European Real Estate Rating Methodology

Corporate Ratings

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1. Introduction

This methodology is an update of the Rating Methodology: European Real Estate Corporates, which supplements and is structurally aligned with our 'Corporate Rating Methodology', published on 6 July 2021 > Click here to download. The different issuer-specific and rating-relevant characteristics laid out in this methodology must not be seen as a predetermined ranking or scorecard. We apply the underlying criteria on an issuer-specific level in an opinion-driven way. The update, which follows the call for comments released on 26 November 2021, might have implications for existing corporate ratings assigned by us.

Key changes to the methodology

This updated version introduces:

- a separation of the property developer sub-segment into commercial and residential (homebuilders) to better capture specific risks.
- a guidance on the industry risk of community service properties, which we consider similar to that of residential properties
- an extended guidance on the assessment of real estate corporates' business risk and financial risk profiles, with more granularity for ratio outcomes in the 'A' and 'AA and above' categories.
- an expansion of the guidance tables for 'CCC' category ratings to increase granularity for business risk and financial risk assessments on the lower end of the rating scale.
- a recalibration of the market share assessment in terms of gross lettable area (by square metre) and/or the number of apartments (residential) and the alignment of thresholds with those used for market values.
- the use of the same thresholds and general definitions as for occupancy rates when assessing pre-letting rates for develop-to-hold companies.
- an assessment of a real estate developer's existing backlog to form a better view on the stability of future revenues and profitability. The backlog assessment would replace the assessment based on the return on assets.
- the general alignment of interest cover thresholds to those of real estate developers (commercial and residential) under Scope's Corporate Rating Methodology.
- the renaming of different levels as regards tenants' credit quality
- minor editorial changes and clarifications.

This methodology provides guidance on our ratings of European real estate corporates and may be selectively applied to non-European issuers if appropriate.

We define real estate corporates as companies which generate the majority of their total revenues and funds from operations (FFO) from rental income (i.e. real estate investment trusts[1]), as well as the development or trading of real estate. The sectors in which real estate corporates operate include office, retail, residential, logistics, hotel, industrial and data centres. These sectors tend to be affected differently by the economic cycle.

Construction companies which derive most of their revenues from building activities, or companies which focus on real estate asset management or fund management, are not real estate corporates as defined by this methodology.

This methodology describes how we analyse the credit risk of real estate companies, which is based on our assessment of their business risk and financial risk profiles complemented with an analysis of supplementary rating drivers.

2. The European real estate industry

The European real estate industry is fragmented. Market participants often have smaller market shares than those in more consolidated industries such as pharmaceuticals, tobacco and automotive.

Business models vary in this industry and mainly comprise letting, development, or a combination of both. Letting activity tends to generate relatively predictable rental income. In contrast, development activity (assets bought or developed to sell for a profit) generally leads to volatile cash flows and profitability that heavily depends on: i) the number of development projects in the pipeline and their development phase; and ii) the stage of the economic cycle.

The real estate industry is capital-intensive with significant investment needed to buy or maintain properties. Development and extensive refurbishment are integral activities for property companies. Many finance a large portion of their activities via debt and thus tend to

[1] Please note: REIT status is not automatically beneficial for an issuer's business risk or financial risk profile as REIT regimes may differ depending on the jurisdiction.

have higher leverage than the average industrial company. However, this high leverage is often matched by stable asset values that can be realised easily.

Most market participants tend to operate in only a few countries and in certain regions as local knowledge is essential to succeed.

If well-diversified by tenancy and geography, property companies focusing on letting tend to benefit from relatively stable and predictable cash flows, mainly due to generally non-cancellable, long-term lease contracts. Property companies that primarily operate in development may also benefit from relatively stable and predictable cash flows if they have a full and balanced development pipeline as well as high pre-letting and pre-sale rates.

Parameters which can qualify a property company for an investment grade rating are:

- a high percentage of cash flows derived from letting activities;
- a strong market position;
- wide geographic and tenant sector diversification;
- long leases (triple-net) and a high-quality, granular tenant base;
- a high and stable occupancy rate,
- good-quality assets;
- low leverage; and
- high and stable debt protection.

Investment grade companies tend to benefit from predictable cash flows, solid profitability and strong credit metrics.

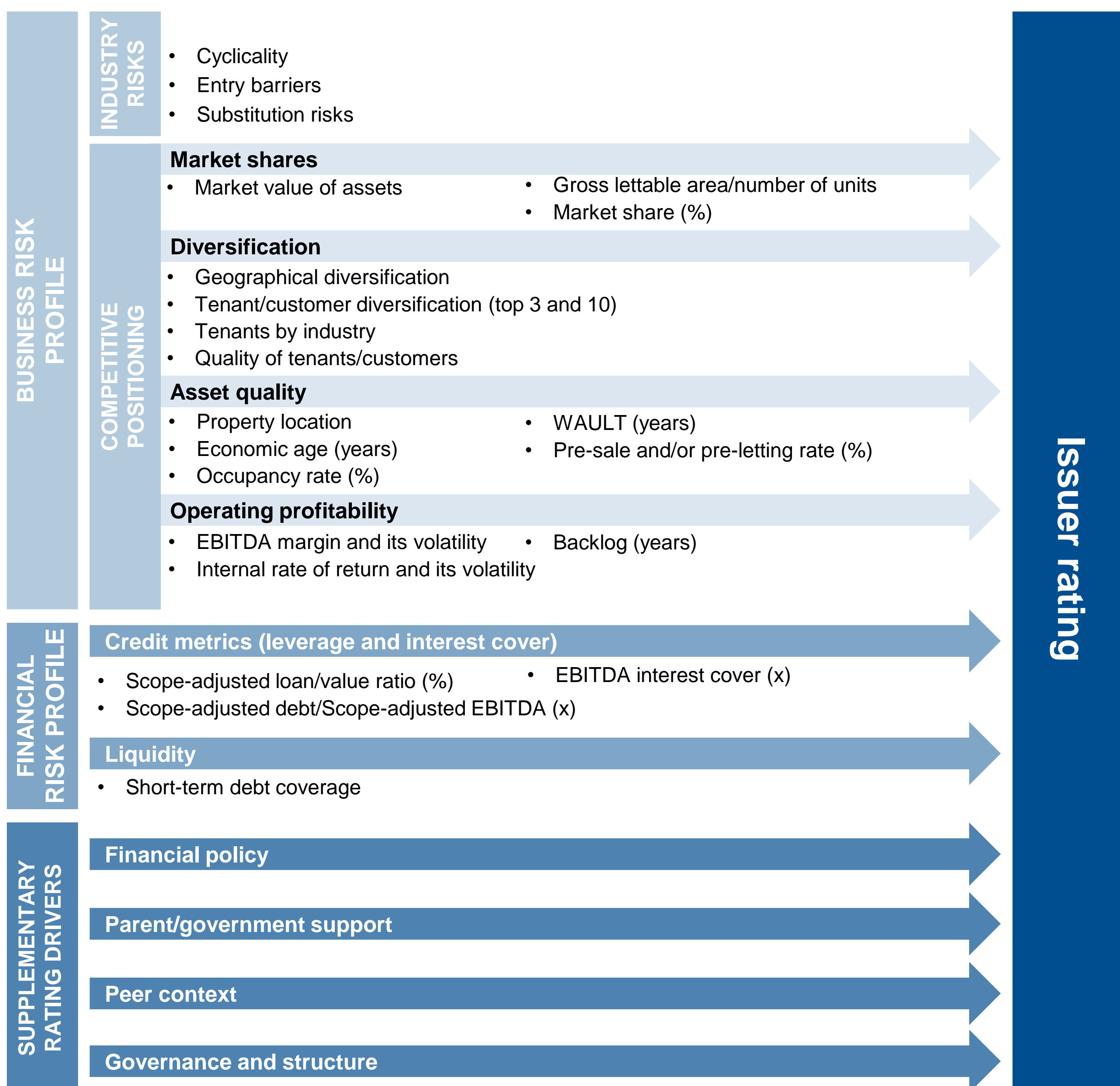
In contrast, a high percentage of cash flows derived from development activities, weak competitive positioning compared to international peers, weak geographical and tenant sector diversification, a high concentration of tenants and low asset quality can indicate a non-investment grade rating. The cash flows of non-investment grade companies tend to be less predictable, and these companies often have volatile profitability and weaker financial measures.

Property companies tend to have a regional focus and high cyclicality, which makes it challenging for them to achieve high investment grade ratings.

3. Rating drivers

We apply our Corporate Rating Methodology to property companies as outlined in Figure 1 below. Our rating analysis in this sector addresses factors common to all industries, such as management, liquidity, corporate legal structure, governance and country risks. The following business risk and financial risk indicators are non-exhaustive and may overlap; some may not apply to certain property companies. Issuer-specific rating factors may be added and each company's business model determines the applicable indicators. We do not apply fixed weights to any rating driver. More detail can be found in the Corporate Rating Methodology (updated in July 2021).

Figure 1 – Scope's general rating grid for European real estate corporates[2]



[2] Editor's note: Operating profitability items have been amended on 14 March 2022. The original publication included the 'Return on assets and its volatility'.

3.1 Business risk profile

3.1.1 Industry-related fundamentals

We assess the industry fundamentals of European real estate corporates by examining the following industry drivers:

- Cyclicality
- Entry barriers
- Substitution risks

Cyclicality

The real estate industry often has more cyclical features than industries with inelastic demand, but these features vary greatly depending on the individual business model and the real estate sub-sector. We have identified three real estate sub-sectors:

1) Development (buy to hold and/or buy to sell)
2) Commercial (buy and hold)
3) Residential (buy and hold)

Of the three sub-sectors, we believe development has the highest cyclicality as the segment's demand is linked to economic growth. In addition, developer companies mostly have a long time-to-delivery: three to four years are needed to develop a new property. During this time, letting and disposal risks could increase tremendously if demand declines because of an economic downturn or competition from new or existing stock. Developers are also exposed to construction risks, including those in relation to contractors, price fluctuations, technical defects and delivery delays.

The risk around changing market conditions during the development period is a crucial element in our assessment of the cyclicality of a developer's business model. We therefore distinguish between 'forward' and 'speculative' development volume. A higher share of forward sales and/or rentals is credit-positive because it increases visibility on future cash inflows and therefore partially mitigates the exposure to the underlying property market's cyclicality.

In general, commercial property companies face higher cyclicality due to their exposure to industries that are vulnerable to changes in demand. Demand increases when the economy grows, while it declines in a downturn as weaker business conditions make tenant defaults more likely. However, these companies generally benefit from long-term lease contracts, which partially mitigates the impacts of economic downturns.

The residential sector, in contrast, benefits from the lowest beta in the real estate sector, because demographic changes lag behind economic turmoil. However, cyclicality is still higher for companies focusing on markets with long-term negative migration trends and a weak economic base.

Entry barriers

We consider the real estate industry to have medium barriers to entry.

Significant investment is needed to buy, maintain or develop properties, requiring either substantial internal resources or good access to third-party capital. Further, the diverse real estate regulations in Europe (especially in the residential sector) makes knowledge of local taxes and laws important. Technical know-how is also essential for almost the whole value chain, including the ability to perform technical due diligence before a property acquisition as well as refurbishment and ongoing maintenance. Thus, property companies need to maintain in-house (or purchase external) know-how to remain up-to-date and/or expand into new markets.

At the same time, entry barriers are lowered by the high industry fragmentation and good general access to credit due to the collateral-eligible assets.

Substitution risks

Substitution risk is generally low as properties, especially residential spaces, represent a basic human need.

However, we judge this risk to be higher for commercial property companies because demand could either: i) easily shift to spaces offered by competitors; or ii) decline as activities in physical locations (such as purchasing goods or working in an office building) may shift to e-commerce or virtual 'home' offices.

Substitution risk for developers depends on the property type. A developer's skills and reputation are essential to the development of made-to-measure projects and are not easily replicable. We therefore deem substitution risk to be medium. However, generic property design and development could be easily substituted by any existing competitor or new market entrant from other industries due to potential benefits from new infrastructure and/or more efficient processes.

We assign the following industry risk levels, depending on certain factors (Figure 2):

1) Development, B to BB: commercial real estate developers (industry risk: B) facing high cyclicality, medium entry barriers and medium substitution risk; homebuilders (BB) benefit from low substitution risk as they address a basic human need.

2) Commercial, BB**:** commercial property companies exposed to tenant industries with average cyclicality, partially mitigated by long-term rental contracts and protected by medium entry barriers. However, substitution risk is higher as demand could easily shift or decline in the long term.

3) Residential[3], A**:** residential property companies that benefit from low cyclicality, determined by long-term migration trends, medium entry barriers and low substitution risk owing to their focus on a basic human need.

Figure 2 – Scope's industry risk assessment for different real estate segments

Cyclicality \ Entry barriers	Low	Medium	High
High	CCC/B	1 B/BB	BB/BBB
Medium	B/BB	2 BB/BBB	BBB/A
Low	BB/BBB	3 BBB/A	AA/AAA

We assess the industry risk profile for each sub-sector within the ranges in Figure 2. The coloured letters represent the most common indicative ratings in our analyses.

The industry's high exposure to the economic cycle means the business risk profile is a key indicator of a property company's credit quality over time. The business risk profile indicates the extent to which competitive positioning, diversification and profitability protect against adverse market movements and raise entry barriers for competitors. Thus, it provides a clear view of a company's long-term viability.

3.1.2 Competitive positioning

Market shares

A property company's size and competitive positioning determine its market strength and ability to benefit from economies of scale. Large size often goes hand in hand with solid diversification in terms of geographies, sectors and tenants.

A property company's competitive positioning is indicated by: i) the market value of its assets; ii) the gross lettable area or number of units; and iii) the market share in specific segments.

An issuer may prepare financial reports using International Financial Reporting Standards (IFRS) or local generally accepted accounting principles (GAAP), depending on its jurisdiction and size. IFRS require assets to be measured using market value, while local GAAP may only require book value (purchase price less depreciation and impairments). To ensure data is comparable, we approximate the market value of properties held by an issuer. This can be based on: i) the most recent property valuation from an accredited valuer; ii) a letter of intent; or iii) recent purchase offers/bids for the property. We apply discount factors depending on the reliability of the source that determined the market value. In the absence of the above information, we use book value and apply the necessary discounts.

Monetary values (which we measure as the market value of the assets in euros) are a direct function of local real estate prices and therefore do not capture regional differences in a company's market position. The same nominal euro amount may translate into a negligible exposure in a high-end market and vice versa. To ensure a holistic picture, we take into account the gross lettable area for commercial real estate companies/developers, and the number of units under management/built for residential real estate companies/developers.

[3] We may classify community service properties (e.g. elderly homes, hospitals, police stations and schools) in line with residential properties for the industry risk assessment as most benefit from low cyclicality, medium entry barriers and low substitution risk.

Figure 3 – Market shares by rating category

	AA and above	A	BBB	BB	B	CCC and below
Market value of assets (EUR m)	> 20,000	10,000 to 20,000	2,000 to 10,000	500 to 2,000	100 to 500	< 100
Gross lettable area (sq m)	> 10m	5m to 10m	1m to 5m	250,000 to 1m	50,000 to 250,000	< 50,000
No. of apartments (residential)	> 300,000	150,000 to 300,000	30,000 to 150,000	7,500 to 30,000	1,500 to 7,500	< 1,500
Market share (%) in specific segments	Dominant		Moderate	Modest	Very modest	

Diversification

A property company's geographical, sector and tenant diversification levels indicate its ability to offset cash flow volatility arising from economic cycles, industry dynamics, regulatory changes or the loss of a single tenant.

We measure the geographical diversification of a property company as the percentage of revenues generated in a specific geographical region. A wide spread of activities across various geographical regions with different demand patterns or cyclical exposures tends to reduce cash flow volatility, which we consider a positive rating factor. In our analysis, geographical regions are defined in line with the EU's NUTS 2 classification (Nomenclature of Territorial Units for Statistics) > click here for the Eurostat definitions .

Good diversification of tenants/customers is also a positive rating driver. For companies focusing on letting activities, the more diversified the tenant base and the better the tenants' credit quality, the lower the risk of a significant deterioration in cash flows if a tenant defaults or delays payment. We measure tenant diversification as the percentage of total revenues generated by the top three and top 10 tenants. We determine the certainty of future cash flows for developers by looking at the credit quality of tenants or buyers, if underwritten. For both B2B and B2C developers (develop-to-sell projects), we apply our diversification matrix with the same thresholds as for tenant diversification (units).

Solid sector diversification (measured by the percentage of revenues generated by a specific tenant's industry according to the Global Industry Classification Standard) is also a positive rating driver for a property company. Since the economic cycle affects sectors differently, spreading activities across various sectors tends to reduce cash flow volatility.

We derive the credit quality of tenants based on publicly available credit ratings and/or reported debt impairments relative to gross rental income, which we use to form a view on the issuer's loss rate.

Figure 4 – Diversification by rating category

	AA and above	A	BBB	BB	B	CCC and below
Geographical diversification	More than five regions; international presence		More than three regions; (inter)national presence	More than one region; national presence	One region; national presence	
Top 3 tenants (%)	< 2.5		< 5.0	< 10.0	< 20.0	> 20.0
Top 10 tenants (%)	< 10.0		< 20.0	< 50.0	< 100.0	< 10 tenants
Quality of tenants	Very strong	Strong	Good	Moderate	Weak	Very weak
Tenants by industry (% of revenues)	< 15		< 20	< 25	< 50	> 50

Asset quality

The quality of a property company's assets determines the strength and stability of its operating cash flows and asset values throughout the economic cycle. A high-quality asset, such as a 'grade A' or 'core' building located in the central business district of an internationally significant city, tends to achieve higher occupancy rates, more stable cash flows, higher profitability and, therefore, less peak-to-trough price volatility compared to lower-quality assets. Furthermore, better-quality assets tend to be more liquid than those of lower quality and can thus be sold more easily.

Our asset quality analysis covers five factors:

1. Property location: we differentiate between i) 'A' locations: cities of international or national importance, which tend to have large, viable real estate markets; ii) 'B' locations: large cities of national or regional significance; and iii) 'C' locations: cities with just regional significance (see Appendices 4.2 and 4.3 for office and residential properties).
2. Economic age (in years) of the property portfolio: this is determined by the current physical condition of the properties and corresponds to the construction year or the year of the last major refurbishment. Older properties (older than 10 years) are generally less attractive for existing and potential tenants and linked with higher maintenance and operating expenses.
3. Financial occupancy rate for the property portfolio (in %): this is measured as the percentage of the contracted rent divided by the contracted rent plus the estimated rental value of the vacant space.
4. The weighted average unexpired lease term (WAULT) of the property portfolio (in years): a high WAULT translates into more predictable cash flows from rental income. We only consider the contractual lease term up to the earliest possible cancellation of the lease by the tenant.
5. Pre-sale or pre-letting rate (%): This is relevant for developer companies as we consider the quality of a development asset to directly relate to a developer's ability to sell or let it before construction is complete.

In addition to factors such as a property's unique attributes (e.g. iconic design or special locations such as an airport city), development potential (e.g. below-market-rate leases or land available for development) may also have a positive or negative impact on our evaluation of asset quality.

Figure 5 – Asset quality by rating category

	AA and above	A	BBB	BB	B	CCC and below
Property location	Mainly 'A' locations		'A' locations and 'B' locations	Mainly 'B' locations	'B' and 'C' locations	Mainly 'C' locations
Economic age (years)	< 5		5 to 10	10 to 15	15 to 25	> 25
Occupancy or pre-letting rate (%)	> 95		90 to 95	80 to 90	70 to 80	< 70
WAULT (years)	> 10.0	7.0 to 10.0	5.8 to 7.0	4.6 to 5.8	< 4.6	
Pre-sale rate (%)	> 110		100 to 110	80 to 100	< 80	

Operating profitability

We use the Scope-adjusted EBITDA margin (%) and levered internal rate of return (IRR) (%) to measure a property company's profitability and efficiency.

Revenues derived from rental income tend to provide recurring cash inflows. Hence, the higher the share of rental income in revenues, the lower the volatility of operating cash flow and profitability. Property companies with revenue mostly consisting of rental income can achieve Scope-adjusted EBITDA margins of up to 85%, while successful developers can achieve margins of up to 95% but these tend to be more volatile.

Property companies with a focus on commercial properties (buy-and-hold) tend to generate Scope-adjusted EBITDA margins of 50%-85% while those focusing on residential properties (buy-and-hold) generally achieve 25%-60%. The higher margins for the commercial sector are mainly driven by the higher portion of recoverable costs (triple-net leases) and economies of scale due to larger lot sizes. Even so, the granular customer base of residential properties tends to come with more stable profitability.

We use the volatility of the Scope-adjusted EBITDA margin and levered IRR to determine the stability of a property company's internal financing. Stability in Scope-adjusted EBITDA margins and levered IRR are credit-positive.

We generally consider only the Scope-adjusted EBITDA margin when assessing real estate corporates that focus on buy-and-hold activities and generate most of their revenues from letting. For real estate corporates that source most of their revenues from trading or development, we normally overweight the levered IRR. We examine the existing backlog[4] for a real estate corporate that sources most of its revenues from development to form a view on its future revenue stability. A high backlog indicates a well-protected future top line.

Figure 6 – Operating profitability by rating category

	AA and above	A	BBB	BB	B	CCC and below
Volatility	Low		Medium		High	
Scope-adjusted EBITDA margin (%)	> 90	75 to 90	60 to 75	45 to 60	30 to 45	< 30
Levered IRR (%)	> 50	36 to 50	23 to 36	9 to 22	0 to 9	Negative
Backlog (years)	> 8	> 6	> 4	> 2	> 1	< 1

3.2 Financial risk profile

3.2.1 Credit metrics

Our analysis incorporates a property company's leverage, expressed as the Scope-adjusted loan/value (LTV) ratio, determined by dividing Scope-adjusted debt (SaD) by the market value of total assets (%) on a consolidated basis (or a proxy as defined under the market position assessment).

If consolidated accounts are unavailable, we use a look-through LTV to approximate leverage. The look-through LTV reflects – as of any determination date – all financial liabilities adjusted by either the SaD of the issuer's direct or indirect holdings (look-through indebtedness) or the market value of the issuer's direct or indirect holdings (combined asset value). We fully consolidate an equity holding if the issuer holds more than 50% of the shares and information is sufficient.

We also assess the cash flow-adjusted leverage of a property company, measured as SaD/Scope-adjusted EBITDA (x) (see Appendix). Many property companies finance a large portion of their properties via debt and thus tend to have higher leverage than the average industrial company. However, this high leverage is often matched by high and stable asset values that can be realised easily.

Our assessment of credit metrics takes the following key ratios into account (see Appendix for definitions), divided thereafter into three categories:

Leverage:
Scope-adjusted loan/value (LTV) ratio
SaD/Scope-adjusted EBITDA

Interest cover:
Scope-adjusted EBITDA interest cover

We generally place greater weight on the LTV for real estate corporates that focus on buy-and-hold activities and generate most revenues from letting. For real estate corporates that source most of their revenues from trading or development, SaD/Scope-adjusted EBITDA is generally weighted higher than the LTV in the assessment.

For real estate developers, we generally consider interest cover thresholds as laid out in our Corporate Rating Methodology to account for potential volatility in earnings and operating cash flow.

[4] Future revenues secured for development activities in the form of pre-sale agreements yet to be recognised as revenue. These include a reservation on a home through the payment of a deposit. The ratio is defined as the backlog at a point in time (t) divided by annual sales to t.

Figure 7 – Financial measures by rating category

	AA and above	A	BBB	BB	B	CCC and below
LTV (%)	< 10	10 to 30	30 to 50	50 to 60	60 to 80	> 80
Scope-adjusted EBITDA interest cover (x)	> 10.0	3.0 to 10.0	2.2 to 3.0	1.7 to 2.2	1.2 to 1.7	< 1.2
SaD/Scope-adjusted EBITDA (x)	< 2.0	2.0 to 4.0	4.0 to 6.0	6.0 to 8.0	8.0 to 15.0	> 15.0

3.2.2 Liquidity

We only perform a sector-specific assessment of a property company's liquidity when a special purpose vehicle holds its non-recourse debt. Our calculation of short-term debt for the liquidity assessment generally excludes non-recourse loans held by special purpose vehicles unless the property company can demonstrate it supports these loans.

Our general liquidity assessment is addressed in our Corporate Rating Methodology.

3.3 Supplementary rating drivers

3.3.1 Financial policy

Our ratings capture management's risk appetite for discretionary spending (such as acquisitions, dividends and share buybacks) and the extent to which these are funded by debt. The ratings also capture management's rating commitment, both credit-positive and credit-negative. For example, in cases of debt-funded acquisitions that lead to short-term deviations from stated financial policy, we believe family-owned companies are more committed to maintaining the credit rating than non-owner-managed companies. We aim to reflect this in our financial policy assessment, which is based on the company's track record and level of commitment.

3.3.2 Parent/government support

We recognise that a property company's likelihood of corporate default may be linked to its shareholder structure. Many property companies are state-owned or controlled by larger companies, which may, if required, provide direct funding or recapitalisation because of a contingent liability, such as a guarantor liability.

The impact on a potential rating uplift depends on our assessment of the likelihood of a bail-out, reflecting the willingness of a government or parent company to cover liquidity gaps in the company. Willingness may be characterised by contractual obligations such as guarantees or comfort letters, or the strategic importance of a controlling share in the real estate corporate.

When assessing government support, we apply our 'Rating Methodology: Government Related Entities'.

3.3.3 Peer group considerations

Our ratings reflect additional considerations in a peer group context to ensure consistency across the rating spectrum, with both credit-positive and credit-negative implications.

3.3.4 Governance and structure

Corporate governance guidelines lay out rules for corporate behaviour and how companies monitor the enforcement of these rules. Corporate governance is a 'soft' factor and is included in corporate ratings to reflect a company's due diligence in terms of meeting corporate governance guidelines. To avoid double-counting, our corporate governance assessment excludes factors covered elsewhere in our rating assessment. Our review of corporate governance allows us to express an informed and measured opinion, which will have either a neutral or negative rating impact. More detail on our assessment on corporate governance can be found within our Corporate Rating Methodology.

3.4 Corporate issuer rating

The final issuer rating is based on the analyses of the business risk and financial risk profiles as well as the potential effects of supplementary rating drivers. The rating committee decides on the relative importance of each rating driver. In general, business risk and financial risk profiles are weighted equally for BB/BBB rated companies. The analysis of investment grade companies (rated BBB- or above) focuses more on the business risk profile. B (or below) ratings are assigned with a stronger focus on the financial risk profile. The weighting between the business risk and financial risk profiles may be adjusted for specific business models and markets.

3.5 Environmental, social and governance assessment

The corporate rating process implicitly captures environmental, social and governance (ESG) factors that have a material credit impact. We conduct an explicit corporate governance assessment during the corporate rating process (see 3.3.4).

Our corporate credit rating analysis remains focused on credit quality and credit assessment drivers. We only consider an ESG factor relevant to our credit rating process if it has a discernible and material impact on the rated entity's cash flow profile and, by extension, its overall credit quality. Examples include a change in regulatory environment, risk of stranded assets, and capex needs to meet energy-efficiency standards on property stock.

Unlike ESG ratings, which are largely based on quantitative scores for different rating dimensions, credit-relevant ESG drivers are mostly of a qualitative nature. Hence, identified ESG rating factors are based on an opinion in a relative context. ESG-related factors can directly or indirectly affect all the rating elements which make up our assessment of an issuer's business risk profile, financial risk profile and supplementary rating drivers.[5]

3.6 Corporate debt rating

3.6.1 Long-term debt rating

Long-term debt instrument ratings reflect our opinion on an issuer's creditworthiness with respect to its long-term debt instruments. These ratings are determined by adjusting the issuer rating upwards or downwards. We use two approaches for rating adjustments, depending on whether the issuer is rated BBB- or above (investment grade) or below BBB- (non-investment grade).

3.6.2 Debt instrument ratings for investment grade issuers

We do not make a sector-specific assessment of debt instrument ratings for investment grade issuers.

3.6.3 Debt instrument ratings for non-investment grade issuers

We perform a customised recovery analysis when rating the long-term debt instruments of non-investment grade issuers, assuming a hypothetical default situation. This analysis establishes the recovery rates of debt instruments based on the estimated value of claims available for creditors at the point of default (VCD), as well as the size and ranking of claims in the waterfall.

3.6.3.1 Estimated value of claims at default

To determine the estimated value of claims at the VCD, we take the higher of: i) the estimated enterprise value at default on a going-concern basis; and ii) the estimated enterprise value at default in a liquidation scenario (estimated liquidation value).

We believe that liquidation is the most likely scenario for a property company in default. This view is driven by the asset-heavy balance sheet of most property companies as well as the relatively easy separation of properties from an issuer's operations.

The liquidation value at default is estimated by adding the discounted values of the company's assets, assuming a similar asset structure to the one at default. The calculation may include assets such as investment properties, cash, accounts receivable, inventory, and property, plant and equipment.

For investment properties and properties under construction, the discount to the book value is a function of the property's portfolio jurisdiction and incorporates market value declines and liquidation costs.

Market value decline

We use market value declines to capture the volatility of property prices in a specific jurisdiction. The market value decline is conditional on the rating category. It is based on the highest achievable rating category for the debt class or issue, i.e. up to three notches or one rating category above the issuer rating.

The applicable market value decline under a B rating category reflects the latest market value plus a volatility buffer equal to a standard deviation over a six-month period. The AAA level represents the highest stresses, reflecting a prolonged recession. AAA category stresses are typically based on a three-year downturn with nominal property prices falling at three times the level of their historical annual standard deviation (with a floor at the relevant market volatility). We may adjust the multiplier of the standard deviation in exceptional cases if volatility in the observation period differs significantly from average observations. Stresses between B and AAA are linearly interpolated. To assess the recovery of a debt class or debt instrument, we apply a maximum stress equivalent to a BBB level, the best achievable rating category for the debt class or issue of a non-investment grade issuer.

[5] Editor's note: This section was amended on 4 March 2022 to ensure consistency of wording with the other methodologies.

Liquidation costs

We believe every (distressed) transaction will incur some liquidation costs. This is because, in most cases, third-party service providers will unwind the property company, notably to keep the business in operation until its assets are sold. Liquidation costs mainly represent the following:

Figure 8 – Scope liquidation costs benchmark*

	Level of application	Timing of application/criteria	Indicative range as a percentage of
Legal costs	Interest-bearing debt	Post-foreclosing period/jurisdiction	1.0% to 2.5%
Notary costs	Collateral value		1% to 3%
Broker costs	Collateral value		3% to 6%
Real estate transfer taxes	Collateral value		1% to 12%
Special servicer	Collateral value		1% to 20%

* indicative range provided for a panel of six Western European countries.

3.6.3.2 Unencumbered asset ratio

To capture the structural subordination of senior or junior unsecured debt, we include the unencumbered asset ratio (unencumbered assets to unsecured debt) to determine the maximum rating adjustments for these debt classes. This is essential to assess the risk exposure for senior and junior unsecured debt holders. We believe that these debt classes should benefit from an unencumbered pool of collateral because senior secured debt holders tend to accept high fire-sale discounts to pledged assets if they can secure the highest recovery possible for themselves. Thus, senior secured debt holders do not incorporate subordinated debt holders' claims in their assessment of 'acceptable' fire-sale discounts.

Figure 9 – Unencumbered asset ratio

	A and above	BBB	BB	B and below
Unencumbered asset ratio (x)	N/A	> 1.67	1.67 to 1.00	< 1.00

We use the unencumbered asset ratio to determine the maximum adjustment between a debt class rating and an issuer rating. A non-investment grade issuer can achieve up to a BBB rating category for a debt class or issue. We do not provide specific thresholds for rating categories A and above.

4. Appendix

4.1 Definition of specific financial items/key performance indicators applicable to the real estate sector only

Scope-adjusted loan/value ratio (%)	
Debt measure	This ratio compares an issuer's debt payment obligations with the market value of its total assets (excluding cash and equivalents as well as the positive value of derivatives).
$\frac{\text{Scope-adjusted debt}}{\text{Market value of total assets}}$	

Unencumbered asset ratio	
Recovery assessment debt issuance	This ratio indicates the collateral available to unsecured debt holders. Unencumbered assets include all assets that have not been pledged to third parties as collateral. Pledged properties with an LTV of below 60% are assessed as partly unencumbered. When determining the ratio, we use the asset value which corresponds to the difference between the actual LTV (including secured, undrawn committed credit lines) and the 60% threshold.
$\frac{\text{Unencumbered assets + available cash}}{\text{Unsecured debt positions}}$	

Levered internal rate of return (IRR)	
Profitability measure	The weighted average levered IRR is used for comparable projects already completed by the issuer. The forecasted levered IRR is used for projects under development and the volatility of project-by-project profitability against the weighted average. This provides a holistic view of a developer's profitability. The levered IRR is calculated by comparing the total sales proceeds of a specific project with its total development costs. The levered IRR also considers related financing costs.
$0 = \sum \frac{Cash\ flow_t}{(1+IRR)^t} - (total\ development\ costs\ - total\ debt)$	

Pre-letting rate	
Asset quality	This ratio determines a developer's pre-letting rate of its active developments and only applies to develop-to-hold developments. Contractually secured rental cash flow is the annualised rent payable by a third party under an executed lease agreement. Estimated rental value is the rent that a property can be reasonably expected to attain on the open market given its particular characteristics, condition, amenities, competitive position and location as well as local market conditions.
$\frac{\text{Contractually secured rental cash flow (annualised)}}{\text{Estimated rental value for active developments[6] (annualised)}}$	

Pre-sale rate	
Asset quality	This ratio determines a developer's coverage of outstanding investment or development costs and applies to develop-to-sell developments. The contractually secured sales volume is the sales volume underwritten by third parties. Outstanding development costs encompass the gross investment volume that has been underwritten by the developer, e.g. contractual obligations to third parties for a development project or obligations that inherently arise once construction work has started.
$\frac{\text{Contractually secured sales volume}}{\text{Cost to complete active developments[3]}}$	

[6] Active developments are developments for which the issuer has secured all licenses and permits and has started site preparation or construction.

4.2 Office market classification

	'A' locations	'B' locations	'C' locations
General considerations	Cities with international importance	Large cities of national and regional importance	Cities of predominantly regional importance
Stock of space	> 7 million sq m	> 2 million sq m	< 2 million sq m
Turnover rate	> 150,000 sq m	> 35,000 sq m	< 35,000 sq m

4.3 Residential market classification

	'A' locations	'B' locations	'C' locations
General considerations	Cities with international importance	Large cities of national and regional importance	Cities of predominantly regional importance
Population growth, last 10 years	> 2.50%	> -2.50%	< -2.50%
Population growth, last three years	> 0.75%	> -0.75%	< -0.75%

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