and accuracy of financial statements and related disclosures. Beyond the accounting standards themselves, the maturity of auditing standards and practices, and idiosyncratic questions about the quality of a finance company's financial reporting and internal controls, can also raise concerns.

We may make a downward Opacity and Complexity notching adjustment for a finance company displaying any of these characteristics, typically by one notch but occasionally by more in cases of extreme opacity and complexity.

## Factor 9: Corporate Behavior / Risk Management

A finance company's creditworthiness can be influenced by its corporate behavior and risk management. A deeply embedded risk management culture, when combined with effective processes and systems, reduces the overall risk profile of a finance company. The more risk management is integrated into the firm's overall operations, the more likely it is that operating units will make the discipline an integral part of how their business is managed.

Risk management aims to reduce or restrain the risks that a company faces – whether customary (underwriting standards, day-to-day activities), cyclical or event-driven – or to take advantage of them, when beneficial. Taken together, these risks affect core profitability and earnings predictability and may even, at an extreme, severely damage a firm's credit standing if not managed appropriately.

We typically consider a number of drivers as follows:

- » **Prominence of the risk management function at an organization:** For risk management, key considerations include the prominence, independence and authority of the risk management function within the organization. We typically look for evidence of effective checks and balances between senior executives and the board and between risk management and business line units. Quality risk management also features the regular use of stress tests and, most important, the full independence of the risk function and of the risk function itself. Additionally, board involvement in risk management is important, typically through a technical board committee (most likely an audit or risk management committee) that is dedicated to oversight of risk management and that is fully independent and composed of directors with relevant skills. Effective risk management is supported by information systems, measurement tools and practices that are consistent with a finance company's size, structure, and risk appetite and profile.
- » **Financial policies.** An aggressive dividend policy may imply reduced financial flexibility. Management teams are often slow to reduce established dividend levels out of concern over negative signaling and an adverse share price impact. Similarly, debt-funded acquisitions and borrowing to fund share repurchases are also signals of aggressive financial policies. These attributes can lead to downward notching. On the other hand, we may recognize a strong and consistent record of creditor-friendly financial policies (evidenced by a successful focus on organic growth, capital accumulation and retention, and limited borrowing) with an upward notching adjustment.
- » **Strategy and management.** A radical departure in strategy, a shake-up in management or an untested team can each herald sudden changes that increase the uncertainty about a finance company's risk profile. An aggressive growth plan can also signal an elevated risk appetite, while clear weaknesses in risk management can increase a finance company's exposure to adverse developments. Any concerns regarding the rigor of board or management oversight and governance may also be considered in the notching we apply. In other cases, we may notch upward for experienced management teams that exhibit consistent, deliberate strategies that result in very stable performance over the long term.
- » **Operational risk.** Increased reliance on technology heightens operational risk and susceptibility to cybercrime as well as systems issues or outages that could cause a loss of clients and franchise value or an increase in costs. Although the likelihood and financial and reputational costs of any significant technology-related problem cannot be easily quantified, we may make one or more downward notching adjustments to reflect this risk, particularly in cases where a finance company has a weaker track record in this area than its peers or demonstrates other potential weaknesses in its investment in relevant infrastructure, oversight and processes.



- » **Key-person and related-party risks.** A finance company's high dependence on a single owner, executive or small group of executives can pose increased risks, because the loss of a single person could adversely affect its future fundamentals. For example, a finance company whose customers closely associate the owner or chief executive with the institution itself could suffer a loss of business and earnings and ultimately reduced debt-service capacity if the owner or chief executive were to leave or become unavailable, absent adequate succession planning. Ownership by or reliance on any single individual or group of individuals can also create conflicts of interest (e.g., related-party lending) and lead to reputational damage by association with such persons, should they become embroiled in adverse publicity from other unrelated activities.
- » **Compensation policy.** Similarly, an aggressive compensation policy, e.g., widespread use of high bonus payments relative to salaries and skewed toward cash, may encourage short-term risk-taking behavior, to the detriment of creditors.
- » **Accounting policies.** Some finance companies, although subject to more demanding accounting standards (e.g., US GAAP or IFRS) may choose to adopt aggressive accounting policies. This can sometimes be a strong indication of more widespread issues with corporate culture and compliance that could be detrimental to creditors' interests.
- » **Legal exposures.** Significant exposure to ongoing, pending or threatened litigation, or known unasserted claims, also pose increased risks.

We may make an upward or downward notching adjustment to reflect our view of the impact of corporate behavior or risk management, if we judge that any of these drivers has a material bearing on a finance company's overall risk profile. For example, we may notch downward if we see an aggressive dividend policy combined with rapid growth in a new business line; and we may notch upward where we perceive sustained exemplary stewardship over time, and where there is a tangible impact on a finance company's risk profile. Typically, downward notching is by one notch, but could be more if we perceive multiple or more deep-seated and serious issues. Upward notching is generally limited to one notch.

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### Factor 10: Liquidity Management

We frequently consider finance companies' liquidity management and incorporate this into our forward-looking assessment, where appropriate. We typically seek to understand management's level of preparedness for dealing with stress events or unexpected circumstances that might result in significant and sudden cash outflows or other factors that could strain its financial resources (such as, for example, a burdensome and uneven debt maturity schedule, refinancing risks, collateral calls or an over-reliance on uncertain, short-term funding sources). When liquidity management is weak, we may make a downward notching adjustment, typically by one to two notches, but occasionally by more in extreme cases.

Our qualitative assessment may be informed by performing a multi-year stress scenario incorporating sources and uses in a credit-constrained environment, similar to the stress scenario described in Appendix 5. For clarity, the stress scenarios are not double-counted. Instead, running the scenario over multiple years gives insights into the impact of management's liquidity management decisions and related policies. An important example is the debt maturity profile. We typically view that a finance company with very concentrated maturities over a two to three-year period has exposed itself to a high level of risk that may warrant downward notching, even if it has strong debt maturities coverage. In assessing the multi-year stress scenario, we would also consider management's track record. For example, a solid track record of refinancing maturing debt early and extending credit lines well before their expiration may mitigate a concentrated maturity profile in some cases. Last-minute refinancing arrangements to meet maturing debt or less-than-ample back-up credit lines relative to financing needs or relative to peers can lead to negative adjustment as we believe it signals poor liquidity management which heightens risks to creditors.

## Discussion of the Support Provision Component

### Affiliate and Government Support

Where relevant, we apply our JDA framework to incorporate any affiliate support, and then any government support. Please see the “Applying Affiliate and Government Support” section in Appendix 1, as well as Appendices 2 and 3 for more details.

While, in most instances, support is incrementally positive, there are instances where group affiliation may constrain the rating of a finance company relative to its standalone assessment. For example, if the finance company is affiliated with weak or highly leveraged entities, this affiliate relationship can weaken the finance company, since funds may flow from stronger to weaker entities within the corporate group.

Our ratings of finance companies do not typically reflect an expectation of government support. Based on our observations, we believe government support would neither be widely offered nor sufficiently reliable nor predictable to be routinely incorporated into our finance company ratings. Finance companies have frequently been allowed to fail without intervention of local or national governments. In the limited cases where such support is received, we consider its credit implications on a case-by-case basis. If we believe government support is meaningful and long term in nature, we apply the JDA framework as described in Appendices 1, 2 and 3.

Some finance companies that have direct government ownership may be designated as government-related issuers. Please see our rating methodology for government-related issuers, which describes how we incorporate support in these cases.<sup>20</sup>

### The Impact of the Sovereign or Other Supporting Government's Rating

Finance companies typically have linkages to sovereign credit risk, including via exposures to the economic environment and institutions, as well as exposure to the domestic banking system and capital markets. Please see our cross-sector methodology that discusses how sovereign credit quality can affect other issuers.<sup>21</sup>

### Other Rating Considerations

Ratings may include additional factors that are not in the scorecard, usually because they may have a meaningful effect in differentiating credit quality, but only in some cases. Such factors include financial controls and the quality of financial reporting; 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.

#### 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

<sup>20</sup> A link to an index of our sector and cross-sector credit rating methodologies can be found in the “[Moody's Related Publications](#)” section.

<sup>21</sup> A link to an index of our sector and cross-sector credit rating methodologies can be found in the “[Moody's Related Publications](#)” section.

regulatory changes or liabilities — can overwhelm even a stable, well-capitalized firm. Some other types of event risks include M&A, asset sales, spin-offs, litigation, significant cyber-crime events and shareholder distributions.

### Financial Institutions with Limited Financial History

Most rated finance companies have many years of financial history and lengthy operating track records that generally act as the basis for our forward-looking credit analysis. Finance companies with limited financial history may undergo rapid evolution initially, before developing readily distinguishable and stable operating characteristics. Financial institutions are highly confidence-sensitive. A demonstrable track record can be instrumental in building customer and market trust, which creates franchise value and supports the institution's performance during a down cycle.

The franchise value of start-up finance companies is usually weak, and most tend to lack product depth, market share, operating experience as an institution (rather than as a collection of individuals) and a record of resilience through a full credit cycle. Their systems, policies and procedures tend to be less robust than those of established finance companies.

For start-ups that lack a financial history of at least several years and in cases of a material transformation in a finance company's business, such that its financial history does not provide a good indication of future results (collectively, finance companies with limited financial history), existing financial history provides less insight into the future credit profile. In these cases, our baseline projections may reflect more-conservative expectations than management's projections. In addition, we are likely to make downward adjustments to several factors in our scorecard in order to reflect the considerable uncertainty around our baseline expectations of future operations and financial profile. To the extent these risks and uncertainties are not fully captured in the scorecard, they may be reflected in an assigned standalone assessment that is lower than the scorecard-indicated outcome.

Finance companies with limited financial history may benefit from external support. When material, we incorporate that support into our ratings. In assessing the level of expected support, we generally consider whether the company's status as a start-up could affect the willingness of the support provider to step in should support be needed. For a highly publicized start-up subsidiary of a parent with a solid credit profile, we may expect a high level of support. Certain parent companies and affiliates, conversely, could be less willing to provide support if the reputational and financial risks attached to failure of an early-stage business venture were lower than for subsidiaries with long track records and entrenched businesses in their home markets. We generally expect that governmental support for start-ups, typically small players in the early years of operations that are not systemically important, to be low. Exceptions could include government-owned start-ups and start-up finance companies of long-term strategic importance to government policy initiatives.

### Environmental Considerations

For finance companies, environmental risks are indirect and primarily relate to the impact of environmental regulations and natural disasters on their customers. The primary risk is credit loss, but in relatively rare cases, a lender may face liability, for instance related to foreclosed collateral, or reputational risk (negative publicity) for lending to sectors or borrowers perceived as causing environmental harm. Certain finance company business lines could be at risk owing to concentrated lending or leasing exposures to individual sectors or projects, e.g., oil and gas, aircraft leasing, autos or large commercial real estate projects in disaster-prone areas. Finance companies whose business lines typically have shorter maturities are less exposed than those that provide long-term loans, leases or other investments.

### Social Issues

For issuers in this sector, we also consider social issues that could materially affect the likelihood of default and severity of loss, for example through adverse impacts on business reputation, brand strength and employee relations.

### Corporate Governance

Audit committee financial expertise, the incentives created by executive compensation packages, related-party transactions, interactions with outside auditors, and ownership structure are among the areas we may consider in our assessment of how corporate governance affects the issuer's credit profile.

## Discussion of the Issuer-Level and Instrument-Level Considerations Component

After considering the scorecard-indicated outcome, support provisions, other rating considerations and relevant cross-sector methodologies, we typically assign a corporate family rating (CFR) to speculative-grade issuers or a senior unsecured rating for investment-grade issuers. For government-related issuers, we may assign a Baseline Credit Assessment.<sup>22</sup>

Individual debt instrument ratings may be notched up or down from the CFR or the senior unsecured rating to reflect our assessment of differences in expected loss related to an instrument's seniority level and collateral. The documents that provide broad guidance for such notching decisions are the rating methodology on loss given default for speculative-grade non-financial companies, the methodology for notching corporate instrument ratings based on differences in security and priority of claim, and the methodology for assigning short-term ratings.<sup>23</sup>

In applying the LGD model for finance companies, the normal loss rate assumption for the corporate family is 50%. However, on an exceptional basis we may assume a lower loss rate of 35% for finance companies where there is a high percentage of secured lending as well as a high percentage of loan and investment assets that exhibit low volatility in secondary markets (e.g., agency mortgage loans) or where these secured assets are highly diversified with strong asset quality.

We typically assign instrument ratings in accordance with the LGD model outcome. However, for unsecured instruments, we may also consider the expected availability of unencumbered assets at default, based in part on the finance company's current balance sheet, track record and financial policy.

### Assumptions

Key rating assumptions that apply in this sector include our view that sovereign credit risk is strongly correlated with that of other domestic issuers, that legal priority of claim affects average recovery on different classes of debt sufficiently to generally warrant differences in ratings for different debt classes of the same issuer, and the assumption that access to liquidity is a strong driver of credit risk.

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.

<sup>22</sup> For an explanation of the Baseline Credit Assessment, please refer to *Rating Symbols and Definitions* and to our cross-sector methodology for government-related issuers. A link to an index of our sector and cross-sector methodologies and a link to *Rating Symbols and Definitions* can be found in the "[Moody's Related Publications](#)" section.

<sup>23</sup> A link to an index of our sector and cross-sector rating methodologies can be found in the "[Moody's Related Publications](#)" section.

## Limitations

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

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### 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 company's circumstances.

Factors that are outside the scorecard, including those discussed above in the "Other Rating Considerations" section, may be important for ratings, and their relative importance may also vary from company to company. In addition, certain broad methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector.<sup>24</sup> Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers, the assessment of credit support from other entities, the relative ranking of different classes of debt and hybrid securities, and the assignment of short-term ratings.

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.

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### 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. Companies in the sector 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 rating considerations, typically diminishes. In any case, predicting the future is subject to substantial uncertainty.

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<sup>24</sup> A link to an index of our sector and cross-sector methodologies can be found in the "[Moody's Related Publications](#)" section.

## Appendix 1: Using the Scorecard to Arrive at a Scorecard-Indicated Standalone Assessment

### 1. Assigning the Financial Profile Scores and Mapping to a Financial Profile Numeric Score

Quantitative metrics are scored on an alphanumeric scale. For each metric, the scoring grid shows the range by alpha category. To arrive at an unadjusted sub-factor score, the alpha range is divided into three equal alphanumeric ranges, to which the metric is mapped. For example, if the scoring grid indicates that a Ba range for a particular metric is 3 to 4.5x (with 4.5x being strongest), the alpha range is divided into a range of 3 to 3.5x corresponding to a score of Ba3, a range of 3.5 to 4x corresponding to a score of Ba2, and a range of 4 to 4.5x corresponding to a score of Ba1. The scorecard shows the corresponding unadjusted alphanumeric score for the sub-factor. The sub-factor score may be adjusted as described in the "Measurement or Estimation of Factors in the Scorecard" section and the discussion of the Financial Profile factors. Each sub-factor thus has an unadjusted score (or "initial" score) and an assigned score.

Unadjusted and assigned sub-factor scores are then converted to numeric values of 1 to 20, based on the table below (Exhibit 6).

EXHIBIT 6

#### Rating Scale Numeric Equivalents

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
Ca	Ca	20

Source: Moody's Investors Service

The numeric score for each sub-factor assigned score is multiplied by the weight for that sub-factor, with the results then summed to produce an aggregate weighted factor score. The aggregate weighted factor score is then rounded to the nearest integer, and mapped back to an alphanumeric equivalent based on the table above to arrive at a Financial Profile alphanumeric score.

For example, a finance company with an aggregate weighted factor score of 11.7 would have a Ba2 Financial Profile score.

Special calculation considerations:

- » *EBITDA / Interest Expense & Preferred Dividends*. For Lessors and Service Providers: For purposes of calculating the historic ratio for the scorecard, the following conditions are applied to each of the most recently reported fiscal years: If interest expense plus preferred dividends is zero or negative and EBITDA is positive, then the ratio for that year is reassigned a value consistent with a Aaa score. The reassigned value is 9.0x for lessors and 8.5x for service providers. If both the numerator and denominator are negative, then the ratio for that year is reassigned a value consistent with a Ca score. The reassigned value is 0.25x for both lessors and service providers.<sup>25</sup>
- » *Debt / EBITDA*. For Lessors and Service Providers: For purposes of calculating the historic ratio for the scorecard, the following condition is applied to each of the most recently reported fiscal years: If a ratio is negative, then the ratio for that year is reassigned a value of 11.75x, which is consistent with a score of Ca.<sup>26</sup>
- » *Lease Residual Value Exposure / Tangible Common Equity*. Lessors: if ratio is negative, then the score is Ca.

## 2. Assigning the Operating Environment Factor Scores

Finance companies may operate in multiple countries and across multiple business lines. We typically score the Operating Environment at the country level based on the Macro-Level Indicator score for that country and the Industry Risk scores for each of the material business lines a finance company has in that country. We then assign an overall Operating Environment score for that issuer, according to the size and importance of its operations in each country.

The Operating Environment factor incorporates two sub-factors: Macro-Level Indicator and Industry Risk.

- » The Macro-Level Indicator sub-factor score of a country is based on three factors from our sovereign rating methodology:<sup>27</sup> Economic Strength (25%), Institutions and Governance Strength (50%) and Susceptibility to Event Risk (25%).

For the Macro-Level Indicator, we start with the published factor scores for the sovereign's Economic Strength and Institutions and Governance Strength, which are expressed on an alphanumeric scale, and Susceptibility to Event Risk, which is expressed on a broad alpha scale. We then convert these scores to numeric scores using the two Mapping Sovereign Rating Methodology Scoring tables below (Exhibits 7 and 8), and we combine them according to the weights described in the prior paragraph. Specifically, the numeric equivalent score for each sovereign methodology factor assigned score is multiplied by its weight, with the results then summed to produce an aggregate weighted Macro-Level Indicator sub-factor score. This numeric score is then rounded to the nearest integer and mapped back to an alphanumeric equivalent using the table in Exhibit 6.

<sup>25</sup> The reassigned values detailed above are chosen so that they fall slightly beyond the respective Aaa or Ca threshold values for the metric. This is done to ensure that for the three-year average calculation applying to this metric, the impact of reassigned values is commensurate with that of ratio values lying within finite scoring bands (i.e., corresponding to scores other than Aaa or Ca).

<sup>26</sup> The reassigned value detailed above is chosen so that it falls slightly beyond the Ca threshold value for this metric. This is done to ensure that, for the three-year average calculation applying to this metric, the impact of reassigned values is commensurate with that of ratio values lying within finite scoring bands (i.e., corresponding to scores other than Aaa or Ca).

<sup>27</sup> A link to an index of our sector and cross-sector rating methodologies can be found in the "[Moody's Related Publications](#)" section.

## EXHIBIT 7

**Mapping Sovereign Rating Methodology Scoring for Economic Strength and Institutions and Governance Strength\***

Economic Strength and Institutions and Governance Strength	Numeric Equivalent*
aaa, aa1	1
aa2, aa3	2
a1	4
a2	5
a3	6
baa1	7
baa2	9
baa3	10
ba1, ba2	11
ba3	13
b1	14
b2	15
b3	16
caa1, caa2	18
caa3, ca	19

\* The effect of this mapping is to compress the alphanumeric sovereign factor scores and convert them to a numeric score for use in the scorecard for finance companies.

Source: Moody's Investors Service

## EXHIBIT 8

**Mapping Sovereign Rating Methodology Scoring for Susceptibility to Event Risk**

Susceptibility to Event Risk	Numeric Equivalent
aaa	1
aa	2
a	4
baa	7
ba	10
b	14
caa	18
ca	19

Source: Moody's Investors Service

The Industry Risk indicator sub-factor score is assigned based on the table in that section. The resultant broad rating category score (Aaa, Aa, A, Baa, Ba, B, Caa or Ca) is then converted to a numeric value based on the table in Exhibit 6.

**3. Determining the Adjusted Financial Profile**

For each country, the Macro-Level Indicator score is combined with the issuer's overall Industry Risk score, based on the Industry Risk scores of the finance company's individual business lines in that country, using the dynamic weighting shown in Exhibit 9. The result is an Operating Environment score for the issuer in the country. The dynamic weighting is based on the Macro-Level Indicator score; as this factor becomes weaker it is assigned progressively more weight, such that it does not affect the Operating Environment score unless it has a downward influence on it. The weight assigned to the Industry Risk sub-factor score is derived by subtracting the weight assigned to the Macro-Level Indicator factor score from 100%. The numeric value



for each factor score is multiplied by the weight for that factor, with the results then summed to produce an aggregate weighted sub-component score. To demonstrate the impact of dynamic weighting, Exhibit 9 shows the effect expressed in alphanumeric terms.

EXHIBIT 9

## Combining the Operating Environment Factor Scores to Form the Operating Environment Score\*

		Macro-Level Indicator Score and Weighting																			
		Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	
		0%	0%	0%	0%	0%	0%	0%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	
Industry Risk Score	Aaa	Aaa	Aaa	Aaa	Aaa	Aaa	Aaa	Aaa	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Ba1	Ba2	B1	B2	Caa1	
	Aa	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	A1	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba3	B1	B3	Caa1	
	A	A2	A2	A2	A2	A2	A2	A2	A3	A3	Baa1	Baa2	Baa2	Baa3	Ba1	Ba2	B1	B2	B3	Caa2	
	Baa	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa3	Ba1	Ba1	Ba2	Ba3	B1	B2	Caa1	Caa2	
	Ba	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba3	Ba3	B1	B2	B3	Caa1	Caa2
	B	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B3	Caa1	Caa2	Caa3
	Caa	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa3
	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca

\* The weight of the Macro-Level Indicator is 0% if the Macro-Level indicator factor score is higher than the Industry Risk factor score.

Source: Moody's Investors Service

In cases where a finance company has material operations in more than one country, we assign an overall Operating Environment score according to the size and importance of operations in each country, informed by the weighted average of the country-level operating environment scores described above. Weighting is representative of the sector/geographic allocation of risk and returns and is typically based on our forward-looking view of sustainable revenue levels; however, we may adjust the weighting in cases where revenues are not proportionate to profits or risks. The resulting weighted average is rounded and converted to a factor score, based on Exhibit 6. In some limited cases, the assigned score may be different from the weighted average score, for instance to reflect risks in a specific country or segment that have an outsize impact on the firm's operating and business risk profile.

For countries that represent a large portion of the issuer's business and when the relevant information is available, we typically calculate a separate Operating Environment score for each material business line in those countries.<sup>28</sup> We then assign an overall Operating Environment score that is informed by the weighted average of the underlying scores. For business lines that are less material, or when an issuer's business line reporting is less precise or we expect that the mix will change materially, we may assign an Industry Risk score based on our estimate of the business line breakdown in that country or region.

In cases where geographical reporting is on a regional rather than a country basis, we take one of the two following approaches. If the Macro-Level Indicators for the countries in the region that represent the preponderance of the issuer's business are quite similar, we would typically use the Macro-Level Indicator score that we consider to be most representative among those countries and assign an Industry Risk score to the region. If the macro-level indicators for the countries in the region that represent the preponderance of the issuer's business are quite disparate, we would typically estimate the proportion of the business in each country. We would then assign an overall operating environment score that is informed by the weighted average of the underlying scores.

A dynamic weighting concept also is used to combine the Financial Profile and the Operating Environment factor scores to determine the Adjusted Financial Profile score. The dynamic weighting is based on the Operating Environment score as shown in Exhibit 9; as this sub-factor becomes weaker it is assigned progressively more weight. The numeric value for each factor score is multiplied by the weight for that factor, with the results then summed to produce an aggregate weighted Adjusted Financial Profile score. As

<sup>28</sup> Sectors in the same country are scored with a similar Macro-Level Indicator but may have different Industry Risk scores from one another.

shown in Exhibit 10, the Operating Environment score contributes to a finance company's scorecard credit profile only to the extent that it exerts a downward influence on the Financial Profile score. Accordingly, the Operating Environment is assigned a 0% weight if the Operating Environment score is higher or equal to the Financial Profile score. However, if the Operating Environment score is "Baa" or lower, and is weaker than the Financial Profile score, it exerts a downward influence on the Adjusted Financial Profile.

EXHIBIT 10

**Combining the Operating Environment and Financial Profile Scores to Form the Adjusted Financial Profile Score\***

		Operating Environment Score and Weighting																					
		Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Caa3	Ca		
		0%	0%	0%	0%	0%	0%	0%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%		
Financial Profile Score	Aaa	Aaa	Aaa	Aaa	Aaa	Aaa	Aaa	Aaa	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Ba1	Ba2	B1	B2	Caa1	Caa3		
	Aa1	Aa1	Aa1	Aa1	Aa1	Aa1	Aa1	Aa1	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba3	B1	B3	Caa1	Caa3		
	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	Aa2	A1	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba3	B1	B3	Caa1	Caa3		
	Aa3	Aa3	Aa3	Aa3	Aa3	Aa3	Aa3	Aa3	A1	A2	A3	Baa1	Baa1	Baa2	Ba1	Ba2	Ba3	B1	B3	Caa2	Caa3		
	A1	A1	A1	A1	A1	A1	A1	A1	A2	A3	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B2	B3	Caa2	Caa3		
	A2	A2	A2	A2	A2	A2	A2	A2	A3	A3	Baa1	Baa2	Baa2	Baa3	Ba1	Ba2	B1	B2	B3	Caa2	Caa3		
	A3	A3	A3	A3	A3	A3	A3	A3	A3	Baa1	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa2	Caa3		
	Baa1	Baa1	Baa1	Baa1	Baa1	Baa1	Baa1	Baa1	Baa1	Baa1	Baa2	Baa3	Baa3	Ba1	Ba2	Ba3	B1	B2	Caa1	Caa2	Caa3		
	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa2	Baa3	Ba1	Ba1	Ba2	Ba3	B1	B2	Caa1	Caa2	Caa3		
	Baa3	Baa3	Baa3	Baa3	Baa3	Baa3	Baa3	Baa3	Baa3	Baa3	Baa3	Ba1	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Ca		
	Ba1	Ba1	Ba1	Ba1	Ba1	Ba1	Ba1	Ba1	Ba1	Ba1	Ba1	Ba1	Ba1	Ba2	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	Ca	
	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba2	Ba3	Ba3	B1	B2	B3	Caa1	Caa2	Ca
	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	Ba3	B1	B1	B2	B3	Caa1	Caa2	Ca
	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B1	B2	B3	B3	Caa1	Caa3	Ca	
	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B2	B3	Caa1	Caa2	Caa3	Ca	
	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	B3	Caa1	Caa2	Caa3	Ca	
	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa1	Caa2	Caa3	Ca	
	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa2	Caa3	Ca	
	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Caa3	Ca	
	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	Ca	

\* The weight of Operating Environment is 0% if the Operating Environment score is higher than or equal to Financial Profile score.  
Source: Moody's Investors Service

**4. Determining the Overall Scorecard-Indicated Standalone Assessment**

We incorporate four factors in the scorecard as one or more direct notching adjustments to the Adjusted Financial Profile, as detailed in the "Business Profile and Financial Policy" section of this methodology. The four sub-factors are:

- » *Business Diversification, Concentration and Franchise Positioning*
- » *Opacity and Complexity*
- » *Corporate Behavior/Risk Management*
- » *Liquidity Management*

All notches are in whole numbers. Upward notching adjustments raise the alphanumeric equivalent (e.g., plus one notch from Baa1 to A3) and decrease the numeric value of the score (e.g., from 8 to 7). Downward notching adjustments lower the alphanumeric equivalent (e.g., from Baa1 to Baa2) and increase the numeric score (e.g., from 8 to 9).

Application of the notching adjustments to the Adjusted Financial Profile results in the scorecard-indicated standalone assessment, prior to the sovereign local-currency rating impact. The standalone assessment may

be lowered as a result of the sovereign local-currency rating impact. Please see our cross sector methodology that discusses how sovereign credit quality can affect other issuers.<sup>29</sup> The resultant post-cap alphanumeric equivalent is the midpoint of the scorecard-indicated standalone assessment, which is expressed as a three-notch range on our alphanumeric rating scale.<sup>30</sup>

The assigned standalone assessment is expressed as a single alphanumeric on our rating scale, which may or may not be within the three-notch range, but is most often within it. Scorecards based on consolidated financial statements are oriented to the standalone assessment for the corporate family.

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## 5. Applying Affiliate and Government Support

For finance companies other than captives, where relevant, we apply our JDA framework to incorporate any affiliate support, and then any government support. Affiliate support is applied to the issuer's standalone assessment and provides an indicated range of positive uplift,<sup>31</sup> in notches. The assigned post-affiliate standalone assessment typically incorporates a level of upward notching within the affiliate support range, but it may in some cases be outside that range. The application of government support JDA provides a range of suggested upward notching.<sup>32</sup> The assigned corporate family/issuer rating typically incorporates a level of upward notching within the government support range, but it may in some cases be outside that range, and in all cases, the assigned corporate family/issuer rating incorporates the local-currency country ceiling.

Appendix 3 describes our JDA framework. Appendix 4 describes how we use JDA to determine the upward ratings impact (if any) of affiliate and government support on the assigned standalone assessment.

Please see our methodology for captive finance companies for a description of how we assess support from their parent companies.<sup>33</sup>

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## 6. Determining Instrument Ratings

Please see the "Discussion of the Issuer-Level and Instrument-Level Considerations Component" section.

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<sup>29</sup> A link to an index of our sector and cross-sector methodologies can be found in the "[Moody's Related Publications](#)" section.

<sup>30</sup> In cases where the post-cap alphanumeric equivalent is aaa, the midpoint is aaa and the resultant range is aaa to aa1. In cases where the post-cap alphanumeric equivalent is ca, the midpoint is ca and resultant range is caa3 to ca.

<sup>31</sup> The suggested upward notching may be zero or more notches.

<sup>32</sup> The suggested upward notching may be zero or more notches.

<sup>33</sup> A link to an index of our sector and cross-sector methodologies can be found in the "[Moody's Related Publications](#)" section.

## Appendix 2: Financial Profile — Ratio Thresholds

EXHIBIT 11

### Lenders: Summary of Key Factors, Metrics and Scoring Guidelines

Key Factor and Sub-factor Weights	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
<b>Financial Profile</b>								
<b>Profitability (10%)</b>								
Net Income / Average Managed Assets (10%)	> 8.5%	5.5 - 8.5%	2.5 - 5.5%	1 - 2.5%	0.5 - 1%	0 - 0.5%	(2.5) - 0%	< (2.5)%
<b>Capital Adequacy and Leverage (25%)</b>								
Tangible Common Equity / Tangible Managed Assets (25%)	> 50%	31 - 50%	16 - 31%	12 - 16%	8 - 12%	4 - 8%	(15) - 4%	<(15)%
<b>Asset Quality (20%)<sup>†</sup></b>								
Problem Loans / Gross Loans (10%)	< 0.25%	0.25 - 0.5%	0.5 - 0.75%	0.75 - 2%	2 - 4%	4 - 7%	7 - 10%	> 10%
Net Charge-offs / Average Gross Loans (10%)	< 0.5%	0.5 - 1%	1 - 1.5%	1.5 - 3%	3 - 5%	5 - 8%	8 - 15%	> 15%
<b>Cash Flow and Liquidity (45%)<sup>†</sup></b>								
Debt Maturities Coverage (10%)	> 400%	300 - 400%	200 - 300%	120 - 200%	60 - 120%	40 - 60%	5 - 40%	< 5%
FFO / Total Debt (15%)	> 65%	45 - 65%	30 - 45%	20 - 30%	12.5 - 20%	5 - 12.5%	0 - 5%	< 0%
Secured Debt / Gross Tangible Assets (20%)	0%	0 - 8%	8 - 15%	15 - 30%	30 - 45%	45 - 60%	60 - 80%	> 80%

<sup>†</sup> The sub-factor weights in the table above reflect a case where all the metrics are available. For Asset Quality, at least one of Problem Loans / Gross Loans or Net Charge-Offs / Average Gross Loans is required for scoring. If one of these metrics is not available, then we reallocate its weight by adding its weight to the existing weight of the other metric, for both the initial score and assigned score. For Cash Flow and Liquidity, at least one of Debt Maturities Coverage or FFO / Total Debt is required for scoring. If FFO / Total Debt is not available, then we reallocate its weight and add it to the existing weight of Debt Maturities Coverage, for both the initial score and assigned score. If the Debt Maturities Coverage ratio cannot be calculated because the denominator is zero over the next 12 months, then we reallocate its weight and add it to the existing weight of FFO / Total Debt for the initial score. An assigned score is assessed as described in the sub-factor discussion and is accorded the weight shown in the table above.

Source: Moody's Investors Service

EXHIBIT 12

### Lessors: Summary of Key Factors, Metrics and Scoring Guidelines

Key Factor and Sub-factor Weights	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
<b>Financial Profile</b>								
<b>Profitability (15%)</b>								
Net Income / Average Managed Assets (10%)	> 8.5%	5.5 - 8.5%	2.5 - 5.5%	1 - 2.5%	0.5 - 1%	0 - 0.5%	(2.5) - 0%	< (2.5)%
EBITDA / (Interest Expense & Preferred Dividends) (x) (5%)	> 8.5x	7.5 - 8.5x	6.5 - 7.5x	4 - 6.5x	3 - 4x	1 - 3x	0.5 - 1x	< 0.5x
<b>Capital Adequacy and Leverage (25%)</b>								
Tangible Common Equity / Tangible Managed Assets (15%)	> 50%	35 - 50%	27 - 35%	20 - 27%	14 - 20%	11 - 14%	8 - 11%	< 8%
Debt / EBITDA (x) (10%)	< 0.5x	0.5 - 1.5x	1.5 - 2.5x	2.5 - 3.5x	3.5 - 4.5x	4.5 - 6.5x	6.5 - 10.0x	> 10x
<b>Asset Quality (15%)</b>								
Lease Residual Value Exposure / Tangible Common Equity (15%)	< 10%	10 - 50%	50 - 100%	100 - 200%	200 - 300%	300 - 400%	400 - 500%	> 500%
<b>Cash Flow and Liquidity (45%)<sup>†</sup></b>								
Debt Maturities Coverage (10%)	> 400%	300 - 400%	200 - 300%	120 - 200%	60 - 120%	40 - 60%	5 - 40%	< 5%
FFO / Total Debt (15%)	> 65%	45 - 65%	30 - 45%	20 - 30%	12.5 - 20%	5 - 12.5%	0 - 5%	< 0%
Secured Debt / Gross Tangible Assets (20%)	0%	0 - 8%	8 - 15%	15 - 30%	30 - 45%	45 - 60%	60 - 80%	> 80%

<sup>†</sup> The sub-factor weights in the table above reflect a case where all the metrics are available. For Cash Flow and Liquidity, at least one of Debt Maturities Coverage or FFO / Total Debt is required for scoring. If FFO / Total Debt is not available, then we reallocate its weight and add it to the existing weight of Debt Maturities Coverage, for both the initial score and assigned score. If the Debt Maturities Coverage ratio cannot be calculated because the denominator is zero over the next 12 months, then we reallocate its weight and add it to the existing weight of FFO / Total Debt for the initial score. An assigned score is assessed as described in the sub-factor discussion and is accorded the weight shown in the table above.

Source: Moody's Investors Service

## EXHIBIT 13

**BDCs: Summary of Key Factors, Metrics and Scoring Guidelines**

Key Factor and Sub-factor Weights	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
<b>Financial Profile</b>								
<b>Profitability (10%)</b>								
Net Income / Average Managed Assets (10%)	> 8.5%	5.5 - 8.5%	2.5 - 5.5%	1 - 2.5%	0.5 - 1%	0 - 0.5%	(2.5) - 0%	< (2.5)%
<b>Capital Adequacy and Leverage (35%)</b>								
Asset Coverage Ratio Cushion (35%)	> 50%	35 - 50%	25 - 35%	17.5 - 25%	10 - 17.5%	0 - 10%	(25) - 0%	< (25)%
<b>Asset Quality (20%)</b>								
Problem Loans / Gross Loans (10%)	< 0.25%	0.25 - 0.5%	0.5 - 0.75%	0.75 - 2%	2 - 4%	4 - 7%	7 - 10%	> 10%
Senior Secured Loans % of Total Investments (10%)	> 95%	90 - 95%	85 - 90%	70 - 85%	55 - 70%	45 - 55%	35 - 45%	< 35%
<b>Cash Flow and Liquidity (35%)</b>								
Debt Maturities Coverage (20%)	> 400%	300 - 400%	200 - 300%	120 - 200%	60 - 120%	40 - 60%	5 - 40%	< 5%
Secured Debt / Gross Tangible Assets (15%)	0%	0 - 8%	8 - 15%	15 - 30%	30 - 45%	45 - 60%	60 - 80%	> 80%

Source: Moody's Investors Service

## EXHIBIT 14

**Service Providers & Other: Summary of Key Factors, Metrics and Scoring Guidelines**

Key Factor and Sub-factor Weights	Aaa	Aa	A	Baa	Ba	B	Caa	Ca
<b>Financial Profile</b>								
<b>Profitability (30%)</b>								
Net Income / Average Managed Assets (10%)	> 8.5%	5.5 - 8.5%	2.5 - 5.5%	1 - 2.5%	0.5 - 1%	0 - 0.5%	(2.5) - 0%	< (2.5)%
EBITDA / (Interest Expense & Preferred Dividends) (x) (20%)	> 8x	7 - 8x	6 - 7x	5 - 6x	3.5 - 5x	1 - 3.5x	0.5 - 1x	< 0.5x
<b>Capital Adequacy and Leverage (35%)</b>								
Tangible Common Equity / Tangible Managed Assets (10%)	> 20%	16 - 20%	12 - 16%	8 - 12%	4 - 8%	0 - 4%	(10) - 0%	< (10)%
Debt / EBITDA (x) (25%)	< 0.5x	0.5 - 1.5x	1.5 - 2.5x	2.5 - 3.5x	3.5 - 4.5x	4.5 - 6.5x	6.5 - 10.0x	> 10x
<b>Cash Flow and Liquidity (35%)<sup>†</sup></b>								
Debt Maturities Coverage (10%)	> 400%	300 - 400%	200 - 300%	120 - 200%	60 - 120%	40 - 60%	5 - 40%	< 5%
FFO / Total Debt (25%)	> 65%	45 - 65%	30 - 45%	20 - 30%	12.5 - 20%	5 - 12.5%	0 - 5%	< 0%

<sup>†</sup> The sub-factor weights in the table above reflect a case where all the metrics are available. For Cash Flow and Liquidity, at least one of Debt Maturities Coverage or FFO / Total Debt is required for scoring. If FFO / Total Debt is not available, then we reallocate its weight and add it to the existing weight of Debt Maturities Coverage, for both the initial score and assigned score. If the Debt Maturities Coverage ratio cannot be calculated because the denominator is zero over the next 12 months, then we reallocate its weight and add it to the existing weight of FFO / Total Debt for the initial score. An assigned score is assessed as described in the sub-factor discussion and is accorded the weight shown in the table above.

Source: Moody's Investors Service

### Appendix 3: Joint Default Analysis (JDA) in Support

Our support estimates are determined by our JDA framework. JDA operates on the principle that the risk of default (and, therefore, loss) for certain obligations depends on the performance of both the primary obligor and another entity (or entities) that may provide support to the primary obligor. The chief benefit offered by JDA is a consistent, transparent approach to the incorporation of typically uncertain non-contractual external support. That said, assigned ratings will continue to be determined through judgment, not through models.

The JDA framework for finance companies evaluates potential support in a "building block" approach. The intention of this approach is to replicate the likely sequence in which external support for a finance company would be forthcoming. Each support provider is assessed for its capacity and willingness to support the finance company. The first is based on the finance company's supporter's own standalone assessment, and the local-currency rating in the case of a public sector entity. The second is based on our opinion of the probability that support will be forthcoming when needed. The probability that two parties will jointly default depends on a) the probability that one of them defaults, and b) the probability that the second will default, given that the first has already defaulted. Expressed algebraically, one can write this for events A and B as:

$$P(A \text{ and } B) = P(A | B) \times P(B) \quad (1)$$

Or equivalently,

$$P(A \text{ and } B) = P(B | A) \times P(A) \quad (2)$$

We define A as the event "obligor A defaults on its obligations" and B as the event "obligor B defaults on its obligations." Likewise, "A and B" is the joint default event "obligors A and B both default on their obligations." The operator P(x) represents the probability that event "x" will occur and P(x | y) is defined as the conditional probability of event "x" occurring given that event "y" has occurred.

To estimate the conditional default probabilities P(A | B) and P(B | A), one must take into account the relationship between the drivers of default for both obligors. Each of these four probabilities – P(A), P(B), P(A | B) and P(B | A) – are intended to represent unsupported risk measures. That is, they represent the likelihood of an obligor default in the absence of any joint support or interference.

Although one can tackle this problem directly by estimating either one of the conditional default probabilities described in equations (1) and (2), it may be more intuitive to focus on the product of the conditional probability of default for the lower-rated, or supported, firm and the unconditional probability of default for the higher-rated, or supporting, firm. Using L to denote the event "lower-rated obligor L defaults on its obligations" and H to denote "higher-rated obligor H defaults on its obligations," we can rewrite equation (1) as:

$$P(L \text{ and } H) = P(L | H) \times P(H) \quad (3)$$

It is not difficult to imagine situations where the conditional probability P(L | H) might be at its theoretical maximum (i.e., 1) or at its minimum (i.e., P(L)). Let us consider these extreme outcomes in turn by way of example.

- »  $P(L | H) = 1$ . Suppose that the financial health of an issuer is crucially linked to the operations of another, higher-rated entity. For example, the default risk of a distributor in a competitive distribution market dominated by a single supplier may be highly dependent on the financial health of that supplier. In other words, the conditional probability of the distributor's default given a default by the higher-rated supplier,  $P(L | H)$ , is equal to one. Under such a scenario, the joint default probability  $P(L \text{ and } H)$  in equation (3) above is simply  $P(H)$ . That is, the rating applied to such jointly supported obligations would equal the supplier's rating, without any ratings lift, regardless of issuer L's standalone rating.
- »  $P(L | H) = P(L)$ . Suppose a highly rated European bank provides a letter of credit to a lower-rated agribusiness in the US. While there may be circumstances in which the agribusiness might face financial difficulties on its own, its intrinsic operational health is generally unrelated to the circumstances that might lead the European bank to default on its obligations. Under this scenario, the conditional probability of a default by the agribusiness, given a default by the bank – i.e.,  $P(L | H)$  – is simply the standalone default risk  $P(L)$  of the agribusiness. That is, events L and H are independent of one another and thus uncorrelated. In this case, their joint-default probability is the product of their standalone default probabilities,  $P(L)*P(H)$ . The jointly supported obligation rating implied by such a relationship is generally higher than the rating of the supporting entity H.

In practice, the conditional default risk of the lower-rated entity, given a default by the stronger entity, will vary somewhere between these two extremes, full dependence (i.e., where  $P(L | H) = 1$ ) and independence, (i.e., where  $P(L | H) = P(L)$ ).

#### Intermediate Level of Correlations

We use a simple tool for modeling intermediate cases of default risk linkage. Let us denote the variable W as a correlation weighting factor, where  $W = 1$  corresponds to a maximum dependence of the default of the lower-rated entity on that of the higher-rated entity; and  $W = 0$  corresponds to complete independence (i.e., zero correlation) between default events. Fractional values of W indicate intermediate levels of dependence between the two default events.

Using the correlation weighting concept, we can express the joint-default probability between obligors L and H as:

$$P(L \text{ and } H) = W * P(L \text{ and } H | W=1) + (1-W) * P(L \text{ and } H | W=0) \quad (4)$$

Or more compactly:

$$P(L \text{ and } H) = W * P(H) + (1 - W) * P(L) * P(H) \quad (5)$$

In other words, once we have determined standalone ratings for the two obligors, the task of assigning a rating to a jointly supported obligation may be reduced to the assignment of a correlation weight.

## Standard Assumptions

We typically use the following assumptions in our JDA.

EXHIBIT 15

### Support Probability Assumptions by Category

Support levels	Lower	Upper
Government- or Affiliate-backed	95%	100%
Very High	70%	94.9%
High	50%	69.9%
Moderate	30%	49.9%
Low	0%	29.9%

Source: Moody's Investors Service

EXHIBIT 16

### Dependence Assumptions by Category

Dependence	
Very High	90%
High	70%
Moderate	50%

Source: Moody's Investors Service

## Relative Risk and Ratings

We map ratings to risk measures. The multiple separating successive risk measures is approximately 0.62. For example, this means that—for the purposes of JDA—a one-notch uplift means that, on average, the risk is reduced by approximately 38%. This relationship holds across the rating scale, with the exception of Aaa/Aa1. As Aaa ratings are assigned only to obligations that we consider to be of the highest quality, subject to the lowest level of credit risk, the multiple of Aaa relative to Aa1 is 0.10. This means that to obtain a notch of uplift to Aaa from Aa1, we must consider that the risk is one-tenth of its previous level. This also means that the uplift from a Aaa support provider under JDA is proportionately stronger than that from an Aa1 support provider.

We then map a range of risk measures back to ratings, where the range is given by the geometric mean of risk values of a rating category and the category below it. For example, if we associate Baa2 with 0.62% and Baa3 with 1.00%, the geometric mean (the square root of their product) is 0.79%, meaning that if the joint default event P(L and H) has a risk measure less than 0.79% but greater than 0.49% (the geometric mean of Baa1 and Baa2), we would map it back to Baa2, but if it had a value greater than 0.79% but less than 1.27% (the geometric mean of Baa3 and Ba1), we would map it back to Baa3.



The risk values and thresholds for JDA uplift are reproduced in Exhibit 17 below.

EXHIBIT 17

Relative Risk		Reverse Rating Lookup	
Standalone assessment	Risk Measure (%) (Baa3 = 1) <sup>*1</sup>	Upper bound threshold (%) <sup>*2</sup>	Supported assessment
Aaa	0.00	0.01	Aaa
Aa1	0.02	0.03	Aa1
Aa2	0.03	0.04	Aa2
Aa3	0.06	0.07	Aa3
A1	0.09	0.11	A1
A2	0.15	0.19	A2
A3	0.24	0.30	A3
Baa1	0.38	0.49	Baa1
Baa2	0.62	0.79	Baa2
Baa3	1.00	1.27	Baa3
Ba1	1.62	2.06	Ba1
Ba2	2.62	3.33	Ba2
Ba3	4.24	5.39	Ba3
B1	6.85	8.72	B1
B2	11.09	14.11	B2
B3	17.94	22.83	B3
Caa1	29.03	36.93	Caa1
Caa2	46.98	59.76	Caa2
Caa3	76.01	96.69	Caa3
Ca	122.99	156.45	Ca
C	199.01		

<sup>\*1</sup> Rounded to two decimal places.

<sup>\*2</sup> The upper-bound threshold for a given rating level is derived by calculating the geometric mean of (i) the risk value associated with this rating level, and (ii) the risk value associated with the lower adjacent rating level. For the presentation of this table, the upper-bound threshold has been rounded to two decimal places.

Source: Moody's Investors Service

## Appendix 4: Use of Joint Default Analysis in Assessing Affiliate and Government Support

### Probability of Affiliate Support

We classify the probability of the affiliate's provision of support as ranging from "Affiliate-backed" to "Very High," "High," "Moderate" and "Low." Each of these categories corresponds to a range of support probabilities.

We reach this judgment by assessing the following considerations:

- » Control: An entity that is 100% owned and controlled by a group is more likely to be supported.
- » Brand: An entity carrying a group's name and logo is more likely to be supported due to the group's self-interest in preserving its reputation.
- » Regulation: An entity subject to the same regulator is more likely to be supported due to regulatory compulsion, provided there are no regulatory barriers to support.
- » Geography: Conversely, a supporting entity may be constrained by home political or regulatory considerations in providing support to its foreign subsidiary.
- » Documented support: Comfort letters, public or private "keepwell" agreements can evidence likelihood of support.
- » Strategic fit: An entity that is important to the strategy of the group is less likely to be sold and, therefore, support is more likely to be durable. Larger subsidiaries are often – but not always – more strategically important than smaller ones.
- » Financial links: We consider the impact of a potential sale of the rated entity on the group's financial statements and corporate strategy – the more adverse the impact, the less likely a detrimental sale to a potentially less creditworthy institution will occur. An entity where significant intra-group funding links exist may also be more likely to receive support.
- » Parental policy: Our assumption is that groups are supportive of their affiliates by nature; however, this may not always be the case. Where groups have previously failed to support an entity, or disposed of an entity shortly prior to a default, this may reduce our assessment of the likelihood of support.

### Capacity to Provide Support

To establish the affiliate's capacity to support the entity, we generally use the affiliate's own standalone assessment. Since standalone assessments are generally based on consolidated financial statements – i.e., including subsidiaries – we may on occasion modify this standalone assessment to more closely reflect the affiliate's financial strength excluding the supported entity, and avoid incorporating the strengths or weaknesses of the entity itself into the affiliate's capacity to provide support.

Where we consider that support is derived from a group more generally, rather than a specific entity within the group, we may use a "notional" standalone assessment of that group. This is the standalone assessment that we would assign were the group to be a single legal entity, i.e., based on its consolidated financials. Again, on occasion we may modify this to exclude the supported entity.

This approach implies that potential government support that would apply to the affiliate or group may not be extended to the entity in question, and that resources marshaled to support the entity are limited to its standalone capacity. We generally take this approach because we consider government support separately (see below). However, we may on occasion employ supported ratings (typically, the senior unsecured debt

rating) as our measure of support capacity where individual circumstances justify it – for example, if the supported entity is virtually inseparable from the supporting affiliate due to complex inter-linkages and government support would therefore almost certainly flow via the affiliate.

Where the affiliate is a non-bank entity, for example an insurance company or nonfinancial corporate, we may also use a probability of default rating where available.

### Dependence Between Support Provider and Support Recipient

Typically, we judge dependence to fall into one of three broad categories, “Very High,” “High” and “Moderate” – although we may on occasion diverge from this to reflect a different view.

Our choice of dependence is based on the following principal factors:

- » The degree of integration between the affiliates: The higher the reliance of an entity on intra-group funding, the more likely we are to consider dependence to be Very High rather than High.
- » The respective operating environments: The closer the links between the markets in which the affiliates operate, the more likely we are to consider their dependence to be Very High rather than High. In this assessment, we consider business lines and product types, as well as the geographic location.

An example of the Affiliate Support Worksheet is shown in Exhibit 18.

#### EXHIBIT 18

#### Example Affiliate Support Worksheet

##### Assumptions

Country of supporting affiliate	Country XYZ
Supporting affiliate	Parent Bank Inc
Reference creditworthiness	BCA
Creditworthiness of support provider	baa1
Dependence	Very High

Standalone Assessment	Level of support	Notching guidance (Min - Mid - Max)	Assigned notching	Standalone Assessment post Affiliate Support
Ba1	High	1 - 1 - 2	1	Baa3

Source: Moody's Investors Service

### Government Support

Our approach to government support is similar to that for determining support from an affiliate. Our assessment is designed to be qualitative and flexible in nature, enabling us to incorporate the often subtle real-world shifts that define attitudes to support for financial institutions.

We assess the probability of support from a public body (usually a government but sometimes a central bank or supranational institution) for a class of creditors according to which of the following five categories best reflects that instrument's importance to the public: “Government-backed,” “Very High,” “High,” “Moderate” and “Low.” Our assessment – which is ultimately specific to each instrument class of each firm – is made through the analysis of a number of considerations.

First, we incorporate the public policy framework at large. Our overall assessment of the probability of government support for a given rated instrument is significantly conditioned by an understanding of the

overall attitude of the relevant public bodies and any constraints they may face, beyond their own creditworthiness, in providing support.

We then assess several industry- and entity-specific matters, including market share, market impact, nature of activity and public involvement, and may assess higher probabilities of support in some cases.

An example of the Government Support Worksheet is shown in Exhibit 19.

## EXHIBIT 19

**Example Government Support Worksheet**

## Assumptions

Supporting authority	Country XYZ
Creditworthiness of support provider	Aa2
Dependence	Very High
Local Currency bank deposit ceiling	Aaa
Local Currency country ceiling	Aaa
Foreign Currency bank deposit ceiling	Aaa
Foreign Currency country ceiling	Aaa

Standalone Assessment post Affiliate Support	Level of support	Notching guidance (Min - Mid - Max)	Assigned notching	LC Country ceiling impact	Assigned LC rating	FC Country ceiling impact	Assigned FC rating
Baa3	High	2 - 3 - 5	3	0	A3	0	A3

Source: Moody's Investors Service

## Appendix 5: Finance Company Stress Test

We may assess a finance company's liquidity in terms of its flexibility to deal with market events and its ability to fund originations under stress. Stress testing can take various forms according to the asset mix and funding structure of the finance company. The results of stress tests may inform adjusted sub-factor scores and the scoring of certain notching factors. They may also be incorporated qualitatively in ratings.

An example of a liquidity stress test is described below.

This example stress test incorporates the following assumptions: a) no ability to raise new funding in the unsecured and secured capital markets for next 12-24 months; b) all debt must be repaid at maturity and any put options within debt indentures are exercised; c) all dividends and interest are paid; d) all operating expenses are paid; and e) new business continues to be funded at a level that replenishes portfolios in order to preserve franchise positioning. Finance companies with a detailed plan to provide for their cash needs under various stress circumstances with a combination of liquidity on hand and robust alternative sources fare best in the stress scenario.

For this test we consider highly reliable on-balance-sheet liquidity to include cash, highly rated government and local-government securities, as well as government agency securities. Highly reliable committed contingent liquidity primarily includes unsecured, committed bank lines with maturities of at least one year. Debt includes both on- and off-balance-sheet debt, secured and unsecured debt, and recourse and non-recourse debt. Although not serviced by corporate cash flows, non-recourse (e.g., securitization) debt is typically included in our analysis because it likely serves as a key funding source, the absence of which could result in a sharp reduction in business activities that could damage the franchise.

We also may incorporate stress case scenarios for operating cash flow and portfolio cash flows to reflect uncertainty regarding asset quality performance and margins. Our analysis also incorporates regional differences in credit market dynamics, where appropriate.

During periods of actual liquidity stress, finance companies with high-quality unencumbered assets may be able to generate liquidity from asset sales or from a reduction in new business volume that results in net portfolio runoff. This is a secondary and lesser consideration in our analysis, due to the uncertain timing and amount of these cash flows, and additionally due to the damage to the franchise that can result should a finance company materially curtail new business activities.

In addition to analyzing a liquidity runway over a 12-24-month horizon, we also review longer periods to assess whether debt maturities are appropriately laddered to minimize concentrated refinancing risk in any one period. We also assess the rigor of liquidity monitoring and control systems, as well as contingency planning and liquidity stress testing.

For BDCs, in addition to the criteria above, we estimate a potential erosion of BDCs' equity from fair value marks and the corresponding decline in their ACRs and ACR Cushions. We estimate fair value marks based on the highest markdowns observed during a major financial crisis (e.g., the 2008-09 crisis) for each investment type.

## Appendix 6: Description of BDC Credit Characteristics

### Special Credit Characteristics of BDCs

BDCs are monoline commercial finance companies in the US with unique risks and strengths that stem from the limits set in their regulatory charter and their focus on leveraged lending.

BDCs are vulnerable to event risk stemming from a violation of their regulatory asset coverage ratio (ACR),<sup>34</sup> or from ACR levels required by covenants in their credit facilities. The covenant may be set at a level that is more strict than the regulatory requirement. The violation of this covenant presents an extremely significant liquidity risk for BDCs, as it would typically enable the lenders to declare an event of default and accelerate debt repayment. An ACR breach usually occurs through the erosion of equity from unrealized (fair value marks) or realized losses. We therefore assess a BDC's likelihood of breaching its ACR threshold by evaluating its portfolio composition and concentration relative to its capital buffer. We may also assess the BDC's likelihood of breaching the minimum regulatory threshold as well as the specific threshold in its loan covenants. The repercussions of a breach of the regulatory threshold would generally have a much greater negative credit impact.

BDCs are very well-capitalized compared with most other financial institutions, because BDCs' leverage is capped by a regulatory ACR. Lower leverage generally helps protect creditors against the inherently volatile credit performance of BDCs' underlying loans to private middle-market companies. Even in the event of an ACR breach, a BDC's asset value would have to fall a considerable extent before assets (on an accounting basis) would not fully cover debt, which implies a lower expected loss given default.

However, BDCs' ability to retain and issue equity is also constrained by regulations. First, as regulated investment companies (RICs), BDCs are required to distribute as dividends a very large percentage of their earnings, which prevents accumulation of capital through retained earnings. Second, BDCs are restricted from issuing equity when their shares are trading below net asset value (NAV).

<sup>34</sup> Under the Investment Company Act of 1940, the asset coverage ratio calculation is defined as the ratio of the value of total assets, less non-debt liabilities, over outstanding indebtedness. Certain types of indebtedness, such as borrowings under the US Small Business Administration (SBA) program, are excluded from the ratio.

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