Nordic
Credit
Rating

23 Mar. 2023

Request for Comment: Corporate Rating Methodology

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INTRODUCTION

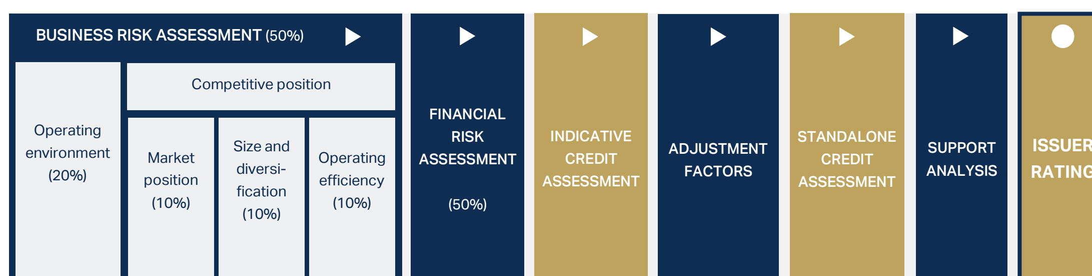
1. This methodology describes the framework within which Nordic Credit Rating AS (NCR) assigns credit ratings to corporate issuers and debt issued by rated entities. We define corporate issuers as non-financial companies, including real-estate management companies and utilities. The methodology is not applicable to project finance entities or corporate securitisations, due to the particular characteristics of those sectors and entities. Investment holding companies are rated according to our *Investment Holding Company Rating Methodology*.

2. Our corporate methodology is designed to be robust, continuous and systematic and produce ratings that are comparable between sectors and subsegments. NCR assigns long-term credit ratings on a scale comprising several categories ranging from 'AAA', reflecting the strongest credit quality, to 'D', reflecting the lowest. NCR also assigns short-term ratings, which are assigned to short-term debt instruments with a maturity of up to one year.

3. For a full explanation and definitions of NCR ratings and the rating process, see *Rating Principles*, which can be found at www.nordiccreditrating.com.

FRAMEWORK OVERVIEW

Figure 1. NCR corporate rating framework



4. Our corporate ratings are forward looking and are derived by combining fundamental business and financial risk factors, resulting in an indicative credit assessment. The indicative credit assessment may then be adjusted ("notched") up or down after taking into account factors that have not been fully considered in the business and financial risk analysis, to reach the standalone credit assessment. This includes an analysis of the company's liquidity position, its exposure to environmental, social and governance (ESG) factors, as well as peer calibration with rated entities at, or around, the same rating level. Lastly, we conduct an ownership analysis to consider the potential positive or negative aspects regarding the shareholder structure.

5. While our analysis is forward looking in nature, we start by analysing historical macroeconomic, sector and company-specific data to develop an understanding of the company's past performance. We then form our view of likely future performance of the company's business and financial risk factors, which we expect to be highly correlated with long- and short-term credit quality.

6. The business risk and financial risk assessments are generated through estimation, measurement and scoring of several subfactors, which are weighted according to a predetermined system. NCR assesses the business risk first by analysing the operating environment, which includes the sector risks to which the company is exposed. We then consider the company's competitive position within its sector, analysing its market position, operating efficiency, size, and diversification.

7. The financial risk assessment is derived by analysing forecast credit ratios, which are mapped to a risk category based on the relative strength and importance for each ratio. Our forecast is based on discussion with management as well as our analytical judgement based on our macroeconomic and

sector view, which can deviate from management's view. We then analyse the company's risk appetite to assess whether it is likely to deviate from our forecast credit metrics, for example through an aggressive financial policy.

8. The business risk and financial risk assessments are equally weighted to arrive at the indicative credit assessment. Although we use equal weights for business and financial risk to reach the indicative credit assessment, we are likely to pay more attention to financial risk and liquidity analysis if these factors are weak, as a company with a solid business assessment can be forced into default at short notice if it lacks liquidity. For example, a negative liquidity assessment would cap the standalone credit assessment at 'b-' even if the indicative credit assessment is higher, if we think an issuer is facing liquidity problems.

9. Although this methodology could be a seen as step-by-step-guide to rating corporate issuers, the final rating decision is the result of analytical judgment based on the analyst's experience and expertise, as well as the discussion and outcome of the rating committee.

10. Our rating methodology aims to describe a comprehensive forward-looking view of an entity's exposure to credit risk. However, we recognise that unexpected events could significantly impact the rating. Litigation, fraud, corporate takeovers and unexpected geopolitical events are examples of events that our framework cannot fully project and must be assessed on a case-by-case basis.

Figure 2. NCR corporate rating factors and subfactors

FACTORS	WEIGHTING	SUBFACTORS		IMPACT	SELECTED METRICS
Business risk assessment	50%	Competitive position	Operating environment	20%	Volatility Outlook Competitive pressure
			Market position	10%	Market share Brand position Technology/product advantage
			Operating efficiency	10%	Cost position Cost flexibility Profitability
			Size and diversification	10%	Revenue bases Geographic diversification Operating diversification
Financial risk assessment	50%		Ratio analysis Risk appetite	50%	Selected credit metrics Financial policy Track record
Indicative credit assessment					aa to b-
Adjustment factors					Liquidity ESG Peer comparison
Standalone credit assessment					aa to b-
Support analysis					Ownership Material credit enhancement Rating caps
Issuer rating					AAA to D

NUMERICAL SCORING OF INDICATIVE CREDIT ASSESSMENT

11. To arrive at the indicative credit assessment, we apply a scoring system of five categories, ranging from 'AA' to 'B'. Each subfactor is translated into a baseline numerical score according to the table in Figure 3. The score can be adjusted upwards or downwards to reflect the position within the category. As a result, the weighted average score will be between 1 and 14. This score is translated into an indicative credit assessment (denoted with lower case letters), according to the table in Figure 4. For example, a weighted score of 7.2 would translate into an indicative credit assessment of 'bbb'.

12. To arrive at a company's business risk assessment, we separately score the listed subfactors using the same five categories to arrive at an estimated business risk assessment.

13. To score a company's financial risk assessment we translate our base case forecast financial ratios into the corresponding score. We then analyse the company's risk appetite and its capital structure to assess whether it is in line with our financial forecast or whether it should warrant a lower or higher score.

Figure 3. Factor scoring

FACTOR ASSESSMENT	BASE SCORE	POSSIBLE SCORES
aa	1	1-2
a	4	3-5
bbb	7	6-8
bb	10	9-11
b	13	12-14

Figure 4. Indicative credit assessment conversion

FACTOR ASSESSMENT	WEIGHTED	AVERAGE	SCORE
aa	1.00	≤ x <	1.50
aa-	1.50	≤ x <	2.50
a+	2.50	≤ x <	3.50
a	3.50	≤ x <	4.50
a-	4.50	≤ x <	5.50
bbb+	5.50	≤ x <	6.50
bbb	6.50	≤ x <	7.50
bbb-	7.50	≤ x <	8.50
bb+	8.50	≤ x <	9.50
bb	9.50	≤ x <	10.50
bb-	10.50	≤ x <	11.50
b+	11.50	≤ x <	12.50
b	12.50	≤ x <	13.50
b-	13.50	≤ x ≤	14.00

14. As mentioned above, the indicative credit assessment could then be adjusted up or down several notches due to specified adjustment factors (liquidity, ESG factors, peer comparison, ownership support) to arrive at the final issuer rating.

HIGHEST AND LOWEST RATINGS

15. Our indicative credit assessment or standalone credit assessment cannot result in the highest or the lowest ratings on the rating scale. We believe that these rating levels should be reserved for entities with special characteristics and facing special situations. We therefore have specific criteria for what we expect for these rating levels (see Appendix 1).

BUSINESS RISK ASSESSMENT

Figure 5. Business risk assessment (total 50% impact on indicative credit assessment)

FACTORS	WEIGHTING	SUBFACTORS		IMPACT	SELECTED METRICS
Business risk assessment	50%		Operating environment	20%	Volatility Outlook Competitive pressure
		Competitive position	Market position	10%	Market share Brand position Technology/product advantage
			Operating efficiency	10%	Cost position Cost flexibility Profitability
			Size and diversification	10%	Revenue bases Geographic diversification Operating diversification

16. The business risk assessment comprises NCR's view of the environment in which the issuer operates, as well as the issuer's competitive position within its sector. The competitive position is our combined assessment of the issuer's market position, operating efficiency, size and diversification. The cyclicality and competitive dynamics of the sector, in combination with the issuer's competitive position within its relevant markets, are key factors for determining the potential growth, profitability and cash flow generation, and hence its ability to service its debt obligations.

17. Our business risk assessment is forward looking, based on historical observations and our view of future development for the sector and the issuer. The business risk assessment is derived by analysing four subcategories, under which we assess multiple factors specific to each industry sector and subsegment.

OPERATING ENVIRONMENT

(20% impact on indicative credit assessment)

18. An issuer's creditworthiness, its ability to generate cash flow and service debt, as well as the overall probability of default are closely linked to the sector in which it operates. Issuers in highly cyclical and competitive sectors such as shipping, commodities, and construction have historically been more likely to default than those in other, more stable sectors.

19. When assessing the operating environment, we analyse the historical and predicted sector volatility, the competitive pressure (barriers to entry, substitution risk, bargaining power of suppliers and customers) and the sector's growth prospects. Here we form our view of how a sector is likely to grow compared with the general economy over the next 10–20 years. Sectors that are expected to be in structural decline will receive a low assessment as the cumulative cash flows in the sector will decrease over time, elevating credit risk for the existing players.

20. We include our assessment of country risk in our assessment of a company's operating environment. Country risk captures the risk of having business interests in a certain country. We consider country risk in the Nordic countries to be very low for all sectors, guided by external assessments from international institutions such as the World Bank Economy Rankings. This is a supporting factor for

our operating environment assessment for companies mainly operating in the Nordic region. However, if a company has material exposure to countries that we consider to have higher-than-average risk, this will negatively affect the operating environment assessment.

Figure 6. Operating environment scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Operating environment	Very low historical and expected cyclicality. Established industry structure with positive industry dynamics. Very high barriers to entry, limiting new entrants, creating natural (or regulated) monopolies. Very low substitution risk with basically no price competition and solid industry profitability.	Low historical and expected cyclicality. Established industry structure with positive industry dynamics. High barriers to entry, and high degree of consolidation, limiting new entrants. Low substitution risk with little price competition and solid industry profitability.	Low to moderate historical and expected cyclicality. Established industry structure with positive industry dynamics, albeit correlated with general economic activity. Some barriers to entry exist, usually through technological, product and distribution advantage, with some consolidation in certain segments, creating moderate competitive pressure.	Moderate to high historical and expected cyclicality. Fragmented industry structure, demand usually highly correlated to economic activity. Low barriers to entry, and high industry rivalry, making participants mainly price-takers with little or no means, for example, to adjust prices for rises in input costs.	High or very high historical and expected cyclicality. Fragmented industry structure, demand usually highly correlated to economic activity, or declining fundamentals. Very low or non-existent barriers to entry open to entrants and substitution with high industry rivalry, making participants mainly price-takers with little or no means, for example, to adjust prices for rises in input costs.

Figure 7. Indicative sector scores

SECTOR	INDICATIVE SCORE
Regulated utilities	aa
Residential and public real estate	a
Capital goods	bbb
Commercial real estate	bbb
Business services	bbb
Construction	bb
Commodities	bb
Real-estate development	b
Shipping	b
Oil services	b

MARKET POSITION

(10% impact on indicative credit assessment)

21. A company's market position determines its ability to derive profits from the sector and is thus an important indicator of its long-term ability to generate profits and cash flows and hence of its creditworthiness.

22. Within market position, we consider a company's market share, brand reputation and technological advantage important factors. Leading companies with a history of strong market share, leading brands and preferred products tend to have the capacity and resources to be successful in competitive and/or volatile markets. However, a leading market share can deteriorate quickly if a company does not carefully manage its stakeholders. We therefore focus our analysis on the company's ability to maintain a sustainable strong market position.

Figure 8. Market position scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Market position	Leading international market positions, typically in highly consolidated, oligopolistic markets. Globally market leading brands, products and services. Very low risk of substitution, market share loss or price erosion due to very high barriers to entry (natural or regulated), technology, product and distribution leadership. Historical and expected market share gains and higher growth than peers.	Very strong international or regional market positions, typically in consolidated, oligopoly-type, markets. Strong brands, products and services. Low risk of substitution, market share loss or price erosions due to significant barriers to entry (natural or regulated), technology, product and distribution leadership. Historical and expected market share gains and higher growth than peers.	Strong market position in most product areas in markets with moderate competitive pressure due to moderate barriers to entry and substitution risk. Market share loss and price erosion can be mitigated through above average product, brand, distribution and technological know-how. Historical and expected retained market share, and higher growth than most peers in most business areas.	Average market positions in regional and local markets. Limited product, brand or technological advantage compared to competition. Some competitive advantages, but still exposed to market share loss and price erosion due to limited barriers to entry and some substitution risk.	Weak market positions in highly competitive markets, with high risk for new entrants. Very high risk of market share losses and no pricing power. Very few competitive advantages within product, brand, distribution or technology, making the company vulnerable to changes in demand, competitive environment or changes in consumer preferences.

SIZE AND DIVERSIFICATION

(10% impact on indicative credit assessment)

23. Large and well-diversified companies are generally less exposed to shifts in the fortunes of single products, markets or geographies, and are consequently more able to withstand a difficult economic environment than smaller and less diversified operators. Large companies can generate economies of scale and typically have better resources to meet competitive or economic challenges.

24. A well-diversified company will typically be less impacted by downturns in certain regions or subsegments if those regions or subsegments are exposed to different cycles and demand patterns. A company with a concentrated product portfolio or asset base will be vulnerable to fluctuations in demand and production problems, which can have immediate impact on cash flow generation.

25. While we generally think that a large size and high degree of diversification is beneficial for a company's business risk assessment, there may be cases where size is of less importance. For example, many small and medium-sized entities hold strong positions in very favourable and insulated niche segments. For such entities, this factor may be assigned a high score, even if they are relatively small.

26. We assess size by analysing the company's revenue and asset base compared with the industry, its closest competitors and global peers. For diversification, we analyse the number of production

facilities, number of product segments, and the number of customers and suppliers. Generally, we compare a company's size and degree of diversification with the industry context and within an issuer's peer group. However, achievement of the highest assessments also requires a comparison with global peers.

Figure 9. Size and diversification scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Size and diversification	Large size compared with largest global industry peers. Very well diversified globally through multiple business segments, products lines and brands. Very strong customer and contract diversification.	Large size compared with major international or largest regional peers. Strong international or regional diversification through several business segments, product lines and/or brands. Significant customer and contract diversification.	Above-average size compared with regional peers. Strong diversification in several international and regional markets within several business segments, products lines and/or brands. Solid customer and contract diversification.	Average size compared with regional or local peers. Some diversification in regional markets within different business segments, products lines and/or brands. Moderate customer and contract diversification.	Small size in a regional and local context. Limited diversification geographical and operating segment diversification. Typically dependent on one segment and geographic region, with high dependence on a few products or customers.

OPERATING EFFICIENCY

(10% impact on indicative credit assessment)

27. Operating efficiency is assessed as the issuer's ability to transform its market position, size and diversification into profits and eventually cash flow. Our analysis includes the company's cost position, cost flexibility, working capital management and its profitability.

28. A company's ability to maintain a low cost base compared with its peers enables pricing power and more flexibility when it comes to developing new products and services. A company's cost flexibility is a key factor for companies in volatile industries where demand can fluctuate significantly over the business cycle, resulting in periods of losses unless the cost base can be adapted at short notice.

29. For profitability, we analyse a company's operating margins and how these compare with those of the sector. Although the level of profitability is important, the stability of profits and margins is equally important as it can be high but very volatile for some, mainly commodity-related, industries. It is therefore important to analyse historical patterns and assess whether these are applicable for future performance as well.

Figure 10. Operating efficiency scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Operating efficiency	Superior and very stable profitability, best-in-class cost position, efficiency and sector-leading margins compared with international peers. Very strong ability to adjust to changes in demand and input costs, thus defending strong operating margins and cash flow generation with very low impact from swings in the general economy, input costs, or competitive pressure.	Strong and stable profitability, strong cost position, efficiency and strong margins compared with international and regional peers. Strong ability to adjust to changes in demand and input costs, thus defending strong operating margins and cash flow generation with low impact from swings in the general economy, inputs costs, or competitive pressure.	Above average to average profitability and cost position, efficiency and strong margins compared with most peers. Good ability to adjust to changes in demand and input costs, thus able to defend operating margins and cash flow generation with moderate impact from swings in the general economy, inputs costs, or competitive pressure.	Average to below average profitability and cost position, efficiency and margins compared with peers. Limited ability to adjust to changes in demand and input costs. Operating margins and cash flow could consequently be impacted significantly by swings in the general economy, input costs, or competitive pressure.	Volatile and weak historical and expected profitability and cash flow generation. Little or no capacity to defend profits or adjust for swings in demand or input costs.

COMPETITIVE POSITION OF REAL-ESTATE MANAGEMENT COMPANIES

Figure 11. Business risk assessment of real-estate management companies

FACTORS	WEIGHTING	SUBFACTORS		IMPACT	SELECTED METRICS
Business risk assessment	50%		Operating environment	20%	Volatility Outlook Competitive Pressure
		Competitive position	Market position, size and diversification	12.5%	Portfolio size Market and brand position Geographical diversification Tenant diversity
		Competitive position	Portfolio assessment	12.5%	Asset quality and location Average lease term Development exposure
		Competitive position	Operating efficiency	5%	Occupancy rate Profitability

30. Due to the specific characteristics of the real-estate sector, we use a different set of factors when analysing the competitive position of companies within that segment. Real-estate companies are usually more locally focused, but could still achieve a high business risk assessment on the back of strong local or regional presence, tenant diversification and market position. We also focus on analysing the company's asset quality and locations, occupancy rates, and lease structures. In addition, we assess the exposure and quality of the issuer's development portfolio. Typically, higher exposure to development projects results in a lower competitive position assessment, although we acknowledge that risk exposure can vary widely among different development portfolios.

Figure 12. Business risk subfactor scoring guidelines for real-estate management companies

SUBFACTORS	aa	a	bbb	bb	b
Market position, size and diversification	Leading market position internationally. Operating in several geographical regions. Vast tenant diversification (location and industry exposure), top 10 tenants account for less than 10% of leasable area or revenues.	Leading regional market position. Operating in several regions. Strong tenant diversification (location and industry exposure), top 10 tenants account for less than 15% of leasable area or revenues.	Above-average market position regionally. Solid tenant diversification (location and industry exposure), top 10 tenants account for less than 20% of leasable area or revenues.	Average market positions regionally or locally. Moderate tenant diversification, top 10 tenants account for less than 50% of leasable area or revenues.	Weak market positions regionally or locally. Limited tenant diversification. Top 10 tenants account for more than 50% of leasable area or revenues.
Portfolio assessment	Very strong, high-quality assets in tier 1 locations. Long average remaining lease term (more than 7 years). Development pipeline <5% of gross assets and very low risk exposure.	Strong, high-quality assets in mainly tier 1 locations. Long average remaining lease term (more than 5 years). Development pipeline <7.5% of gross assets and low risk.	Solid assets in tier 1 and tier 2 locations. Average remaining lease term (more than 3 years). Development pipeline <10% of gross assets and generally low risk.	Mainly tier 2 locations. Average remaining lease term (more than 2 years). Development pipeline <15% of gross assets with some speculative elements.	Mainly tier 2 or tier 3 locations, short average remaining leases. Development pipeline >15% of gross assets and largely speculative.
Operating efficiency	EBITDA margin above 75%. Occupancy rate > 95%.	EBITDA margin above 65%. Occupancy rate > 95%.	EBITDA margin above 55%. Occupancy rate > 90%.	EBITDA margin above 50%. Occupancy rate > 80%.	EBITDA margin below 50%. Occupancy rate < 80%.

FINANCIAL RISK ASSESSMENT

(50% impact on indicative credit assessment)

31. While the business risk assessment is a measure of the strength and sustainability of an issuer's overall business franchise, market position and growth prospects, it is ultimately a company's cash flow that services debt obligations. Although a strong business risk typically is correlated with strong cash flow and a healthy balance sheet, this is not always the case. Large, profitable, industrial companies can be highly capital-intensive, reducing free cash flow generation and debt service capacity significantly. Similarly, some highly cash generative companies may carry high levels of debt, due to its shareholders' financial policy decisions. This will limit financial and strategic flexibility, which can ultimately affect the company's business position and overall creditworthiness.

32. Our analysis of a company's financial risk assessment starts with ratio analysis, in which we analyse an issuer's historical and forecast credit metrics. We produce a base-case forecast of the issuer's financial performance for the coming three to five years to form a view of its future financial risk. We base our forecast on our view of macroeconomic, industry and company-specific factors. We engage in a dialogue with the issuer's management to understand its financial plans and key assumptions of future performance. We do not accept an issuer's financial budgets and issuing plans as certain, but include them as we make our own projections and incorporate predictable future events where appropriate. This process may include access to confidential information, which we will use internally and may rely on as inputs for our forecast, although we will not disclose it to the market.

33. To gain a more complete picture of an issuer's financial risk, we also analyse and assess issuer risk appetite and capital structure. A company with historically strong credit metrics could, for example, change strategy to become more shareholder friendly, paying out higher dividends, or engage in acquisitions, which could quickly increase leverage and eventually result in deteriorating credit ratios. Our view of risk appetite and capital structure also influence our forecasts. Our overall assessment of financial risk is to a large extent influenced by analytical judgment and qualitative measures, and therefore does not rely solely on ratio analysis.

RATIO GUIDELINES

34. Our financial forecast results in a set of credit ratios which we believe are strong indicators of an issuer's exposure to financial risk and overall credit quality. The most frequently used credit ratios are described in Figure 13 and Figure 14 along with guidance for each category. For further definition and explanation of credit ratios and adjustment, see Appendix 2. We consider debt to EBITDA and funds from operations (FFO) to debt as the most relevant ratios for assessing the ongoing financial risk of a corporate entity. However, our assessment of financial risk is based on a combination of ratios, which could differ somewhat between industry sectors and rating category levels. We place greater importance on free cash flow ratios for vulnerable entities. There might also be situations where additional ratios may be relevant for a fair assessment of financial risk.

35. The ratio guidelines below should be viewed as such and not as absolute ranges. For issuers with a strong business risk assessment in very stable sectors, we may allow somewhat less stringent ratios for a certain score than those indicated in the table. Due to the defensive characteristics of the real-estate sector, we have identified a somewhat different set of ratios that we think are more suitable for assessing financial risk than those of an industrial entity.

Figure 13. General corporates financial ratio scoring guidelines

	aa	a	bbb	bb	b
Debt to EBITDA (x)	< 1.5	1.5 – 2.0	2.0 – 3.0	3.0 – 4.0	> 4.0
FFO to debt (%)	> 60	60 – 45	45 – 30	30 – 15	< 15
FOCF to debt (%)	> 40	40 – 25	25 –15	15 – 5	< 5
EBITDA to net interest (x)	> 15	15 –10	10 – 6	6 – 3	< 3

Figure 14. Real-estate management financial ratio scoring guidelines

	aa	a	bbb	bb	b
Loan to value (%)	< 20	20 – 35	35 – 50	50 – 60	> 60
EBITDA to net interest (x)	> 5.0	5.0 – 3.5	3.5 – 2.2	2.2 – 1.5	< 1.5
Debt to EBITDA (x)	< 3.5	3.5 – 5.0	5.0 – 7.0	7.0 – 9.0	> 9.0

FINANCIAL ADJUSTMENTS

36. The aim of our ratio analysis is to fully capture a company's exposure to financial risks. The financial analysis is based on reported financial statements. We adjust reported financials to reflect underlying economic conditions and enhance comparability among entities in the same sector. While most companies in our coverage report under International Financial Reporting Standards (IFRS), differences in interpretation and optionality under accounting rules can result in different outcomes for the same underlying risks. We apply transparent adjustments that are applicable to the vast majority of Nordic companies. We recognise that there might be special situations that are not described below and the committee can always consider ad-hoc adjustments where these are applicable.

37. Debt adjustments:

    - Surplus cash: we generally deduct a company's full cash position, apart from any portion of cash that is not freely available (e.g. cash trapped in a project or high-risk country).
    - Pensions: we add any unfunded pension deficit.
    - Operating lease commitments: we add the net present value of non-cancellable operating lease commitments. If available, we use the lease rate paid by the issuer for its operating leases as the discount rate, otherwise we apply a standardised discount rate of 6%.
    - Hybrid debt instruments (including preferred stock and shareholder loans): we can assign 0%, 50%, or 100% equity treatment to hybrids depending on our assessment of an instrument's deferability, subordination and permanence.
    - Other items: we may add to debt any other debt-like obligations such as factoring, capitalised interest, asset retirement obligations, captive finance activity, and financial guarantees.

38. EBITDA adjustments:

    - Operating lease cost: we add back the yearly operating lease cost to EBITDA.
    - Non-recurring items: we adjust for one-off items, positive or negative, that we believe are non-recurring and not a part of ongoing operations.
    - Dividends received: we add to EBITDA any dividends received from associates and joint ventures.

RISK APPETITE

39. Our analysis of risk appetite includes assessing an issuer's financial policy, its track record, and capital structure.

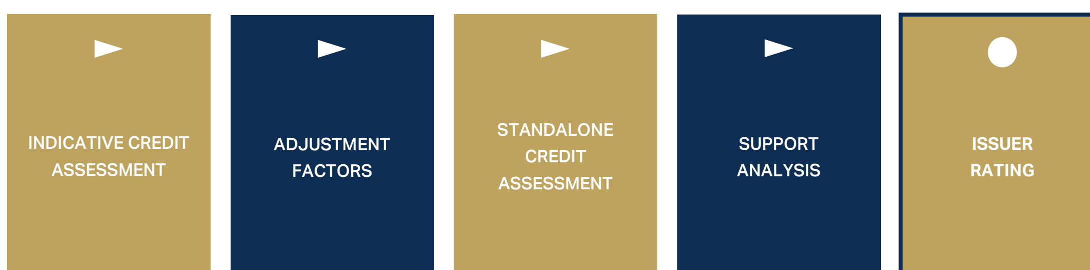
40. While our ratio analysis indicates NCR's base case projections for the near to medium term, just as important is a thorough assessment of a corporate entity's risk appetite. NCR's view is that management's risk appetite dictates the long-term financial risk of a company and provides a more thorough forward-looking view of financial risk than a purely quantitative assessment of a set of ratios. A highly growth-oriented company might, for example, regularly engage in acquisitions, although the exact timing and amounts spent may be almost impossible to assess. Such a company might consequently display financial ratios that do not fully reflect its ultimate risk appetite. If we conclude that a company's risk appetite is more aggressive than indicated by the level of our forecasted credit metrics, we may adjust the financial risk score downwards to reflect this. For example, if our ratio analysis indicates that a company will perform in line with a 'bb' financial risk assessment but we think its risk appetite is in line with a 'b' financial risk assessment, our assessment will take this into account and score the financial risk assessment 'b'.

41. We believe a company's financial policy dictates its risk appetite. We consider the transparency and comprehensiveness of the stated financial policy and how well it has been communicated to the market. We analyse the company's views on leverage levels, shareholder remuneration, funding alternatives, debt maturity schedule, liquidity management, acquisitions and divestments, and hedging policies. We also analyse its track record with regard to its previously stated financial policy in order to assess its credibility.

42. For capital structure, we assess whether there is an element in a company's balance sheet not fully captured in our ratio analysis. For example, a company might have a short debt maturity profile of less than 1.5 years, indicating high reliability on short-term funding. This can lead to a negative adjustment of the financial risk assessment unless we consider that this is temporary. There might also be positive elements in a company's capital structure, such as a non-core asset that can easily be disposed of and whose proceeds would be used for debt repayment, resulting in a positive adjustment of the financial risk assessment.

ADJUSTMENT FACTORS AND SUPPORT

Figure 15. The path from indicative credit assessment to issuer rating



LIQUIDITY ANALYSIS

43. A company's liquidity position is an important component of financial risk across the rating spectrum. An otherwise healthy company with a lack of liquidity can trigger a default situation at short notice. As a result, a company's liquidity position is measured on an absolute basis rather than relative to its industry context. We consider quantitative as well as qualitative factors for this factor.

44. We measure a company's liquidity position over a 12-month horizon. The analysis considers how well a company can cover its future liquidity commitments using internal sources of liquidity. We expect a

company rated in the investment-grade area ('BBB-' and above) to cover all liquidity needs with limited need for external funding over the next 12 months. As liquidity sources, we take into account freely available cash at hand, marketable securities, access to committed bank facilities, operational cash generation under a stress scenario (generally 75% of our base case projections), and any other potential cash sources. As liquidity commitments, we include short-term debt maturities not covered by long-term back-up lines of credit, committed capital expenditures, dividend payments under a stress scenario, and other cash commitments such as contracted acquisitions.

45. We acknowledge that a relatively strong banking sector, close banking relationships, and a sophisticated commercial paper market have all contributed to relatively short debt maturity profiles for Nordic companies compared with those in other markets. We therefore consider that a purely quantitative assessment of a company's liquidity position can misstate the real liquidity risk. As a result, we analyse a company's relationship and track record with its main banks closely. A superior and long-term relationship with a highly creditworthy bank can mitigate a high reliance on short-term funding, in our view. We also consider the company's access to the debt capital markets, as well as its previous track record in managing its liquidity position during times of market stress.

46. A shortage of liquidity amplifies default risk, in our view, and will be immediately reflected in the rating. If an entity consistently operates with a liquidity shortage (i.e. high reliance on short-term funding), has relatively weak standing in the credit markets and an absence of strong banking relationships, the rating will be 'B-' or below. We make no distinction in the rating between a satisfactory liquidity position and a very strong liquidity position as this is primarily reflected in the financial risk assessment.

Figure 16. Impact from liquidity assessment

ASSESSMENT	DESCRIPTION	IMPACT
Adequate	Liquidity commitments are generally covered through internal liquidity sources. Any shortage is mitigated through strong banking relationships and a solid track record of market funding.	No effect
Negative	Liquidity commitments are not covered through internal liquidity sources and a material shortage is projected. The issuer has average or weak banking relationships and mixed track record from the capital markets.	Standalone credit assessment is capped at 'b-'

ENVIRONMENTAL, SOCIAL AND GOVERNANCE ASSESSMENT (ESG)

47. A company's ability to manage its ESG risk in a satisfactory manner is an increasingly important topic in the investment community, especially in the Nordic region. Many market participants hold a view that a company must not only deliver financial performance but also show how it makes a positive contribution to society as a whole. A company that does not treat the environment, its employees or suppliers fairly might lose its social license to operate, have a deteriorating market share, or experience a decline in profitability that would ultimately lead to lower credit quality. NCR therefore considers an adequate ESG assessment as a necessary requirement for sustainable, long-term business development.

48. We assess an entity's exposure to ESG factors as part of a holistic approach looking at a wide variety of elements. The assessment of whether an issuer warrants a negative score is based on whether we can assess with confidence that an issuer is negatively exposed to several of the ESG elements listed below. We compare an entity's exposure to, and management of, ESG matters with its closest peers in order

to consider industry standards and to avoid double-counting any factors that have already been considered in our business risk assessment. We will therefore not automatically apply a negative ESG assessment for entities within industries that emit high levels of greenhouse gases, as this will have already been factored in earlier on in our analysis.

49. An above-average ESG assessment does not mitigate structural weaknesses in a business or financial assessment, but it does contribute to the protection of an already strong credit profile. For this reason, our ESG assessment has either a neutral or a negative impact on the final rating.

Figure 17. ESG assessment factors

FACTORS THAT MAY SIGNAL NEGATIVE ESG ASSESSMENT	
Environmental	• Higher-than-average greenhouse gas emissions for the industry • Unsustainable land and energy use • High degree of water contamination
Social	• History of labour issues and disregard of trade unions • Conflicts with local communities, e.g. over land use • Ongoing disputes with tax authorities • Regular negative media coverage • Community and social impact
Governance	• Lack of transparency • Highly complex ownership and legal structure • High levels of senior management turnover • Unbalanced management compensation • Concentrated board structure • Regular legal or regulatory interventions • Opaque financial reporting • Lack of internal controls and a history of control issues • A track record of underperformance

Figure 18. Impact from ESG assessment

ASSESSMENT	DESCRIPTION	IMPACT
Adequate	There are no significant ESG issues	No effect
Negative	There are significant concerns relating to ESG issues that could impair the company's credit quality over the long term	Minus one notch

PEER CALIBRATION

50. Peer calibration can raise or lower the rating by one notch to arrive at the final standalone credit assessment. We expect this factor to be applied regularly in order to differentiate between entities within the same industry with similar, but not identical, characteristics. We may also consider this factor when there are other uncertainties, for example for entities that have special characteristics or are going through a transitional period that could either support or constrain their credit quality.

SUPPORT ANALYSIS

51. NCR's support analysis assesses an entity's ownership structure and other material credit enhancement that are not already reflected in the standalone credit assessment. A company's ownership can have a pronounced impact on its credit quality. Strong owners will be highly likely to provide support to important entities and/or have a track record of supporting the rated entity during financial distress. Conversely, weak owners may be viewed as negative.

52. The principles for assessing and notching for ownership support are defined by our *Group and Government Support Methodology*.

RATING INDIVIDUAL DEBT INSTRUMENTS

53. While the long-term issuer rating is our assessment of an issuer's overall capability to meet its financial obligations, issue ratings rank different debt instruments relative to each other, considering the recovery prospects for debtholders in the event of default.

54. Ratings on individual long-term debt instruments can be higher or lower than the issuer rating, depending on their position in the capital structure and our expectations of recovery prospects in a restructuring process following default. Typically, issues would be notched up if the debt is well secured and debtholders could expect substantial recovery in insolvency. Conversely, they would be notched down if the debt is subordinated, contractually or structurally, to prior-ranking debt, reducing debtholders' recovery prospects. The issue ratings are reviewed when actual developments vary from expectations, for example when there is a material change in an issuer's capital structure that is expected to be sustained over a prolonged period. Changes in issue ratings do not necessarily follow changes in the issuer rating if a change in the issuer's overall credit quality is offset by a change in recovery prospects.

55. NCR's approach for assigning issue ratings focuses on simplicity and transparency. Our notching guidelines differ between issuers with long-term issuer ratings of 'BB-' and above, and issuers with long-term issuer ratings of 'B+' and below. This is because we find it especially relevant to assess recovery prospects in detail for entities further down the rating scale where default is more likely.

56. Our approach for assigning issue ratings to issuers rated 'BB-' and above is based on a set of principles (see Figure 19). Instrument ratings for issuers rated 'B+' or below are based on the outcome of a recovery analysis (see Figure 20). The guidelines are intended to be applied in conjunction with analytical judgement, which can result in deviations if there are specific features that might impact recovery prospects.

Figure 19. Notching guidelines for issuers rated 'BB-' and above

DEBT TYPE	NOTCHING GUIDELINES
Contractually or structurally subordinated debt (secured or unsecured debt)	At least one notch below the issuer rating
Secured debt	Typically rated equal to the issuer rating for investment grade issuers. 'BB+' issuers may receive up to a one-notch uplift on the issuer rating. 'BB' and 'BB-' issuers may receive up to a two-notch uplift on the issuer rating.
Unsecured debt	Typically rated equal to the issuer rating if gross secured debt to EBITDA is below 2.0x, or one notch below the issuer rating if gross secured debt to EBITDA exceeds 2.0x.
Unsecured debt (real-estate management and investment holding companies)	Typically rated equal to the issuer rating if gross secured LTV is below 40%, or one notch below the issuer rating if gross secured LTV exceeds 40%.
Subordinated debt (such as hybrids)	Generally two notches below the issuer rating

57. For issuers with an issuer rating in the 'BB' category, we might consider secured debtholders' recovery prospects to be stronger than reflected in the issuer rating due to material or high recovery prospects (see Figure 20). Where relevant, we may apply a one-notch uplift to secured instruments of 'BB+' issuers and a two-notch uplift for 'BB' and 'BB-' issuers. Notching of unsecured instruments for other asset-heavy sectors (such as utilities and shipping) could differ from the guidelines in Figure 19 if there are qualities that might impact the recovery prospects of debt instruments. Our assessment could consider the issuer's pool of unencumbered assets and asset quality, which could have a strong impact on recovery prospects.

58. Our recovery analysis for issuers rated 'B+' and below does not attempt to predict specific recovery values, which would involve knowing the exact asset mix and values at a point well into the future. Instead, the analysis is based on broad guidelines that attempt to signal the potential severity of loss for specific instruments in a default scenario. To calculate the recovery value, we firstly determine whether the business should be valued as a going concern or based on its potential value at liquidation. The choice of approach depends on which outcome we believe to be the more likely from a debt restructuring process, which is typically the option that can bring bondholders the highest value. The liquidation value approach is usually used in asset-heavy sectors, such as real estate and utilities.

59. If the business is valued as a going concern, we calculate its enterprise value by multiplying estimated EBITDA at default with an EBITDA multiple that we believe is relevant to the sector, in the current phase of the business cycle, and in the expected market environment at the hypothetical time of default. Consequently, the EBITDA multiple used in the valuation can be substantially lower than that of the overall sector in a benign market.

60. If we base the enterprise value on its liquidation value, we do a sum-of-the-parts calculation, which involves valuing the company's assets. We typically stress the asset values to simulate an expected market environment at the hypothetical time of default. The haircut used depends on, among other

things, the severity of assumed market turbulence, asset type, location and quality of assets, and liquidity.

61. After determining the enterprise value, we typically deduct a 5% administration cost from the value to simulate the often substantial costs associated with a restructuring. We then distribute the value to debtholders based on a waterfall approach according to the debt instruments' relative ranking. Lastly, we notch the specific debt instruments according to their expected recovery prospects, as described in Figure 20.

Figure 20. Notching guidelines for debt instruments issued by issuers rated 'B+' and below

RECOVERY DESCRIPTION	EXPECTED RECOVERY PROSPECTS	NOTCHING GUIDELINES
Material recovery	Over 90%	+ 2
High recovery	70–90%	+ 1
Average recovery	30–70%	No notching
Low recovery	10–30%	- 1
Negligible recovery	Below 10%	- 2

62. For subordinated and junior debt instruments, such as hybrid debt, issued by issuers rated 'B+' or below, we typically assign a 'B-' issue rating. This reflects our expectations of negligible recovery prospects combined with the issuer's option to postpone coupon payments at its own discretion.

63. Unless characterised by the definitions of 'CCC', 'CC' and 'C' rating in Figure 22, issue ratings are floored at the 'B-' level.

SHORT-TERM DEBT RATINGS

64. The short-term rating scale and mapping between long- and short-term ratings are defined by our *Rating Principles* methodology. The short-term rating is derived from a combination of the issuer rating, the issuer's long- and short-term credit quality, and the issuer's liquidity profile.

APPENDIX 1: HIGHEST AND LOWEST RATINGS

Figure 21. Definitions of highest ratings

HIGHEST POSSIBLE RATINGS	
AAA	'AAA' is the highest possible rating and indicates extremely strong credit quality. This rating level is reserved for entities with extremely strong credit characteristics, with the entity expected to have very low sensitivity to external events in the long term. In practice, we expect there to be extremely few, if any, corporate entities that could qualify for this rating.
AA+	'AA+' is the second-highest rating and indicates very high credit quality and very low default risk over the long term. While we expect this rating to be very rare among corporates, it could be reached by an entity with extremely strong business risk characteristics and very low financial risk or by an entity that is very closely aligned with a government and could expect financial support in a distress scenario under almost all circumstances.

Figure 22. Definitions of lowest ratings

LOWEST POSSIBLE RATINGS	
CCC	'CCC' is assigned in specific scenarios if we assess that a corporate is distressed to the extent that its capital structure is unsustainable. The 'CCC' rating will be relevant if we think there is a strong likelihood of a conventional default or a distressed exchange, although it might not materialise within the next 12 months. At the 'CCC' level, the issuer might have liquidity to meet short-term obligations but poor operating prospects raise doubts over the long-term sustainability of the financial situation.
CC	We assign the 'CC' issuer rating if we think it highly likely that the company will default in the near term, i.e., within the next 12 months.
C	We assign the 'C' issuer rating if an issuer has announced that it will default on its debt, but the default has not yet materialised. This can be the case if an issuer has announced a distressed debt exchange that has yet to take place.

APPENDIX 2: FINANCIAL DEFINITIONS

Figure 23. Definitions of credit metrics

KEY CREDIT METRICS	DEFINITION	EXPLANATION
FFO/debt	Funds from operations to debt	Key credit metric. Based on the underlying, long-term cash flow generation capability of an issuer, it is a good measure of an issuer's ability to service debt in the medium to long term. Used more frequently for investment-grade issuers ('BBB-' and above).
Debt/EBITDA	Debt to EBITDA	Key credit metric. Used as an indicator of an issuer's underlying debt service capability. More frequently used for non-investment-grade issuers ('BB+' and below).
EBITDA/net interest	Interest coverage ratio	Simple, transparent and easily comparable ratio, mainly used for non-investment-grade issuers. Widely used in loan documentation and useful as a differentiator in the lower range of the rating scale.
Loan to value (LTV)	Debt to value of tangible assets	The most commonly used credit metric for real-estate management companies. Widely used and reported in the real-estate sector. Good differentiator when comparing similar issuers.
FOCF/debt	Free operating cash flow to debt	More frequently used for weaker issuers as the free cash flow is typically weaker and more volatile, making the issuer even more dependent on free cash flow to service debt.
DCF/debt	Cash flow after dividends to debt	Supplementary ratio captures an issuer's risk appetite, as there could be little cash flow left after investments and dividends to service debt maturities.
EBITDA/revenues	EBITDA margin	The most common profitability measure in credit analysis. Indicative of an issuer's underlying profitability. Can be distorted, but to a lesser degree than EBIT measures, for example.
EBIT/revenues	Operating profit margin	Widely used profitability measure in all financial analysis. Good as a supplement as it is widely used by corporates globally, despite it possibly being relatively easily distorted by accounting differences.

Figure 24. Definitions of financial measures

KEY MEASURES	DEFINITION	EXPLANATION
Debt	Reported financial debt less surplus cash plus present value of operating leases plus pension provisions plus hybrid capital plus other potential debt-like adjustments.	A measure of an issuers total interest-bearing debt and debt-like obligations.
EBITDA	Earnings before interest, taxes, depreciation, and amortisation, plus operating lease cost plus dividends received from associates and joint ventures., including other potential noncurrent adjustments.	Good and widely used measure of a company's underlying profit.
EBIT	Earnings before interest and tax.	The most widely used measure of operating profitability used in financial reporting and analysis. Often distorted by accounting issues.
Net interest	Interest expense (including non-cash interest such as payment-in-kind interest) less interest income, including adjustments.	Interest expense associated with debt and debt-like obligations. Captures an issuer's total interest cost.
Funds from operations (FFO)	EBITDA less net interest and current tax expense, including adjustments.	Measures underlying cash flow generation, before changes in working capital. Good measure of long-term cash generation capability, as it is not distorted by swings in working capital and capital expenditures.
Free operating cash flow (FOCF)	FFO +/– changes in working capital less capital expenditures, including adjustments.	Gives a more complete picture of the cash flow left for debt service, including swings in working capital and capital expenditures. Often more critical for weaker issuers.
Discretionary cash flow (DCF)	FOCF less dividends.	Gives a good measure of the issuer's financial policy and shareholder friendliness.

APPENDIX 3: DATA SOURCES

65. Our analysis of corporate issuers includes all available public disclosures of the rated entity as well as select confidential information related to risk governance, forecasting, strategy and other areas of interest to the credit assessment that are provided to NCR as part of our ongoing surveillance of each entity.

66. NCR also uses various public data sources in its market and macroeconomic analyses, including (but not limited to) national and regional statistical bureaus, the European Central Bank, national central bank and supervisory authorities' analyses, and commonly used asset price indices. International sources, such as the Organisation for Economic Co-operation and Development (OECD), Eurostat or similar data providers providing reliable and comparable cross-border macroeconomic data, are used. Furthermore, NCR considers the views, projections and analytical reports of other market participants in its market oversight and surveillance.

67. NCR also keeps abreast of market data and developing trends associated with credit spreads, asset pricing, market capitalisation and similar using market-standard data aggregation services.

NORDIC CREDIT RATING AS

OSLO
Ruseløkkveien 34
0251 Oslo
Norway
www.nordiccreditrating.com
post@nordiccreditrating.com

STOCKHOLM
Norrlandsgatan 10
111 43 Stockholm
Sweden

For questions or comments regarding our methodologies, please use:
criteria@nordiccreditrating.com.

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