Banking Criteria

Rating Criteria

Purpose

Lianhe Ratings Global Limited's ("Lianhe Global") banking criteria was originally published on 16 July 2018. The current criteria primarily elaborate on the details of the factors and subfactors that we consider when assigning ratings to banks.

Scope of the Criteria

Lianhe Global applies the banking criteria to banks globally, including commercial and policy banks. Banks are financial institutions that take deposits from the general public and provide loans and other financial products and services to individuals and businesses and are subject to prudential regulation. They are usually licensed and have access to central bank funding.

Lianhe Global may apply the criteria to other types of financial institutions (such as credit unions), with borrowing and lending as their core business activities. For institutions with multiple business lines, including banking, securities, and other activities, we typically apply the criteria that most adequately correspond to the institution's principal business activities and may employ other criteria to supplement our analysis.

The criteria do not represent a comprehensive coverage but only addresses key rating factors to form our credit opinions and will be reviewed periodically. Credit opinions tend to be forward-looking and include our views of issuers' future performance and development.

Overview

The criteria report explains Lianhe Global's general approach to assessing a bank's standalone credit profile and the likelihood of external support that the entity will receive in case of need, i.e. to sustain a bank's viability. We incorporate the availability of external support into the assessment of the bank's standalone credit strength to assign a Long-term Issuer Credit Ratings (LTICR) to the bank. The LTICR represents our opinion on the issuer's relative capability to meet its financial obligations (usually senior obligations) as they come due. It acts as an anchor from which all other issuer and issuance ratings for the issuer are derived and are comparable across various industries.

We apply a scorecard using a weighted-average approach to approximate a bank's credit profile by assigning ratings in lowercase letters for each key credit factor ranging from the strongest 'aaa' to the weakest 'ccc- and below' on a relative basis. The analytical components of the scorecard combine qualitative and quantitative measurements which when aggregated form the overall LTICR assessment. The scorecard is a summary that does not include every rating consideration. The weight shown for each factor in the scorecard represents an approximation of their relative importance for deriving the rating, but actual importance may vary and is subject to analytical judgements.

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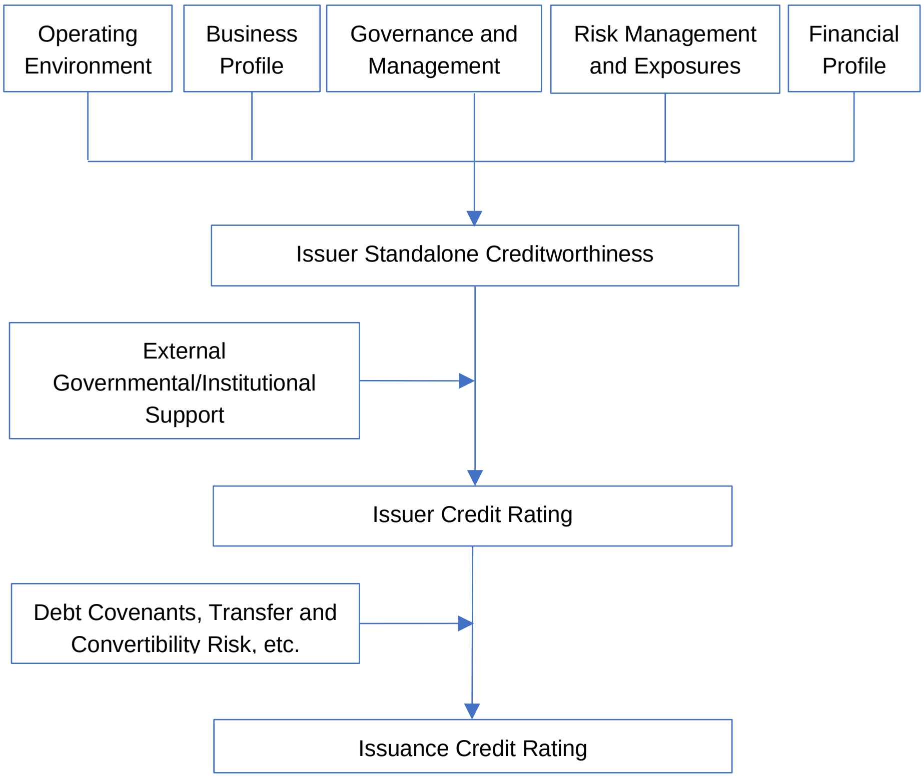
The diagram below illustrates the topology of the criteria:



Standalone Creditworthiness Analysis

The analysis of a bank's standalone creditworthiness is assessing the probability of the bank that will default or need to receive external support or impose losses on subordinated obligations to maintain its viability. We use a combination of qualitative and quantitative analysis to assess five primary credit factors: the operating environment, business profile, governance and management, risk management and exposures, and financial profile. Each primary factor is composed of several secondary factors as shown in the table below, while for each secondary factor, we have general qualitative descriptions and quantitative benchmarks (where applicable) for each rating range from 'aaa' to 'ccc and below'. These descriptions and benchmarks act as our scoring guidelines although may not be fully applicable to the risk features of the rated issuer.

Our scorecard uses a weighted-average approach by assigning weights based on our view of these factors' relative importance in driving a bank's credit profile. However, the ultimate rating assigned for the issuer and for each primary credit factor may deviate from the corresponding weighted-average rating indicated by the scorecard due to additional analytical judgements (usually not more than two notches). Analytical judgements may include considerations of potential greater influence from some credit factors with relatively significant strength or weakness or reflect critical residual risks which are not captured in the scorecard.

The standalone assessment also considers operational support, from which a bank benefits in the usual course of business, including the access to central bank liquidity and supports (such as complementary product offerings, funding facilities and knowledge and information sharing) from its parent and affiliates. In addition, ratings assigned are based on our forward-looking expectations. We assess a bank's financial history (usually by comparing the financials over the last three years with our quantitative benchmarks) as well as its strategy and business model to arrive at a forward-looking view of its credit profile.

Primary Credit Factor	**Weight**	**Secondary Credit Factor**
Operating Environment	12%	Sovereign Internal Assessment
		Macroeconomy
		Legal and Regulatory Environment
		Banking Sector Profile
Business Profile	18%	Franchise and Market Position
		Business Mix and Diversification
Governance and Management	10%	Corporate Structure and Governance
		Management Quality
		Business Strategy and Execution
Risk Management and Exposures	22%	Risk Policy and Framework
		Credit Risk Profile
		Market Risk Exposure
Financial Profile	38%	Capital Adequacy
		Asset Quality
		Profitability
		Liquidity and Funding

Operating Environment

We assess the operating environment where a bank operates in by looking at the sovereign strength, macroeconomy, legal and regulatory environment, and the banking sector profile of the jurisdiction the bank domiciled. Most banks within a country shall receive the same rating level for the operating environment factor although we may assign different ratings in some instances, such as for a bank that operates in a part of the country that has a significantly stronger or weaker economy than the country as a whole. Ratings may also differ for banks with material operations in multiple geographies; the ratings assigned will reflect a blended view of the relevant jurisdictions.

The operating environment often has a significant influence on other aspects of a bank’s credit profile and can be a constraining factor (especially when the rating of the operating environment falling in ‘bbb’ range or below) for other credit factors and overall standalone creditworthiness of a bank. For example, weakening sovereign strength can affect the credit quality of a bank operating in that jurisdiction as the deterioration usually relates to economic weaknesses or system-wide issues. A volatile economic environment may impair a bank’s earnings stability and asset quality. Competition tends to be intense in a fragmented banking sector, while concerns over corporate governance and transparency are usually more pronounced within an underdeveloped legal system and regulatory framework.

Sovereign Internal Assessment

Sovereign strength often has a significant impact on a bank’s credit profile and poses a constraint on a bank’s creditworthiness. In limited circumstances (such as with a strong overseas presence or prudent balance-sheet management), a bank’s rating may exceed the sovereign internal assessment.

We use an internal assessment to gauge sovereign credit profile and believe our internal assessments on sovereign nations are not expected to be materially different from the market consensus. We apply both commonly accepted quantitative and qualitative metrics to conduct the sovereign analysis. In addition, we apply elements from recognised third-party indexes such as World Bank’s Worldwide Governance Index, Human Development Index, Easy of Doing Business Index to maintain neutrality and objectivity in our analysis. We believe these indexes provide us with a platform to conduct our analysis in a non-ideologically biased setting.

Macroeconomy

A country’s economy usually affects a bank’s operation through its impact on the business and financial environment. Factors taken into consideration include the stage of economic development, the pace of economic growth and expected growth. We also consider other attributes that may affect the healthiness of the economic environment. This may include the aggregate indebtedness of the country and growth, the stability of interest rates and exchange rates, inflation rates, unemployment rates and demographic prospects.

Real GDP Growth Rate and Volatility

Gross Domestic Product (“GDP”) is the most commonly used measure of economic activity and serves as a good indicator to track the economic health of a country. Real GDP is referred to as inflation-adjusted GDP or GDP in constant prices. A healthy real GDP growth should be sustainable so that an economy can stay in the expansion phase of the business cycle as long as possible. Developed countries usually demonstrate lower but more stable real GDP growth. On the other hand, developing countries may have higher GDP growth, but the growth may be more volatile and not be sustainable over the long term.

Inflation Rate

A steady and moderate inflation rate provides a healthy economic environment for business development. If inflation becomes too high, it may drive up the operating and funding costs of corporates and hinder the economy and banks' profitability and asset quality.

Unemployment Rate

The unemployment rate complements the inflation rate to assess a country's economic health. Unemployment tends to be cyclical. It usually decreases when the economy expands as companies contract more workers to meet growing demand and may increases when economic activities slow.

Private Sector Credit Relative to GDP and the Growth

We look at a country's outstanding credit granted to private sector relative to its GDP and the change in the private sector credit in the preceding three years to the current year GDP to assess the credit condition. Rapid credit growth may cause financial and macroeconomic instability in particular when the country's overall indebtedness has been at a high level.

Legal and Regulatory Environment

A well-established legal system and regulatory framework contribute to the stability of the banking sector. We consider that a comprehensive and effective legal system should provide adequate protection to property and creditor rights, and have a reliable, efficient and independent justice system and legal procedures. A prudent regulatory banking system often requires a market-based regulatory and supervisory framework with an independent authority that has the willingness and capability to intervene and enforce laws and regulations. The regulator has capability to supervise and ensure banks follow best practices to protect different stakeholders (such as depositors) and the economy as a whole against systemic bank failure and its consequences.

We look at the regulatory solvency regimes and liquidity requirements and consider that the regulatory guidelines should commensurate with the stage of development of the banking system and risks undertaken by banks in that jurisdiction. The availability of central bank support measures and the lender of last resort is also important to help prevent runs on banks with temporary liquidity shortages and preserve the stability of the banking and financial system. Meanwhile, internationally comparable accounting standards and proper auditing procedures are essential to ensure the reliability, integrity and transparency of financial disclosures.

Banking Sector Profile

The market structure and competitiveness affect a bank's business strategy and development and may indicate structural strengths or weakness of the overall banking sector. A well-developed capital market may also benefit financial stability by reducing banks' vulnerabilities to sudden interruptions of capital flows and exchange rate shocks. We analyse the banking sector profile by looking at the size and number of market participants, products and services provided, business growth, deregulation of financial services and the level to which the economy is opened up to international competition.

We consider that an oligopolistic market likely creates an obstacle for new participants and protect existing banks' franchise and market position. On the other hand, a highly fragmented market with overcapacity or institutions operating on non-commercial terms (such as stated-owned banks) exerting strong influence may result in irrational competition and undermining the credit quality of the sector. Competition is also generally more intense in a less developed market with homogeneous products and narrow business focuses.

Financial innovation and liberalisation may improve product and business diversities and operating efficiency. However, we would be cautious if the progress results in a higher appetite for risk or rapid credit expansion.

Operating Environment Assessment

	aaa	**aa**	**a**	**bbb**	**bb**	**b**	**ccc and below**
Sovereign	In accordance with sovereign internal assessment.						
Macroeconomy	The economy is highly stable and healthy, with extremely strong resilience to economic downsides.	The economy is very stable and healthy, with very strong resilience to economic downsides.	The economy is stable and healthy, with a strong resilience to economic downsides.	The economy Is generally stable and healthy, with an adequate resilience to economic downsides.	The economy is less stable and healthy, with a limited resilience to economic downsides.	The economy is volatile and unhealthy. It is vulnerable to economic downsides.	The economy is highly volatile and very unhealthy. It is very vulnerable to economic downsides.
Legal and Regulatory Environment	Regulatory framework is long term established and transparent. Laws and regulations are very strictly enforced.	Regulatory framework is well developed and transparent. Laws and regulations are strictly enforced.	Regulatory framework is developed and transparent. Laws and regulations are effectively enforced.	Regulatory framework is less developed with reasonable transparency. Laws and regulations are enforced but may not be effective.	Regulatory framework is developing and less transparent. Laws and regulations enforcement is not effective.	Regulatory framework is underdeveloped with little transparency. Laws and regulations enforcement is weak.	Regulatory framework is almost undeveloped with very little transparency. Legal and regulatory enforcement is very weak.
Banking Sector Profile	The banking sector is highly developed and extremely healthy. Distributions and product offerings are exceptionally well established.	The banking sector is developed and healthy. Distributions and product offerings are well established.	The banking sector is l developed and healthy. Distributions and product offerings are well established.	The banking sector is developing and reasonably healthy. Distributions and product offerings are established.	The banking sector is competitive. Distributions and product offerings are developing.	The banking sector is very competitive. Distributions and product offerings are underdeveloped.	The banking sector is highly competitive. Distributions are underdeveloped and product offerings are limited.

Business Profile

A bank's business profile, franchise and competitive position influence its current financial performance and creditworthiness and the sustainability for a long-term growth. The ability to achieve a meaningful scale and stable market share in business segments with favourable and resilient profit margins usually contribute to long-term stable earnings and therefore financial sustainability.

The assessment of the business profile considers a bank's competitive positioning within the market, including the absolute size and scale, its primary business lines and risks taken as well as diversification. Inherent weakness or an excessive riskiness of its business profile can pose a significant constraint on a bank's credit strength.

Franchise and Market Position

A bank's franchise value is usually reflected in its resilient and sustainable market position, comprehensive product and service offerings, and wide market coverage. Large banks generally have a competitive advantage with business leadership and pricing power as well as the benefit of economies of scale. However, small market presences may be offset by a sustainable business model in a specific region or in niche product or client segments.

Being part of a larger (typically financial) group can be beneficial to a bank's franchise with the access to a larger client base and business synergies from non-banking businesses. Conversely, reputational and contagion risks may arise should its affiliates have a weaker credit profile.

Absolute Asset Size

We assess a bank's asset size and operating scale to the extent to which it is able to leverage the scale to achieve operating efficiencies and a competitive advantage in obtaining quality and sustainable business. This shall support the bank generate consistent earnings without taking on undue risk.

Market Share by Assets/Deposits

A bank with a large market share by assets/deposits usually possesses a leading and solid market position in major business segments and has a strong brand recognition. Its competitive position relative to peers' may be evident in its quality customer base, strong and wide-spread distributions and pricing power which create a material barrier for other banks to compete.

Business Mix and Diversification

Diversified revenue streams from various business lines and regions usually support a bank's earnings stability through economic and credit cycles. On the other hand, a concentrated business profile (e.g., high reliance on volatile activities, such as securities trading, or a small economic area) can cause high earnings volatility and risk concentrations.

We look at a bank's business mix, such as loan and asset composition, and proportion of revenue and earnings generated from various business lines, industries, and geographic regions.

Business Profile Assessment

	aaa	aa	a	bbb	bb	b	ccc and below
Franchise and Market Position	Extremely strong market position with very superior competitive advantages in product pricing, business diversity and scale.	Very strong market position with superior competitive advantages in product pricing, business diversity and scale.	Strong market position with competitive advantages in product pricing, business diversity or scale.	Adequate market position and may have some advantages in certain areas.	Less than adequate market position and a market follower.	Weak market position and a market follower. Lack of business diversity and scale.	Very weak market position with disadvantages in pricing, product offerings and scale.
Business Mix and Diversification	Exceptionally diversified and steady revenue streams from various business lines or regions. Very limited reliance on volatile activities.	Very diversified and steady revenue streams from various business lines or regions. Limited reliance on volatile activities.	Reasonably diversified and steady revenue streams from various business lines or regions. Moderate reliance on volatile activities.	Less diverse or steady revenue streams from narrower business lines or regions. More reliance on volatile activities.	Less diverse and steady revenue streams from narrow business lines or with geographic concentration. Significant reliance on volatile activities.	Limited diversity and volatile revenue streams. Heavy reliance on volatile activities or economic conditions.	Very volatile revenue streams with an evolving business model.

Governance and Management

Prudent governance and professional management are essential for the achievement of a bank's business and financial objectives and ensure good internal control in compliance with regulatory requirements.

We focus on how a bank balances the interests of different parties, including shareholders, bank clients, regulators, employees, etc., quality and effectiveness of management, and business objectives and execution. We also consider that the operating environment usually poses a significant influence on a bank's business strategy and governance performance. Corporate governance issues tend to be more prevalent, strategic objectives may be more easily to shift, while execution of strategy may face greater challenges in a weak operating environment.

Corporate Structure and Governance

Prudent governance practices support a bank to achieve long-term business success and financial stability. The board members (directors) are elected by the shareholders to oversee the bank's interest in the long-term health and the overall success of the business and financial strength. We examine features (including but not limited to) such as ownership and organisational structure, reporting hierarchy, board composition and independence, board committees, related party transactions, material litigations, and prior regulatory sanctions, etc.

A complex and opaque organisational structure, including layers of intermediate holding companies, may raise concerns over effective management, corporate governance and inappropriate intra-group transactions. Publicly listed entities usually have better disclosures and governance practices as they must abide by both listing and regulatory rules. However, private-owned institutions are not necessarily a cause for concern.

Significant related party transactions or perceived weaknesses in financial reporting or internal or external audit processes may indicate potential corporate governance issues. We look at a bank's internal policies and procedures for related party transactions and review the transactions to assess whether they are conducted within market norms.

Management Quality

Professionalism and integrity are two important features in quality management. A solid management team shows good credibility and competence. It manages business in a professional and ethical manner and has a proven record of achieving an institution's business and financial goals. A deeply entrenched corporate culture and management framework may help ensure the adoptions of coherent business philosophies throughout the organisation and business cycles, and remain intact despite employee turnover.

The remuneration scheme should be established to ensure the alignment of the management's interests and risk preferences with those of the organisation and its stakeholders. Mitigations of key man risk (such as an established succession plan) are also essential especially for an institution with reliance on a specific individual or a few individuals.

Business Strategy and Execution

Business objectives give a bank guidelines and direction from where to start and where the organisation is going, while successful execution turns strategic objectives into performance. We consider that the objective setting should be clearly-defined, measurable, and achievable, focusing on the long-term business sustainability. It should take into consideration the bank's operating environment, business model, management expertise, and competitive position, and balance risks and rewards.

We assess the likely impact of the management's strategic goals, philosophies and risk appetite, including organic versus inorganic growth and domestic and regional/international expansions, and review whether a bank's budgets or forecasts (if available) are in alignment with its strategic direction. The management's track record of strategic consistency and delivering is also essential. We tend to be cautious if a bank's business model and strategies change frequently and significantly over time or if the bank undergoes substantial restructuring.

Governance and Management Assessment

	aaa	**aa**	**a**	**bbb**	**bb**	**b**	**ccc and below**
Corporate Structure and Governance	Ownership and organisational structure are highly visible and transparent, with exceptionally prudent governance and effective board oversight.	Ownership and organisational structure are very visible and transparent, with very prudent governance and effective board oversight.	Ownership and organisational structure are visible and transparent, with prudent governance and effective board oversight.	Ownership and organisational structure are reasonably visible and transparent, with adequate governance and board oversight.	Ownership and organisational structure are less visible and transparent. Governance and board oversight are more relaxed.	Ownership and organisational structure are complex and opaque. Governance and board oversight are underdeveloped.	Ownership and organisational structure are very complex and opaque. Governance and board oversight are weak.
Management Quality	Management has demonstrated consistently very strong credibility and stability, with proven records of achieving business and financial goals.	Management has demonstrated consistently strong credibility and stability, with proven records of achieving business and financial goals.	Management has demonstrated consistently good credibility and stability, with proven records of achieving business and financial goals.	Management has adequate credibility and stability. Business and financial goals are generally achieved.	Management has acceptable credibility. More reliance on key individuals or higher management turnover.	Management has noticeable deficiencies, such as lack of credibility or experience. Heavy reliance on key individuals or high management turnover.	Management has significant deficiencies and unstable.
Business Strategy and Execution	Business objectives are clearly-defined and sustainable in the long run. Very successful execution to consistently meet objectives.	Business objectives are clearly-defined and sustainable in the long run. Successful execution to consistently meet objectives.	Business objectives are well-defined and medium- to long-term sustainable. Good execution to meet objectives.	Business objectives are well-defined and sustainable at least in the medium-term. Good execution to generally meet objectives.	Business objectives are not clearly articulated or may be altered based on market conditions. Execution is less effective.	Business objectives are variable based on market conditions. Execution is moderately weak	Business objectives are frequently altered based on market conditions. Execution is weak.

Risk Management and Exposures

Risk control is an integral part to support a bank's credit strength and resilience throughout an economic cycle. An effective risk management strategy can help the bank identify, measure, monitor, and control or mitigate risks and protect the institution's capital base and earnings without hindering growth.

We assess and score the overall effectiveness of a bank's risk policy and framework and its on and off-balance-sheet asset exposures to two major risks – credit and market risks in this key credit factor assessment. The following "Financial Profile" assessment will take into consideration the bank's adequacy in liquidity and capital management.

Risk Management Framework

The analysis of the management framework to monitor and control risks is assessed in the context of the complexity of a bank's business model and risk appetite. A sound risk management framework should be able to identify the risk universe and quantify specific and aggregate risk exposure, as well as potential loss. Risk mitigation mechanisms are well established to ensure the risk levels remain at an optimal threshold. Risk policies and governance clearly define and segregate duties and assign authority to employees, committees and the board for approval and execution of various risk limits and exceptions to limits.

Credit Policy and Profile

Credit risk is the risk that a customer or counterparty in a transaction may default. It arises from the lending, trade finance, treasury and other activities undertaken by a bank. We examine a bank's credit policy and underwriting standards, including its lending criteria, collateral requirements, concentration limits and impairment and provisioning policies, as well as the soundness of its internal credit rating system, scorecards, or third-party databases such as credit bureaus. Quantitative aspects mainly focus on the degree of borrower, sector and geographic concentrations in its lending business, loan-to-value ratios, provision coverage, and off-balance-sheet exposure. An aggressive growth in assets/loans may also signal an elevated risk appetite.

Absolute Asset/loan Growth and Relative to Industry Performance

We review a bank's balance-sheet expansion by looking at its asset/loan growth and comparing the growth rates to industry average to assess its risk appetite, underwriting standards and asset quality. An aggressive balance-sheet expansion may indicate a relaxed credit standard and future deterioration in asset quality. We may consider other factors in our assessment, such as the growth against relevant economic benchmarks and the risk nature of the business.

Liquidity and Capital Management

Liquidity is generally defined as the ability of a bank to meet its debt obligations without incurring unacceptably large losses. A healthy liquidity profile often requires effective liquidity analysis and projections to identify potential funding issues, diversified funding sources with a broad depositor base, sufficient liquidity cushion, and contingency funding plans in place. Liquidity projections should be made under both normal conditions and a range of stress scenarios. Early warning indicators for liquidity shortages also help the bank take pre-emptive actions.

Effective capital management identifies a bank's capital needs for various business activities depending on the risks taken by each business division and in accordance with the requirements of relevant regulatory authorities. It helps ensure the bank's capital adequacy is commensurate with the risk involved and in compliance with relevant statutory limits, taking into consideration business growth, dividend pay-outs, potential capital market volatility and other relevant factors.

Market Risk

Market risk refers to the risk of incurring losses due to fluctuations in the value of a bank's assets and liabilities caused by market movements. Interest rate risk is usually the major market risk facing banks as interest-bearing assets and liabilities generally represent the majority on their balance sheet. Institutions with material trading operations or cross-border activities may give rise to other types of market risks, e.g. equity and foreign-exchange risks. We tend to be cautious if a bank holds significant proportion of illiquid and complex securities or derivates for trading purposes.

We assess the scale of the risks relative to the bank's ability to absorb the impacts of sudden and substantial market movements and the bank's control mechanisms and hedging practices to monitor and mitigate the risks. Quantitative measures usually include value at risk (VaR), stop-loss limits, concentration limits (by product, counterparty, industry and region), sensitivity analysis and stress testing.

Operational Risk

Operational risk arises from employee misconduct, inadequate or failed internal procedures and processes, inadequate management of information and other systems, as well as unforeseeable external events. It could result in unexpected financial losses, regulatory sanctions, litigations, reputation damage, etc.

As operational risk management is inherent in all products, activities, processes, and business systems, a bank's board of directors and management must understand the nature and complexity of the risks intrinsic to the bank's business portfolio. They should implement monitoring systems for operational risk exposures and losses for major business lines and enforce control or mitigation mechanisms. Infrastructure investments should commensurate with the nature of the business and ensure a sound IT system in place to meet current and long-term business requirements.

Risk Management and Exposures Assessment

	aaa	aa	a	bbb	bb	b	ccc or below
Risk Policy and Framework	Risk management process and controlling mechanisms are extremely comprehensive and well developed. Risk thresholds are exceptionally conservative and strictly followed.	Risk management process and controlling mechanisms are very comprehensive and well developed. Risk thresholds are very conservative and strictly followed.	Risk management process and controlling mechanisms are reasonably comprehensive and developed. Risk thresholds are conservative and effectively followed.	Risk management process and controlling mechanisms are adequate. Risk thresholds are reasonable and generally followed.	Risk management process and controlling mechanisms may have some deficiencies. Risk thresholds are acceptable. Breaches of limits are more noticeable.	Risk management process and controlling mechanisms are underdeveloped. Risk thresholds are more relaxed and breaches of limits are frequent.	Risk management process and controlling mechanisms are poor with aggressive risk thresholds.
Credit Risk Profile	Credit risk profile is highly diversified with a very minimal degree of borrower, sector or geographic concentrations. Extremely conservative lending criteria, collateral requirements, and impairment and provisioning standards.	Credit risk profile is very diversified with a minimal degree of borrower, sector or geographic concentrations. Very conservative lending criteria, collateral requirements, and impairment and provisioning standards.	Credit risk profile is diversified with moderate borrower, sector or geographic concentrations. Prudent lending criteria, collateral requirements, and impairment and provisioning standards.	Credit risk profile is reasonably diversified. Borrower, sector or geographic concentrations may exist but manageable. Adequate lending criteria, collateral requirements, and impairment and provisioning standards.	Credit risk profile has more pronounced borrower, sector or geographic concentrations. Lending criteria, collateral requirements, and impairment and provisioning standards are below industry averages.	Significant borrower, sector or geographic concentrations. Relaxed lending criteria, collateral requirements, and impairment and provisioning standards.	A high degree of borrower, sector or geographic concentrations. Very relaxed lending criteria, collateral requirements, and impairment and provisioning standards.
Market Risk Exposure	Very low proprietary trading positions. Interest rate and foreign exchange risks are very low and effectively mitigated through hedging.	Low proprietary trading positions. Interest rate and foreign exchange risks are low and effectively mitigated through hedging.	Modest proprietary trading positions. Interest rate and foreign exchange risks are modest and appropriately mitigated through hedging.	Proprietary trading positions and exposures to interest rate and foreign exchange risks are in line with industry averages. Adequate hedging mechanisms are in place.	Market risk exposures are more pronounced. Basic hedging strategies may be used.	Market risk exposures are high. Mitigations through hedging may not be effective.	Market risk exposures are very high. Mitigations through hedging may not be used.

Financial Profile

We examine a bank's financial profile by analysing key financial metrics, including their historical trends, stability and expectations. We have established benchmark ranges for each rating range from 'aaa' to 'ccc and below' of selected key financial metrics and impose caps for ratings to be derived based on these quantitative measures for a bank operating in a 'bbb or below' environment. This reflects our consideration that the operating environment exerts a significant influence on actual financial metric differences across various regions; a bank generally has weaker financial profile operating in a weaker environment compared with another bank in a stronger environment despite similar financial metric performance.

Audited and unaudited financial statements and statutory reports are the primary sources for our financial analysis. Internal management reporting and forecasting may also be used if available. We may reclassify items derived from a bank's financial statements to fit our standard spreadsheets and ratio calculations for greater comparability across regions and/or for better measurements of the bank's financial position. Common treatments may involve excluding nonrecurring gains/losses from operating profits, deducting intangible assets from eligible capital, or including restructured loans in impaired loans.

Capital Adequacy

Capital serves as a buffer that absorbs losses and sustains a bank's viability and is the most reliable funding source to support business growth. We consider that a bank's internal guidance on its minimum capital requirement as an important indication of its risk appetite. Stringent capital standards prevent a bank from taking excessive risk and increase incentives for better risk management to safeguard shareholders' equity. Adequate capitalisation also helps maintain both public and regulatory confidence in a bank. A breach of the regulatory capital adequacy threshold may significantly reduce a bank's financial flexibility, and incur regulatory interventions.

We assess a bank's capital adequacy in the context of its risk profile and look at the absolute size of a bank's capital, its composition (core and supplementary capital), and capital adequacy ratios. We also consider a bank's leverage, such as the regulatory leverage ratio and tangible common equity to tangible total assets as the risk weightings of assets can vary significantly due to different regulatory risk-based capital requirements. We usually focus on a bank's capital adequacy on a consolidated level, but would be cautious if a bank's standalone capital ratios are weaker than the ratios on a consolidated basis, in particular when there are significant restrictions on capital transfers within the group. The ability of a bank to raise capital in case of need is also important. External capital injections can be from a bank's parent or through access to capital markets.

Common Equity Tier 1 Ratio

This is a regulatory capital ratio reported by a bank. The ratio measures a bank's core equity capital compared with its total risk-weighted assets ("RWAs"). Common equity Tier 1 is the capital elements of the highest quality and usually composed of common shares, stock surpluses resulting from the issue of common shares, retained earnings, and accumulated other comprehensive income. RWAs are an estimate of risk that determines the minimum level of regulatory capital a bank must maintain to deal with unexpected losses. A prudent and credible calculation of RWAs is an integral element of the risk-based capital framework.

Total Capital Adequacy Ratio

This is a regulatory capital ratio reported by a bank. It is the amount of total regulatory capital divided by the amount of RWAs. Total regulatory capital usually consists of core equity capital and supplementary capital (such as subordinated debts). This ratio serves as a measurement of a bank's capacity to absorb losses before it becomes insolvent.

Leverage Ratio/Tangible Common Equity to Tangible Total Assets

The leverage ratio and the equity-to-assets ratio serve as non-risk-based capitalisation measurements complementary to the risk-based capital framework. The leverage ratio is the one reported by a bank as per Basel or local regulatory guidelines and is calculated by dividing Tier 1 capital by the bank's on- and off-balance-sheet exposures.

Asset Quality

Deterioration in a bank's asset quality can cause a rise in credit losses and undermine its solvency. Analysis of a bank's asset quality primarily focuses on the loan portfolio as it usually accounts for the largest portion of total assets and has a prominent influence on a bank's credit profile. Absolute and relative loan growth rates (compared with the industry average and the underlying economic growth) help assess a bank's asset quality trend. A higher-than-average loan growth rate may indicate more relaxed underwriting standards for an aggressive business strategy, while impaired loans may only be revealed amid an economic downturn. We also inspect other on- and off-balance-sheet credit exposures to have a sound understanding of the overall asset quality.

Key financial metrics include classification of loans according to their performance and provisions made against them, the ratio of impaired loans to gross loans, and loan impairment charges to gross loans. A bank's loan classification policy and practice may affect the explanatory power of the impaired loans to gross loans ratio in capturing a bank's underlying asset-quality performance, while stringent provisioning may reduce the risk of additional capital needs to shore up loan loss reserves. In addition, the impaired loans to gross loans ratio may be consistently low if a bank is proactive in loan write-offs. Conversely, the ratio would stay high if a bank retains problem loans on its balance sheet for an extended period. Therefore, we look at the loan impairment charges to gross loans to help measure a bank's economic credit losses in its loan portfolio.

Impaired Loans to Gross Loans

The ratio of impaired loans to gross loans shows how many impaired loans contributing towards gross loans. Impaired loans generally comprise loans 90 days past due (unless with sufficient collateral to ensure full repayment) and those loans having incurred impairment but not yet 90 days past due. However, impairment assessment may vary among banks and different jurisdictions.

Loan Impairment Charges to Average Gross Loans

The ratio measures a bank's credit cost by dividing impairment charges for loans and advances by average gross loans. The ratio's long-run performance throughout a business cycle usually provides a good indicator of a bank's asset quality.

Loan Loss Reserves to Impaired Loans

The ratio captures how much losses from impaired loans can be absorbed by loan loss reserves. The ratio can be over 100% as the numerator includes all loan loss reserves, not only those specifically set aside for incurred or expected losses for loans classified as impaired.

Profitability

Internal earnings generation capability is important to support a bank's capital adequacy and future business expansion. We look at the level of profitability and earnings quality, diversification and stability, and also consider other factors which may impact future earnings performance, such as changes in economic conditions or a bank's strategy/operations, mergers and acquisitions. A detailed analysis on sources of profits and compositions help us assess the stability and predictability of earnings. A business model heavily influenced by market and economic volatilities or reliance on a single business line or revenue stream may lead to volatile earnings performance.

Key financial metrics include returns on assets/RWAs and returns on equity for the assessment of a bank's overall earnings generation capability. We also look at other ratios, such as net interest margin, the ratio of net fee income to total operating income, impairment charges to pre-impairment operating profit, and the cost-to-income ratio to analyse the drivers of earnings. We may exclude nonrecurring income/expenses in the ratio calculations if deemed necessary.

Net Profit to Average Total Assets

The ratio measures the profits generated by assets during a period by dividing net profit by average total assets. It provides an estimate of the efficiency in using assets to create profit. The ratio does not reflect how risky the assets been deployed.

Pre-tax Profit to Average Risk-weighted Assets

The risk-weighted profitability ratio is calculated by dividing pre-tax profit by the average of regulatory reported RWAs during the period. It assesses a bank's ability to generate earnings relative to the risks it is exposed to.

Net Profit to Average Total Equity

The ratio measures how much profit a bank is able to generate with the money shareholders have invested by dividing net profit by the average total equity. It also indicates the bank's internal capital generation capability.

Net Interest Margin

Net interest margin denotes the difference between the interest income earned and the interest paid by a bank relative to its interest-earning assets. It is calculated by dividing net interest income by the average balance of interest-earning assets.

Ratio of Net Fee Income to Total Operating Income

The ratio shows a bank's ability to generate profit from fee-based activities. Operating income comprises net interest income and all other operating income (including net fee income, net trading profit, etc.) The higher the ratio generally indicates better diversity of a bank's revenues and less reliance on spread income. This may have a positive impact on the bank's risk-adjusted profitability due to greater contributions from fee-based revenues.

Impairment Charges to Pre-impairment Operating Profit

The ratio measures how much of a bank's earnings are consumed by impairment charges. The lower the ratio may indicate stronger resilience of the bank's profitability to potential volatility in impairment charges.

Cost-to-income Ratio

The ratio measures a bank's operating efficiency by dividing operating expenses by total operating income. Large banks usually have lower cost-to-income ratio (compared with small banks) thanks to economies of scale.

Liquidity and Funding

To remain viable, a bank must have enough liquid assets to meet its near-term obligations, such as withdrawals by depositors. The assessment focuses on a bank's ability to sustain its liquidity position and funding stability.

Key financial metrics include loan-to-deposit and liquidity coverage ratios (the amount of high-quality liquidity assets against stressed cash outflows over a prospective 30 calendar-day period) to measure the margin of liquidity a bank has retained. A bank's historical liquidity dynamics throughout economic cycles usually provides evidence of its resilience to liquidity shortages. Liquidity coverage of foreign-currency exposures would be important should a bank have significant overseas operations while converting local-currency assets into foreign-currency assets, in case of need, may not be easy and timely.

The analysis of a bank's funding structure emphasises on the quality of deposits and reliance on non-core/price-driven deposits and wholesale funding. Core deposits are typically funds of local customers left at a bank due to convenience or through loyalty and generally have good stability. Non-core deposits/wholesale funding are sources that can be very sensitive to changes in the credit profile of the bank or to interest rate movements.

Gross Loans and Advances to Customer Deposits

The ratio measures gross loans and advances before allowance made for impairment loss as a percentage of deposits from customers. A ratio of 100% or less shows that the bank is funding its loans from deposits rather than relying on wholesale funding (such as funding from the capital market or other banks). When the ratio is too high, the bank might not have enough liquidity to cover unforeseen funding withdrawals.

Liquidity Coverage Ratio

This is a ratio expressed as a percentage of the amount of high-quality liquid assets to the amount of a bank's total net cash outflows over 30 calendar days. The ratio aims to assess whether a bank hold a sufficient liquidity reserve to survive a period of significant liquidity stress lasting 30 calendar days. High-quality liquid assets are cash or assets that can be converted into cash quickly with no significant loss of value.

Customer Deposits to Total Funding

This ratio helps us assess a bank's funding structure, stability and reliance on wholesale funding by comparing its customer deposits as a percentage of total funding. Total funding includes customer deposits, interbank borrowing, repos, debt securities, etc, but excludes shareholders' equity and non-interest-bearing liabilities, such as pension reserves, tax liabilities and insurance liabilities. Greater reliance on deposit funding from a broad customer base usually indicates higher funding stability and diversity.

Financial Profile Assessment

	aaa	aa	a	bbb	bb	b	ccc and below
Capital Adequacy	Extremely strong capitalisation against downturns and stressed situations with very solid buffers over regulatory minimums. Exceptionally good accessibility to capital.	Strong capitalisation against downturns and stressed situations with solid buffers over regulatory minimums. Very good accessibility to capital.	Good capitalisation against downturns and stressed situations with significant buffers over regulatory minimums. Generally good accessibility to capital.	Capitalisation is slightly vulnerable to downturns or stressed situations with adequate buffers over regulatory minimums. Accessibility to capital may be less certain.	Capitalisation is vulnerable to downturns or stressed situations with moderate buffers over regulatory minimums. Accessibility to capital may be questioned.	Capitalisation is very vulnerable to downturns or stressed situations with very small buffers over regulatory minimums. Accessibility to capital is in doubt.	Capitalisation is not commensurate with risk. May need or require capital injections to meet regulatory minimums.
Asset Quality	Extremely low levels of impaired assets and credit costs throughout the cycle.	Very low levels of impaired assets and credit costs throughout the cycle.	Generally low levels of impaired assets and credit costs with modest fluctuations throughout the cycle.	Manageable levels of impaired assets and credit costs with slightly more fluctuations throughout the cycle.	Above average level of impaired assets with noticeable fluctuations throughout the cycle. Impairment charges could pressure capitalisation.	Weak and volatile asset quality with high levels of impaired assets or impairment charges, causing significant pressure on capitalisation.	Very weak and volatile asset quality with very high levels of impaired assets or impairment charges, causing heavy pressure on capitalisation.
Profitability	Highly steady and predictable profitability. Extremely good earnings quality with profitability levels persistently commensurate with inherent risk.	Very steady and predictable profitability. Very good earnings quality with profitability levels persistently commensurate with inherent risk.	Generally steady and predictable profitability. Good earnings quality with profitability levels commensurate with inherent risk.	Profitability may be slightly cyclical. Earnings levels are generally commensurate with inherent risk.	Profitability may be volatile. Earnings levels may not commensurate with inherent risk.	Weak and volatile profitability. Earnings levels are not commensurate with inherent risk.	Very weak and volatile profitability. Earnings sustainability is in doubt.
Liquidity and Funding	Highly stable liquidity and funding. Bank is mostly funded by deposits with high stickiness. Contingency funding plans are extremely robust.	Very stable liquidity and funding. Bank is mainly funded by deposits with very good stickiness. Contingency funding plans are very robust.	Stable liquidity and funding. Bank is mainly funded by deposits with good stickiness. Contingency funding plans are well established.	Generally stable liquidity and funding. Moderate reliance on less stable wholesale funding. Contingency funding plans are adequate.	Liquidity and funding are somewhat vulnerable to unfavourable market conditions. More reliance on less stable wholesale funding or noticeable funding concentrations. Contingency funding plans may not be sufficient.	Liquidity and funding are vulnerable to unfavourable market conditions. Significant reliance on less stable wholesale funding. Contingency funding plans may not be in place.	Unstable liquidity and funding. Contingency funding plans are in doubt.

External Support Assessment

External support assessment focuses on extraordinary support a bank may receive usually at the point of failure or not long before in order to sustain its viability, while ordinary/operational support a bank benefits in the usual course of business has been considered in the standalone assessment.

External support typically comes from the governmental authorities of the country/region where the bank is domiciled or from the bank's shareholders. Our assessment considers both the capability and willingness of the potential supporter to provide assistance to sustain a bank's viability to derive the rating which shall be assigned based on external support. Governmental authorities include the government of the nation, any political subdivision thereof, whether state or local, and any agencies and regulatory bodies pertaining to the government. In rare cases, we may consider the possibility of support from supranational institutions.

Government Support

In assessing government support, we consider that the government's long-term rating best captures its capability to provide support to the banking sector. However, constraints may exist upon the authority's ability to provide sufficient support, such as a very large banking system. We usually compare the aggregate loan size of the banking system with the national GDP to assess the potential needs of support and may consider other risk exposures if they are significant. Other factors may also affect our assessment. For example, the needs of support may be more moderate if the banking system has consistently maintained resilient performance or institution supports are available to some banks (e.g. owned by highly rated foreign banks) in the system.

We look at relevant legislation and regulations to assess the government's willingness to provide support to the overall banking sector, such as the government statements on the intention to bail out failed banks or to force creditor bail-ins. In addition, the interconnectedness of banks in the sector may influence such circumstances. For example, a government's propensity to support may be high if a default of one bank could cause significant losses of other banks and/or trigger a collapse of creditor/depositor confidence in the sector. The track record of support also helps gauge the propensity.

In terms of the government's tendency to provide support to a specific bank, the bank's government ownership, systemic importance, and policy role are our key considerations, while systemic importance is usually the most important factor in our assessment. The extent of support may also vary for different debt classes for a bank. Senior unsecured debts are typically more likely to be supported than junior instruments.

We consider that a meaningful or long-term strategic government ownership or a private bank with strong government relations (e.g. close relationships between government officials and shareholders) may indicate the authority's high tendency to provide support. In particular, a government may face high reputational risk if it allows a state-owned/controlled bank to default.

Support for a systemic important or policy bank is more likely as their failure may cause high contagion risk and substantial disruption to the financial system stability and the national economy. A systemic important bank often represents a meaningful market share in deposits or loans in the banking system or owns a niche franchise in a region of the country or in a specific business segment. An important policy role is usually broad and difficult to be transferred and performed by another entity. Policy banks' ratings are often close to or at the same level of their sovereign internal assessment, while assessments of a policy bank's standalone credit profile may not be meaningful due to the impact of their policy functions on their operations.

Institutional Support

We consider that the institutional shareholder's credit strength as reflected in its issuer rating, its relative size to the subsidiary bank, and relevant regulations governing the group's operations (particularly the funding fungibility) are primary factors affecting the shareholder's ability to provide support.

For example, regulatory restrictions on the fungibility of capital and liquidity within a group may reduce the ability of the owner to provide support. Conversely, existences of regulatory requirements to support subsidiary banks can positively influence the issuer rating assigned to the bank, even where the propensity to support might be low. In cases where the subsidiary bank represents a relatively large part of the consolidated group, the owner may find it difficult to provide sufficient support, while the bank's credit profile often exerts significant impact on the group's consolidated profile. Furthermore, we may assign the issuer rating to the subsidiary bank based on the group's consolidated profile if the bank and other entities within the group are highly integrated in terms of management, funding fungibility and operations.

The strategic importance of the bank to its owner is usually the key factor in assessing the owner's willingness to provide support. The likelihood tends to be high should the rated bank represent an essential part of the group's operation, carry the same brand name, and its failure may bring reputational risk to the group. The existence of any form of guarantee or commitment to support the subsidiary or cross-default clauses also help our assessment. In addition, we consider that a bank's parent company owning a high majority stake or its controlling owner with strong influence on the bank's operations may have a high tendency to support. A controlling interest is usually with voting shares of over 50% to prevail in any stockholders' motion. Other circumstances can be considered to determine whether a party still holds a controlling ownership despite owning less than the majority of the voting shares.

Country risk of the jurisdiction in which a bank is domiciled may also affect our assessment when the risk may limit the bank's ability to use support from its owner to service its obligations. The issuer rating of the bank may be capped at levels significantly below those which would be assigned based on the owner's ability and propensity to provide support. In addition, when the owner's rating has factored in potential government support, we assess whether this support would flow through to the subsidiary by looking into relevant regulations. The owner's propensity to support may also influence the regulator's decision on whether to let the support flow through.

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