Nordic
Credit
Rating

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Financial Institutions Rating Methodology

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INTRODUCTION

1. Our financial institutions methodology describes the framework within which Nordic Credit Rating AS (NCR) assigns credit ratings to financial institutions, as well as debt issued by rated entities. We define financial institutions as prudentially regulated banks and non-bank credit institutions with similar characteristics. Non-bank credit institutions face similar regulatory scrutiny as their bank counterparts, with the main differentiation associated with the lack of a banking license for receiving deposits from the public.

2. The methodology is designed to be robust, continuous and systematic, and consequently produce ratings that are relevant and comparable with other assigned NCR ratings, as outlined in *Rating Principles*. 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 definition of NCR ratings and the rating process, see *Rating Principles*, which can be found at www.nordiccreditrating.com.

FRAMEWORK OVERVIEW

Figure 1. NCR financial institutions rating framework

4. Our financial institutions ratings are forward-looking assessments that incorporate macroeconomic conditions, key risk appetite strategies and management, competitive position, and key earnings and loss performance indicators. Together, these qualitative and quantitative analyses result in an indicative credit assessment. The indicative credit assessment can be "notched" up or down, taking into account adjustment factors. These are primarily due to peer comparisons with rated entities at similar rating levels, but they also reflect material risks, transitions or market impacts not otherwise captured in the indicative credit assessment. Lastly, we review the support structure for the rated entity, whether material credit-enhancing partner alliances or the credit implications of the shareholder structure, and if required, we apply necessary rating caps.

5. Our forward-looking assessment is supported by analysing historical macroeconomic, sector-specific and entity-specific data to which we add our own projections for the entity for each of the key components of the rating, based on informed discussions with the entity, authorities and relevant market participants. It is necessary to use a combination of macroeconomic factors and institution-specific analysis of risk appetite and performance as a basis for evaluating a financial institution's ability to honour its obligations. The assessment of financial performance is based on publicly available and audited accounts, with NCR insofar as possible relying on the issuer's auditors for the correctness and accuracy of financial data. In addition, NCR requests further information from management where needed.

6. The primary rating components are assessed by estimating, measuring or qualitatively scoring material subfactors, which are then weighted according to a pre-set system. Importantly, the final rating decision is the result of analytical judgment applied to each subfactor and rating component as decided in a formal rating committee.

7. NCR uses macroeconomic indicators and indicators of a sovereign's strength and flexibility to capture the cyclical nature of financial services' operating environments and the importance of strong and stable institutions, often reflected at the national level. While the focus tends to be on key national measures, we also consider the global economic cycle and, where relevant, NCR considers an institution's regional and macro-linked sectoral concentrations and/or cross-border risk levels where they materially differ from the national assessment.

8. The focus of our financial institutions analysis is on an entity's risk appetite framework and the decisions taken by management that affect an institutions' ability to weather economic cycles and periods of entity-specific stress without material deterioration of its solvency, funding and/or liquidity position. Key components of an institution's risk appetite framework are the entity's capital position and associated buffers to regulatory intervention, a fit-for-purpose and balanced funding profile, material liquidity buffers and a robust risk management framework for key risks, of which credit risk and related concentrations are often the most significant.

9. NCR also believes that an institution's market position plays a material role in its ability to affect the market in which it operates. Key institutions in a given market may have increased pricing power and material influence that can support their ability to perform in line with their risk appetite without simply following the whims of the market or growing excessively to improve scale. We note, however, that being large is not always a recipe for success when markets are volatile or when being large equates to higher complexity or involvement in riskier areas of financial services. In this assessment, we also aim to consider regional positioning, the importance of a given sector and/or standing within a banking or financial services alliance, which may provide a smaller institution with some of the benefits of market-leading banks in terms of pricing, products, influence and shared costs.

10. Finally, we review how a particular institution has performed and is expected to perform, given its risk appetite decisions, its balance sheet structure, the macroeconomic outlook and its market positioning. The key focus areas for this assessment are an institution's earnings and loss performance – factors with material influence on an institution's ability to repay its creditors. Earnings indicators provide feedback and input to whether a given strategy and risk appetite is generating sufficient capital, fulfilling ownership's return expectations and/or providing a strong first line of defence for future downturns with stable risk-adjusted returns and cost efficiency. Loss performance indicators can provide insight into whether management's risk appetite has been successful in containing material losses due to credit loss provisions, asset revaluations, non-performing loans or other one-off impacts.

Figure 2. NCR financial institutions rating factors and subfactors

FACTORS	WEIGHTING	SUBFACTORS	IMPACT	SELECTED METRICS
Operating environment	20%	National Factors	0–20%	Sovereign strength Macroeconomic factors International cycle status
		Regional, cross border, sector specifics	0–20%	Regional specifics Cross border specifics Sectoral specifics
Risk appetite	50%	Capital	17.5%	Regulatory capital & buffers Capital strategy Additional loss absorption
		Funding & liquidity	15%	Fit-for-purpose funding sources Funding structure Liquidity buffers
		Risk management	17.5%	Risk governance Credit risk Market risk Other risks
Competitive position	15%	Market position	15%	Market shares in key businesses Business diversity Regional or sectoral roles Growth & pricing strategy
Performance indicators	15%	Earnings	7.5%	Revenue stability Cost efficiency Risk-adjusted return
		Loss performance	7.5%	Provision performance Non-performing loans Loss reserves
Indicative credit assessment				aa to b-
Adjustment factors				Peer comparisons Transitions Borderline assessments
Standalone credit assessment				aa to b-
Support				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 determine an initial assessment from 'AA' to 'B' for each of the factors and subfactors in Figure 2, following the guidelines described in this methodology document. Each assessment is associated with a base score according to Figure 3 below, with lower scores for 'AA' risks growing to reflect that specific risk areas can have a material impact on the likelihood of default and NCR's issuer rating. When appropriate, base scores can be calibrated upwards or downwards to reflect further granularity for a given subcategory based on peer comparisons or other important differentiators.

12. The weighted average score based on the factor weighting described in Figure 4 will be between 1 and 14 and translated into an indicative credit assessment (denoted with lower-case letters) according to Figure 4. For example, a weighted score of 7.2 would translate into an indicative credit assessment of 'bbb'.

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

13. As shown in Figure 2, the indicative credit assessment is subject to the consideration of additional factors to determine the standalone credit assessment and a support analysis to arrive at the final issuer rating.

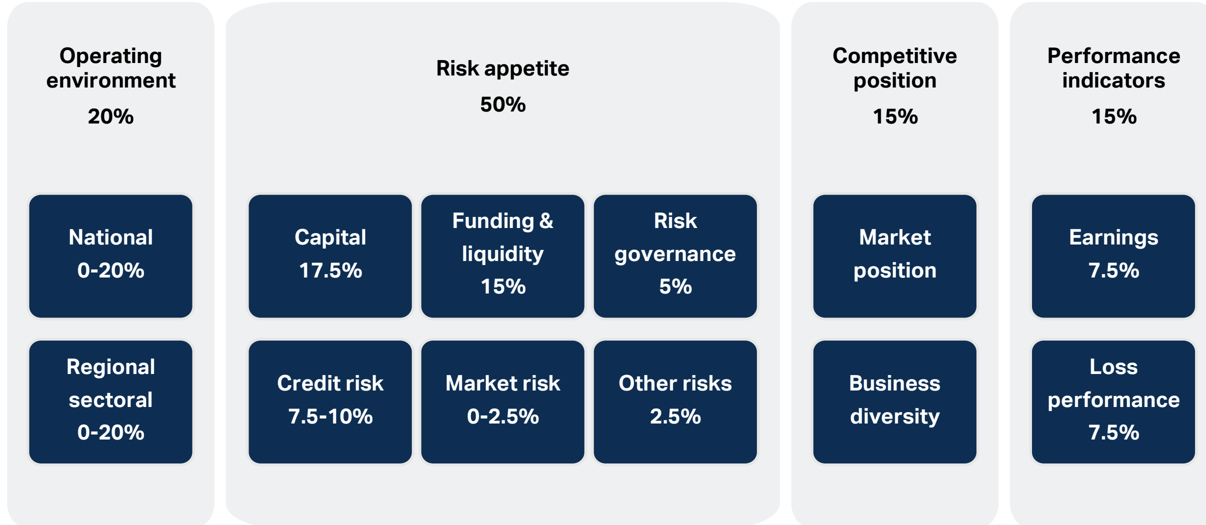
HIGHEST AND LOWEST RATINGS

14. 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 have therefore specified criteria for what we expect for these rating levels (see Appendix 1).

INDICATIVE CREDIT ASSESSMENT COMPONENTS

15. The following is a description of the key components of NCR's indicative credit assessment of financial institutions. The score for the primary factors and subfactors are affected by subfactor scores, which combine to reflect the entity's indicative credit assessment, with the weightings presented in Figure 5.

Figure 5. NCR financial institutions indicative credit assessment categories and subfactors



OPERATING ENVIRONMENT

16. As intermediators of capital, financial institutions are linked to the macro-economy and have a profound impact on key variables, such as economic growth, employment, and financial stability, while also being affected by the trends associated with economic cycles. In addition, financial institutions are reliant on the strength of government institutions, whether it be via regulation or the legal system, which reinforces their clients' obligation to fulfil their legal financial contracts with the institution. NCR therefore recognises that an institution's operating environment is an important component in determining the creditworthiness of a financial institution.

17. Our analysis is anchored to the creditworthiness of the sovereign, which reflects the strength and discipline of a sovereign's institutions, as well as providing an indication of key macroeconomic inputs like GDP per capita, government indebtedness and political stability. In addition, the operating environment analysis incorporates macroeconomic data that have historically served as a leading indicator of the economic cycle or emerging imbalances in an economy; output growth, credit growth in relation to GDP, real house price development and unemployment. We also consider additional factors, such as savings and interest rates and other material factors in our analysis if they mitigate or exacerbate identified trends.

18. Where relevant, the weight of the national assessment can be overwritten in 5% intervals up to 100% to incorporate inputs that affect a particular institution due to its regional or sector specificities. This would primarily be an adjustment for heightened risks not adequately captured in the national assessment. For example, a particular region could be highly susceptible to commodity prices, have fewer key industries or have a small concentration of employers, increasing the risk for an institution. When exposures are concentrated on specific sectors, such as shipping, oil services, agriculture, consumer finance or commercial real estate, key risk variables for an institution may be deemed to be riskier than indicated by national factors.

19. For entities under severe distress, the national assessment may be overwritten and set to 'b' to reflect that the performance of the entity is entirely decoupled from the national assessment.

20. For institutions with cross-border exposures there are two potential approaches. For material cross-border operations, we use a weighted average of the individual national assessments. For banks with modest cross-border exposures, generally less than 25% of household and corporate exposures, we

would calibrate the risk in a similar manner to regional or sectoral concentrations. This calibration highlights when the risks are materially different from those analysed at national level.

Figure 6. Operating environment factors

FACTORS	WEIGHTING	SUBFACTORS	IMPACT	SELECTED METRICS
Operating environment	20%	National factors	0–20%	Sovereign strength Macroeconomic factors International cycle status
		Regional, cross border, sector specifics	0–20%	Regional specifics Cross border specifics Sectoral specifics

NATIONAL FACTORS

(0–20% impact on indicative credit assessment)

21. Institutional strength, a stable macroeconomic environment and available stable funding are important cornerstones for a stable banking industry.

22. First, our view of a bank's operating environment considers NCR's credit assessment of the relevant sovereign according to our *Sovereign Credit Assessment Methodology*, which is heavily impacted by the strength of the institutions in a given country. Our sovereign credit analysis combines factors such as political strength, fiscal responsibility, monetary policy, current account position and GDP per capita. We believe that a creditworthy sovereign with strong opportunities to provide liquidity support, fiscal stimulus and with a track record of stability provides an optimal support infrastructure for a financial institution.

23. Next, we review historical and forecast macroeconomic data in order to reflect economic growth, trends in private-sector credit and real house prices, as well as material shifts in unemployment. We also consider additional macroeconomic variables, such as savings and interest rates in our analysis if they mitigate or exacerbate identified trends.

24. We also consider the availability of stable funding markets and the development of the loan book in relation to available stable funding. The definition of stable funding sources may differ by market, but generally includes retail and corporate deposits as well as established and liquid domestic covered bond markets.

25. For material cross-border operations, typically more than 25% of an institution's private-sector credit exposure, we apply a private-sector exposure-weighted average of the material countries' macroeconomic assessments.

Figure 7. National scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Sovereign strength	NCR's sovereign credit assessment is 'AA-' or higher.	NCR's sovereign credit assessment is in the 'A' category.	NCR's sovereign credit assessment is in the 'BBB' category.	NCR's sovereign credit assessment is in the 'BB' category.	NCR's sovereign credit assessment is in the 'B' category or lower.
Output growth	Output growth is stable, in line with or slightly higher than its recent mean, and outlook indicates few barriers for continued growth.	Output growth is stable, in line with or slightly below its recent mean, and outlook indicates future predictability is high.	Output growth is volatile, but remains positive with a low risk of future declines.	Output growth is volatile or declining slowly due to structural concerns or international weakness.	Output growth is declining rapidly and material uncertainty exists about future growth prospects.
Credit growth – increasing trend	Private sector credit has demonstrated stable growth, has grown in recent years and is expected to continue to grow in line with GDP.	Private sector credit has grown moderately faster than GDP but maintains a consistent trend.	Private sector credit growth is somewhat above trend levels and is expected to continue to outpace GDP growth.	Private sector credit growth is accelerating above trend levels and is expected to continue to outpace GDP growth.	Private sector credit is decoupled from GDP growth and exhibits signs of overheating.
Credit growth – declining trend	Private sector credit has demonstrated stable growth, has grown in recent years and is expected to continue to grow in line with GDP.	Private sector credit is temporarily not keeping pace with GDP, potentially due to moderate deleveraging.	Private sector credit is not expected to keep pace with GDP due to material deleveraging.	Private sector credit is not expected to keep pace with GDP due to significant deleveraging in the wake of a financial crisis.	Private sector credit is declining faster than GDP due to a lack of access to financing or other structural factors.
House prices – increasing trend	Three-year real house price development has been stable and is largely due to growth in disposable income and other fundamental factors.	Three-year real house price appreciation is moderately ahead of disposable income growth but is expected to maintain a stable trend.	Three-year real house price appreciation is above trend levels or volatile and is expected to continue to outpace fundamentals.	Three-year real house price appreciation is accelerating above trend levels or is rather volatile, and is considered a potential concern for	Three-year real house price appreciation is well above trend levels or exceptionally volatile and the current pace of growth is a material concern for

SUBFACTORS	aa	a	bbb	bb	b
				financial stability.	financial stability.
House prices – declining trend	Three-year real house price development has been stable and is largely due to growth in disposable income and other fundamental factors.	Three-year real house prices have declined but are expected to maintain a stable trend or stabilise.	Three-year real house price declines are expected to continue a steady but material decline.	Three-year real house prices have declined, and further deterioration is considered a potential concern for financial stability.	Three-year real house price declines are material or the current pace of declining prices is a material concern for financial stability.
Unemployment	Unemployment levels are expected to remain stable and low by historical and international comparison.	Unemployment levels are slightly elevated from historical levels, but remain stable and low by international comparison.	Unemployment levels are rising, but remain at or below international levels.	Unemployment levels are somewhat above historical and international averages and rising due to structural changes.	Unemployment levels are rising quickly and are above historical and international averages and rising due to structural changes or crisis.
Monetary financial institution (MFI) loans vs stable funding sources	Available stable funding exceeds MFI private sector loans, even when taking account of material stress to less stable deposits and capital markets funding.	Available stable funding exceeds MFI private sector loans in most foreseeable market conditions.	Available stable funding is slightly below MFI private sector loans, but expected to be stable in most foreseeable market conditions.	Available stable funding is below MFI private sector loans and declining due to excessive wholesale-financed credit expansion.	Available stable funding is declining rapidly as a share of MFI loans due to material stresses in the financial markets.

SUBFACTORS	aa	a	bbb	bb	b
International cycle	Global growth prospects are stable and strong. There is an absence of significant fiscal or monetary stimulus. Asset prices, including major equity, bond and/or real-estate indices are typically neither correcting, nor at or near peak levels.	Global growth prospects are stable. Asset prices are typically neither correcting nor at or near peak levels.	Global growth prospects are stable or improving, but potentially supported by significant fiscal or monetary stimulus. Asset prices could be correcting or at or near peak levels.	Global growth prospects are weakening. Asset prices are typically correcting or at or near peak levels.	Global growth prospects are weak due to a significant financial crisis. Asset prices are suffering a material correction.

REGIONAL, SECTORAL AND CROSS-BORDER FACTORS

(0–20% impact on indicative credit assessment)

26. While all regulated financial institutions in a country are affected by national factors or sovereign institutions and policies, some institutions may have particular sensitivities associated with a given region or sector concentration due to fluctuations in commodity prices, key single-name employers or exposures, and/or regional differences in key macroeconomic factors. In addition, issuers with modest cross-border exposures may face material differences in the level of the associated macroeconomic risks due to features of other banking sectors.

27. The analysis of regional and/or sectoral sensitivities is a qualitative assessment of whether a regional or sectoral focus presents specific external risks or higher inherent volatility than determined based on a national assessment alone. In many countries, national statistics are driven by large metropolitan areas often drowning out the regional impacts that could be significant for a particular financial institution. This analysis considers whether industry or single-name concentrations, or reliance on volatile industries, results in a higher-risk operating environment for issuers within the same country.

28. Similarly, this analysis considers whether a financial institution has material overweighting towards sectors that could be performing or expected to perform in a manner not entirely reflected in a national analysis of the operating environment. Typically, this adjustment would apply to issuers with a material overweighting in volatile industries affected by globally determined prices, such as shipping, oil and offshore services, and some segments of agriculture or the seafood industry. In addition, this adjustment could be used to reflect higher risk associated with consumer finance lending or commercial real estate, which could be expected to have more volatile reactions to economic cycles than a more diversified loan book of prime residential mortgage and diversified corporate exposures.

29. For modest cross-border operations, typically less than 25% of an institution's public-sector credit exposure, we use this factor to highlight positive or negative differences in credit quality from the domestic national assessment. It could be that cross-border exposures are rather immaterial or are not considered to have materially different risk levels than those determined by the combined national, regional or sectoral assessment. In such cases, we may not make any cross-border adjustments.

Figure 8. Regional, sectoral and cross-border scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Regional factors	N/A	Regions with material importance and influence on the national economy and material sector and economic diversity. Typically linked with major metropolitan areas.	Regions with modest importance to the national economy and some industrial concentrations. Typically medium-sized or university cities.	Regions with low industrial diversity, but with stable economic prospects and diverse regional employment.	Regions without significant industrial diversity or reliant on few key employers. Local industries are particularly vulnerable to future change.
Sectoral factors	N/A	Sectoral concentration on modestly volatile segments such as diversified agricultural segments, infrastructure and pharmaceuticals.	Sectoral concentration on segments with history of losses and volatility exceeding a diversified national portfolio. For example, consumer finance, manufacturing, capital goods and commercial real estate.	Sectoral concentration on historically volatile segments or industries driven by globally determined pricing. For example, construction and real-estate development commodities, shipping, offshore and oil services.	Sectoral concentration on historically volatile segments driven by globally determined pricing which are currently under material stress.
Cross-border exposures	Cross-border exposures are compatible with a national assessment of 'aa' level banking sector risk.	Cross-border exposures are compatible with a national assessment of 'a' level banking sector risk.	Cross-border exposures are compatible with a national assessment of 'bbb' level banking sector risk.	Cross-border exposures are compatible with a national assessment of 'bb' level banking sector risk.	Cross-border exposures are compatible with a national assessment of 'b' level banking sector risk.

30. Depending on the materiality of the risk or share of an issuer's exposures, the combination of regional, sectoral and cross-border risk factors can make up 0% to 100% of the operating environment assessment as described in Figure 9, with 0% reflecting no material differences from the national assessment and 100% reflecting that an institution's operating environment is completely decoupled from national factors.

Figure 9. Guidelines for the share of regional, sectoral and cross-border adjustments in the competitive environment assessment

SUBFACTORS	0%	25%	50%	75%	100%
Regional, sectoral and cross-border factors	Broad national exposures well reflected in national factor assessment. Immaterial or similar risk in cross-border exposures.	Up to 25% exposures are deemed to be aligned with regional or sectoral risk variables. Typically used for institutions with some higher-risk regional or sector concentrations, or cross-border exposures.	Around 50% exposures are deemed to be aligned with regional or sectoral risk variables. Typically used for relatively small regional institutions or those with some sector concentrations.	Around 75% of exposures are deemed to be aligned with regional or sectoral risk variables. Typically used for small, local institutions or monoline lenders.	An institution's operating environment is completely decoupled from national factors, or affected by idiosyncratic stress. Also possible for very small, local institutions or niche lenders.

RISK APPETITE

31. The most influential factor in our financial institutions assessment is the entity's risk appetite framework and management's decisions about capitalisation, funding profile, liquidity buffers and risk-taking that affect an institution's ability to survive economic downturns and periods of entity-specific stress without defaulting on senior obligations or facing regulatory intervention.

32. Since the implementation of the Internal Capital Adequacy Assessment Process (ICAAP) and Internal Liquidity Adequacy Assessment Process (ILAAP), decisions around financial institutions' risk appetite are increasingly ingrained into all operational levels. Executive managers and board members are aware of the importance of fulfilling regulatory capital, liquidity and funding requirements, and ensure that buffers are in place to mitigate constantly changing economic and funding markets. In addition, key board level decisions about risk appetite often guide specific outcomes and risk-taking capacity in credit committees, on trading desks and in online and offline customer interaction.

33. While risk appetite comprises 50% of an institution's indicative credit assessment, it is itself comprises three subcategories; capital, funding and liquidity and risk management. Risk management is split further into four categories of risk that are assessed individually; risk governance, credit risk, market risk and other risks (such as operational, legal or regulatory risks).

Figure 10. Risk appetite subfactors and impact on indicative credit assessment

FACTORS	WEIGHTING	SUBFACTORS	IMPACT	SELECTED METRICS
Risk appetite	50%	Capital	17.5%	Regulatory capital & buffers Capital strategy Additional loss absorption
		Funding & liquidity	15%	Fit-for-purpose funding sources Funding structure Liquidity buffers
		Risk management	5%	Risk governance
			7.5–10%	Credit risk
			0–2.5%	Market risk
			2.5%	Other risks

34. Taken together, the risk appetite assessment considers the current and future status of a financial institution's balance sheet and the risk-based decision-making that has steered it to its present status and is guiding it towards its near-term future composition. NCR aims to make a forward-looking assessment of an institution's risk appetite and in order to do so we discuss management's future targets, budgets, growth objectives and market dynamics without ignoring the complexities and risks associated with achieving set targets. We do not accept an institution's financial budgets and issuing plans as certain, but incorporate them as we make our own projections and incorporate predictable future events where appropriate.

CAPITAL

(17.5% impact on indicative credit assessment)

35. A financial institution's capital position and available buffers before reaching minimum regulatory requirements are vital for absorbing unexpected losses due to risks on its balance sheet and for maintaining investor and regulatory confidence. Furthermore, the more risk-based capital requirements are intertwined in internal decision-making, the more reflective underwriting is of the non-linear nature of an institution's risk profile. Finally, the strategy for distributing capital to shareholders and composition of the capital base can provide more or less capital flexibility than reflected purely in risk-based regulatory capital measures.

36. There are several available measures of financial institutions' capital levels, none more important than the regulatory measure for the common equity Tier 1 (CET1) ratio, a ratio of core capital to the regulatory risk-weighted assets (RWA) or risk exposure amount (REA). Aside from the buffer provided by ongoing earnings, CET1 capital is the primary loss-absorbing capital, affected directly by changes in the valuation of assets and liabilities. NCR's capital assessment focuses on the regulatory CET1 ratio because it reflects the primary focus of market participants, investors and regulators and is the most sensitive measure to changes in capitalisation associated with earnings volatility, changes in the balance sheet and an institution's capital policy.

37. A significant drawback of regulatory capital measures is the lack of comparability in the calculation of the denominator (RWA/REA) between institutions that employ internal ratings-based (IRB) capital

models and those that use less sensitive, but generally more conservative, standardised capital models. Furthermore, the measurement and implementation of RWA may differ between countries due to national discretion that is available as part of current and future regulatory capital requirement regulation (CRR) and the Capital Requirement Directive (CRD). These factors may lead to different RWAs for identical exposures. As a result, in addition to its primary focus on regulatory capital ratios, NCR also considers estimates of regulatory capital ratios using the standardised method for RWA and adjusts for differences in regulatory capital floors and risk weights to increase the comparability of individual banks.

38. Given differences in RWA calculations and national buffer requirements, CET1 ratios are considered nominally as well as in relation to an institution's regulatory capital requirements. For example, one institution may have larger buffers before reaching its regulatory minimum requirements than another with a higher nominal CET1 ratio. NCR's capital assessment therefore evaluates CET1 ratios and the distance and vulnerability of an institution to breaching its regulatory requirements.

39. Figure 11 shows initial scoring guidelines considering regulatory CET1 ratios and the distance to regulatory capital requirements. The guidance is indicative of issuers using standardised RWA models for credit risk and is calibrated to IRB model users, if appropriate, to reflect the regulatory CET1 ratio and capital requirements.

Figure 11. Capital scoring initial scoring guidelines *

SUBFACTORS	aa	a	bbb	bb	b
Capital ratios	Capitalisation and flexibility are exceptional in comparison with regional peers. The regulatory CET1 ratio is typically 22% or higher. Distance to minimum CET1 requirements is usually higher than 6%.	Capitalisation and flexibility are strong or above average in comparison with regional peers. The regulatory CET1 ratio is typically around 18%. Distance to minimum CET1 requirements is usually higher than 5%.	Capitalisation and flexibility are average in comparison with regional peers. The regulatory CET1 ratio is typically around 15%. Distance to minimum CET1 requirements is usually higher than 4%.	Capitalisation and flexibility are below average in comparison with regional peers. The regulatory CET1 ratio is typically around 12%. Distance to minimum CET1 requirements is usually higher than 3%.	Capitalisation and flexibility are weak in comparison with regional peers. The regulatory CET1 ratio is weak, uncertain or deteriorating. Distance to minimum CET1 requirements is usually less than 3%.

* The guideline ratios above may be adjusted to reflect differences in national capital regimes and RWA calculations as described above.

40. In addition to CET1, hybrid capital instruments can provide additional protection to senior creditors. In its capital assessment, NCR considers the value of full or partial loss absorbency from additional Tier 1 (AT1) and Tier 2 capital instruments that can be written off or converted to equity on a going-concern basis. These instruments typically have write-down or conversion at a predetermined CET1 ratio of 7% or higher. While coupon deferral on AT1 instruments can be meaningful for an institution in distress, NCR does not consider this as material ex-ante loss absorption in the absence of an automatic going-concern conversion or write-down mechanism.

41. NCR also considers whether sizeable buffers of accrued dividends, bail-in-able AT1 (without going-concern capital triggers) and Tier 2 capital instruments are available to absorb losses prior to and for the benefit of senior unsecured bond holders. We believe that any possible rating impact of such buffers is likely to be relevant at lower rating levels, where the use of such instruments for loss absorption is more relevant and the assessment of the magnitude of potential protection for senior creditors is more tangible.

42. In NCR's opinion, risk-weighted capital measures provide more valuable insight than unweighted leverage ratios, but strong leverage ratios can support our assessment. Where regulatory leverage ratios are an at-risk capital constraint, the distance to regulatory requirements could negatively affect our view of capital.

43. In institutions that are part of a group, capitalisation is generally assessed at the consolidated group level. Where relevant, NCR considers the standalone capitalisation of significant legal entities to evaluate potential restrictions in the fungibility of capital within a group.

FUNDING AND LIQUIDITY

(15% impact on indicative credit assessment)

44. Funding and liquidity decisions are the lifeblood of financial institutions and vital for their continuing survival. When funding sources or liquidity buffers are inadequate or volatile, financial institutions can quickly become dependent on contingency financing or lenders of last resort for emergency liquidity.

45. NCR's assessment of funding and liquidity considers many variables that combine to describe a financial institution's preparedness for the expected and unexpected. We focus on three key areas; the management of asset and liability maturity mismatches, the reliability and fit-for-purpose diversity of funding sources and the available liquidity buffers for when the unforeseen occurs.

46. Our assessment of an institution's asset and liability management (ALM) focuses on the maturity and currency structure of assets and liabilities, as well as the appropriateness of inflation-linked or other structured financing, where relevant. In this assessment we consider each type of asset on the balance sheet – liquid and illiquid, long-term and short-term, marked-to-market and amortised cost – and evaluate the appropriateness of the duration, granularity and reliability of the financing. As an increasing share of institutions prepare for the implementation of the net stable funding ratio (NSFR) and present their NSFR ratios externally and consider them in their internal risk frameworks, we intend to include the NSFR in our evaluation of an institution's maturity profile and an entity's adherence to any current or forthcoming regulatory NSFR requirements.

47. Our assessment also considers the fit-for-purpose diversity and reliance of funding sources. NCR does not adhere to an absolute ranking on financing sources. Instead, it evaluates the merits of stable and small, diversified customer deposits, liquid and reliable covered bond markets and diversified senior and subordinated bond financing in relation to the nature of the assets. We also consider contingency plans and evaluate the risk associated with a temporary loss of access to seemingly reliable funding or price-sensitive customer deposits.

48. Our liquidity analysis considers the strength of existing liquidity buffers and liquidity risk management within an institution's risk appetite. Key to the evaluation are reviews of an institution's stress testing, refinancing concentrations, limit setting and diversification of liquid resources. While the regulatory liquidity coverage ratio (LCR) can provide an historic point-in-time snapshot and is an

important regulatory requirement, the 30-day measure has little value as a predictor of future liquidity. For this purpose, we consider the share of liquid assets in the balance sheet compared with a longer-term view of vulnerable or maturing liabilities and note an institution's internal policy for maintaining buffers to regulatory minimum liquidity requirements in their risk appetite framework.

49. In general, financial institutions have made considerable improvements as a result of regulatory focus and increased investor scrutiny and it is expected that the average bank in a market should be scored in the 'a' category when stable funding sources are reliable. However, when access to capital markets is limited for a specific issuer and deposit financing is losing or has lost its reliability, the funding and liquidity assessment of the institution is a 'b'. Given the grave situation for such an institution, we could cap the issuer rating for a financial institution in such a situation at 'BB', assuming that emergency assistance has stabilised the financing of the institution over the near term, or at 'B' if the financing situation has not stabilised.

Figure 12. Funding and liquidity scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Funding and liquidity	Some feature of ALM, funding profile or liquidity buffers is deemed exceptionally low-risk compared with regional peers. Risk appetite includes material buffers to regulatory LCR and NSFR requirements.	ALM, funding profile and liquidity buffers are similar to domestic or regional market averages and access to capital markets and primary funding sources in adequate. Risk appetite includes material buffers to regulatory LCR and NSFR requirements.	Some feature of ALM, funding profile or liquidity buffers is deemed weaker, more concentrated or less appropriate for the asset mix than regional peers. Risk appetite includes material buffers to regulatory LCR and NSFR requirements.	Multiple features of ALM, funding profile or liquidity buffers are deemed weaker, more concentrated or less appropriate for the asset mix than regional peers. Buffers to regulatory LCR and NSFR requirements are minimal.	Access to capital markets is limited and deposits are losing reliability. An issuer may need or be using emergency liquidity assistance provided by the relevant authorities.

RISK MANAGEMENT

50. In addition to capital and funding and liquidity management, NCR considers the management, measurement and mitigation of specific risks, risk concentrations and the overall risk governance of a financial institution in its assessment of an institution's risk appetite.

51. The assessment of risk management is broken down into four subfactors; risk governance, credit risk, market risk and other risks (such as operational, legal or regulatory risks). Risk governance is NCR's perception of the importance and degree to which risk culture is embedded in a financial institution. Key determinants for this are the strength and adequacy of internal and external reporting, internal pricing and capital allocation models, and the adherence and perceived rigidity of an institution's risk appetite framework.

52. At the specific risk level, most financial institutions are dominated by credit risk, credit risk concentrations and counterparty risks, whereas the impact of market risk can vary widely depending on an entity's complexity. NCR has attempted to highlight this by adding a higher emphasis on an entity's credit risk assessment when market risks are deemed negligible. Finally, the last subfactor

incorporates our view of other risks, which could be driven by different key risk factors for different banks, but tends to be focused on operational, reputational, legal, cyber and/or regulatory risk.

Figure 13. Risk management subfactors

FACTORS	WEIGHTING	SUBFACTORS	IMPACT	SELECTED METRICS
Risk appetite	50%	Capital	17.5%	Regulatory capital & buffers Capital strategy Additional loss absorption
		Funding & liquidity	15%	Fit-for-purpose funding sources Funding structure Liquidity buffers
		Risk management	5%	Risk governance
			7.5–10%	Credit risk
			0–2.5%	Market risk
			2.5%	Other risks

RISK GOVERNANCE

(5% impact on indicative credit assessment)

53. The degree to which risk culture is embedded in a financial institution's decision-making can be a key determinant of whether an institution is prepared to weather a macroeconomic or idiosyncratic downturn. An institution where top-level management decisions and limit setting drive decision-making, pricing and behaviour throughout the firm, via a transparent and well-defined risk appetite and governance framework, is better positioned to avoid risk pitfalls and respond quickly to a deteriorating operating environment.

54. NCR reviews each financial institution's risk appetite framework in light of the Financial Stability Board's (FSB) *Principles for an Effective Risk Appetite Framework* of 18 November 2013. The FSB presents the expectations for a robust risk appetite framework with clearly defined risk limits and specific expectations for the board, management and internal auditors' roles and responsibilities.

55. As specified by the FSB, a risk appetite framework should be “aligned with the business plan, strategy development, capital planning and compensation schemes of the financial institution.” Management should be well rehearsed in the risks undertaken by the financial institution and ambassadors of the risk management framework within the organisation and with external stakeholders.

56. The framework should consider all material risks and define clear limits and statements of risk appetite within which management can guide the institution's business strategy. We would expect to see that an effective risk appetite framework is conducted as an iterative and ongoing process, including and encouraging dialogue throughout the institution to achieve sufficient involvement and ownership.

57. We expect the risk appetite to include a combination of qualitative statements as well as quantitative measures expressed relative to earnings, capital, risk measures, liquidity and other relevant areas, as appropriate. A thorough risk framework should also address hard-to-quantify risks, such as reputational and conduct risks, cyber risks, corporate responsibility, money laundering and corruption.

58. Risk appetite frameworks may take different forms depending on the size and complexity of the institution. In complex financial groups it may be relevant to discuss enterprise risk management systems, while in smaller institutions the exposure to different types of risks may be more limited. Therefore, NCR applies a certain proportionality in its analysis of a given firm's degree of sophistication. However, NCR expects management to have identified and quantified its risk tolerance and put in place adequate risk management, controlling and reporting for all relevant risk regardless of size and complexity.

Figure 14. Risk governance scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Risk governance	The risk appetite framework and risk governance are perceived to be exceptional compared with regional peers. Risk resources are proportionate and adequate given the risk profile.	The risk appetite framework and risk governance are perceived to be similar to regional peers. Risk resources are proportionate and adequate given the risk profile.	Some feature of risk appetite framework and risk governance is deemed weak or less appropriate for the risk profile than regional peers. Risk resources are proportionate and adequate given the risk profile.	Multiple features of risk appetite framework and risk governance are deemed weak or less appropriate for the risk profile than regional peers. Risk resources may not be proportionate nor adequate given the risk profile.	Material weaknesses in risk governance exist. Risk resources are not proportionate nor adequate given the risk profile.

CREDIT RISK

(7.5–10% impact on indicative credit assessment)

59. For a majority of monetary financial institutions, the dominant credit risks are those associated with their clients' ability to repay their debts or the valuation of associated collateral. While a large portion of a financial institution's assets comprise principal values of loans granted, only a small portion of these exposures can be absorbed by loss-absorbing capital resources before regulatory intervention or default. Credit risk management, concentration and underwriting practices are therefore essential to financial institutions' credit quality.

60. Credit risk permeates our analysis of financial institutions, as it usually constitutes the most material risks taken. However, NCR's credit risk appetite assessment focuses on a financial institution's concentrations or material diversification, lending growth strategy and underwriting, along with loan book collateralisation levels and type. Our evaluation does not provide a score for each component of credit risk, but rather takes a holistic approach to evaluate how strengths and weaknesses in the credit profile are mitigated, diversified or compounded when consolidated. The analysis of credit risk as part of the risk appetite is a forward-looking view of credit risk strengths and weaknesses as opposed to our baseline expectations for credit losses or non-performing loans or appropriate capitalisation of measured credit risks, which are considered elsewhere.

61. Credit risk concentrations are an important consideration, given that highly correlated assets can deteriorate simultaneously and reduce the benefits of an otherwise diversified credit portfolio. NCR focuses on three forms of credit risk concentration:

- Large, single-name(s) or linked counterparty exposures (typically via lending, guarantees or derivative counterparties) that represent a material portion of a financial institution's CET1 and can result in significant unexpected deterioration of the capital position.
- Specific industry concentrations where many corporate counterparties or associated collateral values may be affected simultaneously by changes in the macroeconomic environment, market trends or other factors.
- Regional concentrations where corporate and household counterparties could have strong correlations due to local factors such as reliance on significant local employers, demographic changes or a lack of industrial diversification.

62. Conversely, some financial institutions can benefit from being well diversified nationally or internationally. NCR believes that the synergies of diversification are more important than diversification for its own sake. We therefore believe a diversification or cross-border strategy that does not operate in silos is of more value than one of disparate business lines or geographies.

63. Strategic decisions to undertake excessive lending growth are often precursors to eventual credit losses. In particular, where loan growth is significantly in excess of market levels and with unrelated, lesser-known customer segments. NCR aims to differentiate instances where moderately higher-than-market growth is part of a long-term strategy in compatible markets or segments, with instances where growth strategies are driven by reducing underwriting standards, undercutting market pricing or increasing risk appetite. NCR evaluates growth in the form of acquisitions on a case-by-case basis.

64. While customer quality is the first step in avoiding unwanted credit losses, the level of collateralisation in the loan book can be a key differentiator in terms of capital impact of non-performing customers. NCR evaluates the strength of the existing collateral and, where possible, compares a firm's loan-to-value (LTV) ratios and collateral value vulnerability with peers.

Figure 15. Credit risk scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Credit risk concentrations	The credit risk profile is exceptionally diversified across sectors, geographies and counterparties.	The credit risk profile is nationally diversified or somewhat concentrated on sectors that are well aligned with national risk factors, such as prime mortgage lending. Single-name exposures are immaterial.	Some credit concentrations exist, but risks associated with single-name exposures are immaterial or of high credit quality. Industry and/or sectoral concentrations are inherent in the business model or regional profile, but are deemed to have diverse credit risk drivers.	Credit concentrations are a key weakness, but risks associated with single-name exposures are of high credit quality. Other material concentrations are inherent in regional activities.	Significant credit concentrations are a material risk for solvency, in particular associated with large single-name exposures or material concentrations to weak and volatile industries.
Lending growth and underwriting	Lending growth is not materially higher than national averages on aggregate or for major exposure classes. Strong underwriting standards and customer selectivity are prevailing characteristics of the credit risk appetite.	Lending growth is in line with national averages on aggregate and for major exposure classes and contained within an entity's core business areas. Underwriting standards are deemed to be adequate.	Lending growth is somewhat above national averages on aggregate and for major exposure classes or in new or rapidly expanding segments or geographies. Underwriting standards are deemed to be adequate.	Lending growth is at or near twice the national average on aggregate and for major exposure classes. A large portion of growth is in new or higher-risk segments or geographies. Underwriting standards are weakening to accommodate growth or higher revenues.	Lending growth is more than twice the national average on aggregate and for major exposure classes. A majority of growth is in new or higher-risk segments or geographies. Underwriting standards are perceived to be weaker than regional standards.

Collateralisation	Asset risk is materially reduced due to exceptionally low LTVs and relatively liquid collateral when compared with regional peers.	A majority of lending assets are secured by market-consistent LTVs and relatively liquid collateral when compared with regional peers.	A majority of lending assets are secured by higher-than-market LTVs and/or less-liquid collateral than regional peers.	A meaningful proportion of assets are unsecured and recent loss experience demonstrates low recovery prospects.	A large majority of assets are unsecured and recent loss experience demonstrates low recovery prospects.

MARKET RISK

(0–2.5% impact on indicative credit assessment)

65. An institution's trading, investment and foreign exchange risks are a material part of its risk appetite and limit setting. In addition, banks may face additional risks associated due to unhedged equity and interest rate risks in their banking books.

66. NCR focuses on an institution's limit setting and use of available limits to determine the risk appetite for key aspects of market risk associated with its trading and banking book positions. We expect to rely on regulatory capital requirements for market risk to provide insight into the magnitude of risks associated with the trading book and banking book, including listed and unlisted equity positions. We anticipate that the revised market risk requirements resulting from Basel's fundamental review of the trading book, including minimum standards for internal models and a revised standardised approach, should improve market risk comparability between institutions.

67. In addition to reviewing regulatory measurements and risk limits, we consider the downside risks of pension liabilities, concentrated public and private equity positions, risks for recapitalisation needs of insurance companies and the share of illiquid marked-to-model financial assets (level 3).

68. We consider the materiality of market risk exposures for a given institution, using a scale in line with the European Commission definitions of small trading books (less than 5% of a total assets), medium-sized trading books (less than 10% of total assets) and larger trading books. When trading books are immaterial and foreign exchange and investment risks are deemed minimal, supported by very low regulatory capital requirements for market risk in proportion to credit risk, we may elect to reduce the impact of market risk from 5% to 0% and increase the focus on credit risk from 15% to 20% of the risk appetite. Contrarily, where market risks are particularly high for an institution, this could negatively affect our view of risk governance as well as our assessment of other risks.

Figure 16. Market risk scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Market risk	Market risks are a material share of RWA, but are maintained by stringent risk limits restricting earnings volatility and downside risks to capital.	Market risks are a material share of RWA and market-related activities are an important component of core earnings and result in occasional earnings volatility. Risk limits are well defined and market risks not captured by regulatory measures are limited.	Market risks are a material share of RWA and market-related activities are an important component of core earnings and result in some quarterly earnings volatility. Risk limits are well defined and market risks not captured by regulatory measures represent additional risk compared with peers.	Market risks represent a larger share of RWA than most regional peers and market-related activities are a key driver of core earnings volatility. Risk limits are well defined, but set limits are less stringent than peers. Specific market risks not captured by regulatory measures represent materially higher risk than peers.	Market risks are a large share of RWA or significant market risks are not captured by regulatory measurement. Market-related activities are a key driver of core earnings volatility. Breaches or increases in risk limits to accommodate higher risk are common.

OTHER RISKS

(2.5% impact on indicative credit assessment)

69. Other risks are a collection of additional risks that could adversely affect financial institutions. The typical risks not considered elsewhere in the analysis are a cluster, including operational, reputational, legal, cyber, strategic, money laundering, business and regulatory risk. While typically less appropriate for model-based measurement, they remain prominent risks for senior management and internal compliance functions and can materially derail or distract successful financial institutions from achieving strategic targets.

70. NCR's evaluation of other risks gathers information from various sources. Regulatory and legal filings, specific punishments for misconduct, news reports, market-derived signals, punitive and institution-specific regulatory add-ons, customer evaluation surveys, compensation for mis-selling, instances of fraud and/or material security breaches which result in confidential data release, unauthorised transfers of funds or significant downtime for online services.

71. In general, less complex financial institutions have fewer concerns associated with other risks than large complex institutions, which have a higher volume of overall and cross-border transactions, programmes for overseeing the conduct of thousands or employees, or have a history of regulatory and legal breaches and misconduct. However, small institutions may have material key employee risk, specific instances of reputational turmoil can be spurred by local media and word of mouth, and cyber criminals may focus on less complex institutions perceived to have less robust data security. These risks are impossible to predict before they occur, and NCR is often limited in its ability to evaluate the robustness of internal protections against low-frequency, high-severity risks.

Figure 17. Other risks scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Other risks	Other risks are deemed to be exceptionally low compared with regional peers, due to low complexity, strong risk governance of specific risks and a benign track record.	Other risks are similar to regional peers and risk governance of specific risks is perceived to be adequate. The track record has relatively few instances of material concern.	Other risks are somewhat higher than regional peers, though risk governance of specific risks is perceived to be fair. The track record indicates some areas of concern.	Other risks are higher than regional peers, due to potentially material ongoing risks or unresolved issues with regulators or clients. Risk governance of specific risks is perceived to be fair. The track record indicates some areas of concern.	Other risks dominate the institution's risk landscape and could have unpredictable, potentially significant consequences for an institution's business prospects. Risk governance of specific risks has a recent track record of being inadequate.

COMPETITIVE POSITION

(15% impact on indicative credit assessment)

72. NCR believes that an institution's market position plays a material role in its ability to affect the market in which it operates. Market-leading institutions, domestically systemically-important banks (D-SIBS) in global terminology, in each market can have increased pricing power and material influence over a market that supports its ability to perform in line with its risk appetite. Institutions with dominant market positions in one or more key areas of retail and commercial banking, asset management, market-making, investment banking or more generally across financial services are more often able to take advantage of economies of scale, revenue diversification and brand recognition. Smaller institutions, especially those operating without the revenue, cost and product diversification afforded by financial services alliances, are often forced to adapt to product and pricing trends set by larger market participants or induced into growing excessively and adapting underwriting standards to improve their market position.

73. NCR notes that being large is not always correlated with success, particularly when markets are volatile or when being large equates to higher complexity or involvement in riskier areas of financial services. In this assessment, we also aim to consider regional positioning, importance to a given sector and/or positioning within a banking or financial services alliance, which may provide a smaller institution some of the benefits of market-leading banks with respect to diversified product offerings, pricing, influence and shared costs.

74. Cross-border financial institutions' market positions are evaluated considering the weight of their exposures. An institution with a dominant domestic presence and a small presence and modest exposures in other geographies is typically scored in line with its domestic market position where the domestic market is a significant majority of its core earnings. Institutions with balanced cross-border exposures and core earnings in select core markets are evaluated on the basis of a weighted assessment of their market positions in those core markets.

Figure 18. Competitive position scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Market position	Dominant domestic market position with market share in retail and commercial banking typically above 10%. Cross-border market positions are either similarly dominant or complementary to a dominant national position.	Strong domestic market position with market share in retail and/or commercial banking typically around 5%, or somewhat lower with strong regional or niche franchises. Smaller institutions with dominant positions in financial alliances and significant aggregate market presence. Cross-border market positions are similar or complementary to the domestic position.	Modest domestic market share in retail and/or commercial banking of around 2.5%, but with strong regional or niche franchises. Smaller institutions with key positions within financial alliances with significant aggregate market presence. Cross-border market positions are similar or complementary to the domestic position.	Small domestic market position with market share in retail and commercial banking around 1%, but with material regional or niche franchises. Very small institutions with minor positions in large financial alliances. Cross-border market positions are similar or complementary to the domestic position.	Negligible market positions in retail and commercial banking and no association with larger financial alliances and no outstanding regional or sectoral franchise. Cross-border market positions are similar to the domestic position.
Business diversity	Revenues are well distributed across retail and commercial banking, including stable fee and commission income from diverse products, business areas or geographies.	Revenues are balanced between multiple business lines but somewhat overweight on net interest income. Stable fee and commission income from diverse products, business areas or geographies complements net interest income sources.	Revenues are focused on net interest income from retail or commercial banking or concentrated on fee or other income sources. Modest or market-dependent alternative revenues provide some revenue diversification.	Revenues are largely focused on a single business line and income type, such as net interest income, commissions or other monoline revenue streams. Examples could be an asset manager, consumer finance lender, car finance company or similar.	Revenues are concentrated on few, volatile business lines.

PERFORMANCE INDICATORS

75. While our analysis of risk appetite focuses on the strength of the balance sheet, our selected performance indicators provide insight into recent and projected capital generation and loss performance. Essentially, these indicators help NCR to assess whether an institution's financial results support or contradict our qualitative view of risk appetite.

EARNINGS

(7.5% impact on indicative credit assessment)

76. NCR aims to evaluate an institution's historical performance and ability to generate stable and healthy pre-provision earnings based on its existing and projected balance sheet and business strategy. Stable, predictable and robust pre-provision earnings are the first line of loss absorption for financial institutions, and can materially improve an entity's ability to survive fluctuations in customer activity, increases in loan impairments, revaluations of financial assets, increased financing costs and margin compression.

77. NCR's assessment of earnings comprises three underlying analyses – revenue stability, cost efficiency and risk-based pre-provision returns – all combining historical results and future projections.

78. First, we evaluate the stability of core revenues, excluding material non-recurring, one-off impacts which we consider in our loss performance analysis. Our evaluation is based on an analysis of up to five years of historical revenues that are relevant to the future business model and a forward-looking projection of revenue development, given assumptions about the future operating environment.

79. Second, we analyse an institution's cost efficiency, which we view as a key indicator of the success and viability of management's strategy when compared with peers with similar business models. We evaluate an issuer's efficiency trend associated with core revenues and costs. Material non-recurring, one-off impacts are excluded from the assessment, though longer term restructuring and information technology investments which become quasi-permanent features of the cost base are included. For institutions with exceptional cost-income ratios due to small operations or few employees, we aim to capture the efficiency benefits in the earnings analysis and the relevant risks within our market position and risk appetite assessments.

80. Finally, we evaluate an entity's risk-adjusted return by comparing core pre-provision operating profits to regulatory RWA. As described in the capital section, regulatory RWA can differ materially between banks. As a result, NCR may also consider estimates of risk-adjusted returns using an estimate of RWA using the standardised method to increase comparability of individual banks.

Figure 19. Earnings scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Revenue stability	Core revenues have exhibited exceptional stability versus regional peers due to lower structural volatility in underlying revenues than peers and are expected to continue to perform with modest fluctuation around trend levels.	Core revenues have exhibited stability in line with regional peers with minimal downside volatility, and are expected to continue to perform with moderate volatility around trend levels.	Core revenues have been somewhat more volatile than regional peers due to higher structural volatility in underlying revenues but are expected to continue to perform with similar volatility around trend levels.	Core revenues have been volatile due to higher structural volatility in underlying revenues and are expected to continue to demonstrate material volatility around trend levels.	Core revenues have exhibited exceptional volatility and are difficult to project with any certainty due to a high reliance on capital market conditions or other factors.
Cost efficiency	Core cost-to-income ratios are exceptional in comparison with those of regional peers. Typically at or below 45%.	Core cost-to-income ratios are strong in comparison with those of regional peers. Typically at or below 50%.	Core cost-to-income ratios are average in comparison with those of regional peers. Typically at or below 60%.	Core cost-to-income ratios are weaker than those of regional peers. Typically at or below 75% or are somewhat more volatile due to fixed costs and variable revenues.	Core cost-to-income ratios are weak and unpredictable. Typically above 75% or highly volatile due to a high proportion of fixed costs and variable revenues.
Risk-adjusted returns	Risk-adjusted capital generation is exceptional due to high and stable margins or a high share of low-risk, recurring revenues. Typically, pre-provision earnings are more than 3% of RWAs.	Risk-adjusted capital generation is strong or in line with regional peers, due to stable margins or low-risk, recurring revenues. Typically, pre-provision earnings are more than 2% of RWAs.	Risk-adjusted capital generation is average compared to regional peers. Typically, pre-provision earnings are more than 1.5% of RWAs.	Risk-adjusted capital generation is weaker than regional peers. Typically, pre-provision earnings are more than 1% of RWAs.	Risk-adjusted capital generation is weak and more volatile than regional peers. Typically, pre-provision earnings are below 1% of RWAs.

LOSS PERFORMANCE

(7.5% impact on indicative credit assessment)

82. A financial institution's asset quality metrics provide insight into the recent and projected success of management's risk appetite. We review up to five years of relevant loss history to assess the track record, and incorporate our forward-looking projections of asset quality and potential loss provisions over the coming years.

83. We compare an institution's asset quality metrics – loan loss provisions, accumulated reserves, problem or watch list loans, and net non-performing loans – with those of domestic and regional peers to provide perspective on the relativities of the metrics. In supportive economic conditions, loan loss provisions for most institutions can be at benign levels, which in part explains our emphasis on risk appetite and mitigation of potential downside risks. However, material variations in loss provisions for a given entity can also demonstrate differences in underwriting standards and collateralisation policies for certain institutions.

84. With the implementation of revised loss provisioning standards for financial institutions (IFRS9), comparability of historic loss provisions and provisions based on the new accounting standards will be affected and one-off adaptations will be common. Despite this, NCR aims to have a consistent view of the provisioning level over time and uses the appropriate accounting standards in its forward-looking projections.

85. We note that, by definition, existing loss reserves and non-performing loans are trailing measures of risk and reflect underwriting and collateral valuations that have been conducted or measured in the past. Furthermore, the level of reported non-performing loans may differ based on differences in days past due (NCR aims to focus on non-performing loans that are at least 90 days past due) and policies for writing off or selling non-performing loans. However, non-performing loans and associated collateral and reserves can provide insight into the risk for further provisioning of existing non-performing loans and provide insight into specific debtors or segments that have presented or are expected to present material risk concentrations. Furthermore, a review of problem or watch list exposures can reveal the risk for future increases in loss provisions and non-performing loans.

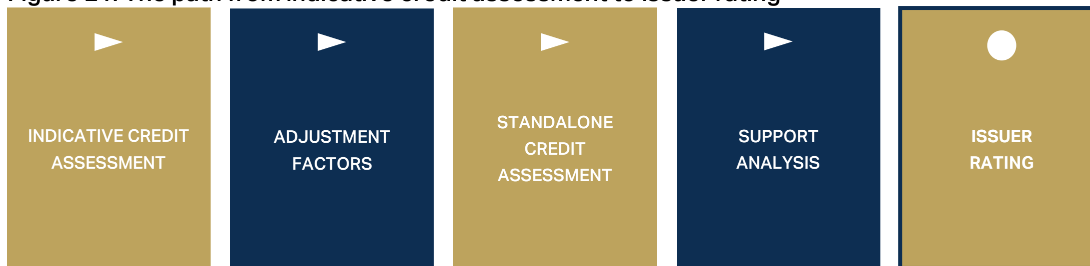
86. While we focus on credit-related asset quality, we may also adjust our view of loss provisions and/or future capital projections for material one-off write-downs of other non-credit tangible assets that can affect an issuer's capitalisation.

Figure 20. Loss performance scoring guidelines

SUBFACTORS	aa	a	bbb	bb	b
Loss performance	Asset quality metrics have been and are expected to remain exceptional when compared with those of domestic or regional peers and present immaterial risk to capital generation throughout the forecast.	Asset quality metrics have been and are expected to remain similar to those of domestic or regional peers and well covered by pre-provision operating profits throughout the forecast.	Asset quality metrics have been and are expected to remain weaker than those of domestic or regional peers but are not expected to be a significant drag on capital generation in the forecast.	Asset quality metrics are weak but have stabilised. Significant new provisions from problem loans could result in losses in the forecast.	Asset quality metrics are weak and are expected to deteriorate further. Significant new provisions have resulted in reported losses and/or are a material risk to existing capital in our projections.

ADJUSTMENT FACTORS AND SUPPORT

Figure 21. The path from indicative credit assessment to issuer rating



ADJUSTMENT FACTORS

87. NCR compares the indicative credit assessment of an institution with public issuer ratings and/or internal credit assessments of a variety of an issuer's peers to determine if any adjustments are necessary due to strengths or weaknesses excluded or inadequately captured in the indicative credit assessment. Ultimately, an issuer rating should be a relative assessment of the credit risk for an institution and in some instances the indicative credit assessment will not result in the appropriate relationship between an institution's peers. We may adjust an indicative credit assessment by a single notch up or down to reflect cases of borderline scoring or other relevant elements unearthed by the peer comparison.

88. NCR also considers whether there are transitional factors that could affect creditworthiness that are not reflected in the indicative credit assessment, which we can adjust for. If abrupt and specific concerns arise, we could use additional downside notching to ensure that we set what we deem to be the appropriate issuer rating.

89. The combination of the indicative credit assessment and any adjustment factors result in the issuer's standalone credit assessment.

SUPPORT ANALYSIS

90. NCR's support analysis assesses a financial institution's ownership structure and other material credit enhancement that are not already reflected in the standalone credit assessment. A financial

institution'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.

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

92. In light of the implementation of the Banking Recovery and Resolution Directive (BRRD) across Europe, which does not entirely prevent government support but demonstrates European Union member states' keen interest in avoiding taxpayer bailouts, NCR does not incorporate any explicit expectations of broad government support into its issuer ratings.

93. Where relevant, NCR incorporates material linkages between institutions that benefit from financial services alliances into its assessment of competitive position and expects that material cost sharing will be reflected in cost efficiency metrics and our evaluation of an institution's earnings. For an institution to receive any rating uplift from its standalone credit assessment from a financial services alliance would require materially credit-enhancing and binding agreements, such as binding loss guarantees or extraordinary capital support.

94. Our support analysis also considers whether perceived support for senior creditors is expected to accrue to subordinated debt holders. Where this is the case, the rating on the individual capital instruments will be notched from the issuer rating. Where this is not the case, the rating on the capital instruments will be notched from the standalone credit assessment.

RATING CAPS

95. NCR may feel that it is appropriate to cap an issuer rating due to material risks associated with short-term liquidity, or low or deteriorating credit quality of the sovereign or primary owner.

96. NCR does not apply rigid restrictions on issuer ratings above NCR's sovereign credit assessment or the issuer rating of the primary owner, given the potential for regulatory protections that could buffer an institution from modestly weaker owners or sovereigns. Rather, NCR evaluates each individual situation as it arises and could apply rating caps in line with, above or below NCR's credit assessment of the sovereign or NCR's rating on or credit assessment of the primary owner to reflect the specifics of each instance, in line with the principles for assessing ownership support defined in our *Group and Government Support* methodology.

97. NCR does apply hard caps to the issuer rating when access to capital markets is limited and deposit financing is losing or has lost its reliability. In these situations, we could cap the issuer rating for a financial institution at 'BB', assuming that emergency assistance has stabilised the financing of the institution over the near term, or 'B', if the financing situation has not stabilised.

RATING INDIVIDUAL DEBT INSTRUMENTS

98. NCR considers the underlying credit quality of the issuer in its notching of various instruments. As demonstrated in Figure 22, the risk of non-payment of capital instruments for highly rated entities is perceived to be very low. We therefore adapt the notching of individual debt instruments depending on the underlying credit quality and the ability of a financial institution to repay its debts.

Figure 22. Individual debt instrument notching guidelines

SACA/ICR*	A+ OR HIGHER	A/A-/BBB+	BBB/BBB-/BB+	BB OR LOWER
SACA/ICR +2		Sr. unsecured (protected**)	Sr. unsecured (protected**)	
SACA/ICR +1	Sr. unsecured (protected**)	Sr. unsecured (protected**)	Sr. unsecured (protected**)	Sr. unsecured (protected**)
SACA/ICR	Sr. unsecured/ Sr. non preferred	Sr. unsecured/ Sr. non preferred	Sr. unsecured	Sr. unsecured
SACA/ICR -1	Tier 2	Tier 2	Sr. non preferred	Sr. non preferred
SACA/ICR -2			Tier 2	
SACA/ICR -3	Additional Tier 1	Additional Tier 1		Tier 2
SACA/ICR -4			Additional Tier 1	Additional Tier 1

*The use of the standalone credit assessment (SACA) or the issuer rating (IR) as the starting point depends on the outcome of the support analysis and whether the support is expected to accrue to senior instruments as well as capital instruments.

**Protected means that senior unsecured debt is ranked high enough in the default hierarchy due to protection from existing capital buffers and senior nonpreferred or similar bail-in-able buffers. This protection is expected to be relevant for issuers that regulators expect to be subject to resolution.

99. At the highest issuer rating levels (defined in this section as 'BBB+' or higher) we do not see that the risk of an institution being resolved and senior non-preferred instruments (also known as senior resolution notes, Tier 3 instruments or 'MREL' instruments, in reference to the Minimum Requirement for own funds and Eligible Liabilities) being bailed in should be indicated by additional notching below the issuer rating (assuming that senior non-preferred instruments are eligible for support included in the issuer rating). However, for lower ratings we believe that the risk associated with senior non-preferred instruments becomes increasingly material. For instruments issued by non-operating holding companies and intended to serve a similar purpose by being bailed in in a resolution scenario, we generally apply a similar approach to issue level ratings as with senior non-preferred debt instruments. However, further consideration of whether support can accrue to such instruments may be needed.

100. For the highest issuer rating levels, we typically notch AT1 instruments three notches below the standalone credit assessment or issuer rating (depending on the support analysis) given AT1's intended role in loss absorption via coupon deferral and principal write-down or conversion to equity. For the

highest issuer rating levels, we typically notch Tier 2 capital instruments one notch below the standalone credit assessment or issuer rating to reflect the risk of these instruments being written down or subject to a distressed exchange prior to an issuer entering into a resolution or being subordinated in liquidation.

101. As with senior non-preferred, we believe that the likelihood associated with a coupon non-payment on an AT1 or write-down of an ATI or Tier 2 instrument is significantly higher for issuers with lower underlying credit quality that are more likely to face regulatory discipline. We therefore increase the notching on AT1 and Tier 2 instruments when the standalone credit assessment or issuer rating is 'BBB' or lower. And we notch Tier 2 instruments an additional notch to reflect the compression of the rating levels and exponential increases in risk at 'BB' or lower issuer ratings, and to acknowledge that the default probability of Additional Tier 1 instruments and Tier 2 instruments can be rather similar as regulator intervention approaches.

102. Finally, NCR generally expects that the issuer rating will be applied to senior unsecured debt instruments. However, we could increase the senior unsecured issue rating by up to two notches if senior unsecured creditors are deemed to have material protection during a resolution. Typically, this occurs where an institution has been assigned a regulatory MREL requirement that is adequately met by bail-in-able debt instruments and the entity is expected to be subject to resolution. As shown in Figure 22, there are diminishing benefits at 'A+' or higher issuer ratings, such that only one additional notch is possible and, contrarily, uncertainty associated with very low rating grades prohibits more than one notch of protection for 'BB' or lower issuer ratings.

103. Figure 22 only provides guidelines relevant for standard instruments of each type. Specific instrument features or differences in regulatory track record or treatment could result in additional notching compared with the guidelines when risk is perceived as higher than standard instruments or when buffers to specific capital triggers are inadequate.

104. Unless characterised by the definitions of 'CCC', 'CC' and 'C' rating in Appendix 1, issue ratings are floored at the 'B-' level.

SHORT-TERM DEBT RATINGS

105. 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

106. Our indicative credit assessments analysis cannot result in the highest or the lowest ratings on the rating scale. We believe that these rating levels are applicable to entities with special characteristics, in particular financial institutions with 100% ownership by and specific policy roles from highly rated governments or municipalities. We have therefore specified criteria for what we expect for these rating levels.

Figure 23. AAA/AA+ ratings

HIGHEST POSSIBLE RATINGS	
AAA	'AAA' is the highest possible rating and indicates extremely strong credit quality. This rating level is reserved for financial institutions with 100% government ownership and with an unquestioned likelihood of support due to their vital roles for sovereigns with 'aaa' credit assessments or local and regional governments with 'AAA' ratings or credit assessments. The default probability for such a financial institution should be deemed to be highly correlated to its sovereign or municipality owner.
AA+	'AA+' is the second-highest rating and indicates very high credit quality and minimal long-term default risk. Such a financial institution is likely to be 100% government-owned and play a vital role as described above, but for sovereigns with 'aa+' credit assessments or local and regional governments with 'AA+' ratings or credit assessments. In addition, such an entity could play an essential, but somewhat less vital, role for a sovereign or sub-sovereign entity with a 'aaa' credit assessment.

107. If necessary, it is possible to extrapolate the vital and essential roles described in Figure 23 for financial institutions that are 100% owned by governments of sovereigns with lower credit quality.

Figure 24. CCC/CC/C ratings

LOWEST POSSIBLE RATINGS	
CCC	'CCC' is assigned in specific scenarios if we assess that an institution is distressed to the extent that it could be subject to regulatory intervention, preventing it from meeting its senior financial obligations or a distressed exchange that is unlikely to 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 that it is 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 may be the case if the regulator has intervened with the intention of forcing losses on senior creditors or if an issuer has announced a distressed debt exchange that has yet to take place.

108. Figure 24 can be applied to specific debt instruments with similar expected default horizons.

APPENDIX 2: DATA SOURCES

109. Our analysis of financial institutions includes all available public disclosures of a financial institution, 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 with each entity.

110. 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.

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

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