MOODY'S
INVESTORS SERVICE

RATING METHODOLOGY
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Rating Methodology

# REITs and Other Commercial Real Estate Firms

This rating methodology replaces the *REITs and Other Commercial Real Estate Firms Methodology* published in July 2021. We have reordered and have made editorial updates to various sections of the methodology, and we have changed the presentation of the scorecard. These updates do not change our methodological approach.

## Scope

This methodology applies globally to commercial real estate firms that are primarily* engaged in the ownership and operation of commercial properties for long-term investment, including REITs and other firms that own and operate income-producing real estate or real-estate-related assets[1] (e.g., office, industrial, multifamily and retail properties).[2] Commercial real estate firms typically issue secured or unsecured debt at the level of the holding or operating company. This debt is the subject of this methodology. Mortgage debt (usually non-recourse debt) is not rated under this methodology.

Homebuilders and property developers primarily engaged in the construction and sale of finished single- and multi-family housing and large-scale residential apartments are covered under a separate methodology, as are companies that are primarily engaged in the construction or refurbishing of buildings for commercial or public purposes. Firms that are primarily engaged in commercial property services, including leasing and brokerage, are rated using our methodology for business and consumer service firms. Pools of commercial mortgage-backed securities are also rated using another methodology.

REITs or commercial real estate firms primarily engaged in financing commercial real estate and holding primarily senior commercial mortgages are rated using our methodology for finance companies.

*The determination of a company's primary business is generally based on the preponderance of the company's business risks, which are usually proportionate to the company's revenues, earnings and cash flows.

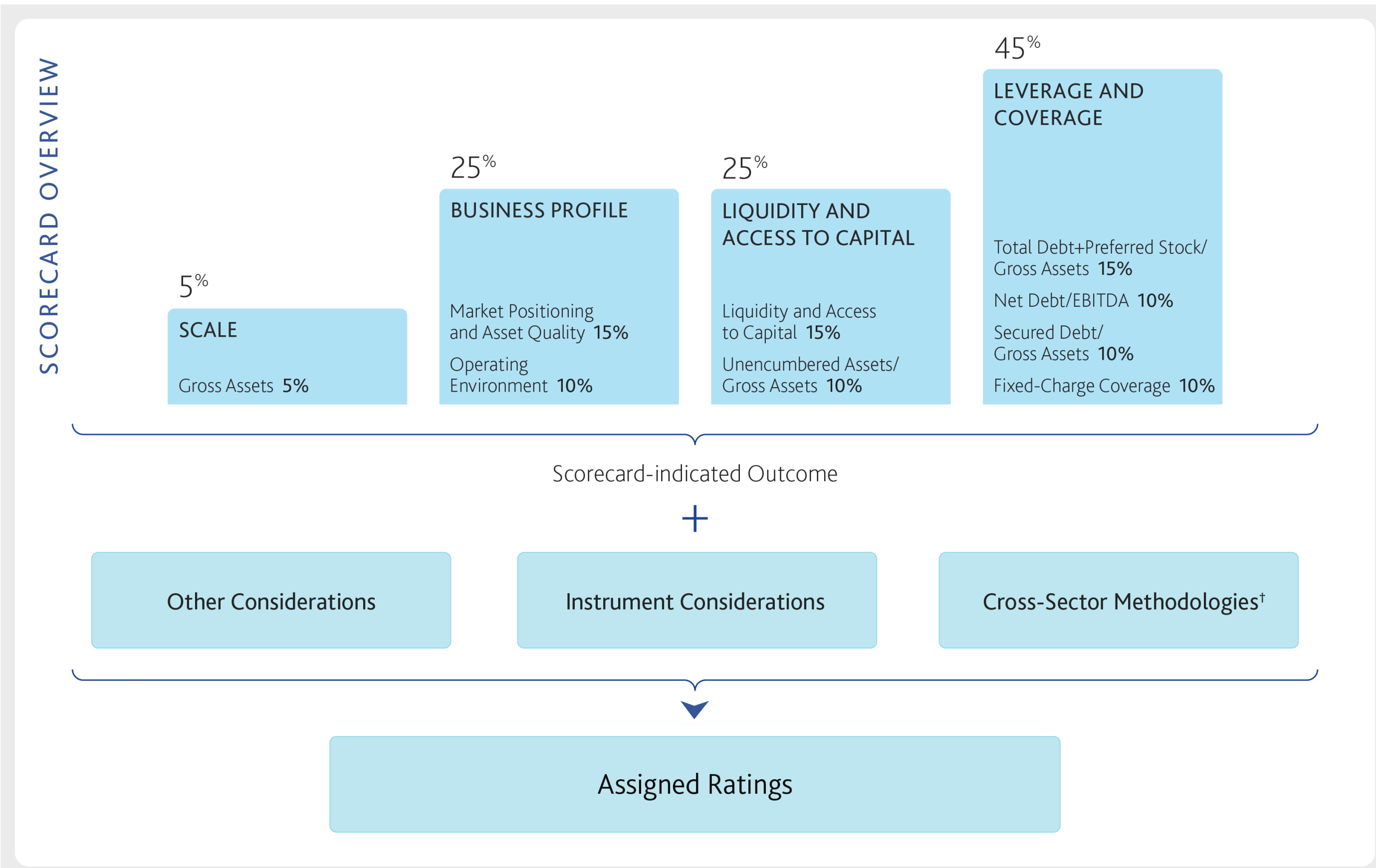
## Rating approach

In this rating methodology, we explain our general approach to assessing credit risk of issuers in the REITs and other commercial real estate sector globally, including the qualitative and quantitative factors that are likely to affect rating outcomes in this sector. 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.

The following schematic illustrates our general framework for the analysis of REITs and other commercial real estate firms, which includes the use of a scorecard.[3] The scorecard-indicated outcome is not expected to match the actual rating for each company. For more information, see the “Other considerations” and “Limitations” sections.

Exhibit 1

**Illustration of the REITs and other commercial real estate firms methodology framework**




† Some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector. A link to a list of our sector and cross-sector methodologies can be found in the “Moody's related publications” section.

*Source: Moody's Investors Service*

## REITs and other commercial real estate firms scorecard

For general information about how we use the scorecard and for a discussion of scorecard mechanics, please see the "Using the scorecard to arrive at a scorecard-indicated outcome" section. The scorecard does not include or address every factor that a rating committee may consider in assigning ratings in this sector. Please see the "Other considerations" and "Limitations" sections.

Exhibit 2

### REITs and other commercial real estate firms scorecard

| | SCALE (5%) | BUSINESS PROFILE (25%) | | LIQUIDITY and ACCESS to CAPITAL (25%) | | LEVERAGE and COVERAGE (45%) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Gross Assets (USD Billion)[1] (5%) | Market Positioning and Asset Quality (15%) | Operating Environment (10%) | Liquidity and Access to Capital (15%) | Unencumbered Assets / Gross Assets[2] (10%) | Total Debt + Preferred Stock / Gross Assets[3] (15%) | Net Debt / EBITDA[4] (10%) | Secured Debt / Gross Assets[5] (10%) | Fixed-Charge Coverage[6] (10%) |
| **Aaa** | ≥ $60 | All assets are in global gateway cities and are mostly trophy assets; exceptional scale for its asset class and is among top three operators in its markets; predominantly best-in-class (Class A) space that attracts extremely high-quality tenants at top market rents; demonstrates landlord pricing power through the real estate cycle: majority of revenue from extremely high-quality tenants on long leases or a superior record of high renewal rate; exceptional record of occupancy rate; exceptional portfolio diversity; minimal exposure to any single industry or underlying economic driver; and no non-government tenant > 5% of gross revenue. | Exceptional macroeconomic environment with strong growth prospects; geographic markets exhibit low historical volatility and strong demand throughout real estate cycles; exceptional and sustainable underlying property market drivers, including stable and favorable regulatory frameworks or largely developed and tightly zoned real estate markets; exceptional take-up levels and transaction volumes; multi-year record of strongly increasing rents/capital values and decreasing vacancy rates; limited supply pipeline and persistent structural undersupply; exceptionally liquid and transparent property markets; and an exceptionally strong landlord market over the long term. | Extremely high levels of internal liquidity; extremely reliable committed available bank facilities; and unparalleled access to all sources of private and public capital with no need for external funding to cover at least two years of debt maturities and cash needs. | ≥ 99% | ≤ 5% | ≤ 2x | ≤ 0.5% | ≥ 10x |
| **Aa** | $20 - $60 | Majority of assets are in global gateway cities; superior scale for its asset class and is among top five operators in its markets; mostly Class A space that attracts very high-quality tenants at well-above-average market rents; demonstrates landlord pricing power through the real estate cycle: majority of revenue from very high-quality tenants on long leases or an excellent record of high renewal rate; superior record of occupancy rate; superior portfolio diversity; limited exposure to any single industry or underlying economic driver; no tenant > 7.5% of gross revenue. | Superior macroeconomic environment with stable growth prospects; geographic markets exhibit low historical volatility and resilient demand throughout real estate cycles; superior and sustainable underlying property market drivers, including stable and favorable regulatory frameworks or largely developed and tightly zoned real estate markets; superior take-up levels and transaction volumes ; multi-year record of increasing rents/capital values and decreasing vacancy rates; very small supply pipeline and structural undersupply; highly liquid and transparent property markets; and exceptionally strong landlord market over the medium term. | Substantial internal liquidity; highly reliable committed available bank facilities; and superior access to all sources of private and public capital with no need for external funding to cover at least one year of debt maturities and cash needs. | 97% - 99% | 5% - 15% | 2x - 3.5x | 0.5% - 3% | 7x - 10x |

| | SCALE (5%) | BUSINESS PROFILE (25%) | | LIQUIDITY and ACCESS to CAPITAL (25%) | | LEVERAGE and COVERAGE (45%) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Gross Assets (USD Billion)[1] (5%) | Market Positioning and Asset Quality (15%) | Operating Environment (10%) | Liquidity and Access to Capital (15%) | Unencumbered Assets / Gross Assets[2] (10%) | Total Debt + Preferred Stock / Gross Assets[3] (15%) | Net Debt / EBITDA[4] (10%) | Secured Debt / Gross Assets[5] (10%) | Fixed-Charge Coverage[6] (10%) |
| **A** | $10 - $20 | Excellent scale for its asset class and is among top 10 operators in its markets; majority Class A space that attracts high-quality tenants at above-average market rents; demonstrates some landlord pricing power: high proportion of revenue from quality tenants on long leases or good record of high renewal rate; excellent record of occupancy rate; excellent portfolio diversity; some exposure to a single industry or underlying economic driver; no tenant > 10% of gross revenue. | Excellent macroeconomic environment with stable growth prospects; geographic markets exhibit strong growth potential and restraints on new supply; excellent and sustainable underlying property market drivers, including stable and favorable regulatory frameworks or largely developed and tightly zoned real estate markets; excellent take-up levels and transaction volumes; multi-year record of stable to moderately increasing rents/capital values and decreasing vacancy rates; small supply pipeline; liquid and transparent property markets; a strong landlord market. | Considerable internal liquidity; reliable committed available bank facilities; excellent access to all sources of private and public capital; minimal need for external funding to cover one year of debt maturities and cash needs. | 80% - 97% | 15% - 30% | 3.5x - 4x | 3% - 10% | 4.5x - 7x |
| **Baa** | $2- $10 | Good scale for its asset class and is among top 20 operators in its markets; a lot of Class A space that attracts quality tenants at average market rents; demonstrates some landlord pricing power: fairly high proportion of revenue from quality tenants on long leases or good record of high renewal rate; good record of occupancy rate; good portfolio diversity; manageable exposure to a single industry or underlying economic driver; no tenant > 15% of gross revenue. | Good macroeconomic environment with stable growth prospects; geographic markets exhibit solid growth potential and low-to-medium risk of new supply; good and sustainable underlying property market drivers; good take-up levels and transaction volumes; multi-year record of stable rents/capital values and vacancy rates; moderate supply pipeline; reasonably liquid and transparent property markets; generally a landlord market. | Sufficient internal liquidity; committed bank facilities with ample covenant compliance cushion; good access to all sources of private and public capital; some reliance on external funding to cover one year of debt maturities and cash needs. | 60% - 80% | 30% - 50% | 4x - 6x | 10% - 20% | 2.5x - 4.5x |
| **Ba** | $1 - $2 | Moderate scale for its asset class; majority of space is Class B that attracts tenants at average or below- average market rents; limited revenue from quality tenants; somewhat limited record of occupancy rate; moderate portfolio diversity; exposure to a single industry or underlying economic driver; no tenant > 20% of gross revenue. | Moderate macroeconomic environment with stable or moderately weakening growth prospects; geographic markets t exhibit slow growth and medium-to-high risk of oversupply; moderate underlying property market drivers; moderate take-up levels and transaction volumes; multi-year record of moderately decreasing rents/capital values and stable vacancy rates; increasing supply pipeline; somewhat liquid and transparent property markets; finely balanced between a tenant and landlord market. | Adequate internal liquidity; committed bank facilities with some covenant compliance cushion; moderate access to many sources of capital; some reliance on external financing to cover one year of debt maturities and cash needs. | 40% - 60% | 50% - 60% | 6x - 8x | 20% - 30% | 1.7x - 2.5x |

| | SCALE (5%) | BUSINESS PROFILE (25%) | | LIQUIDITY and ACCESS to CAPITAL (25%) | | LEVERAGE and COVERAGE (45%) | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Gross Assets (USD Billion)[1] (5%) | Market Positioning and Asset Quality (15%) | Operating Environment (10%) | Liquidity and Access to Capital (15%) | Unencumbered Assets / Gross Assets[2] (10%) | Total Debt + Preferred Stock / Gross Assets[3] (15%) | Net Debt / EBITDA[4] (10%) | Secured Debt / Gross Assets[5] (10%) | Fixed-Charge Coverage[6] (10%) |
| **B** | $0.25 - $1 | Limited scale for its asset class; majority of space is Class B that attracts tenants at below-average market rents; limited record of occupancy rate; limited portfolio diversity; high exposure to a single industry or underlying economic driver; no tenant > 25% of gross revenue. | Weakening macroeconomic environment with limited growth prospects; geographic markets exhibit limited growth and high risk of oversupply; limited underlying property market drivers; fairly weak take-up levels and transaction volumes; multi-year record of decreasing rents/capital values and increasing vacancy rates; large supply pipeline; fairly illiquid and transparent property markets; a tenant market. | Insufficient internal liquidity and committed bank facilities; sporadic access to many sources of capital; must rely on external funding to cover one year of debt maturities and cash needs. | 20% - 40% | 60% - 80% | 8x - 10x | 30% - 60% | 1.4x - 1.7x |
| **Caa** | $0.1 - $0.25 | Weak scale for its asset class; mostly Class B&C space that attracts tenants at well-below-average market rents; weak record of occupancy rate; weak portfolio diversity; concentrated exposure to a single industry or underlying economic driver; or a tenant represents > 25% of gross revenue. | Weak macroeconomic environment with declining growth; geographic markets exhibit limited or declining growth and high historical volatility; weak underlying property market drivers; weak take-up levels and transaction volumes; multi-year record of sharply decreasing rents/capital values and increasing vacancy rates; very large supply pipeline; illiquid and opaque property markets; or a very strong tenant market. | Insufficient internal liquidity and committed bank facilities; limited access to capital; or must rely on external funding to cover one year of debt maturities and cash needs, access to which is uncertain. | 3% - 20% | 80% - 90% | 10x - 13x | 60% - 80% | 1x - 1.4x |
| **Ca** | < $0.1 | Poor scale for its asset class; all Class B&C space that attracts tenants at well-below-average market rents; poor record of occupancy rate; no portfolio diversity; highly concentrated exposure to a single industry or underlying economic driver; or a tenant represents > 30% of gross revenue. | Poor macro-economic environment with persistently weak growth; poor underlying property market drivers with significantly high historical volatility; poor take-up levels and transaction volumes; multi-year record of sharply deteriorating rents/capital values and rapidly increasing vacancy rates; extremely large supply pipeline; property markets are highly illiquid and not transparent; or an extremely strong tenant market. | Insufficient internal liquidity and committed bank facilities; no access to capital; or must rely on external funding to cover one year of debt maturities and cash needs, access to which is unlikely or doubtful. | < 3% | > 90% | > 13x | > 80% | < 1x |

[1] For the linear scoring scale, the Aaa endpoint value is $80 billion. A value of $80 billion or better equates to a numeric score of 0.5. The Ca endpoint value is $50 million. A value of $50 million or worse equates to a numeric score of 20.5.
[2] For the linear scoring scale, the Aaa endpoint value is 100%. A value of 100% equates to a numeric score of 0.5. The Ca endpoint value is 0%. A value of 0% equates to a numeric score of 20.5.
[3] For the linear scoring scale, the Aaa endpoint value is 0%. A value of 0% equates to a numeric score of 0.5. The Ca endpoint value is 100%. A value of 100% or worse equates to a numeric score of 20.5.
[4] For clarity, the standard adjustments we make to Net Debt include adjustments related to hybrid instruments such as preferred stock. When preferred stock does not receive equity credit, it is included in adjusted Net Debt. To the extent that preferred stock receives equity credit, that portion of preferred stock is excluded from Net Debt. Please see the discussion on hybrid equity credit in the "Other considerations" section for more detail regarding hybrid equity credit for preferred stock. For the linear scoring scale, when net debt is positive or zero, the Aaa endpoint value is 0x. A value of 0x equates to a numeric score of 0.5. The Ca endpoint value is 20x. A value of 20x or worse equates to a numeric score of 20.5, as does negative EBITDA. When net debt is negative and EBITDA is positive, the numeric score is 0.5. When net debt is negative and EBITDA is negative, the numeric score is 20.5.
[5] For the linear scoring scale, the Aaa endpoint value is 0%. A value of 0% equates to a numeric score of 0.5. The Ca endpoint value is 100%. A value of 100% or worse equates to a numeric score of 20.5.
[6] For the linear scoring scale, the Aaa endpoint value is 12x. A value of 12x or better equates to a numeric score of 0.5. The Ca endpoint value is 0.5x. A value of 0.5x or worse equates to a numeric score of 20.5.
*Source: Moody's Investors Service*

## Sector overview

A REIT is a company that owns and operates commercial real estate and, in most jurisdictions, must distribute a certain percentage, typically between 70% and 90%, of its taxable income as dividends every year. REITs are permitted to deduct the dividends paid from their taxable income. A REIT must also comply with various income and asset tests to ensure that a certain proportion of its business is related to passive commercial real estate activities.

Real estate investment is a highly capital-intensive business, and REITs retain little cash given their dividend requirements. Other commercial real estate firms are not required to pay a dividend but typically choose to do so, so they also retain limited cash flow. Most US publicly traded REITs use the umbrella partnership REIT (UPREIT) structure, which allows them to offer considerable tax benefits to property owners that sell assets to them. In this structure, the REIT does not own properties directly but instead holds general and limited partnership positions in an operating partnership that owns the properties or interests in the properties. REITs that use this structure typically issue bonds from the operating partnership level.

## Discussion of the scorecard factors

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

### Factor: Scale (5% weight)

**Why it matters**

Scale is an important indicator of an issuer's ability to support a stable or growing market position. Larger scale can make a commercial real estate firm more resilient to changes in demand and better able to absorb changes in costs.

**How we assess it for the scorecard**

**GROSS ASSETS:**

We use gross assets, which is measured or estimated using the book value of total gross assets under Generally Accepted Accounting Principles (GAAP), or the fair value of total assets under International Financial Reporting Standards (IFRS). Gross assets under GAAP is equal to total assets plus accumulated depreciation.

### Factor: Business Profile (25% weight)

**Why it matters**

The business profile of a REIT or commercial real estate firm provides an important indication of the stability of a firm's portfolio based on several measures of diversification, the tenor of its leases and quality of its lessees, its market position and scale, and its operating environment.

Diversification is important because it can help mitigate the negative effects of economic downturns in specific regions or cities. A REIT whose properties are in markets with a concentration in one industry may be vulnerable to declines or volatility in that industry. The tenor of leases and the quality of lessees are indicators of the stability of rental income. Market position is critical to attracting tenants of high credit quality and for maintaining pricing power, and firms with better market positions are more likely to get the first and last looks at transactions.

The operating environment provides meaningful indications of the volatility and resilience of demand through real estate cycles.

**How we assess it for the scorecard**

Scoring for this factor is based on two sub-factors: Market Positioning and Asset Quality; and Operating Environment.

**MARKET POSITIONING AND ASSET QUALITY:**

Scoring for this sub-factor is primarily based on a qualitative assessment of diversity, market position and the stability of a commercial real estate firm's property investment portfolio.

Diversity. We typically assess diversity based on geographic, industry and tenant concentration. We also may consider whether properties are located in densely populated areas, such as central business districts or infill suburbs of major cities, which are usually more stable than properties in areas with lower population densities.

Market Position. We typically assess whether the firm is a leader in its core markets and whether this leadership position translates into pricing power and a more profitable competitive position. In assessing market position, we generally consider the type and location of the asset. Regional malls and self-storage units, for example, have more capacity for franchise-building, while it has proved difficult in many markets to generate pricing power in the office building and apartment markets, where desirability is based on location and quality, rather than brand.

Issuers with leadership positions in multiple asset types in multiple geographic markets typically have higher scores for this factor if that leadership translates into higher occupancy and rental rates. We also may consider a firm's economic, industry, sub-market and tenant diversification in assessing leadership resiliency and depth.

Stability and Demand. We generally assess a commercial real estate firm's property investment portfolio and the relevant markets in which its assets are located. We also typically consider occupancy rates, lease expirations, market rents, regulatory trends, and the physical condition and competitiveness of the properties, as well as location dynamics, tenant or operator mix and quality, supply prospects and barriers to competition that can protect the property from economic value erosion.

Firms that own high-quality assets, known as Class A properties,[4] which have a wider universe of potential tenants as well as debt and equity investors, typically have higher scores for this factor. Class A assets tend to have higher marketability than Class B and Class C assets at the time of re-leasing, sale or refinancing. Class B properties may also generate stable demand, especially if the commercial real estate firm maintains a niche in the class and property sector.

In assessing market position and asset quality, we also may consider the likely performance of a commercial real estate firm's portfolio under adverse scenarios, such as challenging market conditions, as well as different capital expenditure needs. We may consider known and potential environmental and regulatory liabilities, which can often be specific to property type and location. We typically consider the effects of national and regional economic trends on the property portfolio, and the extent to which the commercial real estate firm can manage its position. We may also assess the commercial real estate firm's economic role in the context of national and regional economic development.

**OPERATING ENVIRONMENT:**

Scoring for this sub-factor is based on our qualitative, forward-looking assessment of the strength and volatility of the macro-economic environment as well as the volatility and resilience of demand through real estate cycles.

We also typically consider the liquidity and transparency of property markets, and the stability and favorability of the regulatory framework. We may assess the historical trends of rents, capital values and vacancy ratios of the markets in which the firm operates.

Firms that operate in markets characterized by limited supply and structural undersupply typically have higher scores for this factor. Higher take-up levels[5] (leasing activities), occupancy rates and transaction volumes (which provide liquidity in the real estate market) are also indicators of a strong operating environment. Firms operating in a landlord's market, in which owners are better positioned to achieve above-market rents on their properties, versus a tenant's market, in which tenants have greater negotiating power on lease terms, typically have higher scores for this sub-factor.

## Factor: Liquidity and Access to Capital (25% weight)

**Why it matters**

Liquidity management and access to capital are important considerations for all commercial real estate firms because their businesses are capital-intensive, and they can be subject to cycles in access to credit and capital markets. Tax rules also limit the ability of REITs to retain cash, thus requiring them to have ongoing access to external sources of capital to support their businesses. Other commercial real estate firms, in most cases, have greater financial flexibility compared with REITs, because they do not have a dividend distribution requirement.

The amount of a commercial real estate firm's unencumbered assets relative to gross assets is important because properties that are free and clear of mortgages are sources of alternative liquidity via the issuance of property-specific mortgage debt, or even sales. The larger the ratio of unencumbered assets to gross assets, the more flexibility a given commercial real estate firm generally has in repaying its unsecured debt at maturity, and the more likely that a higher recovery can be realized in the event of default.

**How we assess it for the scorecard**
Scoring for this factor is based on two sub-factors: Liquidity and Access to Capital; and Unencumbered Assets to Gross Assets.

**LIQUIDITY AND ACCESS TO CAPITAL:**

In assessing liquidity, we consider the size and type of liquidity against expected uses of cash over the next 12 months. Commercial real estate firms with reliable sources of liquidity, such as committed available bank facilities that cover at least one year of cash needs, typically have higher scores for this factor. Firms with weaker sources of liquidity or sources that do not cover near-term cash needs typically have lower scores for this factor.

Sources of liquidity may include borrowing capacity under committed lines of credit, cash balances, operating cash flow, capital market offerings and unencumbered assets. Issuers with multi-year committed credit lines with ample room for covenant compliance from highly rated core relationship banks typically score higher for this factor because these sources of liquidity enhance financial flexibility and serve as a stable source of funding.

Uses of cash may include interest and principal payments of bond, mortgage and credit facility debt, capital expenditures, development projects and dividend payments. We typically consider the timing of debt repayments and whether debt maturities are spread evenly over time. Debt maturities that are further out in time may lead to higher scores for this factor, because the issuer has more time and options to refinance its debt. Since REITs are required to distribute most of their taxable net income to shareholders through dividends payments, our analysis of a REIT's ability to meet its projected cash needs typically includes an assessment of the dividends it will pay relative to its funds from operations (FFO). The ability of REITs in some countries to pay dividends in shares or cash gives those firms flexibility to preserve liquidity and is a credit strength. We also assess a commercial real estate firm's access to the debt and equity markets. Because REITs are required to distribute most of their cash flow, a firm's ability to repay its debt largely relies on its ability to raise cash. REITs with a proven track record of raising funds from all sources of public and private capital typically have higher scores for this factor than those that do not.

**UNENCUMBERED ASSETS TO GROSS ASSETS:**

The numerator is book value of total gross assets less encumbered gross assets under GAAP (or fair value of unencumbered assets under IFRS), and the denominator is the book value of total gross assets (or fair value of total assets under IFRS). Gross assets under GAAP is equal to total assets plus accumulated depreciation.

Unencumbered assets typically include land, unrestricted cash, accounts receivable and other assets (excluding intangible assets).

## Factor: Leverage and Coverage (45% weight)

**Why it matters**
Leverage and coverage measures are important indicators of an issuer's financial flexibility and long-term viability, including its ability to navigate and adapt to changes in the economic and business environment. High leverage can drain cash and heighten an issuer's vulnerability to operating and market challenges.

The factor comprises four sub-factors.

*(Total Debt + Preferred Stock) / Gross Assets*

The ratio of total debt plus preferred stock and preferred operating units to gross assets is a basic indicator of balance sheet leverage.

Preferred stock has many characteristics of debt, since investors are generally paid a fixed dividend. In addition, we believe that over the long term as interest rates change, preferred stock will be redeemed to adjust a commercial real estate firm's cost of capital. As a result, the debt-like characteristics tend to override the equity characteristics.

*Net Debt / EBITDA*

The ratio of net debt to earnings before interest, taxes, depreciation and amortization (Net Debt/EBITDA) is a widely used indicator of debt serviceability and financial leverage. It is an important indicator of a firm's debt levels relative to its real estate cash flows.

*Secured Debt / Gross Assets*

The ratio of secured debt to gross assets is an important indicator of financial flexibility. Companies with low levels of secured debt typically have greater financial flexibility. In periods of stress, the existence of a pool of unencumbered assets (particularly a pool of larger, more diverse and higher-quality assets) can help maintain market access, because the commercial real estate firm may be able to issue secured debt even if market conditions preclude the issuance of unsecured debt.

In addition, because a lower level of secured debt typically also means a lower level of mortgage debt to which unsecured debt is subordinate, this ratio can be an indicator of the degree of subordination for unsecured creditors. Mortgaged assets can be more difficult to sell due to restrictions or penalties related to transfer. Also, a mortgage agreement can restrict the ability of an owner to make changes to a property, or can delay the implementation of changes, making the repositioning of problem properties even more challenging. Recasting a first mortgage to raise the loan-to-value (LTV) ratio can be difficult, if not impossible, and the same applies to obtaining a second mortgage. As a result, much of the value of a mortgaged asset can effectively be sequestered and cannot be used as a source of alternative liquidity. In some mortgage structures, even determining the proper administrative party (e.g., special servicer or master servicer) with whom to discuss an issue can be difficult. These factors make a mortgaged asset less flexible, which negatively affects liquidity and constrains a firm's ability to reposition or refinance its portfolio.

*Fixed-Charge Coverage*

The ratio of EBITDA to fixed charges is an indicator of a firm's ability to pay interest and other fixed charges from its operating performance, measured by EBITDA.

**How we assess it for the scorecard**

Scoring for this factor is based on four sub-factors: (Total Debt + Preferred Stock)/Gross Assets; Net Debt/EBITDA; Secured Debt/Gross Assets; and Fixed-Charge Coverage.

**(TOTAL DEBT + PREFERRED STOCK) / GROSS ASSETS:**

The numerator is total debt plus preferred stock and preferred operating units, and the denominator is the book value of total gross assets under GAAP (or fair value of total assets under IFRS). Gross assets under GAAP is equal to total assets plus accumulated depreciation.

We generally view preferred stock as a debt-like obligation.

**NET DEBT / EBITDA:**

The numerator is total debt net of unrestricted cash and cash equivalents, and the denominator is EBITDA.

For clarity, the standard adjustments we make to net debt include adjustments related to hybrid instruments such as preferred stock. When preferred stock does not receive equity credit, it is included in adjusted net debt. To the extent that preferred stock receives equity credit, that portion of preferred stock is excluded from net debt. Please see the discussion on hybrid equity credit in the "Other considerations" section for more detail regarding hybrid equity credit for preferred stock.

EBITDA for this calculation is either an annualized year-to-date amount or the most recent 12-month figure, depending on the level of activity in the portfolio (annualized year-to-date figure is preferred for an active portfolio). When an annualized year-to-date figure is used, we adjust to account for factors such as seasonality of a firm's income based on its property type. We also adjust year-to-date and 12-month figures for nonrecurring income and expenses.

**SECURED DEBT / GROSS ASSETS:**

The numerator is total secured debt (including non-recourse debt), and the denominator is the book value of total gross assets under GAAP (or fair value of total assets under IFRS). Gross assets under GAAP is equal to total assets plus accumulated depreciation.

**FIXED-CHARGE COVERAGE:**

The numerator is EBITDA, and the denominator is fixed charges, including interest expense, capitalized interest, preferred dividends, trust preferred distributions and preferred unit distributions.

For the calculation of the fixed-charge coverage ratio, preferred stock dividends are included in fixed charges because, as described above, we consider preferred stock of commercial real estate firms to have primarily debt-like characteristics.

## Other considerations

Ratings may reflect consideration of additional factors that are not in the scorecard, usually because the factor's credit importance varies widely among the issuers in the sector or because the factor may be important only under certain circumstances or for a subset of issuers. Such factors include financial controls and the quality of financial reporting; the quality and experience of management; corporate legal structure; 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, 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.

### Development

We may consider a commercial real estate firm's growth strategy in order to assess its impact on cash flows and business risk. We may consider the nature and riskiness of the development strategy, the total development portfolio relative to the company's asset base, the company's track record of delivering projects on time and within budget, and the way projects are funded.

We typically consider management's experience and risk appetite for development over time. We may focus on management's operating history through several development cycles, its experience and understanding of its markets, and its experience with the specific property types it develops. A more conservative development approach is viewed positively in our analysis.

Not all development activities have equal credit risk. Build-to-suit projects usually pose the least risk, because this strategy minimizes lease-up risk through pre-leasing requirements prior to construction. We typically consider the extent to which the property pipeline has been pre-leased, and on what terms and to whom. In large part, these characteristics influence how speculative the project is.

Pure speculative development, on the other hand, is vulnerable to both construction and lease-up risks. Companies that pursue large amounts of speculative development run the risk of mistiming the market. This is especially the case during times of supply-demand imbalances. Additionally, new developments completed during downturns are difficult to lease up and can constrain cash flows.

Typically, we consider the size of the development portfolio as a percentage of total gross assets. In general, our analysis focuses more on individual project profiles when development/gross assets nears 10%; however, for a high-risk portfolio, even a small percentage can add material credit risk that can cause actual ratings to be lower than scorecard-indicated outcomes. For a moderate-risk portfolio, development/gross assets above 10% can cause ratings to be lower than scorecard-indicated outcomes. For lower-risk development portfolios, development/gross assets at or above 15% could cause ratings to be below scorecard-indicated outcomes.

Furthermore, some companies may have commercial or residential development-for-sale businesses that generate annual earnings on a standalone basis. These earnings may be inherently more volatile than the traditional rent collection model. Depending on the size of these earnings streams, the credit metrics we use in our assessments would typically be commensurately more conservative for a given rating level compared with traditional commercial real estate firms.

While development risk is a critical consideration, two companies with similar credit profiles might be rated the same if their only differentiating feature is that one engages in a modest, conservative development strategy and the other has little to no development in its pipeline. For many companies, development is a core competency that provides a platform for additional growth and cash flow generation. The impact, if any, that development has on the overall rating is typically based on a holistic assessment.

**Joint Ventures and Fund Businesses**

Joint ventures (JVs) and fund businesses can be a credit strength by providing earnings diversification and other means of capital access for commercial real estate firms. But they can also be complex structures and may create varying degrees of transparency issues and risks. In addition, a commercial real estate firm's earnings quality can be diminished if a large proportion of earnings are generated by these structures. As a result, JVs and fund businesses provide a mix of credit-positive and credit-negative characteristics, based on the transaction specifics and the overall contribution of these transactions to a commercial real estate firm's revenue stream.

For companies that hold minority-interest stakes, we typically consider the impact of non-wholly owned ventures and fund businesses qualitatively. However, in some cases, we may find that an additional view of financial results, such as analyzing cash flows on a proportional consolidation basis, may be useful to augment our analysis based on consolidated financial statements. When equity dilution or structural subordination arising from non-wholly owned businesses is material and negative, the credit impact is captured in ratings but may not be fully reflected in scorecard-indicated outcomes.

For companies that hold material minority-interest stakes, consolidated funds from operations typically includes the dividends received from the minority subsidiary, while none of its debt is consolidated. When such dividends are material to the company's cash flows, these cash flows may be subject to interruption if they are required for the minority subsidiary's debt service, capital expenditures or other cash needs. When minority-interest dividends are material, we may also find that proportional consolidation or full consolidation is useful to augment our analysis of financials. We would generally also consider structural subordination in these cases. When these credit considerations are material, their impact is captured in ratings but may not be fully reflected in scorecard-indicated outcomes.

We typically view real estate fund businesses as a distinct line of business; they tend to be institutional investment vehicles in which the commercial real estate firm takes a small stake, and from which the commercial real estate firm generates development, promotional, management and similar fees. This is not our view of JVs, which are more a means of executing acquisitions, attracting capital, leveraging the business strategy or reducing the concentration of large individual assets.

In general, commercial real estate firms participate in co-investment JVs, which have relatively good transparency and are, for the most part, assessed on a proportionally consolidated basis. These co investment JVs are usually intermediate-term arrangements in which risks are shared based on the ownership percentage, often with large institutional partners. The commercial real estate firms retain the management and leasing-fee income generated from the properties and generally have a defined exit strategy for the venture.

We typically view commercial real estate firms' JV development agreements with private developers as less transparent. Under a development agreement, the JV develops the property and, after the property has been stabilized, sells the property back to the commercial real estate firm. These development JVs are usually shorter-term arrangements in which risks are not shared equally and the commercial real estate firm is usually committed to buying the property. Commercial real estate firms that are involved with development JV agreements are commonly assessed on a fully consolidated basis, as these JVs are essentially financing vehicles.

We may monitor the trajectory of JV and fund businesses revenues as a percentage of total revenue, and we often assess their expected stability qualitatively. As part of our scenario analysis of performance, we usually materially haircut income (30%-100%, depending on the nature of the JV and the firm's track record) that is derived from development fees and any gains or fees from merchant building (i.e., construction on behalf of a third party), because this type of income is more volatile than cash flow generated by the core asset-owning business of the commercial real estate firm.

**Covenant Considerations for Investment-Grade REIT Bonds Issued in the US**

Investment-grade REIT unsecured bonds denominated in US dollars generally contain four standard financial covenants, three of which are incurrence covenants and one of which is a maintenance covenant. REIT covenants can place meaningful constraints on the firm's risk-taking and can also provide management and bondholders with important guideposts, all of which can protect creditors. For instance, covenants can trigger a technical default while the firm likely retains material value in its property portfolio, providing creditors a means to influence management decisions. A default and acceleration that is triggered earlier rather than later may also enhance recovery values for creditors. Also, if there is a major event, such as a merger or a business restructuring of the firm, the covenants may require the firm to repay affected creditors. The absence of standard covenants in US REIT transactions or covenants that are materially weaker than the standard can cause actual ratings to be lower than scorecard-indicated outcomes.

**Treatment of Discontinued Operations**

The Financial Accounting Standards Board's (FASB) Statement of Financial Accounting Standards (SFAS) No. 144 requires that historical and current revenues and expenses of any "component" of a reporting entity that is held for sale or has been disposed of be classified as discontinued operations. This includes gains or losses on the sale of the component. A component is considered to consist of operations and cash flows that can be clearly distinguished, operationally and for financial reporting purposes, from the larger entity.

For commercial real estate firms, this requirement normally results in properties held for sale or sold being classified as discontinued operations. Since selling properties is a regular part of many commercial real estate firms' normal business operations, this can result in a significant amount of each period's earnings being classified as discontinued operations, with annual restatements to prior years for comparability. We believe that the "discontinued" classification of these activities makes it difficult to assess a commercial real estate firm's real estate property business performance, and therefore we combine the EBITDA from discontinued operations related to these core activities with the EBITDA from real estate properties that continue to be owned but are not classified as held for sale. However, gains or losses related to the disposition of assets classified as discontinued operations are excluded from our EBITDA calculation.

**Company Track Record**

While ratings are forward-looking, the track record and length of time the business has operated as a commercial real estate firm are typically considered in our analysis. Length of operation provides insights into management's relative ability to weather adverse real estate and capital market conditions, particularly if the firm has been in operation for several cycles, and can provide insight into management's style and tolerance for risk. When a commercial real estate firm does not have a long operating history but the executive team has managed another real estate firm, we may consider management's track record at that other firm. The absence of a track record or a short track record that does not include operation through a full real estate cycle may negatively affect our forward view of a firm's cash generation ability and may more generally decrease our confidence in any particular projection scenario.

**Ownership, Corporate Structure and Governance**

In our assessment of corporate governance, we may consider audit committee financial expertise, the incentives created by executive compensation packages, related-party transactions and interactions with outside auditors. We typically view major inside ownership as a stabilizing factor to the extent that senior management is motivated to develop the company conservatively and with a long-term vision. Also of importance is the management structure of a given commercial real estate firm and whether the firm is self-managed or externally advised, or fully integrated. Self-managed and fully integrated commercial real estate firms (i.e., the firm is responsible for most key functions, such as development, acquisitions, underwriting, asset management, asset sales and finance) have tended to have the most operational flexibility and lower potential for conflicts of interest. For example, potential conflicts may arise when a company is externally managed pursuant to a management agreement that was not negotiated at arm's length, or when the management company manages or leases properties on behalf of third parties or itself. In assessing management agreements, we may consider the motivations of managers and whether, for example, managers are compensated for size of the asset base, short-term performance or long-term performance. When interests of management are not aligned with long-term stable operation and performance, an issuer's actual rating may be lower than the scorecard-indicated outcome.

**Depth of Organization**

A commercial real estate firm's operating skills and technological development may be important to its long-term success. We generally assess how well the firm manages operating challenges (such as tenant bankruptcies or new supply) and opportunities (such as replacement of tenants, large acquisitions and strategic mergers) in order to maximize the value of its property portfolio and business platform. We also may consider the firm's ability to adapt to changing market conditions and shift resources, including its informational and technological infrastructure and the quality, depth and relevance of the information made available to management.

We may consider how long members of senior management have worked together as a team, as well as its depth and succession plans. This is especially significant when senior managers are approaching retirement age and have had dominant roles, such as founding the company and maintaining key relationships with tenants and financing sources. The composition, quality and independence of a commercial real estate firm's board, and the relationships among board members and management, are also important considerations.

**Management Strategies and Risk Appetite**

The nature, realism and success of management's long-term strategies, including plans for growth and risk management, are key drivers for a firm's cash flow and performance over time. As a means to supplement internal revenue growth, many companies actively engage in acquisition and development, which may add volatility to their results. We typically assess the related risks in the context of the commercial real estate firm's resources, capital structure and operating strategies and consider factors such as market and project risk, and management's record of creating and enhancing the value of property assets. A company that grows too quickly may experience integration challenges and weaker underwriting if it has not properly enhanced its internal controls. When a firm's strategy is aggressive or changing or faces implementation challenges, it may negatively affect our confidence level in future financial performance, and its actual rating may be lower than the scorecard-indicated outcome.

**Investments Outside the Home Market**

Successful commercial real estate firms have a deep understanding of the markets and locales in which they operate. Commercial real estate firms may decide to expand outside their home markets, often through JVs or funds. These transactions can create political, governance, management, tax and legal issues and may have currency, liquidity and cash flow implications. The risks associated with international activities may be offset in whole or in part by benefits of diversity, robust returns and new avenues for growth.

We typically assess these investments based on their earnings potential and the risk-reward balance and we also typically consider the transparency of the transaction and controls. In addition, we may assess external operating risks, which can include the overall availability of commercial real estate credit, development, tax policy, regulation, and foreign-exchange and political risks. Among key considerations are the economic environment, property market fundamentals and leadership position.

Certain aspects of the risks and benefits associated with international expansion are incorporated in our scoring of the Market Position and Asset Quality and Operating Environment sub-factors; however, when these risks are very pronounced, they may cause a firm's actual rating to be lower than the scorecard-indicated outcome.

**Real Estate Cycles**

Real estate is a cyclical sector, generally lagging behind the national or local economy. Scorecard-indicated outcomes in cyclical sectors may be above the rating at the top of the cycle and below the rating at the bottom of the cycle. While using annual financials in the scorecard typically provides very useful insights into recent or near-term results, ratings may also reflect our expectations for the progression of yearly results over a longer period that may include a full economic cycle. However, cyclicality itself poses many different types of risks to companies, and cycles do not reverse themselves with predictable regularity; furthermore, a cyclical sector may also be affected by a secular decline or expansion. These considerations may be incorporated qualitatively in ratings.

Principal drivers for real estate cycles include supply and demand of comparable properties in the locality or region, interest rates and the availability of capital. Local and regional demand are affected by many factors, including income levels, job growth, demographic trends, regulation and taxes. Interest rate movements influence a property firm's ability to compete for acquisitions and its rate of growth, among other things.

Credit and capital markets affect overall commercial real estate investments as well as the health of individual firms because of their need for external sources of capital. Capitalization rates and interest rates affect how commercial real estate firms conduct their businesses. In environments where interest rates and capitalization rates are low, commercial real estate firms tend to be net sellers of properties. In such an environment, a commercial real estate firm's traditional model of capital recycling (selling older or non-strategic properties and using the proceeds to buy or build newer properties or properties in strategic locations, supplemented with debt and equity issuance) can be disrupted by a lack of accretive acquisitions. When capitalization rates are higher, firms with strong liquidity and capital access become net acquirers.

**Additional Metrics**

The metrics included in the scorecard are those that are generally most important in assigning ratings to companies in this industry; however, we may use additional metrics to inform our analysis of specific companies. These additional metrics may be important to our forward view of metrics that are in the scorecard or other rating factors. One such metric is market value leverage, described below.

**Market Value Leverage Analysis (MVLA)**

For issuers in jurisdictions that have adopted IFRS, their financials and our scorecard metrics reflect the fair value of the firm's commercial property assets. For issuers in jurisdictions governed by US GAAP, which does not typically reflect the fair value of properties, we often use a supplementary view of leverage in order to have a more uniform view for peer comparison. US GAAP-based book value can understate leverage during periods of falling property valuations and overstate leverage during periods of rising property valuations. The extent of this potential understatement or overstatement depends on when (i.e., the point in the real estate cycle) the properties were added to the balance sheet, because these assets are recorded at cost.

For this reason, we also may take into consideration a leverage ratio based on estimated market property valuations, using a range of capitalization rates and stressed net operating income (NOI) amounts. This analysis can provide an important supplementary view of an issuer's intrinsic balance sheet strength.

To estimate a market value for US REITs and commercial real estate firms, we typically use NOI for the most recent four quarters and divide this amount by a range of capitalization rates that reflects recently observed transactions as well as the observed trend. This yields a series of corresponding asset values, each lower than the next as the capitalization rate increases.

In addition to considering the effect of different capitalization rates, we also typically reduce current NOI in order to assess the sensitivity of the market value of a portfolio to various downside cash flow scenarios based on our outlook for commercial real estate fundamentals (e.g., reduce current NOI by 2.5%, 5.0% and 7.5%). Our sensitivities are typically similar for the same asset type in the same sector.

We then combine the portfolio market value with the remaining items from the balance sheet. We typically discount non-real-estate assets by 25% to take into account possible transaction costs, illiquidity or other factors. The resulting values are then applied against total debt and preferred equity outstanding and against secured debt. The product of the MVLA brings together in a single matrix the range of possible capitalization rates, NOIs and corresponding leverage assessments for comparison on an issuer-by-issuer basis within a sector.

**The Unencumbered Asset Pool and Financial Flexibility**

We typically consider the quality of properties in an unencumbered pool of assets relative to an encumbered pool. Firms that persistently mortgage their highest-quality assets have lower financial flexibility and, depending on the degree, this may lead to actual ratings that are below scorecard-indicated outcomes. We may also assess the maturity structure of a commercial real estate firm's mortgage debt and its ability to take steps to unencumber itself, in order to form a forward-looking view of the firm's financial flexibility.

**Balance Sheet Structure**

In assessing the impact of secured debt on the financial flexibility of a commercial real estate firm, we typically make a distinction between recourse and non-recourse debt. Non-recourse secured debt provides greater flexibility to the firm, because management can assess the costs and benefits of continuing to support the property in a stressed scenario. In this scenario, management has the option to walk away from the property if providing continued support would negatively impact the business as a whole, thereby protecting the remainder of the portfolio, including the unencumbered assets.

**Regulatory Considerations**

Commercial real estate firms are subject to varying degrees of regulatory oversight, including environmental standards, as well as safety and access standards, zoning, and, in some jurisdictions, rent controls. Regional differences in regulation, implementation or enforcement may advantage or disadvantage particular issuers.

Our view of future regulations plays an important role in our expectations for future financial metrics as well as our confidence level in the ability of an issuer to generate sufficient cash flows relative to its debt burden over the medium and longer term. Regulatory considerations may cause ratings to be different from scorecard-indicated outcomes, for instance if a regulatory change were to require an issuer to engage in expensive retrofitting for a large portion of owned properties.

**Environmental, Social and Governance Considerations**

Environmental, social and governance (ESG) considerations may affect the ratings of REITs and other commercial real estate firms. For information about our approach to assessing ESG issues, please see our methodology that describes our general principles for assessing these risks.[6]

Effects of environmental regulations may entail limitations on new development, higher operating costs and requirements to retrofit buildings (for example, to remove mold, asbestos or lead-based paint). While regulations typically increase costs for new development, they can also limit supply, which makes existing buildings more valuable. Management's expertise in meeting regulatory requirements in a cost-effective manner can be an important mitigant. For the physical climate risks to which real estate is exposed, insurance, where available, is typically the most important direct mitigant. Real estate companies can also mitigate environmental exposure by diversifying their portfolios across regions and jurisdictions.

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

**Hybrid Equity Credit**

Commercial real estate firms may issue preferred stock, deeply subordinated debt and other forms of hybrid equity. Hybrid equity credit is assigned in accordance with our hybrid equity cross-sector rating methodology;[7] however, for REITs, we also apply the following sector-specific considerations.

If hybrid equity (including preferred stock and subordinated debt) issued by a REIT would otherwise qualify for Basket C (50%) equity credit in accordance with our cross-sector methodology, the equity credit for that instrument would typically qualify for Basket B (25%) equity credit. This treatment is consistent with our view that the legal structure of REITs, and more specifically the requirement to make distributions in order to maintain their tax status, means that REITs are relatively unlikely to cut preferred dividends to preserve financial flexibility. Thus, we think it is not appropriate to give the hybrid security of investment grade REITs the same hybrid equity credit as preferred stock of normal corporations. However, if the terms of the hybrid security permit the REIT to suspend the hybrid coupon payment even when the REIT continues to pay common dividends, the hybrid would be eligible for the full amount of hybrid equity credit in accordance with the cross-sector methodology.

Basket C treatment is highlighted in this methodology primarily due to the propensity of a REIT to continue to pay dividends on preferred stock, which is a prevalent form of financing in some regions that, for non-REITs, often qualifies for this basket. Restricted optionality of coupon deferral may also be considered in the basketing of other hybrid securities, in accordance with our hybrid equity cross-sector rating methodology.

**Parental Support**

Ownership can provide ratings lift for a commercial real estate firm if it is owned by a highly rated owner(s) and is viewed to be of strategic importance to those owners. In our analysis of parental support, we consider whether the parent has the financial capacity and strategic incentives to provide support to the issuer in times of stress or financial need (e.g., a major capital investment or advantaged operating agreement), or has already done so in the past. Conversely, if the parent puts a high dividend burden on the issuer, which in turn reduces its flexibility, the ratings would reflect this risk.

Government-related issuers may receive ratings uplift due to expected government support. However, for certain issuers, government ownership can have a negative impact on the underlying Baseline Credit Assessment (BCA).[8] For example, price controls, onerous taxation and high distributions can have a negative effect on an issuer's underlying credit profile.

**Other Institutional Support**

In some countries, large corporate issuers have received government or banking support in the event of financial difficulties because of their overall importance to governmental priorities or the functioning of the economy. In Japan, our corporate ratings consider the support that has operated there for large and systemically important organizations. Over the years, this has resulted in lower levels of default than might otherwise have occurred. Our approach considers whether the presence of group and banking relationships may provide support when systematically important companies encounter significant financial stress. We may consider that institutional support would be extended to some of a commercial real estate firm's securities but not all. For instance, this support may provide uplift to debt ratings but not to preferred security ratings.

## Using the scorecard to arrive at a scorecard-indicated outcome

### 1. Measurement or estimation of factors in the scorecard

In the "Discussion of the scorecard factors" section, we explain our analytical approach for scoring each scorecard factor or sub-factor,[9] and we describe why they are meaningful as credit indicators.

The information used in assessing the sub-factors is generally found in or calculated from information in the company's financial statements or regulatory filings, derived from other observations or estimated by Moody's analysts. We may also incorporate non-public information.

Our ratings are forward-looking and incorporate our expectations of 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. Financial ratios,[10] unless otherwise indicated, are typically calculated based on an annual or 12-month period. However, the factors in the scorecard can be assessed using various time periods. For example, rating committees may find it analytically useful to examine both historical and expected future performance for periods of several years or more.

Quantitative credit metrics incorporate our standard adjustments[11] to income statement, cash flow statement and balance sheet amounts for items such as underfunded pension obligations and operating leases. We may also make other analytical adjustments that are specific to a particular issuer.

### 2. Mapping scorecard factors to a numeric score

After estimating or calculating each factor or sub-factor, each outcome is mapped to a broad Moody's rating category (Aaa, Aa, A, Baa, Ba, B, Caa or Ca, also called alpha categories) and to a numeric score.

Qualitative factors are scored based on the description by broad rating category in the scorecard. The numeric value of each alpha category is based on the scale below.

Exhibit 3

| Aaa | Aa | A | Baa | Ba | B | Caa | Ca |
|---|---|---|---|---|---|---|---|
| 1 | 3 | 6 | 9 | 12 | 15 | 18 | 20 |

*Source: Moody's Investors Service*

Quantitative factors are scored on a linear continuum. For each metric, the scorecard shows the range by alpha category. We use the scale below and linear interpolation to convert the metric, based on its placement within the scorecard range, to a numeric score, which may be a fraction. As a purely theoretical example, if there were a ratio of revenue to interest for which the Baa range was 50x to 100x, then the numeric score for an issuer with revenue/interest of 99x, relatively strong within this range, would score closer to 7.5, and an issuer with revenue/interest of 51x, relatively weak within this range, would score closer to 10.5. In the text or table footnotes, we define the endpoints of the line (i.e., the value of the metric that constitutes the lowest possible numeric score and the value that constitutes the highest possible numeric score).

Exhibit 4

| Aaa | Aa | A | Baa | Ba | B | Caa | Ca |
|---|---|---|---|---|---|---|---|
| 0.5-1.5 | 1.5-4.5 | 4.5-7.5 | 7.5-10.5 | 10.5-13.5 | 13.5-16.5 | 16.5-19.5 | 19.5-20.5 |

*Source: Moody's Investors Service*

### 3. Determining the overall scorecard-indicated outcome

The numeric score for each sub-factor (or each factor, when the factor has no sub-factors) is multiplied by the weight for that sub-factor (or factor), with the results then summed to produce an aggregate numeric score. The aggregate numeric score is then mapped back to a scorecard-indicated outcome based on the ranges in the table below.

Exhibit 5

**Scorecard-indicated outcome**

| Scorecard-indicated outcome | Aggregate numeric score |
|---|---|
| Aaa | x ≤ 1.5 |
| Aa1 | 1.5 < x ≤ 2.5 |
| Aa2 | 2.5 < x ≤ 3.5 |
| Aa3 | 3.5 < x ≤ 4.5 |
| A1 | 4.5 < x ≤ 5.5 |
| A2 | 5.5 < x ≤ 6.5 |
| A3 | 6.5 < x ≤ 7.5 |
| Baa1 | 7.5 < x ≤ 8.5 |
| Baa2 | 8.5 < x ≤ 9.5 |
| Baa3 | 9.5 < x ≤ 10.5 |
| Ba1 | 10.5 < x ≤ 11.5 |
| Ba2 | 11.5 < x ≤ 12.5 |
| Ba3 | 12.5 < x ≤ 13.5 |
| B1 | 13.5 < x ≤ 14.5 |
| B2 | 14.5 < x ≤ 15.5 |
| B3 | 15.5 < x ≤ 16.5 |
| Caa1 | 16.5 < x ≤ 17.5 |
| Caa2 | 17.5 < x ≤ 18.5 |
| Caa3 | 18.5 < x ≤ 19.5 |
| Ca | 19.5 < x ≤ 20.5 |
| C | x > 20.5 |

*Source: Moody's Investors Service*

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

In general, the scorecard-indicated outcome is oriented to the reference rating (see the "Assigning issuer-level and instrument-level ratings" section). For issuers that benefit from rating uplift from parental support, government ownership or other institutional support, we consider the underlying credit strength or Baseline Credit Assessment for comparison to the scorecard-indicated outcome. 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.[12]

## Assigning issuer-level and instrument-level ratings

In this section, we provide guidance for notching individual debt instrument ratings of commercial real estate firms, relative to a reference rating.

After considering the scorecard-indicated outcome, other considerations and relevant cross-sector methodologies, we typically establish a reference rating. Individual debt instrument ratings may be notched up or down from the reference rating to reflect our assessment of differences in expected loss related to an instrument's seniority level and collateral.

Commercial real estate firms own operating assets with high expected recovery values in bankruptcy, absent a prolonged systemic crisis. Even in a systemic stress environment, the marketability of high-quality real estate assets has been demonstrated, and liquidity in the market has returned relatively quickly. We believe these characteristics, when combined with bond covenants that, if breached, would result in default while the company retains substantial asset values, provide for higher asset-recovery values than in many other sectors.

Our notching for commercial real estate firms is described below. For clarity, we do not use our cross-sector methodologies for notching of corporate instruments or loss given default for this sector. Please also see the methodology for assigning short-term ratings.[13]

For issuers that benefit from rating uplift from government ownership, we may assign a Baseline Credit Assessment (BCA).[14]

### Reference rating

For investment-grade companies, the reference rating we assign is typically the senior unsecured debt rating or the issuer rating.

For speculative-grade companies, the reference rating we assign is typically the corporate family rating (CFR).[15] For a speculative-grade commercial real estate firm that primarily relies on unsecured debt, the senior unsecured debt rating is typically aligned with the CFR. For a speculative-grade company that primarily relies on secured debt, the senior secured debt rating is typically aligned with the CFR.

In assessing which class of debt the firm primarily relies on, we consider the company's current mix of secured and unsecured debt and incorporate our forward-looking view of the company's capital structure and management's long-term commitment to, or preference for, senior secured versus senior unsecured debt funding on a sustained basis.

## Notching based on priority of claim – senior secured and senior unsecured debt

In this section, we provide guidance for notching senior secured and senior unsecured debt instrument ratings, relative to the reference rating.

### Senior Secured Debt Instruments

For investment-grade commercial real estate companies, we generally rate senior secured debt one notch above the senior unsecured debt rating or the issuer rating (i.e., one notch above the reference rating).

For a speculative-grade company that primarily relies on unsecured debt, the senior secured debt rating is typically one notch higher than the CFR (i.e., one notch above the reference rating), or, less frequently, two notches above the CFR.[16] In determining the number of notches of uplift in these cases, we consider the cushion that the more subordinated tranches provide to the more senior tranches. Senior secured debt rated two notches above the CFR would be rare and would require a meaningful cushion of junior debt and a very robust level of coverage by secured assets of very high quality.

### Multiple Senior Secured Debt Tranches

In some cases, commercial real estate firms issue more than one tranche of senior secured debt (e.g., first-lien senior secured and second-lien senior secured). In determining notching for tranches of senior secured debt, we typically consider the strength and priority of the lien, the collateral coverage (loan-to-value) for the individual debt class, the potential for loss-absorption by junior tranches, and the firm's ability to increase debt within each tranche. Where collateral coverage and terms for the first-lien senior secured debt tranche leave limited collateral value for the second-lien senior secured debt, we may rate the second-lien senior secured debt at the same level as the senior unsecured debt.

### Senior Unsecured Debt Instruments

For an investment grade company, as described above, the reference rating is typically the senior unsecured debt rating or the issuer rating.

For a speculative-grade company, the rating of senior unsecured debt may be lower than the senior secured debt rating (or the rating level if a senior secured debt rating were to be assigned),[17] or the senior unsecured debt rating may be at the same level as the senior secured debt rating. In these cases, the decision whether to notch the senior unsecured debt rating down from the senior secured debt rating or to align the two ratings is informed primarily by (i) our assessment of the quality of the firm's unencumbered asset pool; and (ii) the amount of coverage that unencumbered assets provide to unsecured creditors.

(i) Our assessment of the quality of the unencumbered asset pool typically includes the following considerations:

» **The proportion of income-producing investment properties in the pool compared to the proportion of other non-cash unencumbered assets in the pool.** A high proportion of income-producing investment properties increases the quality of the unencumbered asset pool, because these investment properties are usually easier to sell than those that do not produce high levels of income, and they are more easily pledged to raise financing, if needed. Other unencumbered assets may include receivables, development properties, land banks, listed securities and deferred tax assets.

» **The type and quality of the unencumbered income-producing properties in the pool as well as the liquidity and price stability of the underlying property market in which they are located.** In considering the relative credit risks for holders of senior secured and senior unsecured instruments for speculative grade commercial real estate firms, we assess the quality of income-producing properties in the unencumbered asset pool.[18] The higher the quality of an asset and the less specialized its operations, the easier it is to sell or repurpose, if needed. For example, operationally intensive real estate assets such as hotels or prisons are generally more difficult to sell compared to properties with broader institutional demand, such as apartment buildings. Similarly, we consider that the unencumbered asset pool is stronger where the properties are located in a highly liquid market (or markets) with a history of price stability.

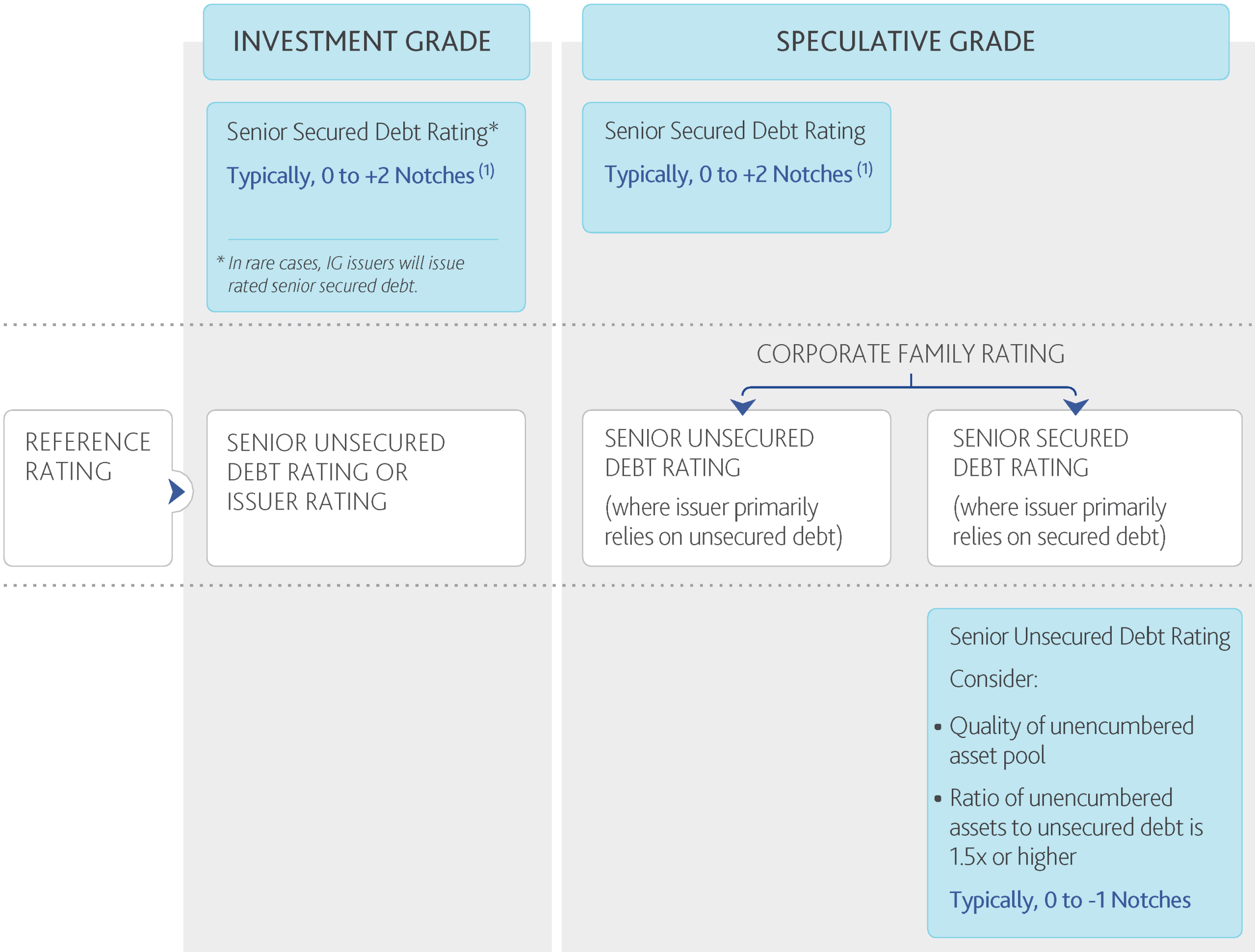
» **The type and quality of other non-property unencumbered assets.** We view assets such as land banks, development properties and deferred tax assets as significantly weaker than income-producing unencumbered assets, because they are likely to recover less for unsecured creditors and tend to have more volatile values. They may also have negative cash flow. In contrast, cash, listed securities and, depending on their credit quality, short-term receivables are typically highly liquid.

(ii) Where we consider that the unencumbered asset pool is of high quality, the ratio of unencumbered assets to unsecured debt is an important consideration in assessing the relative risks for holders of senior secured and senior unsecured instruments.

In general, where the quality of the unencumbered asset pool is high, coverage of 1.5x or higher may be sufficient to rate senior unsecured debt at the same level as the senior secured debt (which, in this case, is aligned with the CFR). In assessing coverage on a forward-looking basis, we may also consider the strength and growth potential of the cash flow generated by unencumbered assets. High-quality properties are typically associated with steadier cash flow, with increased income over time, and with relative asset value stability or resilience through cycles. Where we consider that the unencumbered asset pool is of relatively low quality, the coverage ratio is less meaningful, and we typically assign a rating to senior unsecured debt that is one notch lower than the senior secured debt rating (which, in this case, is aligned with the CFR).

Exhibit 6

**Illustrative notching based on priority of claim - senior secured and senior unsecured debt**




*1. Please refer to the methodology text for a discussion of how we arrive at the level of notching.*

*Source: Moody's Investors Service*

Where a company has provided a parental guarantee to secured lenders, senior unsecured debt is likely to be one notch lower than the senior secured debt rating (which, in this case, is aligned with the CFR), even where the ratio of unencumbered assets to senior unsecured debt is strong. This notching reflects that such guarantees typically weaken the credit standing of unsecured creditors, because any shortfall on secured debt could rank *pari passu* with the claims of unsecured creditors on the unencumbered asset pool, materially diluting the effective coverage.

## Notching based on priority of claim – subordinated debt and hybrid instruments

In this section, we provide guidance for notching subordinated debt, preferred stock and other hybrid instruments. We also provide guidance for notching in a distressed scenario.

### Subordinated Debt and Hybrids Other than Preferred Stock

For all commercial real estate firms, ordinary subordinated debt is generally rated one notch below the rating of senior unsecured debt.

For hybrids other than preferred stock, we would consider the specific terms of the hybrid to assess whether the instrument is more like ordinary subordinated debt or more like preferred securities. Among other terms, we would assess whether any coupon-skipping mechanisms may imply delayed repayment of the hybrid coupons prior to a default of the firm's senior unsecured debt. We may also consider any convertibility terms. If the hybrid is more like ordinary subordinated debt, we typically follow our notching guidance for subordinated debt. If the hybrid is more like preferred securities, the hybrid is generally rated at the same level as preferred securities, i.e., one or two notches below senior unsecured debt, as described in our guidance below.

**Preferred Stock for REITs**

In cases where there are strong bond covenants and no subordinated debt in the capital structure, preferred stock for REITs with senior unsecured ratings of Baa3 and above is typically rated one notch below the issuer's senior unsecured debt rating, and preferred stock for REITs with senior unsecured ratings of Ba1 and lower is typically rated two notches below senior unsecured debt. This treatment is consistent with our view that the legal structure of REITs, and more specifically the requirement to distribute dividends representing a large portion of taxable earnings in order to maintain their tax status, means that REITs are relatively unlikely to cut preferred dividends to preserve financial flexibility. In other words, the preferred stock of these REITs is more debt-like. In addition, strong bond covenants help to preserve asset value at the point of default.

In cases where bond covenants are weak, there is material subordinated debt in the structure or the terms of the preferred stock permit the REIT to suspend the preferred coupon payment even when the REIT continues to pay common dividends, the rating of the preferred stock of REITs with senior unsecured ratings of Baa3 and higher is generally two notches below the senior unsecured debt rating. Preferred stock of REITs with senior unsecured ratings of Ba1 and lower is generally rated three notches below the senior unsecured debt.

**Preferred Stock for Non-REITs**

For commercial real estate firms other than REITs, preferred stock is generally rated two notches below the senior unsecured debt rating, because these firms are more likely to skip coupon payments as they are approaching distress. Junior-most hybrid securities that may include both debt and equity characteristics are also generally rated two notches below the senior unsecured debt rating. However, if a junior-most hybrid includes meaningful mandatory non-cumulative coupon-skip triggers, the rating is typically three notches below the rating of senior unsecured debt.

**Notching in a Distressed Scenario**

At the low end of the rating scale, as an issuer gets closer to default, the notching for legal subordination is typically driven by credit loss and recovery considerations more than considerations related to the capital structure and unencumbered assets. In a distressed scenario, we are more likely to have more granular information about recovery of individual debt classes, which would be reflected in the notching.

## Notching based on structural subordination

Structural subordination affects differences in recovery across a capital structure in the same way as legal subordination, with similar implications for notching. Structural subordination has generally not been a material credit consideration for commercial real estate firms because they typically have a large number of subsidiaries with strong diversity of cash flows; however, where structural subordination is a material consideration, holding company debt may be rated lower than operating company debt, and the assigned rating may be lower than the scorecard-indicated outcome. This can be illustrated using a simple corporate structure where all assets and cash flow reside within a single operating company and the sole activity of the holding company parent is to hold the stock of the operating company. In most jurisdictions, under this simple structure, debt at the holding company has only a residual legal claim on the assets and cash flow of the operating company, such that its claim in bankruptcy is subordinate to the debt and all other liabilities at the operating company. Accordingly, for companies with such a capital structure, downward notching reflects a higher expected loss given default for debt at the parent than for debt at its principal operating company.

Corporate structures are frequently more complex and may include multiple operating companies or holding companies that have substantial investments beyond the stock of the main operating company(s). Under these more complex structures, we may not apply downward notching for structural subordination where we consider that the potential benefits of cash flow diversification from having many operating subsidiaries lowers expected credit losses on debt issued at the parent relative to debt issued at a particular operating company; i.e., the diversification mitigates or offsets the structural subordination. Also, subsidiary guarantees of holding company debt, if effective[19] and granted on a full, unconditional and equivalently ranked basis (e.g., secured guaranty for secured debt), can mitigate what would otherwise be structural subordination in their absence if the claim is a holding company obligation.

Additionally, in cases where holding companies themselves are owned or controlled by stronger entities and benefit from their owner's expected support in a distress scenario, we may not apply downward notching for structural subordination.

Another important consideration aside from the impact of structural subordination on notching is financial flexibility. If a company introduces a material amount of debt at the operating company where none existed before, or introduces secured debt where all debt was previously unsecured, the resulting loss of financial flexibility could result in a downgrade of the credit assessment for the overall corporate family.

## Key rating assumptions

For information about key rating assumptions that apply to methodologies generally, please see *Rating Symbols and Definitions*.[20]

## Limitations

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

### Limitations of the scorecard

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

The scorecard in this rating methodology is a relatively simple reference tool that can be used in most cases to approximate credit profiles of companies in this sector and to explain, in summary form, many of the factors that are generally most important in assigning ratings to these companies. 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 factor and sub-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 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.[21] Examples of such considerations include the following: how sovereign credit quality affects non-sovereign issuers the assessment of credit support from other entities, 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.

### 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 considerations, typically diminishes. Our forward-looking opinions are based on assumptions that may prove, in hindsight, to have been incorrect. Reasons for this could include unanticipated changes in any of the following: the macroeconomic environment, general financial market conditions, industry competition, disruptive technology, or regulatory and legal actions. In any case, predicting the future is subject to substantial uncertainty.

## Moody's related publications

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

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

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

*Moody's Basic Definitions for Credit Statistics (User's Guide)* can be found here.

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## Endnotes

1 A common term for these companies is a real estate operating company (REOC).

2 We refer to REITs and other firms that own and operate commercial real estate as commercial real estate firms.

3 In our methodologies and research, the terms "scorecard" and "grid" are used interchangeably.

4 Class A represents prime properties in their markets based on superior location and physical quality. Class B properties may have excellent location with lower physical quality or high quality in a less prime location. Class C properties may have distinctly less desirable locations or materially lower quality.

5 Take-up (also known as absorption) is a measurement or estimate of gross leasing activity in a particular time period, based on the physical space that is occupied. Occupancy rates compare space in a market that is occupied to the total space available.

6 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

7 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

8 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 a list 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.

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

10 For definitions of our most common ratio terms, please see *Moody's Basic Definitions for Credit Statistics (User's Guide)*. A link can be found in the "Moody's related publications" section.

11 For an explanation of our standard adjustments, please see the cross-sector methodology that describes our financial statement adjustments in the analysis of non-financial corporations. A link can be found in the "Moody's related publications" section.

12 A link to a list 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.

13 A link to a list of our sector and cross-sector rating methodologies can be found in the "Moody's related publications" section.

14 For issuers with a BCA, the reference rating is the rating derived after application of the uplift to the BCA, and in most cases other instruments are notched up or down from the reference rating. In certain cases, such as for hybrids and junior instruments, the ratings may be notched up or down from the BCA.

15 Corporate family ratings (CFRs) are long-term ratings that reflect the relative likelihood of a default on a corporate family's debt and debt-like obligations and the expected financial loss suffered in the event of default. A CFR is assigned to a corporate family as if it had a single class of debt and a single consolidated legal entity structure. A CFR does not reference an obligation or class of debt and thus does not reflect priority of claim. For more information, see *Rating Symbols and Definitions*. A link to this publication can be found in the "Moody's related publications" section.

16 In rare cases, we may assess that the value of security is not sufficient to meaningfully reduce creditor losses in the event of a default. In these cases, we may not notch the senior secured debt up from the CFR.

17 Where the CFR is at the level of the senior secured debt rating, this implies that the senior unsecured debt rating may be at the same level as the CFR (where not notched down), or it may be lower than the CFR.

18 We typically also consider the quality of properties in an unencumbered pool of assets relative to an encumbered pool in assessing a real estate firm's financial flexibility, as discussed in the "Other considerations" section.

19 In some jurisdictions, upstream guarantees may not be enforceable in a bankruptcy under certain scenarios, for instance if the court determines that granting the guarantee rendered the subsidiary insolvent, or that the subsidiary did not receive reasonably equivalent value for granting the guarantee.

20 A link to *Rating Symbols and Definitions* can be found in the "Moody's related publications" section.

21 A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.

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

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