MARC RATING METHODOLOGY

FINANCIAL INSTITUTIONS RATING CRITERIA

OVERVIEW

MARC's Financial Institution Ratings (FIR) convey MARC's opinion of the long-term relative creditworthiness of a financial institution expressed on a national rating scale. MARC uses its Financial Institution Rating Methodology to assign FIR to domestic and non-domestic financial institutions.

The centerpiece of MARC's analytical framework for rating financial institutions is a non-domestic scale intrinsic credit strength rating (ICSR) that will be applicable to banks of all sizes and types, both locally and globally. The ICSR is a measure of the likelihood of bank failure in the absence of external support. The ICSRs are designed to be comparable across financial institutions, markets, and geography. They eliminate the clustering of credits from countries with high sovereign ratings together with the strongest Malaysian domestic credits at the top end of the rating scale that occurs with national scale ratings. The ICSRs will be assigned on the same long-term alphabetical scale as existing FIR. To distinguish ICSRs from other national scale ratings, the ICSRs will carry a *(ND)* suffix to denote "non-domestic".

The ICSR focuses on six bank-specific main rating factors MARC believes to be key in differentiating bank credit risk profiles: (i) Franchise Strength; (ii) Risk Management; (iii) Asset Quality, (iv) Earnings Quality; (v) Liquidity and Funding; and (vi) Capital Adequacy. The six rating factors encompass four sub-factors each; the quantitative and qualitative considerations incorporated in each sub-factor will be discussed in detail in this methodology.

Contact:

Mohd Izazee Ismail
Senior Vice President, Ratings
izazee@marc.com.my

+603 2717 2900
www.marc.com.my

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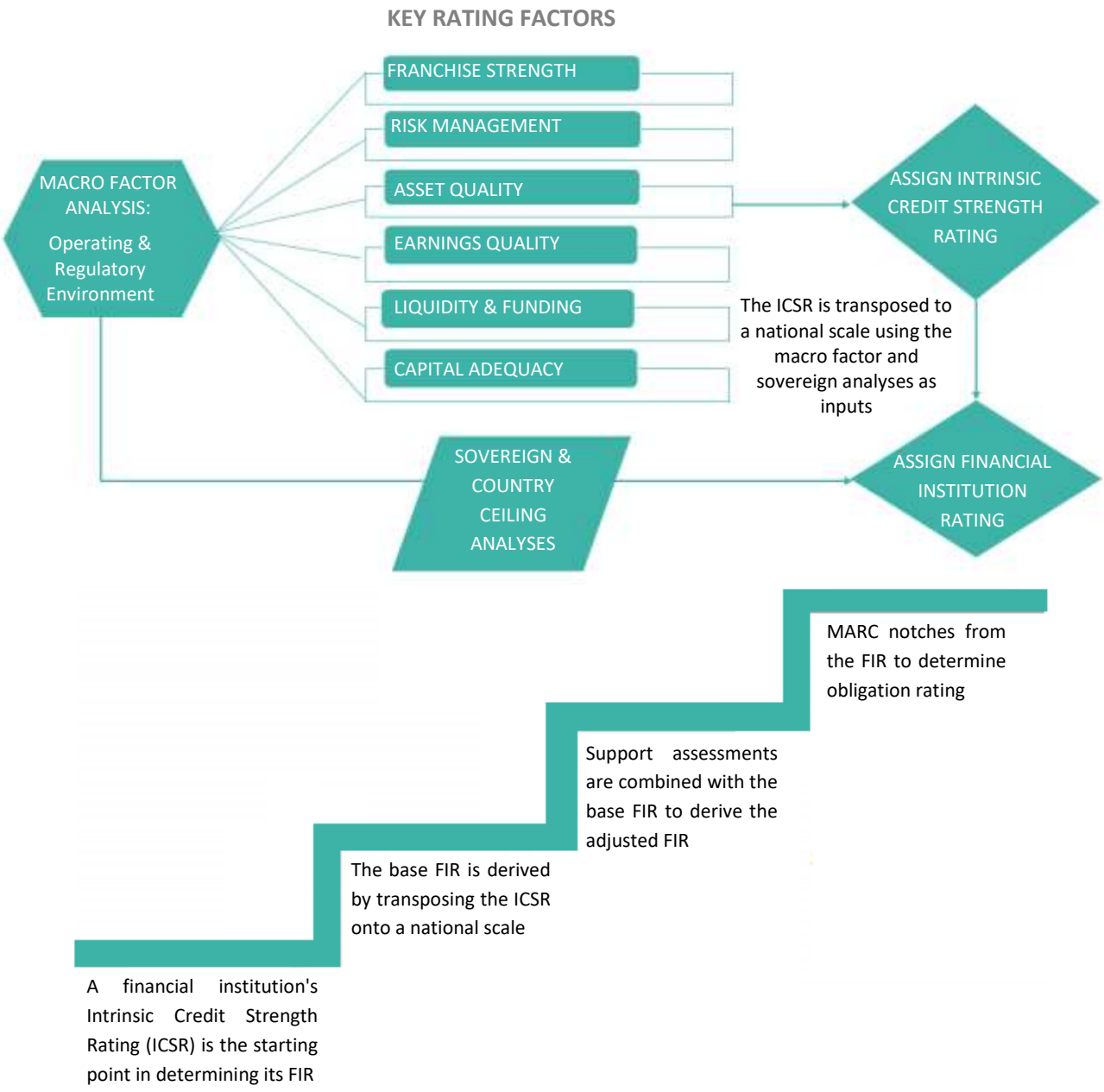
THE ANALYTICAL FRAMEWORK FOR RATING FINANCIAL INSTITUTIONS

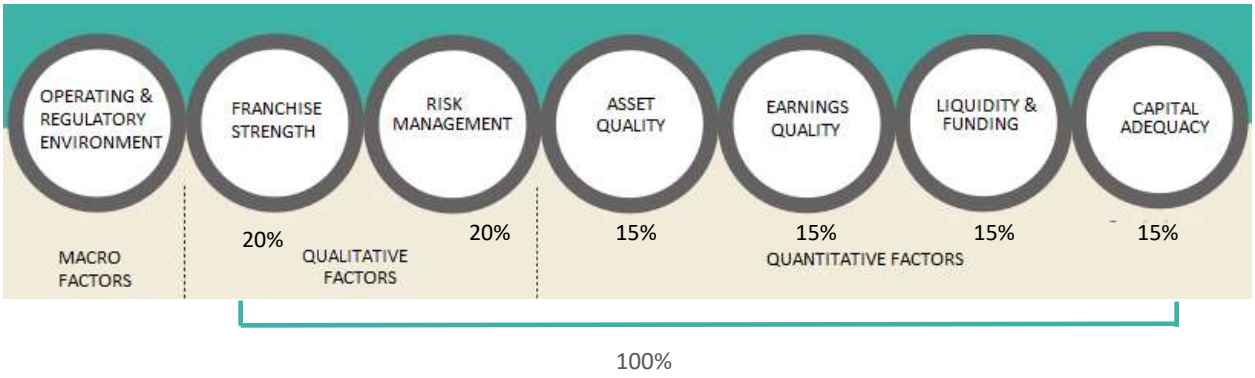
Assigning the ICSR is the starting point for MARC's analytical process of arriving at a financial institution's FIR. The broad areas of assessment or key rating factors which have been the basis of prior versions of our methodology for rating banks continue to underpin our analytical framework. In assigning the ICSR, MARC will benchmark the rated financial institutions against a suitable peer group comprising domestic and non-domestic financial institutions. MARC believes that the use of non-domestic benchmarks in addition to domestic benchmarks for comparison in our analysis will provide insight into individual financial institution risks and their credit implications. We are of the view that the improved capture or differentiation of the credit risks of financial institutions will ultimately enhance the information content and the robustness of assigned ratings.

Exhibit 1: MARC's Approach to Assigning Ratings to Financial Institutions



The scores we assign for each sub-factor map back to individual rating levels (AA, A, BBB, etc) on a non-domestic rating scale, allowing a scorecard-based ICSR to be generated from the assigned weights and scored rating factors.

Exhibit 2: Intrinsic Rating Key Factors and Standard Scorecard Weights



MARC's ratings are forward-looking and incorporate not only historical patterns and trends, but also our expectations with regard to the rating sub-factors. The significance of each factor and sub-factor is reflected in its specific weighting. The Operating and Regulatory Environment analysis that MARC's FI methodology has historically featured continues to provide the context for understanding the bank's performance and systemic risks affecting the banking sector. This will be scored separately from bank-specific factors for the rating and will applied as one of two primary rating inputs (the other being the applicable country ceiling determined by MARC's sovereign analysts and its rating committee) to transpose the ICSR to MARC's national rating scale.

MARC's FIR and issue ratings incorporate potential external support (systemic or other). Adjustments to incorporate rating uplift or drag from parent or group linkages and/or government support are made where applicable to arrive at the final FIR. The adjustments to the ICSR can either have a positive or negative effect on the credit risk of a financial institution depending on the relative credit strength of the rated entity to its parent or applicable banking/financial services group to which it belongs, and MARC's assessment of the likelihood of support or otherwise. The support assessment also incorporates expectation of external support in the form of capital injections from the government, or specific provisions of liquidity or funding by the regulator/supervisor to forestall serious future financial distress (ordinarily considered as systemic support). MARC will seek to understand the approach to home country supervision adopted by the overseas regulator where the rated entity is a non-domestic financial institution.

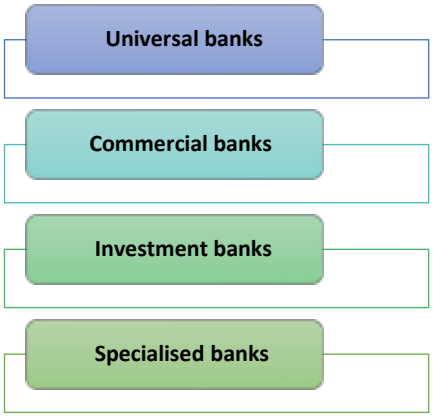
MARC's standard approach to assigning national scale ratings to non-domestic entities entails constraining the ratings of the strongest credits at their respective country ceilings to capture the risk of government interference with the institution's foreign currency debt service in the wake of a sovereign default. Such interference could take the form of freezes on foreign currency deposits and moratoria on foreign currency payments. The rating committee may, in addition, adjust the ICSR downwards, to incorporate operating and regulatory environment-related risks that will affect the credit fundamentals of non-domestic financial institutions.

The FIR of domestic financial institutions expressly excludes transfer and convertibility (T&C) risks to ensure that the credit differentiation among domestic credits is largely driven by their idiosyncratic risks. While the FIR of domestic banks will be comparable with that of their domestic peers, their FIR will not be strictly comparable with the FIR assigned to non-domestic banks.

BANK-SPECIFIC CHARACTERISTICS AND ANALYTICAL CONSIDERATIONS

MARC distinguishes four broad categories of banking institutions: universal banks, commercial banks, investment banks and specialised institutions for analytical purposes.

Exhibit 3: Types of Banks



Domestic Islamic banks are approached in a manner that is similar to commercial banks. MARC's analytical framework recognises that there can be marked differences in the composition of banks' activities, the types of revenue generated, and the nature of risks assumed in their ongoing operations. The mix of a bank's activities affects its risk profile and accordingly, the focus of our analysis. Islamic banks in Malaysia are licensed as universal banks under their Islamic banking licenses, meaning that separate licenses (and separate legal entities) for retail and wholesale or investment banking are not required as in the case of conventional banks.

Universal Banks

Universal banks provide the services of a commercial bank and an investment bank under one roof. In addition to deposit taking and lending, their activities encompass securities underwriting and trading, fund management and derivatives trading. The rise of the universal banking model in the 19th century can be traced to the banking sector's pursuit of economies of scale and scope. In Malaysia, universal banking is carried out via a bank holding company structure under which either a non-operating holding company (NOHC) or a bank, typically a commercial bank, holds the legally independent bank subsidiaries and non-bank subsidiaries.

Commercial Banks

Commercial banks typically provide a full suite of banking and financial services via an extensive branch network and other distribution channels, and receive a large part of their funding from the public in the form of retail deposits. Commercial banks offer services such as trade finance, bridge finance, project finance, foreign exchange transactions, treasury management and general corporate finance. Commercial banks cater to clients ranging from individuals to major corporations, and have a natural advantage in the financing of households and small- and medium-sized enterprises (SMEs). Commercial banks may be predominantly retail-funded or largely wholesale-funded. The main difference between retail-funded and wholesale-funded commercial banks lies in the funding mix. Having no significant retail depositor base, the latter rely on more volatile or confidence sensitive funding in the form of interbank liabilities and wholesale debt. Capital market activities of commercial banks tend to be limited to serving the needs of their clients rather than involving extensive participation.

The credit profile of a commercial bank that is a core subsidiary or the ultimate parent of a diversified universal banking group will also be influenced by the credit profile of other business lines in which the banking group is also extensively engaged (investment banking, asset management, insurance or wealth management, etc) as well as the execution of the banking group's strategies. For instance, some domestic universal banking groups have commercial bank entities as the ultimate parent while others are headed by financial holding companies (FHCs). A bank's integration with its other members of a larger banking group will be taken into consideration in MARC's rating view. The establishment of separate legal entities for retail operations and trading operations provides assurance of the continued provision of vital banking services irrespective of the financial health of the rest of the group.

Some commercial banks are more domestically focused, others may have regional or international networks of bank branches worldwide. Regional and international expansion often entails operating in markets with higher country risk than the bank's current footprint. Quite often, the bank's initial focus will be on the servicing of customers of their home countries operating in these markets to help mitigate counterparty risk concerns. Global commercial banks ordinarily possess, in addition to large retail depositor bases and a widespread network of home country branches, an extensive network of branches abroad and a relatively high portion of revenue in the form of interest income. Also, they will often have meaningful positions in international payments and cross-border businesses which will allow them to earn fee-based foreign income to augment their domestic income.

Investment Banks

An investment bank typically generates revenue by handling securities transactions for clients. The business model of investment banks is intrinsically cyclical due to the transaction-driven nature of its activities which include corporate finance, underwriting, issuing and trading and broking equities, government, bank and corporate debt securities, corporate advisory services (mergers and acquisitions and corporate restructuring), derivatives trades, foreign exchange and commodities trades and other fee-based activities. Innovation skills are an important source of competitive advantage, as is the ability to source transactions. An investment bank's capital market revenue is by nature cyclical and less stable and subject to the vagaries of financial markets. The composition of the investment bank's revenue can differ considerably depending on its business model. A substantial part of an investment bank's assets are typically in the form of tradable securities and its funding is predominantly from wholesale markets.

Investment banks' trading functions give rise to market risk on the bank's end, arising from changes in equity prices, interest rates, credit spreads, foreign exchange rates and commodity prices, amongst others. The investment bank's trading inventories of securities opens it to market risk while its derivative trading activities gives rise to market risk and counterparty credit risk exposures. Investment banks may also trade in secondary markets on their own account to enhance their revenues. The existence of proprietary trading may create potential conflicts of interest between the bank and its clients and leave the bank vulnerable to losses on its trading portfolio. The relative sizes of the investment bank's business lines, the ranking of each business line on the risk spectrum, the bank's competitive strength in these businesses and ability to manage attendant risks would be evaluated in MARC's analysis.

Specialised Banks

Specialised institutions include state-owned savings banks, development banks, export credit agencies and multilateral lending institutions, such as the International Monetary Fund (IMF), the World Bank and its affiliate the International Finance Corporation, and the Asian Development Bank. Specialised institutions are assessed in terms of mandate delivery as well as mandate extensions, credit risk exposure, financial profile,

including their risk-bearing capacity and liquidity, as well as their ownership, governance and risk management. To obtain a more accurate picture of the risk that is embedded in the lending portfolio of a multilateral institution, development-related exposure that is sovereign, sovereign-guaranteed or subject to preferred creditor treatment is distinguished from unmitigated credit exposure. MARC is mindful the reported non-performing loan (NPL) numbers might otherwise understate the credit quality of the loan book. The observed willingness of members to authorise significant increases in the multilateral institution's capital base (paid in and callable capital) over time is considered as indicative of the depth of membership support. In assessing the institution's management of risk, MARC identifies the principal drivers of risk and profitability for the institution, and considers the effectiveness of risk management practices in respect of credit and counterparty risk within its loan portfolio, as well as the market, foreign exchange, and interest rate risk of the institution's assets and liabilities.

ASSESSING BANK PROFILES IN TRANSITION

Regulatory reforms implemented in the aftermath of the global financial crisis (GFC) have materially affected business models by requiring bank balance sheets to contain more high-quality capital, liquid assets, bail-in capable debt and more stable funding sources. Given the risks they pose to the financial markets, investment banking activities have also been a focus of regulation. Financial reform aimed at ring-fencing or separating all or part of a universal bank's retail and commercial operations from its wholesale or investment banking activity is in process or under discussion in Europe and the United States (US). The objective of such reform is to make retail banking and insured deposits more secure, and limit the exposure of taxpayers and consequential knock-on effects on the financial system. The business models and credit profiles of affected universal banks are expected to undergo continual evolution as a consequence of the new regulations.

In 2013, legislation was passed in the UK requiring certain universal banks in the UK to separate, or ring-fence, their UK retail and commercial operations from wholesale or investment banking activity (into separate legal entities). The Volcker rule in the US meanwhile, goes further by restricting the permissible activities of banking groups, and specifically prohibits banks and their affiliates from engaging in proprietary trading, subject to exceptions for underwriting, market-making and risk-mitigating hedging activities.

In Malaysia, FHCs had, in the past, gained popularity partly due to their capital efficient structure. The focus of prudential regulation, including strictly-enforced capital adequacy rules, had been on licensed bank and insurance entities. However, the country's banking regulator, Bank Negara Malaysia's (BNM) extension of Basel III capital adequacy requirements to FHCs, negates arbitrage opportunities afforded by the more capital efficient NOHC structure. Consequently, several domestic banking groups have migrated from an NOHC structure to the operating bank holding company structure in which a bank is both an operating company for banking services as well as a holding company for bank and non-bank subsidiaries.

Apart from the aforementioned regulatory overhaul, a salient financial trend of the post-GFC financial services landscape is the rise of financial technology-driven banking disintermediation. Banks now face competition in their traditional markets not only from other banks but also financial technology companies (known collectively as fintech) targeting part of an unbundled financial services value chain (payments, wealth management, equity or credit). As a result of the rapid customer uptake of mobile technologies and advances in digital technology, fintech has been able to make meaningful inroads into the retail payments and remittance spaces which were traditionally handled by banks or payment and settlement infrastructure. Other areas of financial services vulnerable to competition from the more lightly-regulated

and customer-centric fintech companies are the scalable cost-sensitive segments of consumer finance, mortgages, lending to small- and medium-size enterprises, and wealth management.
Banks are witnessing an increase in the pace of technological change, while they are experiencing challenges in revenue from fees, tightening margins, and the burden of regulatory compliance. The increasing competition from fintech challengers will pose business model challenges and profitability risk to traditional banks over time. Margins will be driven down in contested spaces, i.e. the profitable parts of the banking value chain, intensifying the shift from "relationship" banking to "price" banking and pressure for operating model changes in traditional banks.

To ensure that assigned ratings have prospective value, MARC will consider how banks' risk profiles are likely to change over the next several periods as a result of the plans and strategies that are being employed.

KEY RATING FACTORS

MARC's approach to rating a financial institution entails measuring its strength on six broad factors considered by its rating committee. These broad factors are further broken down into several sub-factors to facilitate analysis at a more granular level.

Rating Factor 1: Operating and Regulatory Environment

Our bank rating analysis begins with an assessment of the bank's environment. This is a particularly important component of MARC's assessment of non-domestic bank creditworthiness to the extent that there are numerous channels through which macroeconomic and structural weaknesses might increase banking system fragility. The economic conditions and operating environment in the countries and regions in which the bank has exposures, including any regulatory and political developments, can potentially amplify certain risks (particularly credit, interest rate, liquidity and price risks) with potential impact on bank earnings, operations and capital.

Banks operating in countries with a low susceptibility to macroeconomic developments (such as currency devaluations and foreign exchange controls) and sovereign default and banking system crises will receive more favourable scores for this rating factor. To the extent MARC views a bank's asset quality, capital adequacy, earnings and liquidity, as being highly correlated with and intricately linked to the economic and market conditions in the countries where it has material operating exposure, serious economic or other problems in these markets will negatively weigh on its rating. Banks which have a material presence in more than one market will receive a blended score for this rating factor which takes into consideration their operating exposure to country risk. The high credit ratings assigned to the major banks in mature market economies incorporate, along with the bank's business profile and financial strength, the overall supportive regulatory and institutional environment in these places and low level of banking industry country risk. These systemic elements boost ratings because they enhance the banks' stable access to retail and capital market funding and lower contagion risk.

Our analysis of the regulatory environment component includes a review of the basic structure of the financial system, which encompasses the number and relative sizes of banks as well as non-bank financial institutions (NBFIs). MARC also takes into account consolidation trends and the nature of any deregulation initiated including the expected credit impact of these developments.

Overall state of the economy

MARC considers the general trends in the economy and financial system of the bank's main market(s) to assess its exposure to local economic and credit risks. Important risk factors include low GDP growth, high real interest rates, and high inflation. One of the key issues facing central banks in more recent periods is potential asset-price bubbles. With financial stability becoming a central objective of central bank policy on top of the traditional goal of economic stability, central banks have resorted to macroprudential measures to constrain credit bubbles in addition to the conduct of monetary policy to target inflation and employment. MARC takes a considerably less sanguine view of the risks associated with unconventional monetary policy such as quantitative easing and zero policy rates in deflation-plagued countries to reflate asset prices given that asset and credit booms and bubbles have historically precipitated busts and crashes that trigger banking and financial crises.

Exhibit 4: Financial System Soundness Indicators

Banking sector indicators
Capital adequacy ratios
Profitability trends
Return on assets
Net interest margins
Operating costs trends
Deposits/loans ratios
Deposit, loan growth rates
Bankruptcy trends
Sectoral debt
Trends in corporate sector profitability
Trends in impaired loans by sector
Trends in bank financing exposure

Macroeconomic indicators
Level of interest rates and exchange rates changes
Trends in asset prices
Trends in inflation and expectations
Savings and investment
GDP growth
Monetary aggregates
Balance of payments

Financial system and corporate sector soundness

MARC takes the view that a bank's operational and financial performance are inextricably linked to the health and stability of the financial system of bank's main market(s). Excessive domestic liquidity, low domestic lending margins, sectoral credit concentrations and excessive corporate borrowing contribute to increased banking system fragility. MARC regards sharp declines in corporate sector profitability as a leading indicator of generalised deterioration in banks' domestic credit environment given the relationship between the financial health and profitability of banks' borrowers and the quality of banks' loan portfolios. In a similar vein, loans outstanding to loss-making public sector entities represent increased risk exposure and potential asset quality problems.

Fast growth of corporate indebtedness at a rate higher than GDP growth would warrant closer attention in that it could signal laxity in banks' credit screening procedures. MARC also takes into account the ratio of corporate debt to GDP and the ratio of household debt to GDP in making an overall assessment of financial system soundness. Other aggregated microprudential indicators focusing on banks' liquidity (including reliance on foreign borrowings) and capital adequacy are also of interest to MARC.

Systemic risk and contagion vulnerability

The distress or failure of one bank can affect other banks directly via bilateral transactions or indirectly through the withdrawal of funds by fund providers due to a generalised loss of confidence in the banking system and mark-to-market losses triggered by fire sales of the distressed bank's or banks' financial assets. The greater the funding dependencies and bilateral credit exposures between banks, the higher the likelihood of contagion effects. MARC considers the interconnectedness between banks, as well as between banks and non-bank financial intermediaries (NBFIs), where significant. The regulatory initiatives in place to address potential risks posed to financial system stability including the proclivity of regulators towards providing liquidity and solvency support to banks and NBFIs, and expected changes, if any, would also be evaluated.

Quality of banking regulation and supervision

MARC takes the view that financial regulators play a significant role in promoting the safe and sound functioning of banks. Banks that are well regulated and well supervised are less susceptible to material distress and failure. The usual elements of a well-functioning prudential regulatory and supervisory system include, among others, adequate accounting standards and disclosure requirements; prudent loan classification, provisioning and income recognition rules; minimum standards for capital and liquidity adequacy; effective supervision of financial institutions to enforce compliance with regulations; and adequate supervisory capacity. MARC views regulatory and supervisory independence from political interference and industry interests as fundamental to effective banking regulation and supervision. It is equally crucial that laws and regulations provide a framework for the supervisor to set and enforce minimum prudential standards for banks and banking groups. Central to the achievement of robust supervision is the banking supervisor's authority to undertake timely corrective actions to address safety and soundness concerns once weaknesses or deficiencies are identified.

Effective microprudential supervision helps promote the safety and soundness of individual banks while effective macroprudential measures such as lower ceilings on loan-to-value and countercyclical bank capital buffer requirements could help reduce systemic risk. The size of, and changes in interest rate spreads can provide insight into banking sector competitive dynamics, in the same way the rate of expansion in the number of banks and other financial institutions does. Over-liberalisation of the financial sector can increase competition among banks to the point where banks relax credit underwriting standards and extend riskier loans at lower returns to capture new lending business. This results in structurally weak loan portfolios that are more susceptible to economic downturns and inadequate credit risk pricing.

Generally, it is rare for a non-domestic bank's FIR to be assigned above the sovereign rating and/or country ceiling, however well the bank scores on other factors.

Rating Factor 2: Franchise Strength

An institution's franchise strength is an important driver of its financial strength to the extent that it affects the institution's ability to add to its capital through retained earnings. A high franchise value institution typically has multiple sources of advantage over rivals that help sustain customer loyalty and market share, such as unique offerings, distribution channels, specialised knowledge, skills and competitive advantages through efficiency improvements. Such institutions are also better positioned to adapt successfully to less benign economic and financial conditions. Risks are higher for a low market share institution because it is more vulnerable to competitive forays by stronger institutions. MARC also believes franchise value to be a primary factor in assessing the likelihood that a troubled bank will be saved.

Business model and strategic positioning

MARC views a bank's franchise value as being fundamentally linked with its business model. A bank's franchise is affected by regulation and by macroeconomic developments, as illustrated by the global trend towards greater income diversification in response to structural and cyclical challenges. Banks are currently under substantial pressure to adapt business models to create sustainable ways of generating profits in the post-GFC environment. The pressure to create sustainable bank business models stems from structural impediments to profit generation posed by low cost efficiency and strong competition, as well as a prolonged period of lower nominal growth and low yields. More stringent regulatory capital requirements have added additional pressure. Fee and commission-based activities constitute important avenues for bank business model adaptation to the more challenging economic and financial environment. Yet, some

banks seeking to expand fee and commission (F&C) generating activities to compensate for the slowdown in net interest income (NII) may be less well-placed than others to markedly increase their F&C income due to specific characteristics of their business model.

To gain insight into an institution's future earnings power, MARC assesses the business model characteristics of the bank, the franchise value implications of shifts in the bank's business model and the sustainability of its business model. MARC takes into account the logic and risk of any repositioning of the bank's strategy to compete under new market conditions by looking at the incremental changes made to its strategy and the transformative potential of any reconfiguring of its asset base.

Market presence and competitive ability

Leading or large market shares translate into a number of benefits including higher margins and advantages in attracting talent, higher reinvestment capacity and fewer organisational constraints. The market leader is better placed to stay ahead of present or potential competition, and maintain market leadership. At the same time, accelerating growth in electronic payments and the growth of online and mobile banking are negating the importance of physical presence in offering financial products and services.

MARC uses market share as a proxy for market presence. In general, we consider market shares in the high teens and first or second positions to be representative of strong market presence. The strength of an institution's investment banking franchise is also measured by its position in league tables in addition to market share in targeted segments. There is significant variation in the size of local banking markets; in general, an increased presence of foreign banks in a country leads to decreasing asset margins as competition intensifies. The resilience of the bank's market presence and the durability of its underlying competitive advantage are vital in MARC's assessment of franchise strength. The profitability of a bank's respective business lines, taking into account the specific characteristics and peculiarities of its business model compared to other banks, can also be an important indication of pricing power. Nonetheless, market positions and business models may change over time in response to increased competition in the banking market, innovations in technology and regulation. Incumbent banks in previously protected markets are vulnerable to competitive inroads from new entrants and market share loss.

Business lines and diversification

Past contributions of each business line or segment are considered in MARC's analysis of the institution's business mix. An ample diversification of an institution's earnings base across products and business lines generally increases business and earnings resiliency during a period of tightening net interest margins. Banks have a greater incentive to focus more of their efforts on generating fee income when spread income is negatively impacted by a low interest rate environment. The rising importance of capital markets businesses and off-balance sheet activities, ranging from credit lines to derivatives products, is symptomatic of this development. Where higher reliance on non-interest income is accompanied by higher volatility of bank income and higher risk, but not higher returns, the diversification is viewed as having little benefit.

The geographic footprint of an institution is also considered to the extent that geographic diversification may enable the bank to extend its brand, gain synergies, and benefit from economies of scale which, in turn, help to provide greater earnings stability. A more globally diversified franchise will also help temper the impact of less favourable domestic or home market dynamics on the bank's performance. At the same time, MARC recognises that banks often face challenges in creating value in markets with varying economic, social and political climates. Also, initiatives made in international markets that are higher growth but less stable would add to the institution's risk profile. For instance, traditionally restricted markets with

favourable long-term fundamentals such as India and China continue to be difficult places for foreign banks to make profits or build a meaningful franchise. The withdrawal of foreign banks from key Asian markets in recent years is illustrative of the lower tolerance for putting capital into low-returning businesses in response to tougher capital requirements. Apart from being subjected to higher capital standards by bank supervisors, foreign banks are increasingly required by national regulators to ring-fence their local operations. Since the GFC, rising regulatory burdens, increasing complexity, and unattractive operating economics have brought into question the business model of the global universal bank in particular.

Management quality, strategy and governance

MARC considers management, corporate strategy and governance collectively as a key element of its assessment of franchise strength given that effective management of core business lines is essential to the preservation and enhancement of the bank's franchise value. MARC looks at the alignment between the bank's organisation structure and resources with its corporate strategy and external marketplace, management breadth and experience, continuity, and ability to adapt to a changing environment.

An understanding of the bank's corporate strategy and the nature of any business strategy changes implemented is important in assessing the likely effectiveness of a bank's strategy in improving or defending its competitive position in its marketplace. MARC evaluates the extent to which the strategic planning process ensures areas of growth and innovation are effectively managed. A review of the bank's growth strategy is also undertaken consistent with our view that a well-conceived and well-executed growth strategy has the potential to create value and improve the bank's competitive positioning. Management's past track record in managing the risks of its chosen growth strategy will be pertinent to MARC's analysis. In general, a strategic and measured approach to growth (whether organic, inorganic or a combination of both organic and inorganic) is viewed favourably.

In light of the damage posed to banks' franchise strength by publicised instances of major misconduct at global banks and accompanying litigation, we consider an assessment of the board's oversight role to be essential to our analysis of this sub-factor. Furthermore, boards of banks that are in the throes of transforming their business and operating models are expected to oversee as well as guide strategy and major changes in their banks. Our assessment encompasses the board's composition, independence, its relationship with the executive management, as well as the mechanisms for oversight. A new ownership structure can lead to changes in business strategy, often regarding financial policy and risk management. Where this occurs, MARC will continue to monitor the evolution of the bank's strategy in addition to that of management, and governance.

Rating Factor 3: Risk Management

MARC's analysis of this rating factor entails a holistic review of its management of various risks inherent in its activities in a day-to-day operational context. MARC's assessment of a bank's risk governance and the rigour of its risk management approach is usually rating neutral to the bank's rating but can exert rating drag if it is viewed to be inconsistent with the bank's risk profile and/or where publicised events highlighting risk management failures are affecting the bank's competitiveness and casting doubt on the bank's ability to establish new relationships and services or to continue servicing existing relationships. An important element of our assessment is the bank's track record with regard to the management of its principal risks and the experience of risk management personnel.

In the case of commercial banks, credit risk and interest rate risk in the banking book typically represent key risks. Our assessment of a bank's credit risk appetite considers the following elements relative to its peers,

among others: the granularity of the bank's credit portfolio including the size of its top single obligor exposures, borrower and counterparty creditworthiness, exposures to specific sectors of the economy and historical credit loss experience. The market risk appetite of banks with material capital markets activities, meanwhile, is assessed by looking at the size and complexity of their market-making, dealing and proprietary trading activities on top of the banks' historical trading revenue trends. Capital market activities expose banks to market risk, counterparty credit risk and operational risk. Banks' market risk tolerances are commonly expressed in terms of risk measures such as value at risk (VAR) and earnings at risk (EAR). MARC also considers the levels of interest rate, foreign exchange, and equity risks assumed by the bank on its balance sheet and the extent to which liquidity and funding risks are comprehensively managed and controlled. A bank's risk management capabilities should commensurate with the scale and nature of its risk profile. Depending upon this relationship, risk management may be accretive, neutral or dilutive to a bank's rating.

Risk appetite and culture

The objective of our review of risk appetite and risk culture is to gain insight into the bank's appetite for risk as well as to evaluate the extent to which risk management is embedded in the bank's culture and the likelihood of change in the bank's risk profile. MARC relies on trends in key ratios and peer group analysis and information gathered on the bank's risk philosophy and practices. An effective risk appetite framework (RAF) reinforces a strong risk culture at the bank by embedding risk appetite into the financial institution's risk culture, which in turn is critical to sound risk management. In setting risk limits, tolerances should be established for all relevant risk categories (credit, interest rate, liquidity, operational, compliance, strategic, and reputation). MARC believes that quantification of the bank's risk appetite in terms of capital, earnings and liquidity outcomes, augmented by sound stress testing processes where possible, will help ensure that risk-taking is aligned with the board-approved risk appetite statement (the desired overall risk appetite).

An effective RAF also makes it possible for a bank to act in a timely manner to effectively manage, and where necessary, mitigate material adverse risk exposures, in particular those that are close to or exceed the approved risk limits. The quantitative limits complemented by qualitative statements (for risk exposures that are challenging to quantify) should be cascaded through the bank at the most granular level and then continuously monitored and revised.

Risk governance

MARC considers the extent to which the principles of sound corporate governance are applied to the identification, measurement, monitoring, and controlling of risks to ensure that risk-taking activities are in line with the bank's strategic objectives and risk appetite. MARC looks at the framework under which the bank manages all its risks, the oversight of the framework and the reporting lines in place. The risk governance framework should include well-defined risk management roles and responsibilities for frontline units, risk management function, and internal audit. The board's role in risk governance should extend beyond having an appreciation of the bank's material risks to holding management accountable for implementing an effective risk management system suitable for the bank's size and activities and adhering to the bank's risk management framework, in addition to overseeing risk reporting. Oversight board committees can improve the transparency of banks' lending processes and ensure the appropriate checks and balances are in place.

Risk control capacity

In assessing the bank's risk control capacity, MARC considers the extent to which the bank's policies, processes, personnel within the risk control function, and risk infrastructure support risk-related decision

making and keep pace with changes in the bank's size, risk profile, geographic diversity and complexity. A bank with a high level of business risk would require a stronger control environment than a bank with a low level of business risk to ensure that the high level of risk remains effectively controlled and that its risk profile does not increase beyond supportable levels. The bank's internal controls and information systems should be appropriate for its size and the nature, scope, and risk of its activities to be able to identify, measure, monitor, and control risks in a timely manner. It is important for banks with a meaningful international presence to have systems in place locally, consistently monitoring exposures in international operations to manage their risks across the globe. MARC is alert to any strategic shift that may significantly elevate the bank's risk profile.

Financial and management reporting quality

MARC regards sound financial and management reporting to be integral to effective financial and operational management. Accurate, complete and timely financial and management reporting allows management to make well-informed decisions, demonstrate accountability and stewardship, and reinforce credibility with its stakeholders. Banks have a public interest obligation to their stakeholders to provide timely, reliable, and detailed information of their financial performance and positions. In order to adequately discharge their accountability, and provide the standard of information required by investors, banks have to be able to publicly report and disclose high-quality financial information. We regard a realistic valuation of assets and prudent recognition of income and expenses as critical factors in evaluating the financial condition and performance of financial institutions. In assessing financial reporting quality, MARC considers the overall quality of accounting for earnings, intangibles, derivatives and contingent liabilities, the adequacy of impairment loss recognition and provisioning policies, as well as the timeliness and transparency of reporting.

Rating Factor 4: Asset Quality

In many banks, credit risk represents the greater majority of risk weighted assets. Banks suffer losses on loans, advances and other credit facilities as a result of their becoming wholly or partially uncollectable. The focus of a bank's asset quality analysis is typically on all credit relationships — commercial, retail, and those that arise outside lending activities, such as from capital markets and interbank assets. MARC will also consider the nature and extent of the bank's real-estate and equity investment portfolios. The equity portion of a bank's asset portfolio could stem from direct investments in public and private equity securities including investments in financial institutions, equity investments in funds or equity holdings made to promote specific sectors as commonly seen with policy banks. The potential downside risk of the equity exposures is assessed by considering the breakdown of these equity exposures by economic sector, the largest exposures, and their book value compared with market value. In assessing the quality of both on- and off-balance sheet assets, MARC focuses on asset mix, concentrations in the asset portfolio and the adequacy of the bank's loan loss reserving policy. In general, our view is that well-developed credit processes, risk mitigation techniques and adequate capitalisation can reduce the fallout and negative impact associated with impaired loans or financing.

Trends in asset growth and credit standards

MARC assesses trends in the volume and growth of both on- and off-balance sheet assets compared to that of peers and/or the market average. Rapid lending growth quite often results in higher delinquencies in a maturing loan portfolio and, consequently, an increase in credit costs. MARC's assessment of asset quality is informed by its analysis of the bank's credit risk management, in particular its credit risk appetite, any change in credit underwriting standards and loan growth strategy. It is important for underwriting standards to be enforced to promote consistency and stability in the bank's lending function. MARC's

analysis considers aspects of the bank's asset growth that will likely affect credit risk such as geographic dispersion and trends in obligor and counterparty credit risk. For instance, country risk factors, such as political, social, and macroeconomic conditions and events can increase the credit risk associated with even the strongest non-domestic counterparties.

Asset risk concentrations and vulnerabilities

MARC seeks to identify asset risk concentrations in respect of connected entities/groups of entities, industries, markets, geographic regions, loan/financing collateral type in order to provide a forward-looking view of the bank's overall asset quality and asset risk. Policy banks with large exposures to a single sector or to several highly correlated sectors, for instance, will most certainly face heightened risk of increasing asset risk during periods of stress for those industry sectors. In addition, MARC will be especially concerned about the risks posed to asset quality by falling collateral values in instances where the probability of default of the borrower is significantly negatively correlated with collateral value.

Exhibit 5: Asset Quality Indicators

Trends in asset growth, credit standards
Total assets growth
Asset mix
Gross loans and advances growth
Loan portfolio mix and granularity
Geographic distribution of risk assets
National and local economic trends and conditions

Asset risk concentrations and vulnerabilities
Material corporate and wholesale credit exposures
Loan portfolio sector concentrations
Lending segment risk profiles
Concentrations in riskier geographies
Size and nature of equity investments
Contingent (off balance sheet) exposures

Delinquencies and impairments
Level and trend of delinquencies
Level and trend of impaired loans
Impaired loans by sector
Impaired loans/Gross loans
Impaired loans less reserves for impaired loans/Equity
Charge-off rates for riskier loans

Provisioning
Loan loss reserves/Impaired loans
Levels and trends in charge-offs and recoveries

Declining collateral values signal deterioration in the expected strength of the secondary repayment source, usually necessitating an increase in provisions for problem loans. Banks with a structural reliance on large mortgage books and commercial real estate lending are particularly susceptible to falling collateral values amidst declining housing and commercial property prices.

Trends in delinquencies and impaired loans

MARC compares the bank's levels and trends in impaired loans, charge-offs and recoveries with that of other banks and system-wide measures. These numbers are reviewed within the context of any economic conditions, industry weaknesses, and other external factors that might bear on credit quality conditions. MARC's analysis looks at the bank's criteria and procedures for charging-off and collecting on charged off loans. MARC will also examine the bank's loss experience over a credit cycle by customer segment, economic sector and country including previous peaks.

Actions that management have taken or are taking to strengthen asset quality and any ongoing balance sheet de-risking will be taken into consideration. In our analysis of problematic exposures, efforts to obscure problematic loans or financing by liberal extensions, deferrals, or renewals are viewed negatively.

Provisioning

Finally, an evaluation of the adequacy of a bank's loan loss reserves is essential to an evaluation of not only its asset quality but also its earnings, capital adequacy and solvency. The adequacy of loss provision levels and the timely recognition of losses are pertinent to our assessment of asset quality to the extent that if the

bank is under-reserving, the loans will be carried at inflated values and earnings and capital will be overstated. On a related note, more timely recognition of expected credit losses is expected in countries applying the International Financial Reporting Standards (IFRS) with the implementation of the *IFRS 9 Financial Instruments* standard which promotes a forward-looking view of credit quality. Under the new standard, banks are required to recognise an impairment provision and a corresponding impairment loss even when the probability of loss is low. In contrast, under the older standard *IAS 39 Financial Instruments: Recognition and Measurement* which IFRS 9 replaces, banks only recognise impairment based on objective evidence of a credit loss. IFRS 9 will be effective in many jurisdictions other than Malaysia, which notably include the European Union and UK, Australia, Canada, Singapore and Hong Kong. The effect of the new requirements will be to require larger loss allowances for banks.

Rating Factor 5: Earnings Quality

Exhibit 6: Earnings Quality Indicators

Profitability levels and trends
Interest income/Average interest earning assets
Interest expense/Average interest bearing liabilities
Net interest margin
Return on average equity
Return on average assets
Pre-tax return on average RWA
Taxes/Pre-tax profit

Revenue mix
Level of net interest income and trends
Level of non-interest income and trends
Non-interest income/Total operating income

Core earnings stability
Stability of income components
Predictability of non-interest expenses
Predictability of provision for loan losses
Three-year average return measures

Cost efficiency
Total operating expenses/Total operating income
Trends in individual expense items of significance

MARC's analysis of earnings quality considers the bank's revenue mix, the stability of recurring earnings and the strength of its profitability metrics such as return on assets relative to its peers. Where a trend of declining profitability is observed, MARC will assess the prospects for bank profitability to normalise and the likely time frame in which this could occur and the nature of efforts to offset prevailing negative pressures stemming from developments such as margin pressures and high regulatory costs.

Profitability levels and trends

MARC evaluates the level of the bank's profit and its trend relative to the banking sector and its peers. The profitability measures that MARC employs to assess the bank's overall profitability include net interest margin (NIM), return on average equity (ROAE) and return on average assets (ROAA), and pre-tax return on average risk weighted assets. Risk weighted earnings quality is measured by using the bank's average risk-weighted assets as the denominator of the return measure. Where appropriate and feasible, MARC adjusts the financial measures used for non-recurring or other unusual items to eliminate anomalies and facilitate comparison.

We not only place the bank's performance in context of external factors (economic conditions, competition, laws, regulations, and technological change), but also internal factors such as its strategy, asset/liability mix, asset quality, and operating efficiency to obtain a more insightful perspective on the bank's earnings quality.

Revenue mix

Corporate and investment banking franchises inherently generate less stable earnings compared to a retail franchise. As such, a bank with a narrow earnings base comprised of relatively volatile income streams will score lower in our analysis of earnings power. Large borrower exposures that are characteristic of wholesale banks may also expose the institution or group earnings to volatility in the event of asset quality deterioration.

That said, MARC recognises credit card and auto finance portfolios to be particularly prone to deterioration during an economic downturn and exhibit higher defaults and loss severities than mortgage portfolios.

Core earnings stability

MARC considers the profitability of the bank at the peak and trough of business and credit cycles. The focus of MARC's analysis of this sub-factor is on the consistency and sustainability of bank profits. It has been observed that declining interest rates may benefit banks in the short-term by boosting asset values and trading profits, in addition to improving debt affordability and asset quality. Over the medium term, however, lower yields on variable-rate assets and declining yields on securities are unlikely to be fully offset by the falling cost of wholesale liabilities and savings deposits. The pressure on bank profitability from margin compression may drive banks to alter their asset mix and grow loan portfolios abroad where the market environment is more favourable, amongst other measures taken.

Cost efficiency

MARC evaluates the bank's efficiency targets and efficiency ratios relative to those of its peers to understand whether costs have been contained while growing assets and revenue. Key measures that MARC looks at are the cost-income ratio and the ratio of operating expenses to average assets. Efficiency measures are not assessed in isolation; MARC is mindful of variations that are caused by business model differences and the importance of ongoing investment in the bank's franchise. For instance, retail banks may be able to run on a low cost base if non-branch distribution channels eliminate the need to maintain large networks of national branches. A low cost base relative to peers offers the bank greater flexibility to deal with competitive pricing pressures. Given the slower growth in the more mature markets, increased efficiency is an important component for generating earnings growth.

Rating Factor 6: Liquidity and Funding

A key takeaway from the 2008 GFC is the need for banks to possess greater liquidity and funding resilience. Two now-obvious shortcomings in liquidity risk management practices at the time were funding maturity and currency mismatches. The liquidity positions of banks who had over-relied on less stable funding sources, including the interbank market and other wholesale funding sources were undermined when the short-term wholesale funding markets dried up in the crisis. Central banks had to intervene to provide access to emergency liquidity to their banking systems to stave off bank failures. Non-domestic emerging market banks also face a higher risk of a sovereign-imposed foreign currency moratorium compared to banks in developed markets, which is MARC's analytic rationale for applying country ceilings to ratings of emerging market banks on its national rating scale.

Post-GFC, the Basel Committee on Banking Supervision (BCBS) developed more stringent liquidity standards for globally active banks to reduce the risk of bank runs and frozen interbank markets. The BCBS drew up minimum liquidity standards via two quantitative measures complemented by other monitoring tools to be applied at a global level under the Basel III rules. The first measure, the Liquidity Coverage Ratio (LCR), is aimed at promoting banks' resilience to liquidity risk over the short term (a 30-day period) by ensuring it has sufficient high-quality liquid assets (HQLA) to survive a significant stress event lasting for 30 days. The LCR considers partial loss of secured short-term financing with a significant increase in haircuts on collateral. The second measure, the net stable funding ratio (NSFR), meanwhile, is designed to promote financial safety by ensuring that banks maintain a stable funding profile relative to their on- and off-balance sheet activities over a one-year horizon. Globally active banks are required to comply with a minimum requirement of 100% for their LCR by January 1, 2019 and to maintain an NSFR of at least 100% a year earlier than the full phase-in of the LCR. The phase-in of the LCR has already begun.

While MARC has historically examined the adequacy of the bank's liquidity position together with its funding profile as a key rating factor for banks, the significance of this rating factor has been reinforced by the role liquidity and funding risk played in destabilising banks and banking systems during the GFC.

As observed during the GFC and previous banking crises, banks that possess adequate levels of liquidity resources in addition to a prudent funding profile are better positioned to accommodate decreases in deposits and disruptions in other funding sources or increases in assets without making costly balance sheet adjustments.

Exhibit 7: Funding and Liquidity Indicators

Funding structure
(*In respect of deposit-taking institutions*)
Volume and trend of total deposits
Types of deposits
Maturity distribution of time deposits
Volume and trend of wholesale deposits
Volume and trend of large time deposits
Loans/Customer deposits
Customer deposits/Total funding

(*In respect of all other institutions)*
Funding categories and concentrations
Stability of funding sources

Risk tolerances
Funding concentration limits
Limits on contingent liability exposures
Lending segment risk profiles
Concentrations in riskier geographies
Contingent (off balance sheet) exposures

Liquidity buffers
Type and mix of permitted investments
Maturity distribution of investments
Level and quality of unencumbered liquid assets

Compliance with regulations on liquidity
(Where applicable)
Basel III liquidity coverage ratio
Basel III net stable funding ratio

Liquidity risk governance

A bank's funding and liquidity management practices should correspond to the nature, scale and complexity of its activities. An important component of planning for bank liquidity needs (including funding demands in stressed conditions) is an appropriate and clearly articulated risk appetite statement defining the duration and type of stress or stresses that the bank aims to survive. This risk appetite should be cascaded throughout the bank in the form of appropriate limits, which may include gap limits or concentration limits around currency, funding sources including potentially unstable liabilities, the makeup of liquid asset buffers and the bank's structural liquidity position. Also important would be an asset/liability committee (ALCO) or a similar entity that has sufficient representation across major bank functions (e.g., lending, investments, wholesale and retail funding, etc.) to actively monitor and influence the institution's liquidity risk profile.

MARC also considers the extent to which liquidity management strategies, policies, procedures, and risk limits are periodically updated. Procedures for monitoring liquidity should incorporate robust analysis of intraday liquidity risk profiles, both in business-as-usual and under liquidity stress scenarios. The bank's planning for a stress environment should also take into account the likelihood of counterparties discontinuing funding or requiring increases in haircut requirements for repurchase transactions. Existing legal, regulatory and operational limitations to potential intragroup transfers of liquidity and unencumbered assets across entities, sectors and countries, as well as the impact of a failure of a group entity to repay loans in a timely manner, should be taken into account where appropriate.

Funding structure

An important component of liquidity management is the diversification of funding sources. Ideally, the bank should have available a variety of short-, medium-, and long-term funding sources. MARC considers the presence of vulnerabilities within a bank's funding structure that puts it at risk to potential funding disruptions, such as non-core funding dependence in financing its non-liquid earning assets and a highly cost-sensitive deposit base. MARC pays particular attention to the bank's ability to access various funding markets,

generally, and in a difficult environment. Correlations between sources of funds and market conditions are also taken into account. MARC believes that maintaining market access is very important in that it affects the bank's ability to raise new funds and to liquidate assets. At the same time, MARC believes that reputation risk plays a critical role in a bank's ability to access funds readily from the capital markets and other sources of wholesale funds at reasonable terms. A bank's funding options under a stressed environment are largely dictated by its overall financial condition and credit strength. The funding opportunities of a bank notably diminishes during periods of mounting anxiety over its distress risk, with the potential to create a scenario resembling a classic bank run.

In the case of deposit-taking institutions such as commercial and savings banks, MARC will review the deposit structure, including the volume and trend of total deposits, types of deposit and the maturity distribution of time deposits. Other information that will be considered when applicable include the volume and trend of demand deposits, large fixed/term deposits, public-sector deposits, foreign currency deposits, wholesale deposits, and uninsured deposits. The cost of the bank's funding sources compared to market costs and alternative funding sources can provide insight into the cost sensitivity of the bank's funding sources. While the objective of national deposit guarantee schemes (DGS) is to make the deposit base of deposit-taking banks sticky, MARC believes that these banks remain exposed to the risk of a flight to quality in a stressed scenario.

Liquid buffers and contingency planning

The impact on market liquidity in recent periods of the stricter post-GFC bank liquidity regulation have brought market liquidity concerns, in particular, bond market liquidity, to the fore. MARC believes that one of the most important determinants of a bank's resilience to market liquidity shocks and liquidity stress will be the size of its liquidity buffers. In analysing a bank's liquidity buffers, MARC considers the composition and trends of its liquid asset portfolio, in particular its highly liquid assets, as well as trends in the bank's and its peers' liquid assets/total assets ratio. The amount of liquid assets that a bank should maintain is a function of the stability of its funding structure and the risk characteristics of the bank's balance sheet and off-balance sheet activities. The bank's ability to convert its securities holdings into cash in a short time frame, either by using this as collateral for borrowings or selling it to provide funds will be a function of the quality and marketability of its investment portfolio. Reasonable assumptions regarding the haircuts that counterparties are likely to require in stress scenarios, especially on less liquid collateral will be essential to the effectiveness of the bank's contingent funding plans.

Ideally, the bank's contingency plans should address market wide stress, idiosyncratic stresses as well as stresses that could occur but have not yet been observed such as a deterioration in the bank's financial condition to ensure that the bank will have sufficient liquidity to operate after the stress occurs. Other than their cushion of highly liquid assets, other contingent funding sources commonly available to banks include the sale or securitisation of assets, repurchase agreements, and discount window borrowings from the lender of last resort.

Compliance with liquidity regulations

MARC will review the bank's compliance with the applicable liquidity regulation, while taking note of internal measures in place to monitor and manage volatility in the applicable quantitative measures. Where Basel III's LCR framework is concerned, MARC observes that national bank supervisors have made modifications to this to account for the specificities of their domestic banking sectors. The scope and eligibility of certain high-quality liquid assets (HQLA) have been expanded. Adherence to internationally agreed liquidity standards will be an important consideration for banks which compete for funding with

other internationally-active banks and/or access international funding markets. MARC will also examine the bank's liquidity metrics against national norms.

Rating Factor 7: Capital Adequacy

Adequacy of capital is a very important rating factor in the assessment of a bank's financial strength. Bank capital performs several very important functions. Capital acts as a buffer or cushion for absorbing losses and allows banks to continue operating as going concerns during periods when operating losses or other adverse financial results are experienced. In doing so, capital promotes public confidence in the banking system and helps minimise financial distress concerns.

In addition, regulatory capital requirements for banks help restrain excessive asset growth by requiring asset growth to be funded by a commensurate amount of additional capital. The excessive on- and off-balance sheet leverage of banking sectors in many countries is often cited as one of the main reasons the GFC became so severe. The gradual erosion of the level and quality of banks' capital bases subsequently exposed taxpayers to large contingent liabilities and losses through government bank bailouts. Public sector injections of liquidity, capital support and guarantees became necessary when certain types of instruments that were included in Basel II regulatory capital did not absorb losses in the crisis.

Exhibit 8: Capital Adequacy Indicators

Internal capital generation ability
Internal capital generation ratio
Dividend payout ratio

Capital level and quality
Level of equity capital, preferred shares, hybrids
Regulatory capital ratios
Size and trend of risk weighted assets (RWAs)
Internal capital
Total equity/Total assets

Leverage and bail-in buffers
Basel II leverage ratio
Total loss absorption capacity (TLAC)*
Gross debt/Total equity

*where applicable

An important feature of the Basel III reforms which were announced in 2010 and took effect from the beginning of 2013 is the requirement for investors in banks' capital instruments to bear losses through conversion or write-off provisions before the injection of public funds (at the point of non-viability). In addition to promoting a more resilient banking sector, the changes in the capital framework are intended to reduce the need for and magnitude of government intervention in or support of financial institutions regarded as systemically important in any future financial crisis.

Internal capital generation ability

MARC evaluates the bank's ability to generate capital internally and to self-fund growth in its assessment of a bank's capital adequacy. Long track records of consistently good earnings are viewed positively. MARC also considers the bank's prospective growth plans in conjunction with its capital strategy. The Basel III reforms aim to substantially strengthen banks' capital requirements by raising the overall minimum level of capital and the quality of regulatory capital. With banks' cost of capital and return on equity remaining paramount to shareholders, MARC expects banks' allocation of capital to business lines to be approached with greater discipline under the more stringent capital standards. The regulatory capital reforms are already prompting a shift towards businesses and business models that use less capital, as well as a focus on RWA optimisation through improvements in the risk measurement process. Optimisation of bank risk-adjusted profitability will be key to robust internal capital generation.

Capital level and quality

MARC's analysis of capital adequacy looks at the composition and quality of capital. Higher quality capital that is available to absorb losses on a going concern basis enhances the institution's resiliency. All things being equal, paid-up ordinary shares issued by a bank are regarded as higher quality than hybrid capital instruments because of their superior loss-absorbing capabilities. MARC considers the individual components of the bank's regulatory capital, typically considered in two tiers for supervisory purposes. Tier 1 (T1) can be used to cover losses while the bank remains a going concern while Tier 2 (T2) absorbs losses on a gone-concern basis. T2 falls short of the quality of T1 but nonetheless contributes to the bank's overall financial strength. MARC performs stress test on banks' balance sheets, applying increased asset risk scenarios of escalating severity to measure the impact on capital adequacy.

Under Basel III capital standards, a bank's capital is composed of common equity tier 1 (CET1) capital, additional tier 1 (AT1) capital, and tier 2 (T2) capital. CET1 and AT1 capital collectively make up a bank's going concern capital. The highest quality of capital, CET1, absorbs losses before any other type of capital. In light of Basel III's reinforcement of common equity's position as the predominant form of going-concern capital or T1, building up common equity (organic capital growth) will likely be an issue with banks facing weak profitability and internal capital generation and/or inadequate earnings retention. To increase capital ratios without raising new capital, bank management would have to reduce asset growth to the point that the capital formation rate exceeds asset growth. Any quicker increase in regulatory capital requires deleveraging or the shrinking of bank balance sheets. Management may also attempt to increase earnings retention through a combination of cost cutting to produce higher earnings or lower cash dividend rates.

In the case of non-domestic banks, MARC looks to see whether the home country regulator has in general elected to implement the international standard on an as-is basis. Additionally, where the home country regulator has elected to exercise discretions available within Basel III, MARC will consider whether this has led to the adoption of the minimum standards applicable globally or more conservative capital standards. Banks which are assessed by their bank supervisor to be inadequately capitalised in relation to their risk profile will typically be subjected to capital directives or other formal enforcement action by their bank regulator to restore capital adequacy. Banks with insufficient capital will likely be required to submit a capital plan and to raise new capital from external sources. If a capital plan is in place, MARC will take into account the bank's compliance status as part of its capital adequacy assessment.

Leverage and bail-in buffers

Under the Basel III international capital framework, banks are also required to meet a supplementary non risk-weighted ratio, or leverage ratio of 3% from 2018, the effect of which would be to bolster going-concern capital or CET1. The supplemental ratio is a stand-alone ratio that is calculated by dividing T1 capital by total leverage exposure.

At the global level, the Financial Stability Board (FSB) has developed a total loss-absorbing capacity (TLAC) standard for global systemically important banks (G-SIBs) to address the too-big-to-fail risks to taxpayers posed by these banks. To allow for an orderly resolution of G-SIBs, the TLAC standard which will be formally implemented in 2019 requires the G-SIBs to be subjected to additional TLAC minimum requirements alongside minimum capital requirements set out in Basel III. The TLAC should consist of instruments that can be written down or converted into equity in case of resolution: capital instruments (CET1, AT1 and T2), together with additional liabilities which can be used in resolution to absorb losses and recapitalise the

bank after its equity has been depleted. The aforementioned liabilities will typically be unsecured long-term debt that are subordinated to liabilities explicitly excluded from TLAC and have a minimum residual maturity exceeding one year.

From January 1, 2019, the minimum TLAC requirement for G-SIBs will be 16% of the resolution group's risk-weighted assets (RWA), increasing to at least 18% from January 1, 2022. Given the minimum going concern international standard of 6% equity, the international TLAC standard implies that the G-SIBs will need additional loss-absorbing capacity of 12% of RWAs by 2022. (Emerging market G-SIBs must meet the 16% RWA and 6% of the denominator of the Basel III leverage ratio (hereinafter referred to as the leverage ratio exposure or LRE in short) minimum TLAC requirement no later than January 1, 2025, and the 18% RWA and 6.75% LRE minimum TLAC requirement before January 1, 2028. The emerging markets timetable might be accelerated if a particular country's corporate debt market rises to more than 55% of its economy's GDP.

MARC believes that the push for TLAC at the global level will pave the way for national bank regulators to also impose stricter capital requirements on systemically important domestic financial institutions and not just banks identified as SIBs. A 16% TLAC requirement means that G-SIB must hold a minimum amount of regulatory capital (T1 and T2) plus long-term unsecured debt. One of the criticisms levelled at the TLAC standard is that its focus on the resolution group rather than the critical functions that would need to be saved has the effect of penalising scale. Once established, non-compliance of TLAC requirements could impede a bank's ability to make discretionary distributions such as dividend payments or AT1 coupons. European G-SIBs are also subject to MREL (a minimum requirement for own funds and eligible liabilities), the purpose of which is to allow EU banks to absorb losses and restore their capital during and after a crisis. MREL is applicable to all EU banks and is set individually at a discretionary level determined and policed by the resolution authority.

In its review of a bank's capital adequacy, MARC examines the cushion the bank has over its regulatory capital requirements (Basel III risk-weighted ratios and supplementary non risk-weighted leverage ratio, in addition to TLAC and/or MREL requirements in the case of EU banks, where applicable).

Shareholder support and other capital sources

Clear evidence of strong shareholder support with repeated capital increases would be credit positive from a rating viewpoint. The bank's access to capital markets and other sources of capital will also be relevant to MARC's analysis of this sub-factor. In jurisdictions where the home country regulator has established a bail-in regime incorporating other long-term liabilities which can feasibly and credibly bear losses in a resolution, MARC will take into account the additional loss-absorbing and recapitalisation capacity afforded by the eligible liabilities in a gone-concern (i.e. resolution) scenario. In these jurisdictions, holders of non-subordinated debt instruments can be exposed to bank losses outside insolvency proceedings, alongside the institution's shareholders and subordinated creditors.

ADAPTATION OF METHODOLOGY FOR MULTILATERAL DEVELOPMENT BANKS AND POLICY BANKS

MARC uses an adapted version of the general FI scorecard to better reflect the unique characteristics of these institutions to assign ratings to specialised financial institutions with public policy roles or supranational institutions set up by sovereign states to support economic and social progress in member countries. These institutions can be distinguished from commercial financial institutions by their public mandate, strong links with the public sector and very high importance for the public sector. Our assessment of national policy

banks, typically set up under specific legislation to fulfil key public policy initiatives, considers their fit into the local economic, political and institutional environment, ability to complement other financial institutions and susceptibility to political interference. We acknowledge that the lending exposure of development banks to be less granular than for a universal bank or commercial banks with a focus on retail finance. The legal status of the institution and its manner of establishment are also pertinent to our understanding of the influence sponsors or shareholders might have on its operations and solvency. It could be the case that the rated institution is not subject to insolvency laws and may only be liquidated by law. If a liquidation does take place, any remaining assets and liabilities must be transferred to the state or another institution with a similar legal status, which may be equated to an implicit state guarantee for the institution's liabilities although timeliness of payment is not assured.

In the case of a supranational financial institution, which is owned by more than one state, additional considerations would apply, such as the strength and stability of its relationship with shareholders, as well as the quality of its callable capital. The ability of shareholders to comply with capital calls and inject the required liquidity largely determines the quality of the institution's callable capital. MARC looks to the credit ratings of its core group of shareholders and its median or weighted median shareholder credit rating (whichever is more representative of the overall credit quality of shareholders promoting internal and external accountability) to inform its view on the credit quality of shareholders. Precedents of support via capital injections are taken into account.

Our qualitative assessment of public policy institutions is oriented towards the analysis of its mandate and objectives, the importance of its role and position in the national or international financial system, and its governance and management quality. The majority of the business profile-related sub-rating factors under "Franchise Strength" are retained in our analysis and rating scorecard, with emphasis given to the institution's institutional fit (currently and prospectively) and its comparative advantages vis-à-vis commercial financial institutions and peers. The ability of these institutions to complement other financial institutions depends on the extent to which it is integrated into the financial system and operates with a flexible mandate. Where the institution is assessed as having a narrow or a broad mandate, MARC carefully weighs the relative advantages and disadvantages of such a mandate and the corresponding implications for business and financial sustainability in its analysis. In the case of development banks, MARC considers the credit risks associated with priority sector lending stemming from their development mandates, large loan concentration risk and any mitigating factors. Past extensions of the institution's mandate are taken as a sign of sustained importance of the institution's public policy role, and shareholder or sponsor support for its developmental objectives.

In common with commercial financial institutions, the quality of governance and management has often been a key determining factor in the success or failure of public policy banks. Their public policy mandates often imply that profit maximisation is secondary for these institutions although adequate profit is necessary to remain financially self-sustainable. The more quantitative part of our assessment considers the institution's ability to absorb losses and build capital, its capital adequacy, as well as its funding and liquidity profile. MARC considers the institution's ability to consistently add to its capital through retained earnings in its analysis of "Earnings Quality".

MARC also puts a heavy emphasis on regulation and supervision in assigning FIR to national policy banks. Apart from promoting internal and external accountability, effective regulation and supervision increases the likelihood that timely support measures will be implemented in the event of any substantial deterioration in the institution's financial situation. Furthermore, MARC believes that the ownership structure of a national policy bank would play a pivotal role in its resolution. Importantly, we recognise that there would be a significantly higher certainty of a government capital injection than would be the case for a troubled

private sector bank. Accordingly, ratings for such institutions usually imply a very low probability of default and high recovery expectation.

Supranational financial institutions typically exhibit a number of credit strengths which support high-investment grade issuer ratings. These include strong risk management practices, prudent credit practices as reflected in good asset quality and a very low share of non-performing loans (usually aided by preferred creditor status), conservative liquidity management with significant liquid assets at disposal, as well as long-established capital market access.

HOLDING COMPANY, SUBSIDIARIES AND AFFILIATE RATING INTERDEPENDENCIES

It is common for large banking organisations to have a structure where a bank or a financial holding company owns the bank (or banks), as is prevalent in other regulated industries. By employing the holding company structure, banking organisations are able to engage in a broad range of financial activities and cross-border activities through multiple subsidiaries without commingling liability. The holding company structure had also, until recently, accommodated multiple gearing and leveraging within bank groups. The FHC can be a one-bank holding company, multi-bank holding company or bank and non-bank holding company. The non-bank activities that a FHC may engage in are typically limited by regulation to include only those that are closely related to banking such as trust operations, investment or financial advisory, certain leasing and insurance activities.

Ideally, the holding company should act as a source of financial and managerial strength to its bank subsidiaries. The activities of the FHC and affiliated non-bank subsidiaries should, at minimum, not present material risks to banks within the group. Nonetheless, MARC acknowledges that the holding company can adversely affect the financial condition of a bank subsidiary in one of two primary ways. The holding company (or its unregulated/regulated subsidiaries) could take excessive risks and fail, thereby impairing the bank subsidiary's access to financial markets. The second way is through intercompany transactions that could be detrimental to the subsidiary and excessive dividends.

Until more recently, the holding company structure has allowed banking organisations in many jurisdictions to attain higher leverage levels than otherwise might have been permitted and to downstream senior debt issued to the market as equity to bank subsidiaries. The global regulatory convergence toward group risk-based capital adequacy requirements (notwithstanding that sector-specific capital rules continue to apply to individual regulated entities) and the strengthening of the supervision over FHCs marks collective effort on the part of national regulators to ensure that the larger group of which any bank subsidiary is a part is financially sound and FHCs lack the incentive to weaken any of their subsidiaries through inter-affiliate loans or dividend upstreaming. By ensuring that the consolidated organisation and its core business lines can survive under a broad range of internal or external stresses, the likelihood of any bank subsidiary suffering reputation risk from the failure of any one part of a strong consolidated group is also significantly lowered. MARC believes that host authorities will increasingly demand that loss absorption capacity be pre-positioned internally, that is on the balance sheets of material non-domestic bank subsidiaries rather than at the parent, in order to protect creditors in their own jurisdictions. This would allow for the recapitalisation of bank subsidiaries through internal loss absorbing instruments held by parent entities.

An analysis of the constituent parts of its financial group is the starting point for MARC's rating of a FHC. The reference point for the rating assigned to the FHC will be the ICSR of a core bank subsidiary or the notional group rating (NGR) where more than one principal operating subsidiary exists (typically in complex, domestic or multinational banking groups). Similar to a bank's ICSR, the NGR focuses on the intrinsic credit

strength of the overall consolidated entity, its business characteristics and financial profile. MARC evaluates banking groups along the same lines as the individual entities within it, based on qualitative and quantitative analysis of asset quality, earnings quality, liquidity and capital adequacy. The NGR is used to determine the rating benefit or drag to stand-alone assessments of a bank or non-bank subsidiary arising from its inclusion within a financial group that consists of more than one core operating entity. The NGR or ICSR of the principal operating subsidiary is transposed across to our FIR national rating scale as the anchor or reference point for the assignment of instrument or issuer ratings issued by the holding company or members of the financial group.

MARC's rating approach recognises the potential for significant interdependencies between entities within a financial group which can either be negative, neutral, or credit positive for a rated member of the group. These interdependencies may be financial in nature (for example, where capital and debt are issued out of a holding company and downstreamed to the bank subsidiary) or operational (for example, a service company in another part of the group may provide critical services to the bank which are essential for its continued operation). In addition to the quantitative analyses of the financial group's consolidated balance sheet strength and operating performance, MARC also performs a comprehensive analysis of its consolidated business profile. The potential for intra-group contagion risk and subsequent transmission of financial, operational, legal, compliance, or reputational risks stemming from the aforementioned interdependencies is taken into account.

The greater the degree of integration of a group member into the overall group and the quality and size of its related party transactions, the more the creditworthiness of that entity will be interlinked with the creditworthiness of other group entities. In addition to the usual operational and strategic ties that link the credit profiles of group members, MARC also considers the rating interdependencies between the group members that are created as a result of group-level loss absorbency triggers embedded in bank capital instruments.

FINANCIAL HOLDING COMPANY RATING CONSIDERATIONS

MARC evaluates non-operating holding companies (NOHCs) relative to their operating subsidiaries in both the financial and non-financial sectors. NOHCs do not perform any operating activity and serve solely as holding companies. The rating of the overall consolidated entity (NGR) or the core bank subsidiary (where the FHC is a one-bank holding company) is transposed to our FIR national rating scale as the anchor or reference point for any subsequent instrument or issuer ratings to be assigned by members of the financial group. The rating differential between the FHC's issuer/senior debt ratings and the NGR or the FIR of its core bank subsidiary is influenced by: (i) the degree of diversification of earnings and assets at the holding company level (in respect of a multi-bank or bank and non-bank FHC); (ii) the extent to which the principal operating subsidiary or core operating subsidiaries is/are able to upstream dividends with limited restrictions; (iii) the degree of financial leverage in the FHC's capital structure; (iv) the extent to which the FHC downstreams debt issued to the market as senior debt to its operating subsidiary/subsidiaries as opposed to equity capital investments in its subsidiary/ subsidiaries and (v) the liability structure and cash flow at the FHC.

In evaluating FHCs, MARC attaches great importance to holding company level analysis in addition to the combined credit profile of its various operating subsidiaries. This informs our rating decision on the rating differential between the FHC's issuer/senior debt ratings and the NGR or the FIR of subsidiaries. MARC's rating approach for bank subsidiaries also considers the possibility that a financially weak FHC could be a potential source of rating drag. The key areas analysed and the ratios MARC uses to perform FHC-level analysis are given in Exhibit 9.

Exhibit 9: FHC-Level Analysis

Profitability:
Return on Holding Company Equity

Leverage and Capital Adequacy:
Short-Term Debt/Equity Capital
Long-Term Debt/Equity Capital
Equity Investment in Subs/Equity Capital
Acquisition and growth financing philosophies
Dividend payout ratio/internal growth rate of equity
Capital composition

Cashflow Adequacy and Coverage:
Dividend capacity and payout policy of subsidiaries
CF from Operations + Noncash Items +Opex/
Opex + Cash Dividends Paid
Dividend Income and Interest from Subsidiaries/
Interest Expense + Cash Dividends Declared

Liability Structure and Liquidity:
Debt capital composition, maturity breakdown
Access to funding sources
Asset sources of liquidity

In conducting an analysis of the group's capital structure, MARC seeks to understand the current and targeted liabilities structure of the group and the extent to which this supports resolvability and recapitalisation of material entities. The composition of the FHC's capital, the form of debt issued (bail in-able or otherwise) and the manner by which senior debt raised is downstreamed to operating subsidiaries (as debt or equity) affects the relative positions of holding company and operating subsidiaries in resolution. The issuance of subordinated and bail-in debt by the FHC may, in effect, afford additional protection to senior creditors of its operating subsidiaries.

In some cases, banking groups have established intermediate holding companies at which liquid assets are pre-positioned to provide additional support to material entities in resolution. The degree to which the group's organisational and governance structures improve or impede resolvability and their implications on capital planning and resolution planning will be considered in MARC's analysis of group-level capital adequacy.

An important driver of the rating differential between the FHC and the bank subsidiary/subsidiaries is the subsidiary bank's/bank's regulatory capital ratios because the deterioration of such could pose the risk of a restriction of dividends to the FHC. The principal operating subsidiary/subsidiaries on which the FHC's debt servicing relies will be identified for this reason as well as those subsidiaries whose earnings would need to be primarily redeployed for growth purposes or to strengthen subsidiary-level capitalisation. If group-level profitability is moderate, this will likely weigh not only on improvement in the group's capitalisation, but also the FHC's earnings protection and cashflow adequacy metrics. An above-average profitability, in contrast, would allow for steady organic capital building.

In its analysis of FHC-level cashflow adequacy and coverage, MARC seeks to assess whether the FHC has sufficient resources to cover ongoing interest servicing and corporate expenses. If there is a significant amount of debt maturing due to concentration in its debt maturity profile and the FHC is unable to refinance it, available resources may be stressed. Even where the company has raised capital successfully in the past, MARC will carefully assess the FHC's financial flexibility and potential challenges in accessing capital markets. Generally, double leverage within the group structure reduces not only the FHC's financial flexibility, but also that of bank subsidiary/subsidiaries within the group. Finally, a strong buffer of liquid assets at the FHC could help offset liquidity risk. If all of the FHC's liabilities are to its subsidiaries, this would also mitigate liquidity risk.

The ratings of the FHC may be equalised with those of the principal bank subsidiary or the NGR where there is an absence of double leverage, which we define as investment in subsidiaries divided by the holding company's unconsolidated shareholders' equity. Ratings equalisation is also possible where financial leverage of the FHC is low and the strong underlying credit fundamentals of operating subsidiaries of similar size ensure strong coverage of interest and debt at the holding company level. In the latter situation, structural subordination considerations can be said to be balanced by the benefits of a portfolio effect.

The standard rating differential between the FHC's issuer/senior debt ratings and the NGR or the FIR of subsidiaries is one to two notches. A gap of this size reflects the dependence on subsidiaries' dividends for debt servicing and the potential for dividend restrictions arising from regulatory intervention. As a matter of policy, the gap between the FHC's issuer/senior debt ratings and the NGR or the FIR of the principal operating subsidiary widens as the financial strength of the operating subsidiary or subsidiaries deteriorates. The ratings gap will increase significantly to reflect the increased likelihood of regulatory intervention on the payment of dividends to the holding company.

RATING BANK SUBSIDIARIES AND AFFILIATES OF BANKING GROUPS

MARC assesses the extent of any rating uplift or drag respectively arising from the bank subsidiary's or affiliate's exposure to stronger or weaker group members, whichever applicable, in order to arrive at adjusted ratings as described in its methodology titled "Group Rating Methodology".

MARC's group rating methodology is structured around a six-factor parent/group support assessment framework which is highly skewed towards qualitative considerations. MARC's parent/group support assessment is essentially an analysis of the following context factors that will drive or constrain the parent/group's propensity to support the bank subsidiary or affiliate:

- the bank subsidiary or affiliate's economic and strategic importance to its parent and group;
- operational linkages with the members of the group;
- ownership and control;
- past tangible support and perceived future support;
- financial linkages; and
- the potential consequences of the bank or subsidiary's failure.

In general, these factors reflect the importance of the subsidiary to the parent and the nature of the linkages between them. The support assessment, assigned on a scale that runs from "very high propensity to support" (PS 1) to "none to low propensity to support" (PS 5) determines whether MARC will anchor the rating of the bank subsidiary to the rating of the parent or notch up the bank subsidiary's standalone rating for parent support, if warranted. Generally, the number of notches by which the bank subsidiary's rating should be improved from its ICSR or standalone assessment ranges from zero (corresponding to expectation of very little or no support) to ratings equalisation (corresponding to high expectation that support would be provided in the event of the subsidiary's financial stress).

When the bank subsidiary and its parent's ratings are equalised (the subsidiary receives its parent's rating), the subsidiary's rating will move up or down in lockstep with its parent's rating. A subsidiary can also achieve a rating at the same level as its parent by being notched up to its parent's level, however, a subsequent upgrade will likely depend on not only the parent's positive credit trajectory but also improvement in its standalone assessment and/or perceived increase in the level of implicit parental support.

GOVERNMENT SUPPORT

Government support is a separate factor that is introduced into the credit analysis of financial institutions and FHCs that MARC identifies as government-related entities (GRE), as outlined in MARC's methodology "Rating of Government-Related Entities". MARC has historically assigned debt ratings to domestic and non-domestic public sector policy banks near or at par with the rating of the national governments on the basis of the perceived high likelihood that they would receive state support in a crisis on account of their high systemic importance, quasi-sovereign status, role as key lenders to the priority sectors of the economy and full state-ownership. MARC also recognises government-linked financial institutions without public policy functions as GREs for the purposes of assigning ratings to GREs. GREs can be distinguished generally by majority government ownership or effective control.

MARC's GRE methodology is structured around a five-factor government support (GS) assessment framework which is highly skewed towards qualitative considerations. MARC's government support assessment is essentially an analysis of the following context factors that will drive or constrain the government's propensity to support the GRE:

- the GRE's economic and strategic importance to the country and government;
- the GRE's legal ties with the government;
- the government's track record of providing support or tendency towards intervening;
- the GRE's operating and financial linkages with the government; and
- the potential consequences of the GRE's default.

Similar to our parent/group support assessment framework, a government's implicit support for a GRE is rated on a scale that runs from "very high propensity to support" (GS 1) to "none to low propensity to support" (GS 5). Similarly, the GS assessment determines whether MARC will employ a "top-down" or "bottom-up" approach to arrive at the GRE's adjusted rating. The former anchors the rating of the GRE to the rating of the government while the latter notches up the GRE's standalone rating (the ICSR in the case of a financial institution) for government support, if warranted. In general, an equalisation of ratings occurs when the bank's liabilities are fully guaranteed by the public sector or the entity is fully controlled by the public sector entity, it has a public policy mandate and the failure of the entity is likely to have major repercussions on the financial system and public confidence. Rating alignment with the government would be conditioned upon significant linkages and support from the government including high sensitivity to changes in the sovereign credit profile. MARC will take a more conservative view of support where a significant degree of arbitrariness is observed surrounding the government's decisions to extend extraordinary support to GREs.

SYSTEMIC SUPPORT FOR PRIVATE SECTOR BANKS

Historically, MARC's analytical approach is to lift the ratings on systemically important private-sector banks one or more notches over their standalone ratings in countries in which we assess the likelihood of direct government intervention to prevent the disruptive consequences of bank failures to be high. On that note, MARC considers most mature market economies to be supportive rather than interventionist as evidenced by a reliance on proactive banking regulations and the maintenance of mechanisms (such as central bank liquidity facilities) to maintain a sound banking sector. The increased regulatory emphasis on market-oriented policies that promote market discipline in these markets further suggest an aversion to public-funded bailouts of failing banks. No uplift from systemic support will be applied to the ratings of banks in cases where anticipated support is assessed to be less than certain for reason(s) which may include weak

institutional infrastructure, reliance on market solutions or bank owners. MARC requires systemic support to be sufficiently predictable in timeliness and scale to incorporate rating uplift in the final rating relative to the ICSR.

The authorities' track record in distressed bank resolution is taken into account in assessing potential future external support in bank ratings. MARC takes into account the likelihood of a bank receiving government support by way of capital injection and/or emergency liquidity assistance in its assessment of banks that are regarded by their financial regulator as important for home country systemic financial stability on the basis of factors such as overall size and domestic franchise, interconnectedness, relative importance in payment systems, as well as in providing credit and liquidity to the market. Even then, for securities other than senior unsecured debt, MARC believes that the potential government support is low because in practice governments are more willing to impose greater losses on junior security holders than on senior bondholders and depositors.

APPROACH TO RATING SPECIFIC BANK OBLIGATIONS AND COUNTERPARTY RATINGS

MARC's approach to rating a bank's deposits, senior and subordinated debt instruments and hybrids is to notch upward or downward from its FIR, taking into consideration (i) the specific characteristics of the instruments; (ii) the size and composition of existing instruments readily convertible into loss absorbing capital; and (iii) our assessment of instrument-level systemic support. If instrument-level systemic support is not envisioned, MARC will fully exclude systemic support from the FIR.

The terms and conditions of subordinated debt instruments and hybrids are reviewed to evaluate the likelihood that they would absorb losses and be subordinated to senior unsecured debt in the event of a bank resolution or liquidation. MARC's bank counterparty ratings, in common with bank instrument ratings, are anchored on the FIR, but they essentially differ in one important respect, and that is, in respect to their exclusion of downward notching for loss severity in the event of a bank resolution or liquidation. Our bank counterparty ratings represent an ordinal ranking of default risk with respect to banks' senior operating and counterparty obligations under financial contracts (currency swaps, interest rate swaps, third party credit guarantees or partial guarantees and liquidity facilities). In jurisdictions with resolution regimes that promote going concern resolution of systemically important financial institutions, MARC may assign counterparty ratings to private sector banks designated as global systemically important banks (G-SIBs) or domestic systemically important banks (D-SIBs) that are higher than the banks' issuer and senior unsecured debt ratings. This rating approach is most likely to be taken where MARC believes there is a reasonable likelihood of continued performance of the systemically important bank's operating and counterparty obligations upon its entry into resolution (the bank is subject to an operational resolution).

Bank subordinated debt and other hybrid capital ratings are sensitive to changes in the IRs of the bank, changes in MARC's assessment of non-performance risk, capital management in the group and unexpected shifts in regulatory buffer requirements. Given the evolving nature of regulatory capital adequacy frameworks, the cushion the bank has over its regulatory capital requirements is sensitive to changes in the level of RWAs as well as revisions to regulatory capital requirements. This presents a unique challenge to rating the bank capital instruments.

To date, Basel III capital issuance has taken place largely at the bank entity level. In order to count as capital of the consolidated group, additional loss-absorbency clauses referencing the parent/FHC are now required of subsidiary capital issuance along with group-level triggers. This feature ensures that capital issued by a subsidiary can be used to help recapitalise the distressed group or parent. Existing instruments

issued by bank entities typically do not incorporate dual-entity triggers. When rating AT1 securities with a dual trigger structure, MARC will assess (i) the probability of the group-level CET1 ratio reaching the conversion or write-down trigger compared to the probability of setting off the unconsolidated bank level CET1 trigger, (ii) the bank supervisory authorities' propensity to activate the bail-in of bank capital instruments as a recovery tool for a distressed FHC and/or group, and (iii) the point at which bail-in may be implemented. BNM's Capital Adequacy Framework (2015), for instance, provides for two types of triggers, a quantitative trigger in the case of AT1 capital instruments and discretionary point of non-viability (PONV) write-down or conversion triggers for both AT1 and T2 instruments to absorb the outstanding losses of the distressed financial institution (or group, as the case may be). Under Basel III, the minimum trigger level for the write-down or conversion of AT 1 capital instruments is when the CET1 capital ratio falls below 5.125%.

The vast discretion granted to the resolution authorities to impose losses on investors, the uncertainty surrounding the actual sequence in which liabilities may be bailed in, as well as the liabilities that may be excluded from a bail-in greatly complicates our assessment of the distance to reaching the conversion or write-down trigger. The potential remains for the PONV triggers to be activated at a level that is consistent with the FHC being able to recover from a stress without entering into resolution, which may be at a level higher than a CET1 capital ratio of 5.125%. High trigger capital instruments are notched down further than their low trigger counterparts to reflect expectations of higher loss severity with poorer recoveries as the instruments can be converted to equity or written down well ahead of resolution.

MARC may elect not to implement additional notching for a bank subsidiary capital instrument with dual-entity triggers where (i) the financial group is well-capitalised (the probability of the parent entering resolution proceedings is assessed to be remote); (ii) there is no significant difference in the likelihood of failure and trigger levels for loss absorption between the FHC and the bank subsidiary; and (iii) the instruments are unlikely to bailed in well ahead of resolution.

THE IMPACT OF RESOLUTION REGIMES ON RATINGS FOR SPECIFIC OBLIGATIONS

At the most fundamental level, bank resolution regimes are intended to enable an orderly resolution of a failing bank to be undertaken, that is in a manner that helps maintain financial stability, preserve confidence in the banking sector, and protects both depositors and the taxpayer. Such regimes empower bank regulators to decide when a bank has failed, when it should be put into resolution and the steps that should be taken to ensure a safe wind-down. MARC's analysis also considers the framework for resolution that will most likely be applied in resolving banks which are entities in a larger banking or financial services group. In jurisdictions with bank resolution and recovery regimes, banks are required to submit "living wills" or recovery and resolution plans (RRP) to guide regulators through the process of recovery or liquidation of a failing bank without disrupting other parts of the financial system.

Knowledge of the preferred strategy of resolution authorities is fundamental in assessing the likelihood that a certain obligation or obligations of the bank will be met in a timely manner and the prospects for an orderly resolution of the institution. This will particularly be the case where ratings are assigned to instruments that are subject to a bail-in resolution strategy. In general, MARC believes resolution would most likely be initiated when authorities determine that the financial institution or financial group is failing or likely to fail and normal insolvency proceedings are inadvisable for financial stability purposes. At this point, the institution and the supervisor would have implemented measures other than resolution without the necessary success.

The two widely recognised resolution strategies for the resolution of banks are the single-point-of-entry (SPE) approach and the multiple points of entry (MPE) approach. In a SPE resolution, the holding company is placed in resolution while operating subsidiaries remain relatively unaffected. In a MPE resolution, separate

entities in a group are put into resolution simultaneously and resolution powers may be applied in different measures to different entities. SPE resolution appears to be more appropriate where intra-group linkages are high and complex while MPE resolution may be more appropriate where failure is isolated in specific, separable entities in a group.

The US and EU requirements for large foreign banking groups (non-US and non-EU respectively) to establish intermediate holding companies in order to facilitate cross-border resolution, meanwhile, point towards greater regional fragmentation and ring-fencing in favour of local creditors. These requirements will likely be accompanied by the creation of separately capitalised and ring-fenced legal entities, the outcome of which would be more resilient and more resolvable banking groups (at the expense of reduced transferability and fungibility of capital resources within the group). On a related note, the FSB's July 2017 revised guiding principles on the Internal TLAC of G-SIBs assigns host authorities the ultimate responsibility for setting internal TLAC requirements for the material sub-groups or subsidiaries of G-SIBs in their jurisdiction.

Additional home-host issues arise in the case of cross-border institutions which could be approached with collaborative resolution at best and, at worst, nationalistic ring-fencing. In cases where there are multiple foreign subsidiaries, either an SPE or MPE strategy could be followed, depending on the coordination arrangements with the specific host regulators and cross-border legal considerations. A coordinated approach requires an ex-ante agreement by regulators on the preferred group-wide resolution strategy, and a commitment to support each other's resolution actions. An underlying assumption of cross-border cooperation in resolution is that the overall cost of resolution should be lower if the home regulator could effect and coordinate an orderly resolution of the group, rather than having a series of disorderly and uncoordinated resolution actions of various entities in the group by host regulators. In general, credible resolution and recovery regimes will not only weigh positively on MARC's evaluation of the bank regulatory environment but also facilitate the assignment of more stable and accurate obligation ratings.

INSTRUMENT RANK ORDERING IN BANK RESOLUTIONS

An important aspect of bank resolution regimes is the power granted to resolution authorities to affect the property rights of shareholders, creditors and counterparties in failing banks. Bail-in, a mechanism which allows for either debt to be written down or liabilities to be converted to equity according to a pre-defined hierarchy, is now being propagated by governments to manage the phase of recovery and restructuring of failing financial institutions. The bail-in mechanism is designed to avert the risk of contagion and taxpayer funded bail-outs. In our national context, the application of the bail-in is currently limited only to financial instruments with a specific contractual clause to that effect.

Currently perceived as the best practice in the resolution of financial institutions, the key principle espoused by the FSB's Key Attributes of Effective Resolution Regimes for Financial Institutions is that the sequence of the bail-in must respect the order of priority in insolvency while providing flexibility to depart from the general principle of equal (pari passu) treatment of creditors of the same class if that is necessary to maintain financial stability or maximise value for creditors as a whole.

The sequence of loss absorption in a bail-in process is a key consideration in MARC's loss-given-failure notching for a rated obligation. To form its view on the probability of loss for a particular obligation, MARC will examine the applicable local insolvency regime as well as issuer specifics. In general, where limited

clarity is available on instrument rank ordering in bank resolutions, MARC assumes the following loss absorption sequence: (a) ordinary shares; (b) preference shares; (c) deeply subordinated debt and equivalent hybrid capital instruments; (d) subordinated debt and equivalent hybrid capital instruments (e) senior unsecured debt ranking subordinated to operational liabilities in insolvency; f) other senior unsecured

debt ranking above operational liabilities in insolvency and deposits not covered by deposit insurance; (g) operational or counterparty obligations such as derivatives, letters of credit and liquidity facilities that are difficult to bail-in for reasons of operational execution or systemic contagion risk; (h) preferred creditors; and finally, (i) secured creditors. MARC's assumptions with regard to the sequence of loss absorption in a bail-in process remain subject to review in the context of evolving resolution regimes.

In other instances where the applicable bail-in or insolvency regime provides clarity and legal certainty on the bail-in hierarchy, MARC's analysis will reflect the appropriate loss absorption sequence. An example of this would be Germany's retroactively applicable Resolution Mechanism Act which took effect on January 1 2017. The new law provides for statutory subordination of senior unsecured bonds to deposits and derivatives but keeps the bonds senior to contractually subordinated debt, such as Tier 2 capital.

The effect of a bail-in on a bank's rated instrument will depend on a number of factors that will vary from case to case including the losses that must be absorbed and the available loss-absorbing capacity within the bank or group, amount, form and entity wise. However, as highlighted by Malaysia's bank regulator BNM in its Capital Adequacy Framework, even without the application of bail-in, capital instrument holders may still be exposed to losses from the resolution of the financial institution or financial group.

INTRINSIC CREDIT STRENGTH AND FINANCIAL INSTITUTION RATINGS

Intrinsic Credit Strength Ratings (ICSR) and Financial Institution Ratings (FIR) may be assigned to commercial banks, investment banks, universal banks and specialised financial institutions. ICSRs are assigned on the same long-term rating scale as FIR, but ICSRs carry a (*ND*) suffix to denote "non-domestic" and do not capture external support that financial institutions may be able to rely on to avoid failure and default. ICSRs represent internationally comparable assessments of the intrinsic financial strength of financial institutions whilst FIRs address relative creditworthiness strictly within the national context.

LONG-TERM SCALE

MARC's Long-Term Ratings are assigned to sukuk issuances with maturities of more than one year. These ratings specifically assess the likelihood of timely payment of the instrument issued under the various Islamic financing contract(s).

AAA An institution rated AAA has an exceptionally strong capacity to meet its financial commitments and exhibits a high degree of resilience to adverse developments in the economy, and in business and other external conditions. These institutions typically possess a strong balance sheet and superior earnings record.

AA An institution rated AA has a very strong capacity to meet its financial commitments, and is generally in a position to withstand adverse developments in the economy, and in business and other external conditions. These institutions typically possess a good track record and have no readily apparent weaknesses.

A An institution rated A has a strong capacity to meet its financial commitments but is somewhat more susceptible to adverse developments in the economy, and to business and other external conditions than institutions in higher-rated categories. Some minor weaknesses may exist, but these are moderated by other positive factors.

BBB An institution rated BBB has adequate capacity to meet its financial commitments. While some shortcomings are apparent, the institution is generally in a position to resolve these within an acceptable timeframe. However, adverse developments in the economy and in business and other external conditions are likely to weaken its capacity to meet its financial commitments.

BB An institution rated BB exhibits some obvious weaknesses in its operating practices and key financial indicators. The institution's financial performance has typically fallen below peer group standards. Although currently able to meet its financial commitments, the institution's financial capacity over the medium and longer terms is vulnerable to adverse developments in the economy, and in business and other external conditions.

B An institution rated B exhibits fundamental weaknesses in its operating practices and key financial indicators. Although currently able to meet its financial commitments, the institution's future financial capacity is regarded as weak and more vulnerable to adverse developments in the economy, and in business and other external conditions than that of institutions rated BB.

C An institution rated C has several immediate problems of a serious nature. The institution's ability to arrest further deterioration in its overall condition is doubtful and its capacity to meet its financial commitments is uncertain, without some form of strong external support.

D An institution rated D requires sustained external support without which its continued viability is in doubt. The rating indicates that the institution is likely to default on its financial commitments or that a default may have already occurred.

Note: Ratings from AA to B may be modified by a plus (+) or minus (-) suffix to show its relative standing within the major rating categories.

SHORT-TERM FIR SCALE

MARC's Short-Term FIR are domestically comparable assessments of the short-term credit quality of financial institutions. They represent MARC's opinion on the institution's capacity to meet its financial commitments due within one year.

MARC-1 An institution rated MARC-1 has a superior capacity to meet its financial commitments in a timely manner. Adverse developments in the economy, and in business and other external conditions are likely to have a negligible impact on the institution's capacity to meet its financial obligations.

MARC-2 An institution rated MARC-2 has a strong capacity to meet its financial commitments in a timely manner; however, it is somewhat susceptible to adverse developments in the economy, and in business and other external conditions.

MARC-3 An institution rated MARC-3 has an adequate capacity to meet its financial commitments in a timely manner. However, the institution's capacity to meet its financial obligations is more likely to be weakened by adverse changes in the economy, and in business and other external conditions than higher-rated institutions.

MARC-4 An institution rated MARC-4 has an inadequate capacity to meet its financial commitments in a timely manner. The rating indicates that the institution is likely to default on its financial commitments, without some form of strong external support. A default may have already occurred.

RATING OUTLOOK

MARC's Rating Outlook assesses the potential direction of the rating on the sukuk over the intermediate term (typically over a one to two-year period). The Rating Outlook may either be:

POSITIVE which indicates that a rating may be raised;
NEGATIVE which indicates that a rating may be lowered;
STABLE which indicates that a rating is likely to remain unchanged; or
DEVELOPING which indicates that a rating may be raised, lowered or remain unchanged.

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19-07, Level 19, Q Sentral, 2A Jalan Stesen Sentral 2, Kuala Lumpur Sentral, 50470 KUALA LUMPUR
Tel: [603] 2717 2900 Fax: [603] 2717 2910
E-mail: marc@marc.com.my Website: www.marc.com.my