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PENGYUAN

# Global Bank Rating Criteria

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## Summary

This criteria report sets forth our methodology for assigning ratings to banking institutions and their debt instruments. In view of the diverse nature of banking systems globally, we adopt a principle- and risk-based approach to evaluate the creditworthiness of individual banks. The analytical factors described herein are not intended to be exhaustive. Instead, they form the foundation of our analytical framework, which is designed to produce credit ratings that are forward-looking, consistent over market cycles, and comparable across industries.

These criteria cover what may broadly be defined as deposit-taking institutions that engage in lending activities. These entities are typically subject to prudential regulation at the local level by the central bank and / or banking regulators and may also fall under the oversight of international supervisory bodies. Banks generally have access to central bank liquidity, reflecting their integral role in the financial system. Their business activities vary and may range from retail and corporate banking to cash and wealth management. To the extent that investment banking is a material component of a rated entity's business model, we may supplement the guidelines in this report with our Global Non-Bank Financial Institutions Rating Criteria.

Our bank analytical framework follows a multi-step approach, encompassing qualitative and quantitative factors that, in our opinion, best capture an entity's credit profile. These factors comprise the four pillars of our credit analysis, namely:

- Pillar 1: Banking System Credit Index (BSCI);
- Pillar 2: Business Profile Assessment;
- Pillar 3: Capital Formation Assessment; and
- Pillar 4: Capital Adequacy Assessment.

Our four-pillar analysis generates an indicative credit score (ICS), which expresses our preliminary view on an entity's standalone creditworthiness. The ICS may be adjusted upwards or downwards based on factors beyond those considered in our standard scorecards. The adjusted score represents an entity's standalone credit profile (SACP), which reflects our opinion on a bank's viability as a going-concern in the absence of external support.

Our external support analysis builds upon the SACP of a rated entity by incorporating the potential for capital and / or liquidity infusions from the bank's shareholder(s) or the public sector under stress scenarios. Where justified, a bank's credit ratings may benefit from its status as a government-related entity, importance to the financial system, or membership of a broader business organization.

In assigning issuance ratings, we consider a fixed-income instrument's subordination, conversion features, and loss absorption characteristics, among other factors. In the vast majority of cases, a bank's senior unsecured debt ratings are aligned with its long-term issuer credit rating. The ratings on junior and hybrid instruments are notched down based on our evaluation of their covenants and expectations on issuer and regulatory behavior.

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# Scope of Criteria

In the broadest context, we define a bank as a deposit-taking institution that creates credit in the financial system. Depending on an entity's business model, it may provide, among others, one or more of the following products and services:

- Retail banking, such as current and savings deposits, personal loans, credit cards, mortgages, etc.;
- Corporate banking, such as secured loans, unsecured credit lines, export / import financing, etc.;
- Trust and custodian banking;
- Foreign exchange;
- Corporate cash management; and
- Personal wealth management.

Additionally, a bank may engage in capital market activities directly or through its subsidiaries, including:

- Securities brokerage;
- Derivatives trading;
- Initial public offerings;
- Secondary-market placements;
- Fixed-income origination;
- Asset management; and
- Proprietary investments.

If these capital market businesses are significant to a bank's credit profile, we may supplement the criteria herein with our Global Non-Bank Financial Institutions Rating Criteria. We believe bespoke methodologies may sometimes be necessary, as regulations and financial innovation continue to redefine the boundaries of banking activities. This is particularly relevant to universal banks, which, by their very nature, have business lines that straddle traditional and investment banking.

In determining whether our bank rating criteria would apply to an entity, we also consider the following factors:

- In most jurisdictions, banks are subject to well-defined prudential regulations, with supervisory oversight from the central bank and / or banking regulators. Often, banks also fall under the supervision of international bodies. The regulatory environment facing banking institutions is typically more onerous compared to that for non-bank financial institutions, such as securities brokers, leasing companies and asset management firms. The high level of regulatory scrutiny reflects the systemic importance of the banking sector to the financial system and real economy.

- In many jurisdictions, bank depositors are protected, to varying degrees, by a centrally-administered deposit insurance scheme. The level of protection afforded bank depositors is usually significantly higher compared to that given to general creditors of securities brokers, asset managers, and other similar firms.

- Banks generally have access to central bank liquidity. As an integral part of the financial system, banks may benefit from their ability to tap central bank funding in their treasury operations. In comparison, non-bank financial institutions' wholesale funding sources may be confined to commercial channels. In our view, funding flexibility and diversity are often a key credit strength for banks, relative to their non-bank counterparts.

These criteria are applicable to policy banks as well. For the most part, the guidelines herein are applicable to banks that have specific policy mandates, such as the promotion of the export-import, agricultural and public infrastructure sectors. In light of their unique operating models, we recognize that it may be, at times, difficult to evaluate their creditworthiness as if they were standalone entities. In such cases, our criteria allow for a top-down analytical approach, whereby a policy institution's creditworthiness is evaluated mainly based on its governing body's capability and willingness to lend support in times of need.

# Analytical Framework

## Four-Pillar Analysis

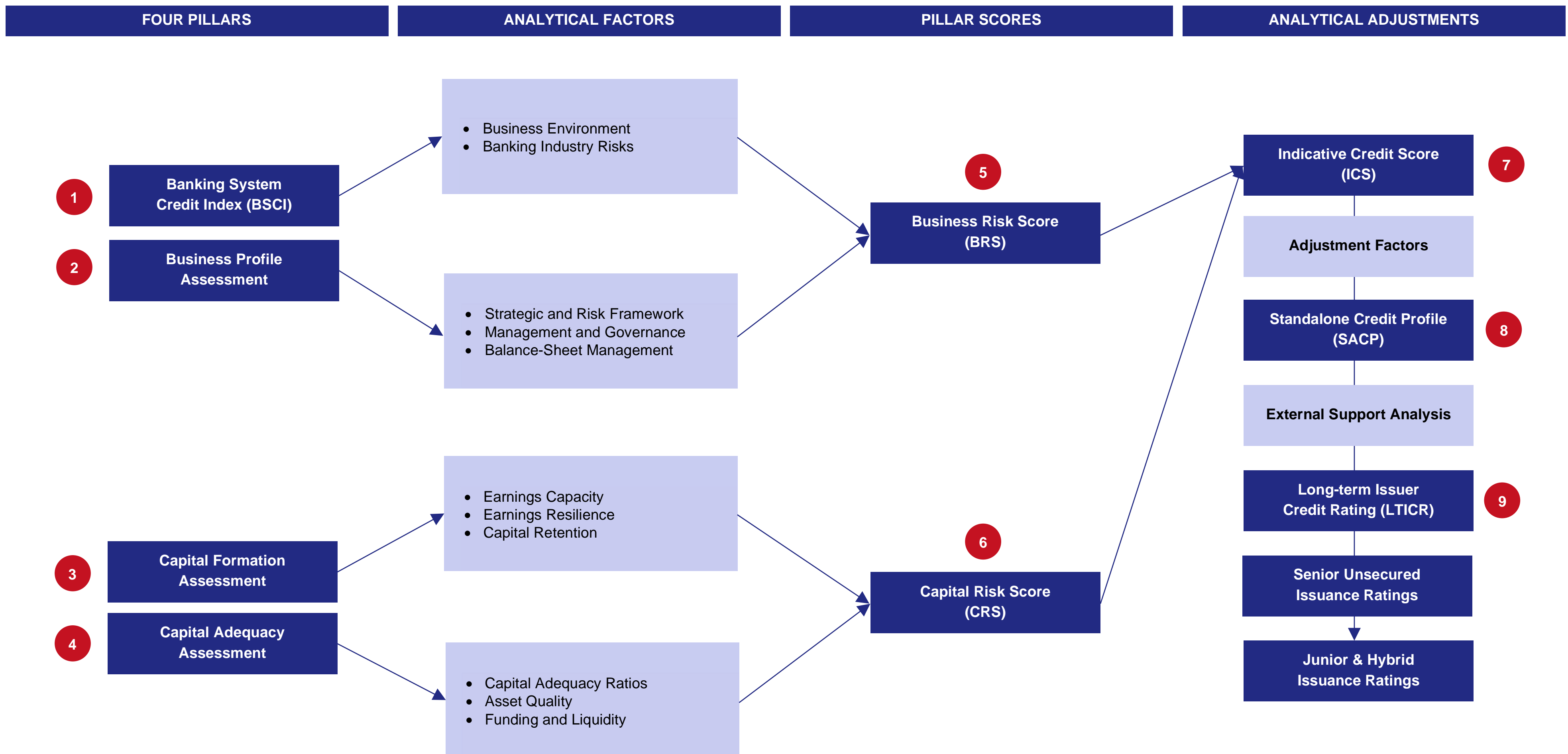
Our analytical approach for banks follows a four-pillar framework, as shown in Exhibit 1. We believe the score for each pillar – and the way pillar scores are combined – convey useful information on the building blocks of a bank's creditworthiness and the inflection points that may cause its ratings to change. The four pillars that support our rating opinions are:

- **Pillar 1: Banking System Credit Index (BSCI).** The BSCI expresses our view on a banking system's overall credit quality over the cycle. To establish a relative ranking of banking markets, we review each country's business environment, with an emphasis on economic performance and institutional strength. As part of this analysis, we may refer to our sovereign analysts' macro-level assumptions and further explore areas that are the most relevant to the sector's creditworthiness. We also assess a banking industry's competitive dynamics, regulatory landscape, and vulnerability to private-sector leverage. Mature markets with sound economic fundamentals, stable competitive dynamics, and robust regulatory infrastructure tend to score higher on our BSCI scale. Within each country, individual banks' credit profiles form a distribution around its BSCI, although the dispersion may vary widely across markets and regions.
- **Pillar 2: Business Profile Assessment.** Our business profile assessment focuses on the strengths and weaknesses of a banking franchise, with regards to its strategic and risk framework, management and governance, and balance-sheet management. An understanding of these qualitative aspects of an organization enables us to put its financial data into perspective and make an informed judgement on its ability to deliver on its objectives. The inputs into our analysis are derived from a variety of sources, such as our interactions with management, observations of competitive behavior, channel checks, and commentaries by other market participants. Banks that receive favorable business profile evaluations usually have defensible market positions that are supported by a well-seasoned management team, a prudent strategy, and a proven enterprise risk management framework.
- **Pillar 3: Capital Formation Assessment.** Under Pillar 3 of our framework, we assess a bank's ability to generate capital internally via retained earnings, which are a critical source of capital strength for banks as going concerns. As a bank's earnings profile is a function of its business mix, market position and operating environment, we adopt a principle-based approach to evaluate profitability. Starting with a bank's returns on assets and equity, we evaluate a bank's earnings resilience based on a range of profitability indicators, including its net interest margin, fee income contribution, investment income, cost-to-income ratio, and diversification. Ultimately, these indicators allow us to form a comprehensive and forward-looking view on an entity's sustainable return on capital. Our analysis then considers management's policy to retain capital for growth, as opposed to making shareholder distributions via dividends and share repurchases.
- **Pillar 4: Capital Adequacy Assessment.** The final building block of our framework is concerned with a bank's existing and prospective balance-sheet strength. Our assessment is driven by our analysis of a bank's capital adequacy ratios, asset quality, and funding and liquidity. For the majority of cases, meeting the regulators' minimal capital adequacy and other prudential ratios is a necessary but insufficient condition for a bank to achieve a standalone credit profile in the 'bbb' category or above. In addition to our base-case expectations, we may perform sensitivity tests and scenario analyses to measure a bank's capital performance under adverse operating conditions. As circumstances warrant and where practicable, we may make adjustments to a bank's reported data to paint a clearer picture of its capital strength.

## Indicative Credit Score

While our Pillar-1 and Pillar-2 assessments are predominantly qualitative, the Pillar-3 and Pillar-4 factors are mostly quantitative in nature. Once all four pillars are scored individually, we combine the Pillar-1 and Pillar-2 scores to derive a Business Risk Score (BRS). Similarly, we combine Pillar-3 and Pillar-4 scores to form a Capital Risk Score (CRS). Our four-pillar analysis culminates in an indicative credit score (ICS), which is a function of a bank's BRS and CRS. The ICS represents our preliminary assessment of a bank's standalone creditworthiness.

**Exhibit 1: Global Bank Rating Framework**



## Adjustment Factors

As described above, our indicative credit score (ICS) is intended to encompass the main drivers of a bank's creditworthiness. However, there may be idiosyncratic factors that our scorecards are unable to adequately capture. These factors – and their relevance to individual banks – vary from entity to entity. The following is a list of examples where we may refine a bank's ICS. On a culminative basis and in most cases, these factors may lead to a maximum upward or downward adjustment to a bank's ICS of two notches.

- **Management and Corporate Governance.** We first assess this factor in Pillar 2 of our analytical framework, but for extreme cases where a significant lapse in management judgement or governance procedures is observed, we may consider lowering a bank's ICS further;
- **Track Record and Size.** For banks that have short track records either as a result of their recent establishment, mergers and acquisitions, or spin-offs, we may consider notching down their ICS to reflect the execution risks involved. Should we determine that a bank's asset size is sub-scale relative to peers in the same market, we may also adjust its ICS downwards to account for its potential competitive disadvantages;
- **Cumulative Effect of Rating Factors.** Our analytical framework is designed such that each factor is assessed and scored individually, before being aggregated to arrive at pillar scores. In the process, an entity which consistently scores on the high / low end of the indicative ranges may receive an ICS that is under- / overestimated on an aggregate basis. Should we decide that these cumulative effects are material, we may adjust a bank's ICS upward or downward.
- **Peer Comparison.** Peer comparative analyses provide valuable insights into the relative ranking of a bank's standalone creditworthiness. If a bank consistently out- / underperform its peers on key credit metrics, we may consider notching up / down its ICS to ensure sufficient differentiation between issuers. We usually define a bank's peer group as entities with comparable size and credit characteristics in the same or similar markets.

As individual banks may have unique attributes that warrant close examination, the list above is not meant to be exhaustive. When we fine-tune the ICS, our focal point is on the strongest / weakest link of a bank's credit profile which may result in an under- / overestimation of our preliminary assessment.

After adjusting for bank-specific features, we arrive at a bank's standalone credit profile (SACP). The SACP expresses our opinion on a bank's viability as a going concern in the absence of implicit or explicit external support.

## External Support Analysis

In our external support analysis, we assess the capital and / or liquidity assistance that may be available to a bank in distress. Our emphasis here is on "extraordinary" support under severe stress scenarios. On-going support – such as revolving credit lines that are part and parcel of a parent-subsidiary relationship – is considered separately under Pillars 2 and 4. Extraordinary support may occur through one or a combination of the three channels below:

- **Government-related Entities (GRE).** For banks we identify as GREs – either due to their direct / indirect government ownership or their other ties with and importance to the government – we may factor in the support that they may receive due to their status;
- **Systemic Importance.** We assess a bank's systemic importance by referring to its official designation, if available. Otherwise, we would evaluate an entity's size, complexity, substitutability, and interconnectedness with the rest of the financial system. In our view, the higher a bank's systemic importance, the more likely it is to receive public-sector bailout in a crisis scenario, other things being equal.
- **Parental Support.** Banks that belong to a broader financial services or corporate group may receive capital and / or liquidity support from its parent organizations as required. Such support may sometimes arise from fear of reputational damage to the franchise.

As a general rule, we consider the strongest source of potential support if a bank may be bailed out via more than one of these avenues. For all three support sources, our primary consideration is the support provider's capability and willingness to act as a backstop for the distressed bank. Depending on the distance between the starting credit profiles of the support provider and beneficiary, we may adopt either a top-down or a bottom-up approach in adjusting a bank's standalone credit profile. At the extremes, a bank may be assigned an issuer credit rating that is aligned with that of the support provider's or one that is solely based on its standalone credit profile.

It is noteworthy that, in our external support analysis, we would typically exclude policy support that is available to all, or a large group of, banks in the market. An example would be securities repurchase programs by the central bank to shore up liquidity in the banking system. We believe such broad-based support mechanisms would be best analyzed under Pillar 1 of our analytical framework. Similarly, we would generally exclude the impact of deposit insurance on potential recoveries when we assess a bank's overall creditworthiness.

## Issuance Ratings

In assigning issuance ratings, we consider a fixed-income instrument's subordination, conversion mechanisms, and loss absorption characteristics, among other factors. In the vast majority of cases, we align a bank's senior unsecured issuance rating with its long-term issuer credit rating. For junior and hybrid securities, the notching applied is complicated by the fact that external support may not be available to their holders. As such, the starting reference point for these types of instruments is typically the bank's standalone credit profile. The ratings on junior and hybrid instruments are notched down based on our evaluation of their covenants and expectations on issuer and regulatory behavior.

# Pillar 1: Banking System Credit Index (BSCI)

Our Pillar-1 analysis aims to dissect banking markets along two dimensions, namely their business environment and industry-specific risks (Exhibit 2). By definition, our BSCI represents our view on a banking system's overall credit quality over the cycle. For a given banking system, we may conceptually form a distribution of all individual banks' credit profiles around this mean. As the BSCI is designed to measure structural credit quality rather than cyclical performance, we believe it is likely that most banking systems' index scores would remain unchanged over a 12- to 24-month horizon.

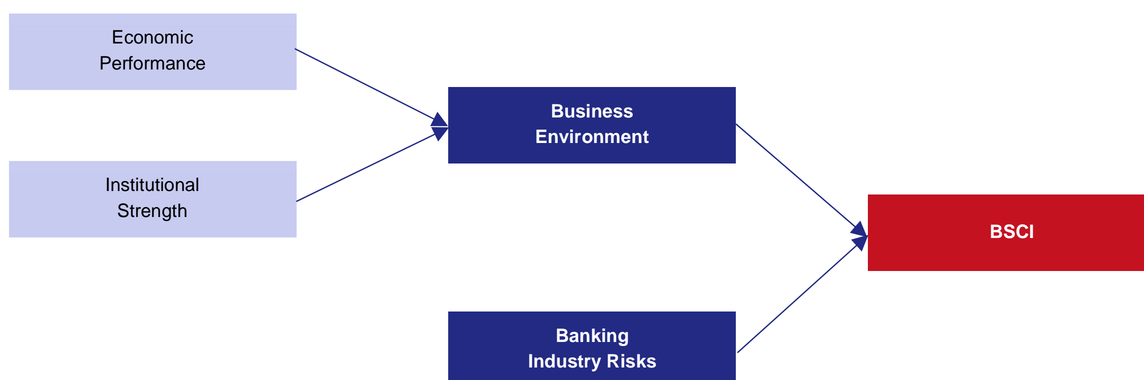
## Business Environment

Our business environment assessment is driven by our review of a market's economic performance and institutional strength. Both of these factors are key components in our Sovereign Rating Criteria. By drawing from our sovereign analysis, we seek to ensure consistency in our cross-practice macro-level assumptions, while isolating the factors that are most directly relevant to the banking sector.

### Economic Performance

In our view, a market's economic performance is a simple, yet powerful, indicator of the banking industry's operating conditions. Specifically, our analysis makes reference to our sovereign rating team's definitions and forecasts of GDP per capita and real GDP growth. Other things being constant, we believe advanced economies with robust economic performance usually foster a more favorable external environment for the banking sector.

**Exhibit 2: Banking System Credit Index (BSCI) Framework**



*GDP per Capita*

We classify a jurisdiction into one of five stages of economic development based on our estimate of current-year GDP per capita (Exhibit 3). When a market's GDP per capita falls within 20% of the threshold between two neighboring stages of economic development, we also consider other factors – such as its level of industrialization and urbanization, the prevalence of high-value added services, and the scale of public infrastructure – in determining the final classification.

**Exhibit 3: GDP per Capita Scorecard**

| | Stage of Economic Development | | | | |
|---|---|---|---|---|---|
| | **5** | **4** | **3** | **2** | **1** |
| GDP per Capita (USD)* | > 24,000 | 12,000 – 24,000 | 6,000 – 12,000 | 3,000 – 6,000 | < 3,000 |

* Based on our current-year estimate

*Real GDP Growth*

Our assessment on real GDP growth is based on a market's long-term trend, relative to the peer average within the same stage of economic development as defined in the preceding section on GDP per capita. For a given jurisdiction, we calculate a 10-year time-weighted average of its real GDP growth from t-6 to t+3, where t is the current year of analysis. This metric is scored on the basis of its deviation from the peer group average as per the guidelines in Exhibit 4.

**Exhibit 4: Real GDP Growth Scorecard**

| | Within Each Stage of Economic Development | | | | |
|---|---|---|---|---|---|
| | **5** | **4** | **3** | **2** | **1** |
| Real GDP Growth* | 1.5 Standard Deviations Higher | 1 Standard Deviation Higher | Stage Average | 1 Standard Deviation Lower | 1.5 Standard Deviations Lower |

* Based on our calculation of a 10-year time-weighted average from t-6 to t+3, where t is the current year of analysis

*Preliminary Score on Economic Performance*

The overall score for economic performance is derived from the matrix in Exhibit 5. Each market receives a score from 1 (very weak) to 7 (very strong). As an illustration, a country with a current-year GDP per capita estimate of USD20,000 would be classified in Stage 4 of economic environment. Assuming its 10-year time-weighted-average real GDP growth is 1.2 standard deviations higher than its peer group mean (a score of 4), its preliminary economic performance score would be 5.

*Resilience Adjustment*

While our real GDP growth metric is influenced by our forecasts for the next three years, we recognize that our central-case scenario may not capture the resilience or vulnerability of an economy when the macro environment experiences an unexpected and abrupt deterioration. Therefore, we may refine our preliminary score based on additional factors such as a country's economic diversity, exposure to commodity prices, reliance on imports and exports, and susceptibility to geopolitical conflicts. Given that severe stress scenarios may result in a wide range of outcomes for different regions and economies, we may raise or lower a country's preliminary score by up to three points, subject to a minimum and maximum score of 1 and 7, respectively.

**Exhibit 5: Economic Performance Preliminary Scorecard**

| | | GDP / Capita | | | | |
|---|---|---|---|---|---|---|
| | | **5** | **4** | **3** | **2** | **1** |
| GDP Growth | **5** | 7 | 6 | 5 | 4 | 3 |
| | **4** | 6 | 5 | 4 | 3 | 2 |
| | **3** | 5 | 4 | 3 | 2 | 1 |
| | **2** | 4 | 3 | 2 | 1 | 1 |
| | **1** | 3 | 2 | 1 | 1 | 1 |

### Institutional Strength

Our evaluation of institutional strength incorporates our sovereign analysts' views on the robustness of a jurisdiction's general and monetary policy frameworks. In particular, our analysis focuses on a market's ability to respond to internal and external shocks and create a stable environment for business activities via its public policy infrastructure and monetary policy. We assess a market's general institutions and monetary institutions separately out of a total score of 7 each. These two scores are then averaged and rounded to the nearest number to generate an overall score for institutional strength.

*General Institutions*

Under general institutions, we analyze a jurisdiction's public policy infrastructure. The core components of our evaluation include:

- Political and social stability;
- Effectiveness of institutions and policymaking;
- Policy framework and targets;
- Crisis prevention and risk management;
- People and social-political aspects of effective governance; and
- Data and transparency.

These sub-factors are considered and scored holistically from 1 (very weak) to 7 (very strong).

*Monetary Institutions*

In assessing a jurisdiction's monetary effectiveness and flexibility, we anchor our analysis on its inflation environment. In general, we believe low and stable inflation facilitates sustainable economic growth, instills confidence in monetary policy, and may enable governments to resort to monetary expansion in stress scenarios without disrupting social and economic stability. We employ two metrics to form our view on a market's inflation performance:

- Long-term average consumer price index (CPI) inflation. For a given market, we calculate a 10-year time-weighted average of its CPI inflation from t-6 to t+3, where t is the current year of analysis;
- CPI inflation volatility. We calculate the standard deviation of a given market's CPI inflation over a 10-year period, as defined above.

These two metrics are scored individually from 1 (very weak) to 7 (very strong) according to the scorecard in Exhibit 6.

**Exhibit 6: Inflation Scorecard**

| | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|
| CPI Inflation* | 1.0 – 2.5% | 2.5 – 3.5% | 3.5 – 4.5% | 4.5 – 6.0% | 6.0 – 8.0% | 8.0 – 10.0% | > 10.0% |
| CPI Inflation Volatility** | < 1.0 | 1.0 – 1.5 | 1.5 – 2.0 | 2.0 – 2.5 | 2.5 – 3.0 | 3.0 – 3.5 | > 3.5 |

* Based on our calculation of a 10-year time-weighted average from t-6 to t+3, where t is the current year of analysis. If the metric is below 0% (deflation), we would assign a score of 1. If the metric is between 0% and 1%, we would assign a score of 1 if there is significant deflationary pressure. Otherwise, we would assign a score of 6 to reflect a low and stable, but sub-optimal, inflation environment.
** Standard deviation of CPI inflation over the same 10-year period

The scores on CPI inflation and CPI inflation volatility are weighted 70% / 30% and rounded to the nearest number to arrive at a score on monetary institutions. This preliminary score may be adjusted upwards or downwards by up to three points based on the following:

- Exchange rate regime;
- Central bank independence;
- Financial stability and development;
- Currency union membership.

### Scoring Business Environment

The overall score on business environment is determined by referencing the matrix in Exhibit 7. A jurisdiction may receive a score from 1 (very weak) to 11 (very strong).

**Exhibit 7: Business Environment Scorecard**

| | Economic Performance | | | | | | |
|---|---|---|---|---|---|---|---|
| Institutions | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 7 | 11 | 10 | 9 | 8 | 7 | 6 | 5 |
| 6 | 10 | 9 | 8 | 7 | 6 | 5 | 4 |
| 5 | 9 | 8 | 7 | 6 | 5 | 4 | 3 |
| 4 | 8 | 7 | 6 | 5 | 4 | 3 | 2 |
| 3 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| 2 | 6 | 5 | 4 | 3 | 2 | 1 | 1 |
| 1 | 5 | 4 | 3 | 2 | 1 | 1 | 1 |

## Banking Industry Risks

Having evaluated a country's business environment, we consider the risks that are unique to a banking system. In our view, these risks mainly emanate from a banking industry's competitive dynamics, regulatory environment and system leverage. Competitive dynamics refer to the credit supply and demand conditions in the market which may influence banks' risk references, as well as their sustainable profitability. Under regulatory environment, we examine the prudential supervision banks are subject to, which may determine the level of protection creditors and the public are afforded. System leverage addresses the issue of credit over- / under-supply, which may affect asset quality going forward.

Based on these three factors, we rank banking industry-specific risk profiles from 1 (very weak) to 9 (very strong). The sub-factors that contribute to our evaluation, as well as their weightings in our scorecard, are presented in Exhibit 8. The weighted average score is rounded to the nearest number. We score competitive dynamics and regulatory environment based on our comprehensive view on the sub-factors listed. System leverage is a downward adjustment factor, where one point may be deducted above certain indicative tolerance limits.

**Exhibit 8: Banking Industry Risk Scorecard**

| Factors and Sub-factors | | Score Range | Factor Weighting | Analytical Horizon |
|---|---|---|---|---|
| A. | Competitive Dynamics | 1 – 9 | 50% | |
| B. | Regulatory Environment | 1 – 9 | 50% | |
| C. | System Leverage | -1 / 0 | | |
| **A.** | **Competitive Dynamics** | **1 – 9** | **50%** | |
| 1. | Industry Structure | | | Trend |
| 2. | Supply and Demand | | | Trend |
| 3. | Policy Role | | | Trend |
| 4. | Funding Conditions | | | Trend |
| 5. | Shadow Banking | | | Trend |
| **B.** | **Regulatory Environment** | **1 – 9** | **50%** | |
| 1. | Regulatory Framework | | | Trend |
| 2. | Creditor Protection | | | Trend |
| 3. | Institutional Framework | | | Trend |
| **C.** | **System Leverage** | **-1 / 0** | | |
| 1. | Private-sector Leverage % GDP | | | Latest |
| 2. | Change in Private-sector Leverage % GDP | | | 5-year Historical Average |

### Competitive Dynamics

The sub-factors we assess can be grouped into five categories: industry structure, the supply of and demand for credit, the public policy role the banks play, funding conditions in the market, and the prevalence of shadow banking activities.

*Industry Structure*

We assess the relative size, market positions, strategies, and competitive (dis)advantages of distinct segments of the industry. In general, we favor markets where differentiated pricing and underwriting standards are possible such that competition, while unavoidable, is not excessive. To that end, we also analyze the extent to which deposit and lending rates are market-driven, range-bound by regulation, or predominantly set by the monetary authorities. Our emphasis is on the degree to which banks attempt to price out their competition to the detriment of their on-going profitability. A related consideration is the absolute size

of the market relative to the number of competitors. Markets that are "over-banked" have a tendency to exhibit irrational pricing and underwriting patterns, especially when liquidity is abundant.

*Supply and Demand*

The supply of and demand for credit over the cycle is a critical component of a banking system's structural stability. On the demand side, we consider the role credit plays in driving growth in the real economy. In order for credit demand to remain robust in the long-term, it should be accompanied by a commensurate expansion in economic activities. By contrast, a surge in credit demand fuelled primarily by speculative activities, particularly in real estate and equities, may precipitate asset quality issues and call into question the sustainability of system leverage.

On the supply side, we evaluate the banking sector's capacity and willingness to extend credit to different segments of market, so as to facilitate growth in the real economy. On the one hand, lending growth in excess of sustainable levels may result in an unproductive use of capital. On the other hand, sharp contractions in credit over an extended period may reflect the banking sector's inability to perform its financial intermediary role, potentially creating ripple effects throughout the real economy.

*Policy Role*

The public policy role that banks are expected to play differs drastically across jurisdictions. On one end of the spectrum, there are banking systems where the largest banks are mostly state-owned and are expected to contribute to a host of policy objectives, including economic growth, and inflation and employment stability, and the support of select industry segments, such as agriculture, infrastructure, or small-to-medium enterprises. At the other extreme, a banking system may allow its participants to function fully as commercial entities, with little to no policy interference beyond the tools available through monetary policy. In between, there are markets where banks are incentivized to engage in policy-related activities via targeted relief in regulatory capital and / or liquidity provision. In assessing the impact of a banking system's policy role, we analyze the net benefits or costs associated with such role.

*Funding Conditions*

Structural funding conditions refer to the long-term ability of banks to finance the growth of their lending activities. The most stable source of funding available to a banking system is typically deposits by households and firms. The factors we assess include banking penetration (the accessibility of deposit products to the masses), real deposit rates (the willingness of customers to put their savings in bank deposits), and alternative competition (from insurance, asset management, and securities firms, etc.).

Next, we evaluate a country's central bank liquidity mechanisms and interbank market infrastructure, with an emphasis on the track record of funding availability during periods of substantial stress and volatility. Finally, we assess the local fixed-income market, with regards to its stage of development, liquidity, available maturities, and diversity of bank issuers and capital instruments. Integral to this analysis is the investor profile for bank papers and the potential for systemic risk concentration if there are significant cross-holdings among banking institutions.

*Shadow Banking*

In their numerous permutations, shadow banking activities may distort the underlying risk profile of the formal banking system. We pay particular attention to off-balance sheet, under-reported, or mis-classified exposures that should have fully remained on the bank's books if properly accounted for. Such exposures may be in the form of implicit guarantees on wealth management products, interbank transactions backed by low-quality credits, or other structures that exist only to take advantage of regulatory arbitrage. In comparison, we would be much less concerned about securitization transactions where a true sale of assets is deemed to have occurred. Whenever possible, we attempt to estimate the scale of shadow banking activities and evaluate their potential impacts on the formal banking system if they were unwound.

*Scoring Competitive Dynamics*

After we analyze the sub-factors above, we assign an overall score on a banking industry's competitive dynamics, ranging from 1 (very weak) to 9 (very strong). We do not assign weightings to individual sub-factors, as the relevance of each sub-factor may vary from market to market. Exhibit 9 provides brief guidelines on our scoring scale and we look for the categories that we believe best fit the market evaluated. Our rating committees may decide to assign an overall score in increments of one point. For instance, if we believe a particular banking system falls in between our guidance for a score of 5 and 7, we may assign a final score of 6.

**Exhibit 9: Scoring Guidelines for Competitive Dynamics**

| | 9<br>Very Strong | 7<br>Strong | 5<br>Average | 3<br>Weak | 1<br>Very Weak |
|---|---|---|---|---|---|
| **Industry Structure** | The market is in an advanced stage of development. Market segments are well-defined, such that differentiation is achievable and price competition is highly rational. The competitive landscape is stable. Overall, the industry structure creates an optimal environment for sustainable growth. | The market is well-developed. Market segmentation exists, such that some differentiation is achievable and price competition is generally rational. The competitive landscape is largely stable. Overall, the industry structure is conducive to sustainable growth. | The market is developed. Market segmentation exists to an extent and price competition is rational in most cases. The competitive landscape may change marginally. Overall, the industry structure allows for sustainable growth, contingent upon continued favorable structural improvements. | The market is developing or close to being developed. Market segmentation begins to take shape, but price competition may remain fierce. The competitive landscape is evolving. Overall, the industry structure leads to moderate concerns over growth sustainability. | The market is emerging. Market segmentation is minimal and pricing is typically the only basis of competition. The competitive landscape may experience rapid change. Overall, the industry structure leads to serious concerns over growth sustainability. |
| **Supply and Demand** | The demand for credit is commensurate with growth in the real economy, while the supply of credit is in line with that demand. Long-term credit supply and demand are stable, such that pricing and underwriting standards are at a prudent level over the cycle. | The demand for credit is largely commensurate with growth in the real economy, while the supply of credit is mostly in line with that demand. Long-term credit supply and demand are relatively stable, such that pricing and underwriting standards are at a sufficiently prudent level over the cycle. | The demand for credit is commensurate with growth in the real economy to an extent, while the supply of credit may fluctuate narrowly around that demand. Long-term credit supply and demand are subject to manageable volatility, such that pricing and underwriting standards are at an adequate level over the cycle. | The demand for credit may not be commensurate with growth in the real economy, while the supply of credit may fluctuate considerably around that demand. Long-term credit supply and demand are subject to material volatility, such that pricing and underwriting standards are at a less-than-adequate level over the cycle. | The demand for credit is often not commensurate with growth in the real economy, while the supply of credit may fluctuate widely around that demand. Long-term credit supply and demand are subject to significant volatility, such that pricing and underwriting standards are typically at an inadequate level over the cycle. |
| **Policy Role** | Most banks operate on a fully commercial basis. If a bank offers policy-driven products and services, its overriding objective is to meet its internal return on capital requirements. Policymakers have a very limited ability to influence management decisions in this regard. | Most banks operate on a fully commercial basis. If a bank offers policy-driven products and services, its overriding objective is to meet its internal return on capital requirements. However, policymakers may have some influence over management decisions in this regard. | Most banks operate on a commercial basis, but they may sometimes be guided by public policy. If a bank offers policy-driven products and services, its objective is to minimize the impacts on its risk profile. Policymakers often have influence over management decisions in this regard. | Some banks operate on a commercial basis, while others are significantly influenced by public policy. If a bank offers policy-driven products and services, its objective is to meet policymakers' implicit or explicit objectives, often at the expense of its risk profile. | Most banks are significantly influenced by public policy. If a bank offers policy-driven products and services, its objective is to meet policymakers' implicit or explicit objectives, almost always at the expense of its risk profile. |
| **Funding Conditions** | Bank deposit penetration is among the highest globally. The deposit base comprises almost all firms and households. Central bank liquidity mechanisms, interbank infrastructure, and the bond market are highly developed. Funding conditions are expected to remain adequate under the most severe stress scenarios. | Bank deposit penetration is high. The deposit base comprises the vast majority of firms and households. Central bank liquidity mechanisms, interbank infrastructure, and the bond market are well-established. Funding conditions are expected to remain adequate under most stress scenarios. | Bank deposit penetration is average. The deposit base comprises a large cross-section of firms and households. Central bank liquidity mechanisms, interbank infrastructure, and the bond market are established. Funding conditions are expected to remain adequate under low-stress scenarios. | Bank deposit penetration is below-average. The deposit base primarily comprises mid- to high-income firms and households. Central bank liquidity mechanisms, interbank infrastructure, and the bond market are developing. Funding conditions are expected to be tight under low-stress scenarios. | Bank deposit penetration is low. The deposit base is among the narrowest globally. Central bank liquidity mechanisms, interbank infrastructure, and the bond market are under-developed. Funding conditions are expected to be extremely tight under low-stress scenarios. |
| **Shadow Banking** | Shadow banking activities are largely confined to formal securitization structures, with a high degree of regulatory oversight. Other types of informal credit may exist, but are limited in scale and generally confined to the sector's capital market operations. | Shadow banking activities are mostly confined to formal securitization structures, with a high degree of regulatory oversight. Other types of informal credit may exist, but are manageable in scale and generally confined to the sector's capital market operations. | Shadow banking activities may extend beyond formal securitization structures, with a moderate degree of regulatory oversight. Other types of informal credit may be prevalent and involve the sector's commercial and retail operations. However, the overall exposure is considered to be manageable. | Shadow banking activities are prevalent and may allow banks to engage in regulatory arbitrage. These activities typically involve the sector's commercial and retail operations. The overall exposure is considered to be meaningful and regulatory oversight is relatively relaxed. | Shadow banking activities form part of the sector's day-to-day operations and may allow banks to engage in extensive regulatory arbitrage. These activities typically involve the sector's commercial and retail operations. The overall exposure is considered to be significant and regulatory oversight is light. |

Note: We assign an overall score on competitive dynamics from 1 (very weak) to 9 (very strong), based on our comprehensive views on the sub-factors listed. We may assign scores in increments of one point. For instance, if we believe a particular banking system falls in between our guidance for a score of 5 and 7, we may assign a final score of 6.

**Regulatory Environment**

The next component of our banking industry risk assessment is a jurisdiction's regulatory environment. In the majority of markets, the banking sector is the most heavily regulated part of the financial system. Nevertheless, through the numerous banking crises we have witnessed in the past, we can conclude that very few regulatory regimes have been capable of completely preventing bank failures. We evaluate a bank system's regulatory environment with a focus on its framework, the protection provided to creditors, and the strength of the institutions responsible for prudential supervision.

*Regulatory Framework*

Despite continued efforts towards a convergence of banking regulations, the supervisory frameworks applicable to banks globally remain highly differentiated. The elements we assess include the formulation of minimum capital adequacy ratios, asset quality classifications, loss provision standards, the admissibility of supplementary capital instruments, the designation and oversight of systemically important banks, and other micro- / macro-prudential regulations. We compare these aspects of a regulatory framework with those promoted by the Basel III Accord and other international standards and assign a relative score accordingly.

*Creditor Protection*

Our creditor protection analysis extends to the general corporate sector and examines the payment culture and enforcement of bankruptcy laws in the market. In particular, we analyze the jurisdiction's track record of providing creditors with recourse to defaulted counterparties via restructuring and liquidation schemes. With respect to the banking sector, we assess the bank resolution systems in place and the avenues available to different classes of creditors in case of a bank failure. We view the implementation of a deposit insurance scheme positively at the system level, although this would not be considered at the analysis of individual banks.

*Institutional Framework*

Institutional framework refers to the collective body of people, organizations, policies and processes that form a jurisdiction's banking regulatory environment. We assess institutional effectiveness by reviewing the regulator's objectives, supervisory authority, quality of disclosures, and level of risk management and corporate governance oversight. We may also assess the regulator's interactions with other financial authorities, such as a jurisdiction's securities regulator and the central bank to gain insight into its policy priorities.

*Scoring Regulatory Environment*

We assign an overall score on a banking industry's regulatory environment, ranging from 1 (very weak) to 9 (very strong). We do not assign weightings to individual sub-factors, as the relevance of each sub-factor may vary from market to market. Exhibit 10 provides brief guidelines on our scoring scale and we look for the categories that we believe best fit the market evaluated. Our rating committees may decide to assign an overall score in increments of one point. For instance, if we believe a particular banking system falls in between our guidance for a score of 5 and 7, we may assign a final score of 6.

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**Exhibit 10: Scoring Guidelines for Regulatory Environment**

| | 9<br>Very Strong | 7<br>Strong | 5<br>Average | 3<br>Weak | 1<br>Very Weak |
|---|---|---|---|---|---|
| **Regulatory Framework** | The regulatory framework is among the most comprehensive and robust globally. Banks are held to very high standards with regards to capital adequacy and other prudential regulations. Accounting standards and disclosures fully reflect the sector's underlying economics. Domestic systemically important banks are properly identified and supervised. | The regulatory framework is comprehensive and robust. Banks are held to high standards with regards to capital adequacy and other prudential regulations. Accounting standards and disclosures largely reflect the sector's underlying economics with only minor exceptions. Domestic systemically important banks are properly identified and supervised. | The regulatory framework is largely in line with international standards. Banks are held to established standards with regards to capital adequacy and other prudential regulations. Accounting standards and disclosures reflect the sector's underlying economics with a number of notable exceptions. Domestic systemically important banks are properly identified, but their supervision may have room for improvement. | The regulatory framework is in line with most international standards. Standards with regards to capital adequacy and other prudential regulations are evolving. Accounting standards and disclosures reflect the sector's underlying economics with a large number of notable exceptions. Domestic systemically important bank regulations are developing. | The regulatory framework falls short of most international standards. Standards with regards to capital adequacy and other prudential regulations are rudimentary. Accounting standards and disclosures fail to reflect the sector's underlying economics in many cases. Domestic systemically important bank regulations are non-existent or developing. |
| **Creditor Protection** | Bankruptcy and restructuring laws are very well-established and strictly enforced. Creditors are able to form reasonable expectations on recoveries and other forms of recourse in almost all default cases. Specific to the banking sector, effective resolution regimes are in place and are expected to address almost all potential bank failures in a timely manner. | Bankruptcy and restructuring laws are well-established and strictly enforced. Creditors are able to form reasonable expectations on recoveries and other forms of recourse in most default cases. Specific to the banking sector, effective resolution regimes are in place and are expected to address most potential bank failures in a timely manner. | Bankruptcy and restructuring laws are established, but their enforcement may be subject to some uncertainty. Creditors are able to form reasonable expectations on recoveries and other forms of recourse in some default cases. Specific to the banking sector, resolution regimes are adequate for most scenarios. | Bankruptcy and restructuring laws are established, but their enforcement may be subject to a high level of uncertainty. Creditors are unable to form reasonable expectations on recoveries and other forms of recourse in many default cases. Specific to the banking sector, resolution regimes are inadequate for most scenarios. | Bankruptcy and restructuring laws have a limited track record of effectiveness. Creditors are unable to form reasonable expectations on recoveries and other forms of recourse in most default cases. Specific to the banking sector, resolution regimes are not formally implemented. |
| **Institutional Framework** | The regulator is an independent body and has a singular objective of ensuring the financial stability of banks in the market. There is a robust system in place to maintain personnel and policy consistency. There is a very strong track record of regulatory effectiveness, as reflected by early warning signals on almost all banks in distress. | The regulator is an independent body and has a primary objective of ensuring the financial stability of banks in the market. There is a sufficiently robust system in place to maintain personnel and policy consistency. There is a strong track record of regulatory effectiveness, as reflected by early warning signals on most banks in distress. | The regulator has a main objective of ensuring the financial stability of banks in the market, but it may have secondary considerations such as economic growth. There is an adequate system in place to maintain personnel and policy consistency. There is a long track record of regulatory effectiveness, as reflected by early warning signals on many banks in distress. | The regulator has an objective of ensuring the financial stability of banks in the market, but it often has secondary considerations such as economic growth. Th system in place to maintain personnel and policy consistency may be inadequate in some cases. There is a limited track record of regulatory effectiveness, as reflected by a failure to detect banks in distress in most cases. | The regulator almost always has competing objectives between financial stability and economic growth. Th system in place to maintain personnel and policy consistency has proved to be inadequate. There is a very limited track record of regulatory effectiveness, and almost all bank failures have not been detected prior to their occurrence. |

Note: We assign an overall score on regulatory environment from 1 (very weak) to 9 (very strong), based on our comprehensive views on the sub-factors listed. We may assign scores in increments of one point. For instance, if we believe a particular banking system falls in between our guidance for a score of 5 and 7, we may assign a final score of 6.

### System Leverage

In this part of our assessment, we analyze the level of private-sector leverage (i.e. total credit to the private non-financial sector) and its change over time. We note that, in many markets, rapid system credit growth that has limited or diminishing impacts on economic growth has proved to be an early warning signal that asset quality may be at risk down the road. We anchor our analysis on two ratios:

- Private-Sector Credit / GDP, which measures system leverage as of the latest year-end where data are available. As warranted, we may make adjustments to publicly available figures to account for distortions in system credit and / or GDP. This ratio is viewed in the context of the jurisdiction's stage of economic development, the key drivers of economic growth, the distribution of credit between firms and households, and our expectations on the system's non-performing asset ratio.
- Change in Private-Sector Credit / GDP, which measures the average change in system credit relative to GDP over the last five years. We analyze credit growth mainly with respect to the long-term trend for more developed economies and its expected incremental impact on GDP for developing and emerging markets. Other things equal, we believe banking systems that exhibit above-trend credit growth or diminishing credit impact on GDP growth are more susceptible to a deterioration in asset quality as private-sector borrowers' debt burden continues to rise.

System leverage is a downward adjustment factor, where one point may be deducted above the indicative tolerance limits shown in Exhibit 11.

**Exhibit 11: System Leverage – Indicative Tolerance Limits**

| Stage of Economic Development | Private-sector Credit / GDP* | Change in Private-sector Credit / GDP** |
|---|---|---|
| 1 / 2 / 3 | 150% | 5.0% |
| 4 / 5 | 200% | 2.5% |

*Latest Year; **Five-year historical average

## Determining the Banking System Credit Index (BSCI)

The final step of our Pillar-1 analysis is to combine our business environment score (on a scale of 1 to 11) and banking industry risk score (on a scale of 1 to 9) to arrive at a BSCI score. This is achieved by referencing the matrix in Exhibit 12 below.

**Exhibit 12: Determining the BSCI**

| Banking Industry Risk \ Business Environment | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | a | a | a- | bbb+ | bbb+ | bbb | bbb- | bb+ | bb | bb- | b+ |
| 8 | a | a- | a- | bbb+ | bbb | bbb | bbb- | bb+ | bb | bb- | b+ |
| 7 | a- | a- | bbb+ | bbb+ | bbb | bbb- | bbb- | bb+ | bb | bb- | b+ |
| 6 | bbb+ | bbb+ | bbb+ | bbb | bbb | bbb- | bb+ | bb | bb- | b+ | b |
| 5 | bbb+ | bbb | bbb | bbb | bbb- | bbb- | bb+ | bb | bb- | b+ | b |
| 4 | bbb | bbb | bbb- | bbb- | bbb- | bb+ | bb+ | bb | bb- | b+ | b |
| 3 | bbb- | bbb- | bb+ | bb+ | bb | bb | bb- | b+ | b+ | b | b- |
| 2 | bb+ | bb+ | bb | bb | bb- | bb- | b+ | b+ | b | b | b- |
| 1 | bb | bb | bb- | bb- | b+ | b+ | b | b | b- | b- | b- |

The BSCI score follows a scale of 'a' to 'b-' for a total of 11 categories. The scoring matrix is calibrated with a number of considerations in mind:

- Even for a banking system that has the best business environment and industry risk profiles, the maximum BSCI score it can attain is 'a'. This reflects our view that, given the banking sector's interlinkages with the broader economy and vulnerability to unexpected credit and liquidity downturns, it is highly unlikely that the sector as whole would have a credit profile that exceeds our expectations for the 'a' rating category;
- It would be exceptionally rare for a banking system as a whole to have a better credit profile compared to the sovereign in which it is domiciled. However, we do not impose strict caps on individual banks' ratings based on the applicable sovereign ratings;

- Even in jurisdictions with highly stable business environments, banking industry-specific risks play a significant role in driving the final BSCI score.

**Multi-national Banks**

For banks with more than 10% of their assets in markets outside of their home jurisdictions, we calculate a weighted average BSCI score based on their asset distribution (Exhibit 13). This is done to ensure that our bank analysis fully captures the external risks to which a banking institution is exposed. As an example, if a bank has 80% of its assets in a jurisdiction with a BSCI score of 'bbb' (numeric score of 8) and the remaining 20% of its assets in a 'bb'-scored market (numeric score of 5), the applicable weighted average BSCI score would be 'bbb-' (numeric score of 7).

**Exhibit 13: Numeric Scores of BSCI Categories**

| BSCI Score | Numeric Score |
|---|---|
| a | 11 |
| a- | 10 |
| bbb+ | 9 |
| bbb | 8 |
| bbb- | 7 |
| bb+ | 6 |
| bb | 5 |
| bb- | 4 |
| b+ | 3 |
| b | 2 |
| b- | 1 |

## Pillar 2: Business Profile Assessment

Under Pillar 2 of our analytical framework, we assess a bank's business profile from both a top-down and cross-functional perspective, beginning with its strategic and risk framework, which outlines the key parameters around which the organization operates. Second, we analyze the bank's management and governance structure, which largely determines its ability to execute its strategic and risk priorities. Finally, we evaluate the bank's balance-sheet management capabilities, which would involve a wide range of business functions and cross-functional teams and / or committees.

The factors and sub-factors that we analyze, as well as their respective weightings towards our final business profile assessment score, are presented in Exhibit 14. The weighted average score is rounded to the nearest number to arrive at a final score. While our scoring guidelines are qualitative in nature, we may refer to an array of quantitative metrics, measured over time and compared across a bank's peers, depending on the specific features of a banking system and the participants therein.

**Exhibit 14: Business Profile Assessment Scorecard**

| Factors and Sub-factors | | Score Range | Factor Weighting | Analytical Horizon |
|---|---|---|---|---|
| A. | Strategic Framework | 1 – 11 | 25.0% | |
| B. | Management and Governance | 1 – 11 | 25.0% | |
| C. | Balance Sheet Management | 1 – 11 | 50.0% | |
| **A.** | **Strategic and Risk Framework** | 1 – 11 | **25.0%** | |
| 1. | Market Position | | | Trend |
| 2. | Appropriateness of Strategy | | | Trend |
| 3. | Risk Preferences | | | Trend |
| **B.** | **Management and Governance** | 1 – 11 | **25.0%** | Trend |
| 1. | Quality, Consistency and Continuity | | | Trend |
| 2. | Governance Structure | | | Trend |
| 3. | Risk Oversight | | | |
| **C.** | **Balance-sheet Management** | 1 – 11 | **50.0%** | Trend |
| 1. | Asset Risk Management | | | Trend |
| 2. | Funding Risk Management | | | Trend |
| 3. | Capital Management | | | |

## Strategic and Risk Framework

A bank's strategic and risk framework refers to the way its top-down strategic objectives and risk preferences are articulated, either explicitly as communicated to internal and external stakeholders, or implicitly as can be observed through its corporate behavior over time. The sub-factors we consider include a bank's market position, the appropriateness of its corporate strategy, and its risk appetite. Our score on strategic and risk framework is based on a comprehensive analysis of these three factors and ranges from 1 (very weak) to 11 (very strong). We may assign scores in increments of one point if we believe that a bank falls in between two of the categories shown.

**Market Position**

A banking institution's existing market position may have a significant bearing on its future strategic direction and risk preferences. For example, a bank which controls the lion's share of a system's deposit base through an extensive retail service network may enjoy a sustainable funding cost advantage, shielding it from pricing competition with its much smaller competitors. In contrast, a small banking franchise that operates primarily in the sub-prime segments might adopt an aggressive pricing strategy in an attempt to gain market share, especially when liquidity conditions are supportive.

In view of the diversity of industry structures globally, we do not use prescribed metrics, such as market shares, to quantify a bank's market position. Instead, our assessment is informed by our overall view on an entity's competitive advantages and disadvantages, relative to its peers in the domestic market and banks of comparable size and credit standing in other jurisdictions. We score market position with reference to the broad guidelines in Exhibit 15. It is important to note that these guidelines are for indicative purposes only and may not be fully applicable to all of the entities we analyze.

**Exhibit 15: Market Position Scorecard**

| Score | Indicative Guidelines |
| --- | --- |
| 11 | The bank is, by far, the only market leader in its home market, with a dominant position across almost all products. It controls a significant portion of the domestic deposit base and has extensive customer relationships in both retail and corporate banking. Typically, it is a bank with well-diversified product and service offerings. In addition, it may have substantial operations on a regional or global basis, ranking in the top quartile by assets or deposits in most foreign jurisdictions in which it operates. In our view, its competitive advantages are sustainable in the long-term, mainly due to its structural strengths. |
| 9 | The bank is among the market leaders in its home market, with a very strong position across most products. It controls a considerable portion of the domestic deposit base and has well-established customer relationships in both retail and corporate banking. Typically, it is a bank with well-diversified product and service offerings. In addition, it may have operations on a regional or global basis, ranking in the top half by assets or deposits in most foreign jurisdictions in which it operates. In our view, its competitive advantages are sustainable in the long-term, provided that it continues to invest in its branding, sales and marketing, technology, and human resources, etc. |
| 7 | The bank is a formidable competitor in its home market, with a strong position across many products. It controls a relatively large portion of the domestic deposit base and has established customer relationships in both retail and corporate banking. Typically, it is a bank with diversified product and service offerings. In addition, it may have operations on a regional or global basis, but its position in foreign markets is much weaker than at home. In our view, its competitive advantages may be challenged by its closest peers in the long-term, mainly due to the vulnerability of its franchise differentiation. |
| 5 | The bank is a respectable competitor in its home market, ranking close to the middle across most products. The size of its domestic deposit base is similar to that of the average competitor and its customer relationships in retail and corporate banking tend to be focused on select segments. Its product and service offerings may also have a skew towards certain segments, typically tailored for the middle market. If it has a foreign presence, its international operations are unlikely to become a meaningful part of the organization in the foreseeable future. In our view, its competitive advantages may be challenged by its closest peers in the near-term, mainly due to the vulnerability of its franchise differentiation. |
| 3 | The bank is a below-average competitor in its home market, perhaps due to its limited geographical presence. The size of its domestic deposit base is relatively small and its customer relationships in retail and corporate banking are focused on select segments. Its product and service offerings may also have a skew towards certain segments, typically tailored for the middle to low end of the market. Its foreign presence is generally limited, with the exceptions of representative offices and small branches. In our view, its competitive advantages, if any, are constantly challenged by its closest peers, mainly due to its weak franchise differentiation. |
| 1 | The bank is among the weakest competitors in its home market, ranking close to the bottom across most products. The size of its domestic deposit base is extremely small and its customer relationships in retail and corporate banking are focused on niches. Its product and service offerings have a skew towards certain segments, typically tailored for the low end of the market. Its foreign presence is very limited, with the exceptions of representative offices and small branches. In our view, it has no competitive advantages relative to its peers. |

### Appropriateness of Strategy

Having examined a bank's existing market position, we evaluate its strategy going forward. Our interpretation of an organization's strategy is generally derived from multiple sources, including through the bank's public statements, our interactions with management, our observation of the bank's corporate behavior over time, channel checks, and commentaries by other market participants. A bank's strategy is assessed principally with regards to its appropriateness, given its current market position, execution capabilities, financial performance, and capital adequacy.

The most common strategies pursued by bank management may seek to increase market share, optimize return on equity, maximize shareholder dividends / share buybacks, or preserve capital. Often, management's strategy formulation is a function of the mandate given by the board of directors, shareholder expectations, the regulatory landscape, and its own incentives, The suitability of a given strategy for a bank may also change over time, as the organization continues to evolve. As such, our assessment of bank strategy may change from one period to another, even if management's strategic statement remains the same. We score the appropriateness of strategy by referencing the indicative guidelines in Exhibit 16.

**Exhibit 16: Appropriateness of Strategy Scorecard**

| Score | Indicative Guidelines |
|---|---|
| 11 | The bank's strategy is highly supported by its current market position, execution capabilities, financial performance, and capital adequacy. The strategy is formulated with a view to balance the interests of the bank's internal and external stakeholders, including its shareholders, creditors, customers, and regulators. The strategy, if property implemented, is expected to be significantly beneficial to bank creditors, including its depositors, bondholders and other counterparties. In our view, the suitability of the strategy is extremely unlikely to change in the next 3 to 5 years. |
| 9 | The bank's strategy is well supported by its current market position, execution capabilities, financial performance, and capital adequacy. To a large extent, the strategy is formulated with a view to balance the interests of the bank's internal and external stakeholders, including its shareholders, creditors, customers, and regulators. The strategy, if property implemented, is expected to be largely beneficial to bank creditors, including its depositors, bondholders and other counterparties. In our view, the suitability of the strategy is highly unlikely to change in the next 3 to 5 years. |
| 7 | The bank's strategy is supported by its current market position, execution capabilities, financial performance, and capital adequacy. To a certain degree, the strategy is formulated with a view to balance the interests of the bank's internal and external stakeholders, including its shareholders, creditors, customers, and regulators. The strategy, if property implemented, is expected to be incrementally beneficial to bank creditors, including its depositors, bondholders and other counterparties. In our view, the suitability of the strategy is unlikely to change in the next 3 to 5 years. |
| 5 | The bank's strategy is somewhat supported by its current market position, execution capabilities, financial performance, and capital adequacy, but risks may be on the down side. The strategy is formulated with a view to optimize the interests of one or more of the bank's internal and external stakeholders, including its shareholders, creditors, customers, and regulators. The strategy, if implemented, is expected to be close to neutral to bank creditors, including its depositors, bondholders and other counterparties. In our view, the suitability of the strategy may be subject to change in the next 3 to 5 years. |
| 3 | The bank's strategy may not be fully supported by its current market position, execution capabilities, financial performance, and capital adequacy, and risks are predominantly on the down side. The strategy is formulated with a view to optimize the interests of a small number of the bank's internal and external stakeholders, most likely its shareholders or related parties. The strategy, if implemented, is expected to be incrementally detrimental to bank creditors, including its depositors, bondholders and other counterparties. In our view, the suitability of the strategy is likely to decrease further in the next 3 to 5 years. |
| 1 | The bank's strategy is clearly not supported by its current market position, execution capabilities, financial performance, and capital adequacy, and downside risks are significant. The strategy is formulated with a view to optimize the interests of the bank's shareholders or related parties. The strategy, if implemented, is expected to be significantly detrimental to bank creditors, including its depositors, bondholders and other counterparties. In our view, the suitability of the strategy is extremely likely to decrease further in the next 3 to 5 years. |

### Risk Preferences

With regards to a bank's risk preferences, our focal point is on the level of risk it is prepared to take in order to execute its strategy. A bank's risk appetite is then viewed in the context of its on-going financial performance and projected balance-sheet quality. While our Pillar-3 (capital formation) and Pillar-4 (capital adequacy) analyses attempt to quantify the variability around a bank's earnings and potential balance-sheet vulnerabilities, our assessment here is primarily concerned with a bank's willingness, rather than capacity, to take on incremental risks. Accordingly, we also evaluate a bank's track record of adhering to risk guidelines and maintaining pricing and underwriting discipline over previous cycles.

In general, we view positively banks that have demonstrated consistency in their risk preferences over time, as their exposures over the cycle would be more predictable and easily quantifiable. In comparison, banks that have gone through multiple phases of over-expansion and over-contraction in the past are at significantly higher risk of mis-estimating their exposures, in

our view. Consistency in risk appetite is particularly relevant to a bank's new product development, overseas expansion, and mergers and acquisitions (M&A) plans, which may involve risks with which management is considerably less familiar.

Our indicative scoring guidelines on risk preferences are shown in Exhibit 17.

**Exhibit 17: Risk Preferences Scorecard**

| Score | Indicative Guidelines |
|---|---|
| 11 | The bank has a consistently low risk appetite, as demonstrated by the strong resilience of its financial performance and balance sheet over previous downturns. Any incremental change in risk appetite is well conceived, managed and implemented. Risk preferences are determined by a large group of stakeholders within the organization, with strong expertise in their respective areas. There is a clear preference for organic growth over M&A opportunities, which are taken infrequently and typically as "add-ons" that complement the bank's existing operations. |
| 9 | The bank has a low risk appetite, as demonstrated by the relative resilience of its financial performance and balance sheet over previous downturns. Any incremental change in risk appetite is generally well conceived, managed and implemented. Risk preferences are determined by a wide base of stakeholders within the organization, with strong expertise in their respective areas. There is a general preference for organic growth over M&A opportunities, which are taken infrequently and involve a limited portion of the bank's financial resources. |
| 7 | The bank has a below-average risk appetite as compared to its closest peers and as demonstrated by the relatively low volatility in its financial performance and balance sheet over previous downturns. Any incremental change in risk appetite is properly conceived, managed and implemented. Risk preferences are determined by a representative cross-section of senior and middle management. There is a preference for organic growth over M&A opportunities, which are taken opportunistically and involve a manageable portion of the bank's financial resources. |
| 5 | The bank has an average risk appetite as compared to its closest peers and as demonstrated by the industry-level volatility in its financial performance and balance sheet over previous downturns. Any incremental change in risk appetite is adequately conceived, managed and implemented. Risk preferences are determined by a broad representation of senior management. The bank is generally agnostic with regards to organic growth and M&A opportunities, which may be taken from time to time and involve a considerable portion of the bank's financial resources. |
| 3 | The bank has an above-average risk appetite as compared to its closest peers and as demonstrated by the above industry-level volatility in its financial performance and balance sheet over previous downturns. Incremental changes in risk appetite may often be inadequately conceived, managed and implemented. Risk preferences are determined by a small number of senior management members. The bank may have a preference for M&A opportunities over organic growth, reflecting its willingness to put a large portion of its financial resources at risk. |
| 1 | The bank has a consistently high risk appetite, as demonstrated by the extreme volatility in its financial performance and balance sheet over previous downturns. Incremental changes in risk appetite are often inadequately conceived, managed and implemented. Risk preferences are determined by only a few decision makers. The bank has a clear preference for M&A opportunities over organic growth, reflecting its willingness to put a significant portion of its financial resources at risk. |

## Management and Governance

The people, policies and processes within the organization enable a bank to execute its strategic and risk framework. These factors are assessed under the management and governance factor, which comprises management quality, consistency and continuity, a bank's governance structure, and its risk oversight functions. We evaluate these sub-factors holistically and assign an overall score of between 1 (very weak) to 11 (very strong) on management and governance. We may assign scores in increments on one point, should we determine that a bank's characteristics fall in between any two categories shown.

### Quality, Consistency and Continuity

This represents our subjective view on management's ability to execute its long-term strategies as set forth by the board of directors and within the confines of the relevant regulatory framework. We may take into account factors such as senior management's qualifications and experience in the banking industry, continuity and international exposure. Senior management teams with a limited track record, unproven execution capabilities, or high turnovers may signal potential risks in a bank's overall risk management. We also pay close attention to management's compensation packages and other incentive schemes to gauge its key performance indicators, as laid out by the board of directors and major shareholders.

We present the indicative guidelines on quality, consistency and continuity in Exhibit 18.

**Exhibit 18: Quality, Consistency and Continuity Scorecard**

| Score | Indicative Guidelines |
|---|---|
| 11 | The bank is run by a well-seasoned senior management team, with proven experience in the domestic and international markets. Almost all of the senior executives have been with the bank for an extended period of time. They have demonstrated a highly consistent track record in steering the bank through multiple credit cycles. In our view, the interests of bank creditors form an essential part of their long-term incentives. It is highly unlikely that key management members will leave the firm over the next 3 to 5 years. |
| 9 | The bank is run by a seasoned senior management team, with extensive experience in the domestic and international markets. The majority of the senior executives have been with the bank for an extended period of time. They have demonstrated a consistent track record in steering the bank through multiple credit cycles. In our view, the interests of bank creditors form an important part of their long-term incentives. It is unlikely that key management members will leave the firm over the next 3 to 5 years. |
| 7 | The bank is run by an experienced senior management team, with previous exposures in the domestic and international markets. Most senior executives have been with the bank for an extended period of time. They have demonstrated a track record in steering the bank through multiple credit cycles. In our view, the interests of bank creditors form a part of their long-term incentives. It is unlikely that we will see significant turnover in key management members over the next 3 to 5 years. |
| 5 | The bank is run by an experienced senior management team, but such experience is typically limited to the domestic or regional markets. Many senior executives have been with the bank for an extended period of time. They have demonstrated a track record in managing the bank through multiple credit cycles with varying degrees of success. In our view, the interests of bank creditors may not be an important part of their long-term incentives. There may be some concerns over turnover in key management members over the next 3 to 5 years. |
| 3 | The bank is run by a senior management team with varying levels of industry experience and such experience is typically limited to the domestic market. Some senior executives have been with the bank for an extended period of time. They may have a track record in managing the bank through multiple credit cycles, but their execution capability may be weak at times. In our view, the interests of bank creditors may not be part of their long-term incentives. There may be some concerns over turnover in key management members over the next 3 to 5 years. |
| 1 | The bank is run by a senior management team with minimal levels of industry experience and such experience is limited to the domestic market. Many senior executives are new to the bank. They have yet to demonstrate a track record in managing the bank through multiple credit cycles, and their execution capability is questionable. In our view, the interests of bank creditors are not part of their long-term incentives. There may be serious concerns over turnover in key management members over the next 3 to 5 years. |

### Governance Structure

We begin our assessment of a bank's corporate governance standards by analyzing the composition, experience, and balance of interests of its board of directors. In the majority of jurisdictions, a bank's board of directors is subject to competency and suitability requirements by its regulators. However, we believe compliance with existing regulatory requirements is a necessary but insufficient condition to ensure an adequate governance structure. A more important consideration in our analysis is whether the board can properly perform its strategic and risk functions and thoroughly consider the impacts of any major corporate decisions on creditor interests.

In our opinion, board effectiveness may be heavily influenced by the motivations of a bank's controlling shareholder(s), which may have full control over any board actions. For public-sector banks, we would consider if such motivations include the promotion of policy objectives at the expense of creditor interests. As for private-sector banks that are controlled by a single shareholder or a consortium of investors acting in concert, our evaluation emphasizes the balance of interests between shareholders and creditors, which may be reflected in the board's return on equity and capital adequacy expectations. In addition, common attributes of an effective governance structure may include the appointment of a non-executive chairman and a meaningful number of independent, non-executive board members.

If a bank is also subject to the oversight of a supervisory board or similar bodies (such as those that represent a bank's employees), we may also evaluate its functions and the extent to which it affects the bank's strategy and risk priorities.

Our broad governance structure guidelines are shown in Exhibit 19.

**Exhibit 19: Governance Structure Scorecard**

| Score | Indicative Guidelines |
|---|---|
| 11 | In our opinion, the bank's corporate governance standards are among the best globally and have proved to be extremely effective in driving its strategic and risk objectives. There is a very high degree of independence between the bank's board of directors and management, so as to ensure that its major corporate decisions are subject to intense internal oversight. Independent, non-executive members play an integral role on the board. |
| 9 | In our opinion, the bank's corporate governance standards exceed international industry norms and have proved to be highly effective in driving its strategic and risk objectives. There is a high degree of independence between the bank's board of directors and management, so as to ensure that its major corporate decisions are subject to thorough internal oversight. Independent, non-executive members play an important role on the board. |
| 7 | In our opinion, the bank's corporate governance standards are in line with international industry norms and have proved to be effective in driving its strategic and risk objectives. There is adequate independence between the bank's board of directors and management, so as to ensure that its major corporate decisions are subject to an additional layer of internal oversight. Independent, non-executive members play a role on the board. |
| 5 | In our opinion, the bank's corporate governance standards are in line with local or regional industry norms and have proved to be effective in driving its strategic and risk objectives in most instances. There is some independence between the bank's board of directors and management, but corporate decision-making power may be concentrated. Independent, non-executive members may be present, but their expertise and ability to provide effective checks and balances may be inadequate in some cases. |
| 3 | In our opinion, the bank's corporate governance standards are below local or regional industry norms, but have proved to be effective in driving its strategic and risk objectives in some instances. There is limited independence between the bank's board of directors and management, and corporate decision-making power is concentrated. Independent, non-executive members may be present in form, but in terms of substance, their expertise and ability to provide effective checks and balances are inadequate. |
| 1 | In our opinion, the bank's corporate governance standards are well below local industry norms and have proved to be ineffective in driving its strategic and risk objectives in most instances. There is very limited independence between the bank's board of directors and management, and corporate decision-making power is highly concentrated. Independent, non-executive members may or may not be present in form, but in terms of substance, their expertise and ability to provide effective checks and balances are highly inadequate. |

## Risk Oversight

In this section, we evaluate the degree to which a bank's high-level risk framework is properly communicated and implemented throughout the organization. We focus on the people, internal risk oversight functions, and policies and processes that are involved in designing, monitoring and revising its risk parameters. Depending on the complexities of a bank's business, its adoption of risk-based management may involve systems and procedures that are unique to its needs.

Instead of focusing solely on the teams, departments, and management committees that are internally designated as risk functions, we analyze an organization's risk culture on a holistic basis. For instance, while a firm may have formulated stringent loan underwriting policies, a lack of training or oversight of front-line loan officers may result in major weaknesses in its first line of defence against problem assets. We gauge the adequacy of firm-wide risk-oversight functions by evaluating the bank's market behaviour against established policies and the track record of compliance breaches.

In today's operating environment, IT infrastructure has become a required core competency for banks globally. The adequacy of a firm's IT capabilities may have far-reaching impacts from loan origination, pricing and credit approvals to liquidity and capital management. The protection of customer privacy has also become a regulatory priority in the majority of jurisdictions. Among other factors, we gauge an organization's IT infrastructure quality by reviewing its system designs, data control processes, scalability and recoverability.

Although our scoring guidelines for risk oversight are qualitative in nature, we may supplement our analysis with quantitative metrics, such as the trading book's value at risk and the notional exposures of derivatives positions. We score risk oversight based on the guidelines in Exhibit 20.

**Exhibit 20: Risk Oversight Scorecard**

| Score | Indicative Guidelines |
| --- | --- |
| 11 | There is a very strong track record of internal and external compliance. with no notable incidents of risk management breaches in the last 3 to 5 years. The bank has extremely strong risk oversight capabilities, accompanied by a prudent risk culture throughout the organization. There is very close coordination among key business functions and positions to ensure that the bank's established risk parameters are consistently communicated, observed and adjusted as required. Operational risks are minimal and significantly mitigated by substantial investments in systems and processes. |
| 9 | There is a strong track record of internal and external compliance. with close to no notable incidents of risk management breaches in the last 3 to 5 years. The bank has strong risk oversight capabilities, accompanied by a generally prudent risk culture throughout the organization. There is close coordination among key business functions and positions to ensure that the bank's established risk parameters are consistently communicated, observed and adjusted as required. Operational risks are limited and mitigated by substantial investments in systems and processes. |
| 7 | There is a long track record of internal and external compliance. with only a few notable incidents of risk management breaches in the last 3 to 5 years. The bank has more than adequate risk oversight capabilities, accompanied by a sufficiently conservative risk culture throughout the organization. There is coordination among key business functions and positions to ensure that the bank's established risk parameters are consistently communicated, observed and adjusted as required. Operational risks are manageable and mitigated by continued investments in systems and processes. |
| 5 | There is a relatively short track record of internal and external compliance. with a number of notable incidents of risk management breaches in the last 3 to 5 years. The bank has adequate risk oversight capabilities in most cases, accompanied by a favorable risk culture in the main business functions. There is some coordination among key business functions and positions to ensure that the bank's established risk parameters are consistently communicated, observed and adjusted as required. Operational risks may be a challenge if there are no continued investments in systems and processes. |
| 3 | There is a weak track record of internal and external compliance. with many notable incidents of risk management breaches in the last 3 to 5 years. The bank has less than adequate risk oversight capabilities in many cases, accompanied by an inconsistent risk culture in the main business functions. There is limited coordination among key business functions and positions to ensure that the bank's established risk parameters are consistently communicated, observed and adjusted as required. Operational risks will be a challenge if there are no continued investments in systems and processes. |
| 1 | There is a very weak track record of internal and external compliance. with a large number of notable incidents of risk management breaches in the last 3 to 5 years. The bank has inadequate risk oversight capabilities in many cases, accompanied by an inconsistent risk culture throughout the organization. There is very limited coordination among key business functions and positions to ensure that the bank's established risk parameters are consistently communicated, observed and adjusted as required. Operational risks are an on-going challenge and a major credit concern. |

## Balance-sheet Management

Balance-sheet management is the final component of our business profile assessment. At their core, banks are in the business of extending credit to firms and households, through raising funding from a mix of depositors, debtholders and shareholders. As such, the risk attributes of a bank's assets, liabilities and capital are important drivers of its creditworthiness. Just as we focus on firm-wide risk culture in the preceding section, we assess a bank's ability to manage its balance sheet via the coordination of its key business functions here. The key asset-liability areas we consider are summarized in Exhibit 21.

**Exhibit 21: Key Asset-liability Areas Analyzed**

| Assets | Funding | Capital |
| --- | --- | --- |
| Credit risks | Stability | Core capital adequacy |
| Interest-rate risks | Diversity | Supplementary capital |
| Market risks | Tenor | Contingency plans |
| Liquidity risks | Cost | |

We evaluate the asset risk, funding risk and capital management sub-factors holistically and assign an overall score of between 1 (very weak) to 11 (very strong) on balance-sheet management. We may assign scores in increments of one point, should we determine that a bank's characteristics fall in between any two categories shown.

### Asset Risk Management

A bank's assets consist mainly of its retail and commercial loan book, securities held for trading or investment purposes, receivables, strategic equity holdings, real estate, and derivative positions. Depending on a bank's business model, its asset composition may differ significantly from that of its peers.

Our first consideration is a bank's ability to manage its asset quality. With regards to its core loan operations, we begin by analyzing the mix of its loan book by type, industry, geography, tenor and collateral / guarantee status. We attempt to identify potential risk concentrations in the portfolio, particularly with regards to borrower classification and correlation. This is followed by a review of a bank's non-performing loan (NPL) recognition, classification and management policies. In general, we favor banks that take a forward-looking and consistent approach in provisioning for potential credit losses. A study of a bank's NPL accounting and provisioning practices over time and relative to its peers' may provide useful insights into the institution's ability to navigate credit downturns in the future.

Second, we analyze the interest-rate, market and liquidity risks of a bank's trading and investment exposures, with an emphasis on duration, credit-spread, and foreign-exchange risks, and other sources of price volatilities. A bank that runs large proprietary trading positions may be significantly more exposed to market gyrations, as compared to peers with only lower-risk treasury operations. The potential shortage of liquidity for many instruments may also expose the bank to uncertainties in volatile markets. If a bank's positions are managed through the use of derivatives, we assess the effectiveness of such protection and the counterparty risks involved. The concentration, and credit and price limits associated with a bank's various types of exposures may shed light on management's consistency in adhering to its overall strategic and risk framework.

Finally, we evaluate a bank's asset valuation and accounting policies to ascertain that its underlying asset risks are conservatively expressed in its financial statements. We score asset risk management with reference to the indicative guidelines in Exhibit 22.

**Exhibit 22: Asset Risk Management Scorecard**

| Score | Indicative Guidelines |
| --- | --- |
| 11 | The bank has an exceptional ability to manage its credit, interest-rate, market and liquidity risks, as demonstrated by the strong resilience of its asset base over the cycle. The bank has a very well-diversified loan portfolio by type, industry, geography, tenor, and collateral / guarantee status. Management follows an extremely prudent NPL recognition, classification and management policy. Credit losses are provided for on a forward-looking basis and provision coverage has consistently been at a very conservative level. The interest-rate, market and liquidity risks of its trading and investment book are either minimal, or meticulously managed via well-established hedging policies. Accounting standards and disclosures fully reflect the bank's underlying asset exposures. |
| 9 | The bank has a very strong ability to manage its credit, interest-rate, market and liquidity risks, as demonstrated by the resilience of its asset base over the cycle. The bank has a well-diversified loan portfolio by type, industry, geography, tenor, and collateral / guarantee status. Management follows a prudent NPL recognition, classification and management policy. Credit losses are provided for on a forward-looking basis and provision coverage has consistently been at a conservative level. The interest-rate, market and liquidity risks of its trading and investment book are either minimal, or well managed via well-established hedging policies. Accounting standards and disclosures reflect the bank's underlying asset exposures, with only a few minor exceptions. |
| 7 | The bank has a strong ability to manage its credit, interest-rate, market and liquidity risks, as demonstrated by the relative resilience of its asset base over the cycle. The bank has a diversified loan portfolio by type, industry, geography, tenor, and collateral / guarantee status. Management follows a sufficiently prudent NPL recognition, classification and management policy. Credit losses are provided for on a forward-looking basis and provision coverage has, on average, been at a conservative level. The interest-rate, market and liquidity risks of its trading and investment book are relatively limited and managed via well-established hedging policies. Accounting standards and disclosures reflect the bank's underlying asset exposures, with only a few exceptions. |
| 5 | The bank has an adequate ability to manage its credit, interest-rate, market and liquidity risks, as demonstrated by the relatively low volatilities of its asset base over the cycle. The bank has a diversified loan portfolio, but there may be a skew by type, industry, geography, tenor, or collateral / guarantee status. Management follows an adequate NPL recognition, classification and management policy. Credit losses are provided for with a somewhat backward-looking bias, but provision coverage has been at an adequate level. The interest-rate, market and liquidity risks of its trading and investment book are within comfortable limits and may be managed via hedging policies. Accounting standards and disclosures reflect the bank's underlying asset exposures for the most part. |
| 3 | The bank has a weak ability to manage its credit, interest-rate, market and liquidity risks, as demonstrated by the volatilities of its asset base over the cycle. The bank has a somewhat diversified loan portfolio, but there may be a significant skew by type, industry, geography, tenor, or collateral / guarantee status. Management follows an NPL recognition, classification and management policy as required by minimum regulatory standards. Credit losses are provided for with a backward-looking bias, and provision coverage has been less than adequate in many cases. The interest-rate, market and liquidity risks of its trading and investment book may lead to significant volatilities and hedging policies may not mitigate such risks. Accounting standards and disclosures may not reflect the bank's underlying asset exposures in many instances. |
| 1 | The bank has a very weak ability to manage its credit, interest-rate, market and liquidity risks, as demonstrated by the extreme volatilities of its asset base over the cycle. The bank has a concentrated loan portfolio with a significant skew by type, industry, geography, tenor, or collateral / guarantee status. Management follows an NPL recognition, classification and management policy that may fall short of minimum regulatory standards. Credit losses are provided for with a backward-looking bias, and provision coverage has been inadequate in many cases. The interest-rate, market and liquidity risks of its trading and investment book are expected to lead to significant volatilities and hedging policies may not mitigate such risks. Accounting standards and disclosures do not reflect the bank's underlying asset exposures in many instances. |

## Funding Risk Management

A bank's funding sources may range from retail and corporate deposits, to central and interbank liquidity, and the domestic and international fixed income markets. Among these sources of funding, customer deposits are generally the most stable and cost-effective over time. This often gives banks with a strong retail franchise a sustainable advantage over peers that have to rely more heavily on wholesale funding.

We assess a bank's funding risk management primarily based on the stability, diversity, tenor, and cost of its interest-bearing liabilities. In terms of stability, a bank that has access to longer-term and more "sticky" funding would typically be more resilient when liquidity conditions deteriorate in the market. This contrasts with banks that source a material part of their financing from the interbank market, where the availability and pricing of funds tend to be much more volatile. To manage potential market volatilities, banks would benefit from a diversity of funding sources by type, tenor and currency. We also assess the tenor and currency denomination of a bank's funding in the context of its asset profile, in order to quantify its net interest-rate and foreign-exchange sensitivities.

We analyze a bank's funding cost relative to its peers' and over time. While a bank with a costly funding base may be able to transfer a part of its costs to its customers, it may sometimes result in a downward shift in asset quality profile, leading to a deviation from its intended strategic and risk framework.

We score funding risk management based on the indicative guidelines in Exhibit 23.

**Exhibit 23: Funding Risk Management Scorecard**

| Score | Indicative Guidelines |
|---|---|
| 11 | The bank's funding risk management is anchored by its extensive retail and corporate deposit base, which is a long-term sustainable advantage. As a result, the bank's funding base is extremely stable, with minimal reliance on the wholesale market. There is a very high level of funding diversification by type and tenor, which are closely matched with its asset profile. Overall, the bank has access to the lowest cost of funding in the market. Any material increase in funding cost is almost entirely passed on to its borrowers, with a very limited adverse impact on its net interest margin and asset quality profile. |
| 9 | The bank's funding risk management is anchored by its wide retail and corporate deposit base, which is a long-term sustainable advantage. As a result, the bank's funding base is very stable, with limited reliance on the wholesale market. There is a high level of funding diversification by type and tenor, which are closely matched with its asset profile. Overall, the bank has access to low cost of funding relative to its peers' in the market. Any material increase in funding cost is largely passed on to its borrowers, with a limited adverse impact on its net interest margin and asset quality profile. |
| 7 | The bank's funding risk management is supported by its relatively wide retail and corporate deposit base, which is a clear competitive advantage. As a result, the bank's funding base is generally stable, with some reliance on the wholesale market. There is reasonable diversification by type and tenor, which are mostly matched with its asset profile. Overall, the bank has access to lower cost of funding relative to most of its peers' in the market. Any material increase in funding cost is partially passed on to its borrowers, with a modest adverse impact on its net interest margin and asset quality profile. |
| 5 | The bank's funding risk management is somewhat supported by its retail and corporate deposit base, which is on par with its peers'. The bank's funding base is stable, with moderate reliance on the wholesale market. There is some diversification by type and tenor, which are matched with its asset profile to an extent. Overall, the bank has access to average cost of funding relative to its peers' in the market. Any material increase in funding cost is passed on to its borrowers only to some extent, with a noticeable adverse impact on its net interest margin and asset quality profile in parts of the cycle. |
| 3 | The bank's funding risk management is assisted by its retail and corporate deposit base, which may be weaker than its peers'. The bank's funding base may be subject to some volatility, with heavy reliance on the wholesale market at times. There is only moderate diversification by type and tenor, which may not be closely matched with its asset profile. Overall, the bank only has access to above-average cost of funding relative to its peers' in the market. Any material increase in funding cost may not be adequately passed on to its borrowers, leading to a material adverse impact on its net interest margin or asset quality profile. |
| 1 | The bank's funding risk management is not supported by its retail and corporate deposit base, which is significantly weaker than its peers'. The bank's funding base is subject to high volatility, with significant reliance on the wholesale market. There is a low level of diversification by type and tenor, which are largely mismatched with its asset profile. Overall, the bank only has access to high cost of funding relative to its peers' in the market. Any material increase in funding cost is inadequately passed on to its borrowers, leading to a significant adverse impact on its net interest margin or asset quality profile. |

## Capital Management

Our analysis of a bank's asset and liability risk profiles forms the foundation of our assessment of its capital management. As a heavily regulated industry, the banking sector is subject to close external scrutiny on the adequacy of its equity base. However, an objective to simply meet regulatory minimums may reflect a weak capital management philosophy, in our view. Our assessment on capital management starts with a review of management's explicit or implicit capital management objectives, which may include target capital adequacy ratios and optimal capital structures. Management's ability to clearly articulate and implement its capital management strategies is a key component of our evaluation.

A closely related consideration is a bank's internal capacity to model its economic capital needs. This may involve advanced systems and processes to accurately capture an entity's credit, interest-rate, market, liquidity, operational and other forms of risks. Management may also supplement its internal risk modelling with sensitivity tests and / or stress scenarios that illustrate how the bank's capital buffer may change as market conditions experience varying degrees of pressure. As a bank's internal modelling results may differ materially from the regulators' expectations, we may review management's underlying assumptions to formulate our own views on the robustness of a bank's capital management.

We score capital management based on the indicative guidelines in Exhibit 24.

**Exhibit 24: Capital Management Scorecard**

| Score | Indicative Guidelines |
|---|---|
| 11 | The bank has a very well-articulated and executed capital management philosophy that has an objective of withstanding the most extreme severe stress scenarios. This philosophy is based on the bank's unique operating characteristics and receives overwhelming support from almost all of its internal and external stakeholders. The bank's target capital adequacy, liquidity and other related prudential ratios are determined by a highly sophisticated internal capital model that has been extensively tested and proven to produce accurate results under foreseeable scenarios. Overall, the bank is among the global leaders in capital management. |
| 9 | The bank has a well-articulated and executed capital management philosophy that has an objective of withstanding extreme severe stress scenarios. This philosophy is based on the bank's unique operating characteristics and receives broad support from its internal and external stakeholders. The bank's target capital adequacy, liquidity and other related prudential ratios are determined by a robust internal capital model that has been extensively tested and proven to produce accurate results under most foreseeable scenarios. Overall, the bank exceeds international norms in capital management. |
| 7 | The bank has a well-established capital management philosophy that has an objective of withstanding severe stress scenarios. This philosophy is based on the bank's unique operating characteristics and receives general support from its internal and external stakeholders. The bank's target capital adequacy, liquidity and other related prudential ratios are determined by an adequate internal capital model that has been extensively tested and proven to produce reasonably reliable results under most foreseeable scenarios. Overall, the bank meets international norms in capital management. |
| 5 | The bank's capital management philosophy has an objective of withstanding moderate stress scenarios. This philosophy may be based on the industry's general operating characteristics and receives some support from its internal and external stakeholders. The bank's target capital adequacy, liquidity and other related prudential ratios may be determined by an internal capital model that has yet to be proven to produce reasonably reliable results under most foreseeable scenarios. Overall, the bank exceeds local or regional norms in capital management. |
| 3 | The bank's capital management philosophy has an objective of withstanding relatively low stress scenarios. This philosophy may be based on the industry's general operating characteristics and management's consideration of the interests of a select group of stakeholders. The bank's target capital adequacy, liquidity and other related prudential ratios may not be determined by a sufficiently robust internal capital model, but are based on relevant regulatory requirements instead. Overall, the bank meets only local or regional norms in capital management. |
| 1 | The bank's capital management philosophy may not be formulated with stress scenarios in mind. This philosophy may be based on management's consideration of the interests of a select group of stakeholders, most typically its shareholders and related parties. The bank's target capital adequacy, liquidity and other related prudential ratios are not determined by any internal capital model, but are based solely on relevant regulatory requirements, of which the bank is at risk of falling short. Overall, the bank fails to meet local norms in capital management. |

# Business Risk Score (BRS)

After we arrive at a weighted average score on business profile assessment (rounded to the nearest number), the next step in our analytical framework is to generate a business risk score. The BRS ranges from ‘aa’ to ‘b-’ for a total of 14 categories. The BRS is determined by referencing the matrix in Exhibit 25.

**Exhibit 25: Determining the BRS**

| Business Profile Assessment | Banking System Credit Index (BSCI) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11<br>a | 10<br>a- | 9<br>bbb+ | 8<br>bbb | 7<br>bbb- | 6<br>bb+ | 5<br>bb | 4<br>bb- | 3<br>b+ | 2<br>b | 1<br>b- |
| 11 | aa | aa | aa | aa- | a+ | a | a- | bbb+ | bbb- | bbb- | bb+ |
| 10 | aa | aa | aa- | a+ | a | a- | bbb+ | bbb | bbb- | bb+ | bb |
| 9 | aa | aa- | a+ | a | a- | bbb+ | bbb | bbb- | bb+ | bb | bb- |
| 8 | aa- | a+ | a | a- | bbb+ | bbb | bbb- | bb+ | bb | bb- | b+ |
| 7 | a+ | a | a- | bbb+ | bbb | bbb- | bb+ | bb | bb- | b+ | b |
| 6 | a | a- | bbb+ | bbb | bbb- | bb+ | bb | bb- | b+ | b | b- |
| 5 | a- | bbb+ | bbb | bbb- | bb+ | bb | bb- | bb- | b | b- | b- |
| 4 | bbb+ | bbb | bbb- | bb+ | bb | bb- | b+ | b+ | b- | b- | b- |
| 3 | bbb | bbb- | bb+ | bb | bb- | b+ | b | b | b- | b- | b- |
| 2 | bbb- | bb+ | bb | bb- | b+ | b | b- | b- | b- | b- | b- |
| 1 | bb+ | bb | bb- | b+ | b | b- | b- | b- | b- | b- | b- |

# Pillar 3: Capital Formation Assessment

We view a bank’s ability to generate capital internally through retained earnings as a critical source of financial strength. Our assessment of capital formation is informed by our analysis of a bank’s earnings capacity, earning resilience, and capital retention. Under earnings capacity, we form a preliminary view on profitability based on an entity’s return on average assets and return on average equity. Our analysis is then refined through a deep-dive into the key capital formation drivers, including a bank’s interest, fee and investment income, as well as its operating cost structure and earnings from other businesses. A bank’s earnings profile is finally evaluated against management’s policy to retain capital for growth and as an additional cushion. Our approach assesses financial metrics using a principal-based approach, taking into account a bank’s financial performance on an absolute basis, relative to peers, and under stress scenarios.

The final score on capital formation ranges from 1 (very weak) to 11 (very strong), based on the scorecard in Exhibit 26.

**Exhibit 26: Capital Formation Scorecard**

| | Factors and Sub-factors | Score Range | Sub-factor Weighting | Factor Nature | Analytical Horizon / Considerations |
|---|---|---|---|---|---|
| A. | Earnings Capacity | 1 – 11 | | Preliminary Score | |
| B. | Earnings Resilience | -3 to +3 | | Adjustments | |
| C. | Capital Retention | -1 / 0 | | Adjustments | |
| | | | | | |
| **A.** | **Earnings Capacity** | **1 – 11** | **100.0%** | **Preliminary Score** | |
| 1. | Return on Average Assets | 1 – 11 | 70.0% | | t-2 to t+1* |
| 2. | Return on Average Equity | 1 – 11 | 30.0% | | t-2 to t+1* |
| | | | | | |
| **B.** | **Earnings Resilience** | **-3 to +3** | | **Adjustments** | |
| 1. | Net Interest Margin | | | | Trend / Stress Testing / Peer Comparison |
| 2. | Fee Income | | | | Trend / Stress Testing / Peer Comparison |
| 3. | Investment Income | | | | Trend / Stress Testing / Peer Comparison |
| 4. | Cost-income Ratio | | | | Trend / Stress Testing / Peer Comparison |
| 5. | Other Businesses | | | | Trend / Stress Testing / Peer Comparison |
| 6. | Diversification | | | | Trend / Stress Testing / Peer Comparison |
| | | | | | |
| **C.** | **Capital Retention** | **-1 / 0** | | **Adjustments** | |
| 1. | Dividend Payouts / Share Buybacks | -1 / 0 | | | Long-term Policy |

* Calculated based on a 5-year time-weighted average. Standard weightings are as follows: t-2 (10%), t-1 (20%), t (35%), t+1 (25%), t+2 (10%), where t is the current year of analysis. Time weightings may be subject to rating committee adjustments on a case-by-case basis.

## Earnings Capacity

Our preliminary evaluation of a bank's profitability is based on its 5-year time-weighted return on average assets (ROAA) and return on average equity (ROAE), scored as per the guidelines in Exhibit 27. The scores on ROAA and ROAE are then weighted 70% / 30% to reflect their relative importance to our analysis. For instance, if a bank has a 5-year time-weighted ROAA of 1.0% (a score of 6) and a 5-year time-weighted ROAE of 10.5% (a score of 4), its overall score would be 70% x 6 + 30% x 4 = 5.4, or 5, after being rounded to the nearest number.

Overall, we believe these two standard ratios have the highest explanatory power on a bank's on-going earnings capacity. We note that while ROAA is a leverage-neutral indicator of profitability, ROAE is influenced by a bank's capital structure. Our decision to include ROAE as a profitability indicator also stems from our view that shareholder returns may affect the availability of common equity financing and expectations regarding dividend payouts and share repurchases. In our opinion, these are frequently major determinants of a banking institution's capital management strategy.

As far as practicable, non-recurring items are excluded from our calculations to enable more robust comparisons across the sector and over time. These items may include impacts from discontinued operations, operating asset disposals, one-off tax benefits or charges, etc. In a limited number of cases, our rating committees may decide to change the standard time weightings on a bank's ROAA and ROAE over a 5-year period to address sharp reversals in expected financial performance. For instance, higher weights could be assigned to our forecasts relative to historical figures following a major restructuring exercise that we expect to fundamentally change a bank's earnings profile going forward.

**Exhibit 27: Earnings Capacity Scorecard**

| | **ROAA*** 70% of Total Score | **ROAE*** 30% of Total Score |
|---|---|---|
| **Score** | **Range** | **Range** |
| 11 | ≥ 2.0% | ≥ 20% |
| 10 | 1.7 – 2.0% | 18 – 20% |
| 9 | 1.5 – 1.7% | 16 – 18% |
| 8 | 1.3 – 1.5% | 15 – 16% |
| 7 | 1.1 – 1.3% | 14 – 15% |
| 6 | 0.9 – 1.1% | 12 – 14% |
| 5 | 0.7 – 0.9% | 11 – 12% |
| 4 | 0.5 – 0.7% | 10 – 11% |
| 3 | 0.3 – 0.5% | 8 – 10% |
| 2 | 0.0 – 0.3% | 6 – 8% |
| 1 | ≤ 0.0% | ≤ 6% |

* Calculated based on a 5-year time-weighted average. Standard weightings are as follows: t-2 (10%), t-1 (20%), t (35%), t+1 (25%), t+2 (10%), where t is the current year of analysis. Time weightings may be subject to rating committee adjustments on a case-by-case basis.

## Earnings Resilience

Our earnings capacity estimation in the preceding section captures a bank's financial performance in recent years and our base-case expectations over the forecast period. To further build on that analysis, we next attempt to decompose a bank's earnings streams and assess its profitability drivers under stress scenarios, whose parameters may be determined on a market-by-market basis and subject to change over time. Our evaluation of each earnings driver may result in an upward or downward adjustment to its starting earnings capacity score. The aggregate adjustment is limited to a maximum of three points in either direction. For example, if a bank has a preliminary earnings capacity score of 5, its adjusted score could range from 2 to 8. In any case, the adjusted score would fall between 1 (very weak) to 11 (very strong).

**Net Interest Margin**

The core component of a bank's pre-provision operating profit is its net interest margin. measured as (interest income – interest expenses) / average interest-earning assets. We examine a bank's asset yield and funding cost separately, in order to identify any potential vulnerabilities if the interest-rate environment was to experience a significant unexpected change. As part of the analysis, we would quantify a bank's net interest-rate exposure, which is a function of its pricing and funding structure (i.e. % fixed versus % floating) and its balance sheet's duration characteristics. A closely-related consideration is the currency-denomination of a bank's interest-earning assets and interest-bearing liabilities and its net foreign exchange exposure.

A bank's interest margin performance under stress may partially be a result of its competitive position. As such, we would also compare a bank's asset yield, funding cost, and net interest margin with its peers' to determine its relative resilience when market conditions take a turn for the worse. As an example, a bank that has consistently above-average loan yields may indicate that it benefits from strong pricing power in select customer segments. Consequently, it may be better positioned to avoid a margin squeeze when market rates face downward pressure. Conversely, a bank that has an above-average funding cost may reflect a weak deposit franchise and it may be forced to scale back its lending book if liquidity suddenly dries up in the wholesale market.

**Fee Income**

In general, our assessment favors banks with a steady fee income stream that is largely independent of the interest-rate environment. These income sources may include account maintenance, trust and custodian, lease advisory, insurance intermediary, and other service fees. By contrast, fee streams that are more related to capital market conditions, such as securities brokerage commissions and equity and debt market origination fees, may be less stable under stress scenarios and would receive less benefit in our analysis accordingly. As accounting practices may vary across markets, we also attempt to identify situations where reported fee income is actually interest-income related, as in the case of bank-underwritten credit insurance premium that forms a part of a customer's borrowing cost.

With regards to a bank's fee expenses, we would examine the extent to which its cost structure is fixed versus variable. An example of a fixed structure that may not be downward scalable is a third-party distribution arrangement that involves up-front and / or regular periodic payments. Our view on how a bank's fee income, net of related expenses, would perform in a stress scenario and relative to its peers' determines the potential adjustments for this sub-factor.

**Investment Income**

Depending on a bank's risk appetite, investment income may be a significant portion of its earnings. Our evaluation focuses on a trading book's return objectives, risk limits, and potential volatilities in adverse market climates. For fixed-income positions, we seek to look through accounting classifications and mark-to-market a bank's material positions regardless of whether the volatilities of such exposures are reflected in the income statement, through comprehensive income, or not captured in the financial statements at all. Potential red flags are exposures to assets without readily observable pricing (i.e. level-2 and level-3 assets). Assets whose reported valuations are predominately determined by modelling could be especially problematic during widespread liquidity crises. In addition to bond holdings, we also closely scrutinize a bank's equity, real estate, commodity, derivative and other structured positions to discern its exposures across asset classes. Correlations of various asset classes may increase or decrease a bank's trading risks under extreme scenarios.

**Cost-Income Ratio**

While operating costs – such as staff salaries, office rental and system expenses – are generally not a key credit rating factor for banks, there may be certain situations that deserve a more thorough analysis. Cost structures that may be beneficial to banks under stress typically contain a substantial variable component in the form of discretionary staff bonuses and downsizing flexibility. This is particularly relevant to banks with large-scale capital market operations. On the other hand, if we determine that a bank may face upward pressure on operating costs – such as those associated with management payouts – even if it experiences a challenging environment, we may consider lowering its capital formation score.

**Other Businesses**

For non-bank operations not captured in our fee income analysis, we may consider their resilience to an economic downturn under this sub-factor. These subsidiaries, associates and / or joint ventures may be involved in the insurance, pensions, asset management, securities and other non-bank financial sectors. In cases where these operations are sizable, their financial variability may further exacerbate the pressure on a bank's earnings profile in stress scenarios. A common example is when a bank's lending book, securities operations, and insurance and other managed assets are concurrently hit by a major credit event. These cross-sector exposures may place a severe strain on a bank's capital formation capacity when it is needed the most. However, under rare circumstances, a bank's other businesses may serve as a volatility dampener. An example would be a property and casualty insurance operation whose underwriting profitability is almost entirely independent of banking industry performance.

### Diversification

A bank's earnings diversification in terms of geography and customer and product segment may be a key rating factor under stress scenarios. Entities that have a broader footprint would generally be less exposed to crises that affect one or more of its operations. Diversification may also allow banks to maintain a more balanced capital profile, with more mature, capital-generating business units funding fast-growing capital-intensive operations. However, we take a cautious approach in cases where management is aggressively over-expanding its non-core geographical and product segments, especially when it relates to M&As and capital-market businesses. There may also be higher-than-expected correlation between product and asset categories during extreme adverse scenarios, as we have witnessed during financial crises in the past.

### Scoring Guidelines

To summarize, Exhibit 28 highlights the key metrics we refer to in our assessment of a bank's capital resilience, while Exhibit 29 provides guidance on how we determine the upward or downward adjustment to the preliminary earnings capacity score. Where circumstances warrant, we may consider other elements of a bank's earnings profile to arrive at a final conclusion.

**Exhibit 28: Key Earnings Resilience Metrics**

| Sub-factor | Metrics |
|---|---|
| **Net Interest Margin** | • Net Interest Margin = (Interest Income – Interest Expenses) / Average Interest-earning Assets<br>• Net Interest Spread = Asset Yield – Funding Cost |
| **Fee Income** | • Fee Income Contribution = Gross Fee Income / Revenue<br>• Fee Expense Ratio = Fee Expenses / Gross Fee Income |
| **Investment Income** | • Investment Yield = Net Investment Income / Average Investments |
| **Cost-income Ratio** | • Cost-income Ratio = Operating Expenses / Revenue |
| **Other Businesses** | • Contribution from Other Businesses = Income from Other Businesses / Revenue<br>• Profitability of Other Businesses = Estimated ROAA and ROAE of Other Businesses |

**Exhibit 29: Earnings Resilience Scorecard**

| +2 / +3 | +1 | 0 | -1 | -2 / -3 |
|---|---|---|---|---|
| We expect the negative impact of our stress scenario on this particular earnings driver to be very limited. The starting earnings capacity score underestimates the resilience of this component of the bank's profitability profile to a significant degree. | We expect the negative impact of our stress scenario on this particular earnings driver to be limited. The starting earnings capacity score underestimates the resilience of this component of the bank's profitability profile to a large degree. | We expect the negative impact of our stress scenario on this particular earnings driver to be moderate. The starting earnings capacity score adequately captures a potential shock to this component of the bank's profitability profile. | We expect the negative impact of our stress scenario on this particular earnings driver to be material. The starting earnings capacity score overestimates the resilience of this component of the bank's profitability profile to a large degree. | We expect the negative impact of our stress scenario on this particular earnings driver to be severe. The starting earnings capacity score overestimates the resilience of this component of the bank's profitability profile to a significant degree. |

## Capital Retention

The final step in our analysis of a bank's capital formation is concerned with management's capital retention policy. We compare a bank's long-term shareholder dividend and share repurchase targets with its growth ambitions, earnings capacity and resilience, and capital buffer. Furthermore, we gauge management's ability and incentive to step up capital distributions by considering regulatory constraints, shareholder expectations, and dividend yields of comparable banks.

At the minimum, we would expect a bank to be able to fund the projected growth in its asset base in the next two to three years with internal capital generation, before prioritizing distributions to its common-equity holders. If we determine that management's dividend and / or share buyback policies are overly aggressive relative to its capital demand, we may consider lowering the post-capital resilience adjusted score by up to one point.

## Pillar 4: Capital Adequacy Assessment

Pillar 4 of our analytical framework evaluates a bank's capital adequacy, incorporating our understanding of its operating environment (Pillar 1), business profile (Pillar 2), and capital formation capacity and resilience (Pillar 3). The foundation of Pillar 4 is a bank's capital adequacy ratios (CARs). We begin by reviewing an entity's common-equity tier-1 (CET-1) ratio, which is the most conservative measure of its loss-absorption capacity. We also assess a bank's on-going ability to raise additional tier-1 (AT-1) and tier-2 capital and score its tier-1 and total CARs accordingly. We then compare the ratios as defined by us internally with the bank's regulatory ratios to evaluate its existing buffers and constraints. This exercise would yield a preliminary score on capital adequacy.

The next layer of our analysis centers on a bank's asset quality, which may be one of the least transparent areas in the sector's financial reporting. For each rated entity, we perform an in-depth examination of its credit portfolio in order to quantify its exposure to stress scenarios. To put the bank's loan performance into context, we may survey the industry's credit conditions using a variety of top-down and bottom-up approaches. Ultimately, we seek to answer three fundamental questions: (1) Is the bank's non-performing loan (NPL) position accurately portrayed in the published financial statements? (2) Can the bank's capital adequacy ratios withstand a foreseeable stress scenario? and (3) Do the bank's loan loss provisions provide a sufficiently comfortable cushion against shocks to the loan book? If the answers to these questions are overwhelmingly negative, we may subtract up to three points from the bank's preliminary score. Conversely, banks that we deem to be highly resilient may receive an upward adjustment of up to three points.

Funding and liquidity comprise the remainder of our capital review. Our funding evaluation purports to measure the robustness of a bank's financing channels, among which customer deposits are considered to be the most stable and cost-effective. From a shorter-term perspective, we assess a bank's ability to cover its immediate obligations with liquid marketable instruments. These aspects of a bank's liability profile are captured by its loan-to-deposit ratio, net stable funding ratio, and liquidity coverage ratio. Strengths or weaknesses in these three metrics may lead to a maximum of a three-point adjustment to the preliminary score.

The final score on capital adequacy is a function of a bank's preliminary score on capital adequacy and any adjustments attributable to asset quality and funding and liquidity, as summarized in Exhibit 30.

**Exhibit 30: Capital Adequacy Scorecard**

| | Factors and Sub-factors | Score Range | Sub-factor Weighting | Factor Nature | Analytical Horizon / Considerations |
|---|---|---|---|---|---|
| A. | Capital Adequacy Ratios | 1 – 11 | | Preliminary Score | |
| B. | Asset Quality | -3 to +3 | | Adjustments | |
| C. | Funding and Liquidity | -3 to +3 | | Adjustments | |
| **A.** | **Capital Adequacy Ratios** | **1 – 11** | **100%** | **Preliminary Score** | |
| 1. | Pengyuan CET-1 Ratio | 1 – 11 | 50% | | t- 2 to t+2* |
| 2. | Pengyuan Tier-1 CAR | 1 – 11 | 25% | | t-2 to t+2* |
| 3. | Pengyuan Total CAR | 1 – 11 | 25% | | t-2 to t+2* |
| 4. | Regulatory Buffer | -1 to +1 | | | Trend |
| **B.** | **Asset Quality** | **-3 to +3** | | **Adjustments** | |
| 1. | Underlying NPL Ratio | | | | Trend / Stress Testing / Peer Comparison |
| 2. | Loan Loss Provisioning | | | | Trend / Stress Testing / Peer Comparison |
| **C.** | **Funding and Liquidity** | **-3 to +3** | | **Adjustments** | |
| 1. | Loan-to-deposit Ratio | | | | t- 2 to t+2* |
| 2. | Net Stable Funding Ratio | | | | t- 2 to t+2* |
| 3. | Liquidity Coverage Ratio | | | | t- 2 to t+2* |

* Calculated based on a 5-year time-weighted average. Standard weightings are as follows: t-2 (10%), t-1 (20%), t (35%), t+1 (25%), t+2 (10%), where t is the current year of analysis. Time weightings may be subject to rating committee adjustments on a case-by-case basis.

## Capital Adequacy Ratios

**Pengyuan CET-1 Ratio**

The Pengyuan CET-1 ratio is defined as Basel III-compliant CET-1 capital / adjusted risk-weighted assets. Our use of CET-1 as the primary barometer of capital adequacy reflects our view that it is the most conservative measure of permanent loss-absorption capacity. While hybrid instruments may provide a degree of loss absorption even if a bank remains a going concern, such triggers would only be breached when a bank's standalone credit quality is already materially impaired. Therefore, a bank's CET-1 buffer is a much more prudent indicator of a bank's ability to meet its debt obligations. Our CET-1 definition is designed to be in line with Basel III. Specifically, our calculation of CET-1 is as illustrated in Exhibit 31.

**Exhibit 31: Definition of Pengyuan CET-1 Capital**

| |
|---|
| SHAREHOLDERS' EQUITY |
| (+) Minority interests |
| **= TOTAL EQUITY** |
| (-) Treasury stock |
| (-) Proposed shareholder dividends not on balance sheet |
| (-) Goodwill and intangible assets |
| (-) Deferred tax assets |
| (-) Positive cash-flow hedge reserve |
| (+) Negative cash-flow hedge reserve |
| (-) Shortfall of loan loss provisions |
| (-) Gains on sale related to securitization transactions |
| (-) Reciprocal cross-holdings in capital of banking, financial and insurance entities |
| (-) Investments in banking, financial and insurance entities outside the scope of regulatory consolidation |
| (-) Off-balance sheet defined-benefit pension deficits |
| (-) Contingent liabilities |
| (+) / (-) Other analytical adjustments |
| **= PENGYUAN CET-1** |

Source: Basel Committee on Banking Supervision; Pengyuan International

As for the calculation of risk-weighted assets, we may modify a bank's reported exposures to allow for more consistent comparisons across markets and entities. These adjustments typically occur when we notice significant discrepancies between a particular asset's actual risk characteristics and the risk weights applied under the standardized or advanced internal-rating approaches as the case may be. Examples may include assets with favorable policy treatments, such as debt-to-equity swaps in strategic industries and inclusive finance loans.

Our evaluation of the Pengyuan CET-1 ratio is based on a five-year time-weighted average, as per the instructions in Exhibit 32. Our rating committees may decide to alter the applicable time weightings in cases where we anticipate a sharp reversal in a bank's prospective capital adequacy, as a result of a restructuring, capital injection, or a major dividend payout etc.

**Exhibit 32: Capital Adequacy Preliminary Scorecard**

| | Pengyuan CET-1 Ratio* 50% of Total Score | Pengyuan Tier-1 Ratio* 25% of Total Score | Pengyuan Total CAR* 25% of Total Score |
|---|---|---|---|
| **Score** | **Range** | **Range** | **Range** |
| 11 | ≥ 15.0% | ≥ 16.5% | ≥ 18.5% |
| 10 | 14.0 – 15.0% | 15.5 – 16.5% | 17.5 – 18.5% |
| 9 | 13.0 – 14.0% | 14.5 – 15.5% | 16.5 – 17.5% |
| 8 | 12.5 – 13.0% | 14.0 – 14.5% | 16.0 – 16.5% |
| 7 | 12.0 – 12.5% | 13.5 – 14.0% | 15.5 – 16.0% |
| 6 | 10.0 – 12.0% | 11.5 – 13.5% | 13.5 – 15.5% |
| 5 | 9.5 – 10.0% | 11.0 – 11.5% | 13.0 – 13.5% |
| 4 | 9.0 – 9.5% | 10.5 – 11.0% | 12.5 – 13.0% |
| 3 | 8.0 – 9.0% | 9.5 – 10.5% | 11.5 – 12.5% |
| 2 | 7.0 – 8.0% | 8.5 – 9.5% | 10.5 – 11.5% |
| 1 | ≤ 7.0% | ≤ 8.5% | ≤ 10.5% |

* Calculated based on a 5-year time-weighted average. Standard weightings are as follows: t-2 (10%), t-1 (20%), t (35%), t+1 (25%), t+2 (10%), where t is the current year of analysis. Time weightings may be subject to rating committee adjustments on a case-by-case basis.

### Pengyuan Tier-1 CAR

Moving higher up the capital structure, we analyze a bank's additional tier-1 capital, using our internal Basel III-aligned criteria, as per Exhibit 33.

**Exhibit 33: Criteria for Consideration in Pengyuan AT-1 Capital**

| | |
|---|---|
| 1. | Issued and paid-in |
| 2. | Subordinated to depositors, general creditors and subordinated debt |
| 3. | Neither secured nor guaranteed by the issuer to enhance its seniority |
| 4. | Perpetual, with no maturity date, no coupon step-ups, or other incentives to redeem |
| 5. | Callable only after a minimum of five years, with prior supervisory approval and adequate capital after the call is exercised |
| 6. | Any repayment via repurchase or redemption must receive prior supervisory approval |
| 7. | Full issuer discretion to defer dividends / coupons without cumulation clauses or default triggers |
| 8. | Dividends / coupons must be paid out of distributable items |
| 9. | No credit-sensitive dividend / coupon reset features |
| 10. | Instrument cannot contribute to liabilities exceeding asset if such a balance-sheet test forms part of national solvency law |
| 11. | Principal loss absorption through either conversion to common shares or write-down mechanism |
| 12. | Instrument cannot be funded by the bank itself or its related parties |
| 13. | Cannot have any features that hinder recapitalization (e.g. provisions to compensate investors if a new instrument is issued at a lower price) |
| 14. | If issued via a special-purpose vehicle, proceeds must be immediately available to the operating entity or holding company |

Source: Basel Committee on Banking Supervision; Pengyuan International

Our assessment is primarily concerned with situations where a bank's CET-1 may not be sufficient to meet its minimum tier-1 capital requirement and its ability to raise AT-1 capital may face market and / or issuer-specific constraints. Such a situation may arise if a bank issuer has limited access to public capital markets. If market conditions remain tight for these types of issuers for an extended period of time, they might be at risk of falling below regulatory limits in an adverse credit environment.

### Pengyuan Total CAR

In a similar manner, our assessment of total CAR addresses cases where a bank's tier-1 CAR buffer is thin and it has limited flexibility to issue tier-2 instruments to fulfill its minimum requirements. Our inclusion criteria for tier-2 instruments are intended to be aligned with Basel III guidelines, as shown in Exhibit 34.

**Exhibit 34: Criteria for Consideration in Pengyuan Tier-2 Capital**

| | |
|---|---|
| 1. | Issued and paid-in |
| 2. | Subordinated to depositors and general creditors |
| 3. | Neither secured nor guaranteed by the issuer to enhance its seniority |
| 4. | Minimum original maturity of at least five years; For the remaining five years before maturity, recognition is amortized on a straight-line basis; No coupon step-ups, or other incentives to redeem |
| 5. | Callable only after a minimum of five years, with prior supervisory approval and adequate capital after the call is exercised |
| 6. | Investor must have no rights to accelerate the repayment of coupon or principal, except in bankruptcy and liquidation |
| 7. | No credit-sensitive dividend / coupon reset features |
| 8. | Instrument cannot be funded by the bank itself or its related parties |
| 9. | If issued via a special-purpose vehicle, proceeds must be immediately available to the operating entity or holding company |

Source: Basel Committee on Banking Supervision; Pengyuan International

### Regulatory Buffer

Regulatory requirements dictate a bank's ability to operate as a going concern. Our assessment is based on a bank's existing buffer above the relevant minimum levels, inclusive of the required Basel III conservation buffer. In our evaluation, we also assess pending regulatory changes that may affect a bank's capital and risk-weighted asset calculations. An important part of this process is to gain an understanding of the implementation horizon and a given entity's plans to achieve full compliance. In addition, we note that global and domestic systemically-important banks may be subject to capital surcharges above the level required of all other market participants. We consider these surcharges in benchmarking a bank's relevant regulatory ratio. As a consequence, a bank's inclusion in or exclusion from a particular year's list of systemically-important banks may have an impact on its score.

## Asset Quality

As asset quality disclosures at the market and individual bank levels may be opaque in many instances, we may employ an array of tools to form a view on a bank's current exposures and expected performance under stressed scenarios. Our assessment on a bank's underlying NPL ratio under stress and loss provisioning practices may lead to an aggregate addition / deduction of up to three points to / from its preliminary capital adequacy score.

**Underlying NPL Ratio**

Our analysis of a bank's asset quality is first informed by our review of industry-level statistics. We may attempt to validate the industry's reported NPL ratios and gauge its prospective performance using a combination of top-down and bottom-up leading indicators. Top-down assessments may include statistical studies of the banking system's credit growth relative to long-term trend. This may reveal potential risks in credit expansion and allow us to estimate the scale of the system's problem loans over a two- to three-year horizon. These findings may be further compared against bottom-up credit metrics, aggregated from a representative sample of borrowers in the market. To the extent that we believe capital markets may provide useful forward-looking data points regarding expectations on asset quality, we may also refer to equity valuations, credit spreads and credit-default swap pricing as a supplement.

At the individual bank level, we analyze a lending book's NPL experience by loan type, industry and borrower classification etc., with an emphasis on problem loan designation and migration patterns. As a general rule, a consistently high level of special-mention loans combined with limited migration between NPL classes over time may indicate potential deficiencies in problem loan management. We also compare a bank's reported NPLs with its overdue portfolio in 30-day increments (i.e. 30-day, 60-day, 90-day, etc.) to discern the robustness of management's impaired asset recognition. An equally relevant consideration is a bank's ability to dispose of distressed assets and their underlying collaterals through active primary and secondary markets. As such, pricing of distressed assets may have a role to play in our evaluation as well.

Having formulated central estimates on a bank's actual NPL experience, we would subject its credit portfolio to stress scenarios, the parameters of which may vary from market to market and over time. In our view, this principle-based and bespoke analysis of an entity's NPL experience may allow us to better evaluate its unique stress points and tolerance levels.

**Loan Loss Provisioning**

As the first line of defense against emerging asset quality issues, a bank's loss provisioning buffer may serve to mitigate or exacerbate our concerns over its credit experience. In the spirit of International Financial Reporting Standards (IFRS) 9 – Financial Instruments, we generally favor banks that book impairment losses on a forward-looking basis. Among others, such an approach would require management to quantify potential impairments as a present value of credit losses over the projected horizon. Our view on loss provision adequacy is also driven by our earlier assessment on asset quality. We compare current loss provisions against our estimate of the bank's underlying NPL amount, as well as the minimum level required by regulators.

## Funding and Liquidity

On the liability side of the balance sheet, we assess the stability and resilience of a bank's funding and liquidity sources, particularly in a challenging operating environment. Our funding and liquidity assessment may lead to a three-point adjustment to a bank's preliminary capital adequacy score in either direction. In our view, the characteristics of an entity's funding and liquidity profile are best captured by its:

- Loan-to-deposit ratio, which is defined as loans outstanding / customer deposits. This ratio compares the size of a bank's loan asset exposure with its deposit base, which we consider to be the most stable and cost-effective source of funding over the cycle. While some regulatory regimes impose maximum limits on the ratio, many markets operate on a fully liberalized basis, with industry-wide levels ranging approximately from 70% to 120% globally. We regard a ratio of 100% as a general benchmark, beyond which the deposit funding buffer would appear vulnerable;
- Stable funding ratio, measured as the available amount of stable funding / required amount of stable funding. As per Basel III guidelines, the amount of available stable funding is calculated based on the relative stability of an institution's funding sources, including the contractual maturity of its liabilities and the differences in propensity of funding providers to withdraw their funding. Meanwhile, the required stable funding amount is based on the liquidity profile of an institution's assets and off-balance sheet exposures. The minimum Basel III requirement is 100%.

- Liquidity coverage ratio, calculated as the value of high-quality liquid assets / liquidity needs for a 30-calendar day liquidity stress scenario. Among others, the scenario considered may entail a shock that would result in the run-off of a proportion of retail deposits, a partial loss of funding facilities with certain counterparties, and credit rating downgrade triggers, etc. The minimum Basel III requirement is 100%.

### Key Capital Adequacy Metrics

To summarize, our Pillar-4 analysis employs a number of quantitative metrics in deriving a preliminary score (CET-1, tier-1 and total CARs) and a final score (asset quality and funding and liquidity) on adequacy. The key ratios used throughout this process are reproduced in Exhibit 35 for ease of reference.

**Exhibit 35: Key Capital Adequacy Metrics**

| Sub-factor | Metrics |
| --- | --- |
| **Pengyuan CET-1 Ratio** | • Pengyuan CET-1 Ratio = Basel III-compliant CET-1 Capital / Adjusted Risk-weighted Assets |
| **Pengyuan Tier-1 CAR** | • Pengyuan Tier-1 CAR = Basel III-compliant Tier-1 Capital / Adjusted Risk-weighted Assets |
| **Pengyuan Total CAR** | • Pengyuan Total CAR = Basel III-compliant Total Capital / Adjusted Risk-weighted Assets |
| **Asset Quality** | • NPL Ratio = NPLs / Gross Loans Outstanding<br>• Special-mention Loan Ratio = Special-mention Loans / Gross Loans Outstanding<br>• Overdue Loan Ratio = Overdue Loans / Gross Loans Outstanding<br>• Provision Coverage Ratio = Loan Loss Provisions / NPLs<br>• Loan Coverage Ratio = Loan Loss Provisions / Gross Loans Outstanding |
| **Funding and Liquidity** | • Loan-to-deposit Ratio = Net Loans Outstanding / Customer Deposits<br>• Stable Funding Ratio = Available Stable Funding / Required Stable Funding<br>• Liquidity Coverage Ratio = High-quality Liquid Assets / 30-Calendar Day Liquidity Needs Under Stress Scenario |

## Capital Risk Score (CRS)

Our Pillar-3 and Pillar-4 assessments are combined to form a Capital Risk Score (CRS), which ranges from 'aa' to 'b-' for a total of 14 categories. The CRS is driven predominantly by our Pillar-4 (capital adequacy) assessment, with our Pillar-3 (capital formation) score being an adjustment factor. The CRS is determined by referencing the table in Exhibit 36. The calibration of the CRS scoring table reflects our view that if a bank's capital formation capacity is average, the impact on its credit profile is marginal. However, as the entity's financial performance moves towards the strong / weak end of the spectrum, earnings may begin to have a significantly higher effect on prospective capital strength. For banks that have a capital formation assessment score of between 4 to 8, our decision of whether to apply a one-point adjustment rests upon its business profile assessment. Banks that have strong business profile assessment scores would typically receive a more favorable treatment on its capital risk score.

**Exhibit 36: Determining the CRS**

| Pillar-3 Capital Formation Score | Adjustment to the Pillar-4 Capital Adequacy Score |
| --- | --- |
| 11 | +3 |
| 10 | +2 |
| 9 | +2 |
| 8 | +1 / 0 |
| 7 | +1 / 0 |
| 6 | 0 |
| 5 | -1 / 0 |
| 4 | -1 / 0 |
| 3 | -2 |
| 2 | -2 |
| 1 | -3 |

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# Indicative Credit Score (ICS)

The final product of our four-pillar framework is an indicative credit score (ICS), which is a function of a bank's Business Risk Score (BRS) and Capital Risk Score (CRS). The ICS represents our preliminary assessment on a bank's standalone creditworthiness. The ICS is determined by referring to the matrix in Exhibit 37.

**Exhibit 37: Determining the ICS**

| | CRS | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRS | aa | aa- | a+ | a | a- | bbb+ | bbb | bbb- | bb+ | bb | bb- | b+ | b | b- |
| aa | aa | aa | aa- | aa- | a+ | a+ | a | a- | bbb | bbb- | bb+ | bb- | b+ | b |
| aa- | aa | aa- | aa- | a+ | a+ | a | a | a- | bbb | bbb- | bb+ | bb- | b+ | b |
| a+ | aa- | aa- | a+ | a+ | a | a | a- | a- | bbb | bbb- | bb+ | bb- | b+ | b |
| a | aa- | a+ | a+ | a | a | a- | a- | bbb+ | bbb | bbb- | bb+ | bb- | b+ | b |
| a- | a+ | a+ | a | a | a- | a- | bbb+ | bbb+ | bbb | bbb- | bb+ | bb- | b+ | b |
| bbb+ | a+ | a | a | a- | a- | bbb+ | bbb+ | bbb | bbb- | bbb- | bb+ | bb+ | bb | bb |
| bbb | a | a | a- | a- | bbb+ | bbb+ | bbb | bbb | bbb- | bb+ | bb+ | bb | bb | bb- |
| bbb- | a- | a- | a- | bbb+ | bbb+ | bbb | bbb | bbb- | bb+ | bb+ | bb | bb | bb- | bb- |
| bb+ | bbb | bbb | bbb | bbb | bbb | bbb- | bbb- | bb+ | bb+ | bb | bb | bb- | bb- | b+ |
| bb | bbb- | bbb- | bbb- | bbb- | bbb- | bbb- | bb+ | bb+ | bb | bb | bb- | bb- | b+ | b+ |
| bb- | bb+ | bb+ | bb+ | bb+ | bb+ | bb+ | bb+ | bb | bb | bb- | bb- | b+ | b+ | b |
| b+ | bb- | bb- | bb- | bb- | bb- | bb+ | bb | bb | bb- | bb- | b+ | b+ | b | b |
| b | b+ | b+ | b+ | b+ | b+ | bb | bb | bb- | b+ | b+ | b+ | b | b | b- |
| b- | b | b | b | b | b | bb | bb- | bb- | b | b | b | b | b- | b- |

# Adjustment Factors

Our indicative credit score (ICS) captures the key drivers of a bank's standalone credit profile, using a framework that is calibrated for the vast majority of institutions. However, idiosyncratic risks may call for a more in-depth examination of credit issues that are specific to a bank issuer. Furthermore, to enhance the granularity of our analysis, our rating committees may decide to refine our ICS results based on our holistic assessment of a bank's credit characteristics. Typical examples of such modification to the ICS may include those listed in Exhibit 38. Cumulatively, we expect such ICS adjustments to be limited to two notches in either direction.

As individual banks may have unique attributes that require close examination, the list below is not meant to be exhaustive. When evaluating other factors for potential adjustments to the ICS, our emphasis is on the strongest / weakest link of a bank's credit profile which may result in an under- / overestimation of our preliminary assessment.

After our analysis on a bank's idiosyncratic features, we arrive at its standalone credit profile (SACP), which reflects our opinion on its viability as a going-concern in the absence of external support.

**Exhibit 38: Typical Examples of ICS Adjustments**

| Factors | Examples |
|---|---|
| **Management and Corporate Governance** | We first assess this factor in Pillar 2 of our analytical framework. However, for extreme cases where a significant lapse in management judgement or governance procedures is observed, we may consider lowering a bank's ICS further. |
| **Track Record and Size** | For banks that have short track records either as a result of their recent establishment, mergers and acquisitions, or spin-offs, we may consider notching down their ICS to reflect the execution risks involved. Should we determine that a bank's asset size is sub-scale relative to peers in the same market, we may also adjust its ICS downwards to account for its potential competitive disadvantages. |
| **Cumulative Effect of Rating Factors** | Our analytical framework is designed such that each factor is assessed and scored individually, before being aggregated to arrive at pillar scores. In the process, an entity which consistently scores on the high / low end of the indicative ranges may receive an ICS that is under- / overestimated on an aggregate basis. Should we decide that these cumulative effects are material, we may adjust a bank's ICS upward or downward. |
| **Peer Comparison** | Peer comparative analyses provide valuable insights into the relative ranking of a bank's standalone creditworthiness. If a bank consistently out- / underperform its peers on key credit metrics, we may consider notching up / down its ICS to ensure sufficient differentiation between issuers. We usually define a bank's peer group as entities with comparable size and credit characteristics in the same or similar markets. |

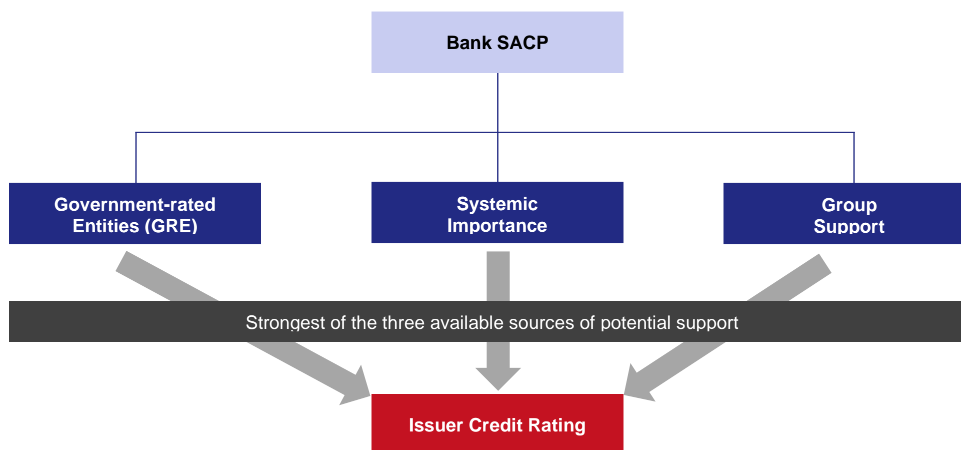
# External Support Analysis

While a bank's standalone credit profile (SACP) largely determines its viability as a going concern, its access to external capital and liquidity resources may provide creditors with an additional layer of protection, especially in times of need. Our assessment of support is based on our understanding of a bank's strategic importance to its various public- and private-sector stakeholders, as well as the financial capacity of potential emergency funding providers.

In our analysis, we make a clear distinction between on-going and extraordinary support. On-going support refers to capital and liquidity facilities a bank may receive over the course its normal operation, such as central bank liquidity, interbank funding arrangements, and share placements in public markets. These types of support, while important, are considered throughout our four-pillar analytical framework. Similarly, we would generally exclude the impact of deposit insurance on potential recoveries when we assess a bank's overall creditworthiness.

By contrast, extraordinary support occurs infrequently and only when a bank experiences severe distress. Potential support packages of this nature may include public-sector bailouts, government-led reorganizations, and explicit guarantees by majority shareholders. In general, extraordinary support that may be available to a bank may be attributable to its status as a government-related entity (GRE), its systemic importance to the financial sector, and its membership of a broader business organization. For each rated entity, we evaluate the potential for support from each of these three avenues. Where we believe more than one source of support is likely to materialize under stress scenarios, we would base our analysis on the strongest potential capital and funding channel (Exhibit 39).

**Exhibit 39: External Support Analysis**




## Government-related Entities (GREs)

Consistent with our applications in other corporate sectors, we view GREs as entities that have demonstrable ties with and importance to the government. In assessing a bank's GRE status, we consider, among other factors, its ownership, the composition of its board of directors and management, its policy and support track record, replaceability, and the financial and social impacts it may create in the event of a failure. Typically, majority ownership by the government is a strong, but not the only, indicator of whether we could consider an institution a GRE.

We classify a bank's GRE status in 1 of 7 categories based on our view of the relevant government's willingness to provide support. These categories are: Almost Certain, Extremely Strong, Very Strong, Strong, Moderately Strong, Moderate, and Low. At the same time, we form an opinion on the supporting government's capability to lend assistance to the bank should the need arise. The willingness and capability factors, along with the bank and the government's starting credit profiles, determine the potential uplift to the bank's SACP.

## Systemic Importance

Despite regulators' efforts to reduce the negative externalities incurred by banks that are deemed "too big to fail", we believe public-sector bailouts remain a possible policy response of last resort in many jurisdictions. We assess a bank's systemic importance by referring to its official domestic systemically important bank (D-SIB) designation, if available. Otherwise, we evaluate an entity's size, complexity, substitutability, and interconnectedness with the rest of the financial system. In our view, the higher a bank's systemic importance, the more likely it is to receive public-sector bailout in a crisis scenario, other things being equal. Exhibit 40 provides a brief overview of how we classify banks by systemic importance.

**Exhibit 40: Indicative Classification of Systemic Importance**

| Willingness of Authorities to Support | Systemic Importance |
|---|---|
| **Extremely Strong** | The bank is either officially recognized as a highly important D-SIB or has traits that suggest that it will be in the near term. The bank is typically among the largest in the market, such that its potential failure would lead to catastrophic consequences for the financial system and the real economy. |
| **Very Strong** | The bank is either officially recognized as an important D-SIB or has traits that suggest that it will be in the near term. The bank has a well-entrenched presence in the market, such that its potential failure would lead to significant impacts on the financial system and the real economy. |
| **Strong** | The bank is either officially recognized as a D-SIB or has traits that suggest that it will be in the near term. The bank has a strong presence in the market, such that its potential failure would lead to material impacts on the financial system and the real economy. |
| **Moderate** | While the bank may not be recognized as a D-SIB, it has an established presence in select segments of the market and its potential failure would lead to adverse impacts on the financial system and the real economy. |
| **Low** | The bank is unlikely to be recognized as a D-SIB in the near future. It has a limited presence in the market and its potential failure would lead to marginal impacts on the financial system and the real economy. |

## Group Support

If a bank belongs to a broader financial services or corporate group, it may benefit from potential extraordinary support, depending on its strategic role within the organization. In our evaluation, we assess a wide range of qualitative and quantitative factors to ascertain an operating entity's importance within a group structure. In our view, core or highly strategic subsidiaries are typically those that:

- are wholly- or majority-owned and controlled by the group;
- share a common brand name with the group;
- feature prominently in the group's long-term plans;
- operate in the group's key geographical and product markets;
- possess a long track record of success within the group;
- contribute a significant amount of group earnings, assets and capital;
- represent a considerable portion of group's capital and liquidity needs;
- have inseparable management teams with the group; and
- may irreparably tarnish the group's reputation if they fail.

If a bank's parent organization itself is a highly regulated financial services company, we evaluate its ability to downstream capital under challenging market conditions. The fungibility of capital across subsidiaries is also one of our key considerations. Exhibit 41 demonstrates how we typically classify group support.

**Exhibit 41: Indicative Classification of Strategic Importance**

| Willingness of Group to Support | Strategic Importance |
|---|---|
| **Extremely Strong** | The bank is a core member of the group. Group control is close to 100% and there is a well-recognized common brand identity. The bank has a long track record of success and accounts for a substantial portion of the group's financial profile. Potential failure may entail major franchise contagion risks. |
| **Very Strong** | The bank is a strategic member of the group. Group control is greater than 50% and there is a common brand identity. The bank accounts for a sizable portion of the group's financial profile. Potential failure may entail material franchise contagion risks. |
| **Strong** | The bank is an important member of the group. There is effective board control and there may be some brand association. The bank accounts for a meaningful portion of the group's financial profile. Potential failure may entail moderate franchise contagion risks. |
| **Moderate** | The bank is a relatively small member of the group. There may be board control, but brand association may not be strong. The bank accounts for a limited portion of the group's financial profile. Potential failure may entail manageable franchise contagion risks. |
| **Low** | The bank is an immaterial member of the group. There may not be board control and brand association is weak. The bank accounts for a negligible portion of the group's financial profile. Potential failure may entail limited franchise contagion risks. |

## Additional Loss-absorbing Capacity (ALAC)

In some jurisdictions, senior unsecured creditors of banks that are designated as global systemically important banks (G-SIBs) may receive a special form of support in the form of additional loss-absorbing capacity. ALAC refers to outstanding debt instruments that do not count towards total capital adequacy ratios, but may have equity-like features (i.e. through common-equity conversion or principal write-down) when a bank becomes non-viable and is subject to a formal resolution process. In light of the fact many Basel member countries have yet to formalize their bail-in and bank resolution frameworks, we believe there remains some uncertainty in ALAC's global application. Nevertheless, we believe, in the longer term, ALAC will represent an important source of external support for banks that are considered to be too big to fail.

As of 2019, G-SIBs are required to hold a total loss-absorbing capacity amount of 16% of risk-weighted assets (RWAs), or 6% of its leverage exposure. This requirement is set to increase to 18% of RWAs, or 6.75% of leverage exposure by 2022. Under a properly implemented bail-in and resolution framework, we anticipate that the extra buffer provided to senior bank creditors may justify an uplift to an entity's standalone credit profile by 1 to 2 notches in some cases. In our ALAC assessment, we place a strong emphasis on the instruments' default covenants, and more importantly, the relevant jurisdiction's willingness to impose haircuts on bondholders of failed or failing banks. Some regulators may, for instance, be concerned about the ripple effects that a bail-in may cause in the financial system. As a result, we generally take a cautious approach in factoring in ALAC support and will consider the potential impacts on a case-by-case basis.

## Issuance Ratings

Our issuer credit rating (ICR) incorporates our view on a bank's standalone credit profile (SACP) and the potential for external support. In the vast majority of cases, the issuance ratings applicable to a bank's senior unsecured debt, general credit obligations, and customer deposits would be aligned with its ICR. This reflects our belief that any extraordinary support would generally be available to these classes of creditors.

For subordinated debt and hybrid instruments, the analysis is complicated by the fact that support may or may not be present in times of need. This is especially true for instruments that are designed to absorb losses even when a bank remains a going concern. Typically, we would use a bank's SACP as a starting point, from which to apply downward notching to subordinated and hybrid instruments. However, there may be notable exceptions, depending on the potential support provider's explicit or implicit obligation and willingness to step in when required. One such exception may apply to junior instruments issued by policy banks or highly strategic state-owned banks, where the relevant authorities may have an incentive to provide support in order to prevent a systemic crisis and loss of investor confidence.

Our view on a particular instrument's credit characteristics and recovery prospects is informed by a large number of factors. As financial markets continue to evolve, we expect these factors to change over time as well. As a general rule, we consider the following elements of an instrument, in order to determine its rating relative to a bank's SACP or ICR, as the case may be (Exhibit 42):

- **Subordination.** For an instrument that is contractually subordinated to senior unsecured debt, general credit obligations and bank deposits, we would normally apply a 1-notch adjustment where the starting point (i.e. either the SACP or ICR) is bbb- and above and a 2-notch adjustment where the starting point is bb+ and below. This differential partially reflects our more modest expectations on recovery prospects for lower-rated issuers.
- **Discretionary / Statutory Coupon Deferrals.** Instruments may offer a bank issuer full discretion on coupon payments or contain mandatory coupon deferral triggers based on prudential ratios. Due to their easily-triggered deferral features, we typically deduct an additional 2 notches for Basel-III compliant tier-1 instruments and 1 notch for Basel-III compliant tier-2 instruments. Certain legacy tier-1 and tier-2 instruments may receive different notching based on their features.
- **Contingent Conversion / Write-down.** We generally deduct a further 1 notch for instruments that contain contingent common-equity conversion or write-down features as a bank reaches a point of non-viability.
- **Going-concern Triggers.** For instruments that contain contingent common-equity conversion or write-down clauses when a bank continues to operate as a going concern, the notching we apply may vary from 1 to 5 notches. Our key consideration is the level of minimum prudential ratios that would cause such a trigger. If we determine that an equity conversion or write-down of principal is highly likely over a 12-month horizon, we may deduct up to 5 notches. Conversely, if we believe that the triggers built into the instrument are unlikely to be breached over our forecast horizon, we may limit the notching to just 1.
- **Other Factors.** In our evaluation, we view an instrument's contractual clauses and their enforceability in the context of the regulatory environment in which a bank operates. A regulator's high propensity to bail out failing banks may, for instance, make it less likely for non-viability clauses to be triggered. Accordingly, our analysis would also factor in a jurisdiction's track record of regulatory forbearance and expected trends in market conventions as we assign ratings to individual issuances.

**Exhibit 42: Typical Notching of Subordinated and Hybrid Instruments**

| | bbb- and above* | bb+ and below* |
|---|---|---|
| **Subordination** | -1 | -2 |
| | | |
| **Discretionary / Statutory Coupon Deferral** | | |
| Tier-2 | -1 | -1 |
| Tier-1 | -2 | -2 |
| | | |
| **Contingent Conversion / Write-down** | -1 | -1 |
| | | |
| **Going-concern Triggers** | -1 to -5 | -1 to -5 |

Note: The notching above is cumulative
* Refers to the SACP or ICR (in which case the rating would be denoted in capital letters) depending on our opinion on potential support to the instrument

## Related Criteria

General Principles of Credit Ratings

Government-Related Entities Rating Criteria

Global NBFI Rating Criteria

Global Insurance Rating Criteria

Sovereign Rating Criteria

Chinese Local Government Rating Criteria

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