



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA

Credit Risk

Applicable to:

1. Licensed banks
2. Licensed investment banks
3. Licensed Islamic banks
4. Licensed international Islamic banks
5. Licensed insurers
6. Licensed takaful operators
7. Financial holding companies

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PART A OVERVIEW

1 Introduction

- 1.1 Credit risk (including counterparty credit risk) is the risk of a counterparty failing to perform its obligations. Over the years, the nature, scale and complexity of credit risk undertaken by financial institutions have evolved amid significant transformation to the Malaysian financial landscape. Robust credit risk management therefore continues to be an integral component of the long-term viability of any financial institution. At a broader level, this is also critical for the sustainable development of the real economy by supporting financial intermediation and contributing towards containing the build-up of credit risks in the financial system.
- 1.2 While the board and senior management play a key role in credit risk oversight, the responsibility for credit risk management is spread throughout a financial institution. In particular, business lines are primarily responsible for managing credit risks inherent in day-to-day activities, such as where credit officers evaluate customers for potential credit opportunities. Meanwhile, the risk management function serves to provide an independent and where appropriate, countervailing perspective on credit risk management issues, including credit decisions and overall credit quality. These arrangements are in turn supported by an internal audit function that provides assurance on the quality and effectiveness of the institution's internal controls, systems and processes for credit risk oversight.
- 1.3 A comprehensive approach to managing credit risk is important, encompassing both on- and off-balance sheet activities, capturing sources of credit risk beyond those relating to the provision of finance, such as through the purchase of debt securities, and entering into securities financing transactions and derivatives contracts. This also entails a sound understanding of the inter-linkages between credit risk and other risks. For example, credit risks arising from cross-border lending are interlinked with country and transfer risks, thereby requiring an enhanced understanding and ongoing monitoring of country-specific factors. Adverse trends in financial markets, including interest rate movements, can also impair the creditworthiness of issuers of debt securities. In addition, relevant considerations under accounting standards, such as considerations on classification, measurement and impairment, must be taken into account and be well-integrated with credit risk management practices of the financial institution.
- 1.4 This policy document seeks to ensure that credit risk management practices of financial institutions remain effective moving forward, amid the increased size and diversity of product offerings by financial institutions, greater internationalisation of the financial system, as well as the growing role of domestic capital markets. These expectations and requirements complement *Risk Governance* which sets out the overarching principles for sound risk management.

- 1.5 Financial institutions are required to implement, at the minimum, the standards set out in this policy document. Financial institutions are expected to demonstrate to the Bank that their risk management arrangements are operating effectively and remain commensurate with the size, nature, complexity and risk profile of their institution.

2 Applicability

- 2.1 This policy document is applicable to financial institutions as defined in paragraph 5.2 in accordance with the following:
- on an entity basis for all financial institutions excluding financial holding companies; and
 - on a consolidated basis for all financial institutions in respect of paragraphs 8, 13, 14 and 16.

3 Legal provisions

- 3.1 This policy document is issued pursuant to–
- sections 47(1) and 266 of the Financial Services Act 2013 (FSA); and
 - sections 57(1) and 277 of the Islamic Financial Services Act 2013 (IFSA).

4 Effective date

- 4.1 This policy document comes into effect as follows:

Type of financial institution	Level	Effective date
Licensed banks	Entity	1 July 2018
Licensed investment banks		
Licensed Islamic banks	Consolidated	1 July 2019
Licensed international Islamic banks		
Financial holding companies of financial groups engaged predominantly in banking activities	Consolidated	1 July 2019
Licensed insurers	Entity and consolidated	1 January 2021
Licensed takaful operators		
Financial holding companies of financial groups engaged predominantly in insurance/takaful activities	Consolidated	1 January 2021

- 4.2 The Bank is committed to ensure that its policies remain relevant and continue to meet the intended objectives and outcome. Accordingly, the Bank will review this policy document within 5 years from the date of issuance or the Bank's last review and, where necessary, amend or replace this policy document.

5 Interpretation

5.1 The terms and expressions used in this policy document shall have the same meanings assigned to them in the FSA or IFSA, as the case may be, unless otherwise defined in this policy document.

5.2 For the purpose of this policy document–

“**S**” denotes a standard, an obligation, a requirement, specification, direction, condition and any interpretative, supplemental and transitional provisions that must be complied with. Non-compliance may result in enforcement action;

“**G**” denotes guidance which may consist of statements or information intended to promote common understanding and advice or recommendations that are encouraged to be adopted;

“**banking institutions**” refers to licensed banks, licensed investment banks and licensed Islamic banks;

“**board**” means the board of directors of a financial institution, including a committee of the board where the responsibilities of the board set out in this policy document have been delegated to such a committee;

“**control function**” refers to a function that has a responsibility independent from the business lines to provide objective assessments, reporting and assurance on the effectiveness of a financial institution’s policies and operations, and its compliance with legal and regulatory obligations. This includes the risk management function, the compliance function and the internal audit function;

“**counterparty**” refers to any person with whom a financial institution has a credit exposure;

“**country risk**” is the risk of exposure to loss caused by events in a foreign country;

“**credit approval authority**” refers to a credit committee or any officer that is granted the authority to approve credits within the financial institution;

“**credit committee**” refers to a group of individuals that has been granted the authority by the board to approve credits within the financial institution, whereby such individuals may either be officers or directors;

“credit exposure” refers to all direct and indirect¹ claims², commitments and contingent liabilities arising from on- and off-balance sheet transactions in ringgit and foreign currency denomination which include, but are not limited to–

- (a) outstanding loans, financing, advances and receivables;
- (b) deposit and investment account placements, and margins held with counterparties;
- (c) debt securities held;
- (d) exposures arising from securities financing transactions and derivative transactions; and
- (e) exposures arising from off-balance sheet facilities.

“credit risk assessment” refers to the assessment of the credit risk of a counterparty against the financial institution’s credit acceptance criteria to ascertain the counterparty’s ability and willingness to honour its credit obligations, either at origination or at any point during the lifetime of a credit;

“exceptional credit” refers to any provision of finance that deviates from a financial institution’s approved credit risk policy;

“exposure at default (EAD)” refers to the gross credit exposure upon the default of a counterparty, which must include–

- (a) the undrawn portion of any off-balance sheet facilities; and
- (b) in respect of derivatives transactions, the replacement cost and potential future exposure;

“financial institution” refers to a–

- (a) licensed person under the FSA and IFSA; and
- (b) where relevant, financial holding company approved under the FSA and IFSA;

“loss given default (LGD)” refers to the percentage of an outstanding claim on a counterparty that will likely not be recovered in the event of a default;

“probability of default (PD)” refers to the likelihood of a counterparty defaulting on its contractual obligations to a financial institution over a given time horizon;

“risk appetite” refers to the aggregate level and types of risk a financial institution is willing to assume, decided in advance and within its risk capacity, to achieve its business objectives and strategies;

“risk management function” refers to a control function that is independent from revenue-generating functions, such as business lines, and is charged with the responsibility to provide risk perspectives and to identify, measure, monitor, control and report the financial institution’s overall risk exposures;

¹ Include exposures to schemes with underlying assets (e.g. collective investment schemes and securitisation transactions) that may give rise to credit risks.

² Include exposures arising from reinsurance or retakaful contracts.

“**senior management**” refers to the chief executive officer and senior officers;

“**securities financing transaction (SFT)**” includes–

- (a) a repurchase agreement transaction;
- (b) a reverse repurchase agreement transaction;
- (c) a securities/commodities lending or borrowing transaction;
- (d) a margin lending transaction;
- (e) a collateralised *murabahah* arrangement; and
- (f) a sell and buyback agreement transaction;

“**significant credit exposure**” refers to a credit exposure, or a homogenous portfolio of credit exposures, that has a material impact on a financial institution’s credit risk profile, including where–

- (a) the credit exposure or the portfolio of credit exposures is currently or expected³ to be large relative to the financial institution’s total credit portfolio; and
- (b) a default of, significant deterioration in credit risk of, or adverse news about a counterparty may have significant financial or reputational implications on the financial institution;

“**transfer risk**” is the risk that a counterparty will be unable to make debt service payments in foreign currency due to inability to convert local currency into foreign currency.

6 Related legal instruments and policy documents

6.1 This policy document must be read together with other relevant legal instruments and policy documents that have been issued by the Bank, in particular–

- (a) *Guidelines on Data Management and MIS Framework*
- (b) *Risk Governance*;
- (c) *Single Counterparty Exposure Limit*; and
- (d) *Single Counterparty Exposure Limit for Islamic Banking Institutions*.

³ This may occur as a consequence of a change in a financial institution’s credit risk strategy, such as where the financial institution intends to penetrate a particular market segment where it previously had little or no exposure. In this respect, a credit portfolio that is currently of a small size may be expected to become material and must therefore be considered as a “significant credit exposure”.

7 Policy documents superseded

- 7.1 This policy document supersedes the following guidelines and policy documents:
- (a) *Best Practices for the Management of Credit Risk* issued on 5 September 2001;
 - (b) *Best Practices for the Management of Credit Risk – Accreditation Requirement for Credit Personnel* issued on 30 August 2006;
 - (c) paragraph 9 of the *Classification and Impairment Provisions for Loans/Financing* issued on 6 April 2015;
 - (d) paragraph 8 of the *Prudential Standards on Securitisation Transactions* issued on 23 October 2009; and
 - (e) *Provision of Bridging Finance for Property Development* issued on 16 March 2011.

PART B POLICY REQUIREMENTS

8 General requirements

- S** 8.1 The board has the overall responsibility to promote a sound credit risk management environment to support prudent credit decision-making. In fulfilling this role, the board must annually approve the financial institution's credit risk strategy, which articulates the financial institution's overall direction for its credit activities. An effective credit risk strategy must ultimately support the long-term viability of the financial institution through an optimal balance between the credit quality, profitability and growth objectives.
- S** 8.2 In reviewing and approving the credit risk strategy, the board must consider the interactions between the credit risk strategy and institution-specific factors – such as the financial institution's risk appetite, existing levels of capital and provisioning needs in business-as-usual and stressed scenarios, adequacy of internal resources – as well as the wider operating environment. To this end, the financial institution must obtain an appropriate mix of views from both business lines and control functions.
- S** 8.3 Senior management shall be collectively responsible for the effective management of credit risk in line with the financial institution's approved credit risk strategy. Therefore, senior management must ensure that the credit risk strategy is implemented effectively, including by establishing a board-approved credit risk policy. At a minimum, the credit risk policy on an entity basis must cover areas specified in paragraphs 8 to 17, while credit risk policy on a consolidated basis must cover areas specified in paragraphs 8, 13, 14 and 16. The credit risk policy must be periodically reviewed and updated to reflect changes to the credit risk strategy or the financial institution's wider operating environment and any review or update must be approved by the board. In addition, appropriate remedial or disciplinary actions must be taken if the credit risk policy is not complied with, supported by clear avenues to report to the board on any credit risk management issues and breaches in a timely manner.
- S** 8.4 A financial institution must also have in place robust internal systems and infrastructure⁴, which among others, have the ability to produce aggregate information on its credit exposures and supports timely identification and escalation of credit risk management issues.
- S** 8.5 A financial institution must ensure proper documentation and audit trail of its credit risk management process including credit risk assessment and approval process, development and validation of credit risk measurement methodologies as well as the outcomes of the independent credit review referred to in paragraph 17.

⁴ In accordance with *Guidelines on Data Management and MIS Framework*.

- S** 8.6 A financial institution must establish an internal policy that sets out the appropriate training and continuous professional development needs for officers undertaking credit risk management responsibilities, including those in business lines and control functions. Such internal policy must be implemented by the financial institution to ensure that such officers have the necessary competencies and experience to perform their roles effectively.
- G** 8.7 As one of the means to develop adequate competence and expertise on credit risk management, a financial institution should consider mandating or encouraging the relevant officers to possess accredited qualifications in the area of credit risk management.

9 Credit risk assessment

- G** 9.1 A comprehensive approach to credit risk assessment provides financial institutions with an in-depth understanding of the key characteristics of credit exposures that facilitate sound credit decision-making.
- S** 9.2 A financial institution must establish sound and well-defined credit acceptance criteria⁵ to facilitate an ex-ante evaluation of prospective credits. The credit acceptance criteria must take into consideration common credit characteristics for distinct categories of counterparties or facilities, and the boundaries of the credit risk strategy and credit risk policy. Such criteria must also clearly define thresholds or qualifying features for acceptable counterparties and address key terms and conditions. Key terms and conditions include the type of facility⁶, facility size, repayment schedule⁷, type of Shariah contract and other contractual obligations.
- S** 9.3 A financial institution must primarily focus on the counterparty's ability and willingness to honour its credit obligations in a timely manner under normal and stressed conditions⁸ when undertaking the credit risk assessment for a credit facility. This assessment must take into consideration a holistic range of related factors, including key terms and conditions as described in paragraph 9.2. In doing so, the financial institution must ensure that adequate supporting evidence of the purpose of the credit and repayment capacity of the counterparty is obtained and verified.
- S** 9.4 In respect of a syndicated credit, a financial institution must perform its own credit risk assessment and review of the syndicated terms prior to committing to such syndication.
- S** 9.5 In respect of deposit placements, a financial institution must assess the ongoing ability of the counterparty to honour any interest/profit payments and allow timely withdrawals of such placements.

⁵ Generally, retail credits are assessed against a set of standardised credit acceptance criteria while the acceptance criteria for non-retail credits is more diverse and granular.

⁶ For example, term loan or deposit placement.

⁷ This must consider the timing of cash flows.

⁸ Stressed conditions must be relevant to the counterparty's risk profile as well as business and operating environment as determined by the financial institution.

- S** 9.6 In respect of treasury and capital market activities, such as in the trading of debt securities or derivative instruments, a financial institution must assess the counterparty's ability to service contractual payments by considering the structure of the product, ratings and the credit spread.
- S** 9.7 In respect of financing for property development and construction projects, a financial institution, in assessing the viability of such projects, must take into consideration the current and prospective property market conditions, in particular, within the vicinity of the proposed project. At a minimum, a financial institution must analyse the following factors–
- (a) general economic environment and outlook;
 - (b) demographic indicators (e.g. population and employment trends);
 - (c) current and prospective vacancy and overhang situation, including projects under construction; and
 - (d) current and prospective lease terms, rental rates, sale prices, and valuation trends.
- S** 9.8 In the case of credit exposures arising from the ceding of insurance/takaful risk to a reinsurer/retakaful operator, a financial institution must assess the capability of the reinsurer/retakaful operator to fulfil its financial obligations. This includes assessing factors pertaining to the financial standing of the reinsurer/retakaful operator, such as the asset size and composition, level of premiums, capital adequacy level, technical provision levels and profitability.
- S** 9.9 A financial institution must perform the credit risk assessment holistically, taking into account various relevant factors. More specifically, a financial institution must not mechanistically rely on any single factor to perform the credit risk assessment. For instance, the good reputation or strong external rating of a counterparty or the quality of any credit risk mitigation arrangement should not preclude the financial institution from assessing the repayment capacity of the underlying counterparty for a particular transaction.
- S** 9.10 Where external ratings are used for the credit risk assessment, a financial institution must demonstrate to the Bank that it has a sound understanding of the assessment methodology adopted by the rating agency and has ensured that the rating agency has evaluated the credit risk of the counterparty in a manner that fulfils the requirements set out in paragraph 9.
- S** 9.11 Where relevant, a financial institution must also evaluate the country risk and transfer risk⁹ inherent in credit exposures, namely sovereign risk, transferability and convertibility risk, and domestic economic risk. In doing so, the financial institution must conduct both quantitative and qualitative assessments of country-specific factors such as economic and financial conditions, socio-political stability, the legal and regulatory environment¹⁰ and existing government policies.

⁹ Transfer risk can arise from currency exchange restrictions imposed by the government in a counterparty's country of incorporation or residence.

¹⁰ For example, bail-in and stay of termination rights of a financial institution that is subject to the resolution regime of another jurisdiction may affect recoverability of impaired credits.

- S** 9.12 Where a credit is supported by credit risk mitigation arrangements, a financial institution must assess factors that can affect the effectiveness of the credit risk mitigant, including legal enforceability, conditionality, and where relevant, the nature of the claim in a credit event¹¹. In addition, the contractual terms of credit must be commensurate with the effectiveness of such arrangements.
- S** 9.13 In respect of paragraph 9.12, a financial institution must ensure that all documentation for a credit risk mitigation arrangement is complete and is legally enforceable in all relevant jurisdictions before any disbursement of funds. This is to ensure the continued effectiveness of such credit risk mitigation arrangement. In addition, the financial institution must obtain sufficient assurance from its legal counsel on the documentation's legal enforceability and undertake at least annual reviews to ascertain the ongoing enforceability of such documentation.
- S** 9.14 Where implicit support arrangements are taken into account in the credit decision making process, it must not be the sole factor assessed when performing the credit risk assessment or when making credit decisions. At a minimum, a financial institution must demonstrate to the Bank that adequate internal governance arrangements, policies and controls are in place which shall include the following–
- (a) minimum criteria on support providers (e.g. rating, total assets, other support obligations);
 - (b) clear policy on counterparty ratings adjustment for both upgrades and downgrades (e.g. where the counterparty is expected to provide support to another entity);
 - (c) close monitoring of such credits; and
 - (d) clear representation of credit assessment to the credit approval authority (e.g. baseline versus adjusted ratings presented for credit approval).
- S** 9.15 In respect of collateral, a financial institution must establish internal processes and procedures that support robust and reliable valuation, adequate monitoring of the collateral's location and condition, and timely liquidation. In particular, the financial institution must assess the marketability of the collateral and identify any potential encumbrances in securing control over the collateral. In doing so, the financial institution must conduct periodic collateral valuations and ensure that these valuations reflect the likely realisable value in a credit event.
- S** 9.16 For purposes of paragraph 9.15, when conducting collateral valuations, the financial institution must compare the estimates against the realised values in a credit event. Where the value of a particular collateral is likely to be volatile or where there is a lack of data or experience in valuing the collateral, the financial institution must exercise conservatism in valuing such collateral.

¹¹ Potential impediments may arise if the financial institution's claim is: (a) indirect; or (b) not explicitly referenced to the credit exposure which is guaranteed or for which protection has been bought. For credit derivatives in particular, challenges may also arise from mismatches between the credit exposure and the reference obligation or currency of the credit protection provided by the protection seller.

- S** 9.17 Where there is a risk that the effectiveness of credit risk mitigation arrangements may be compromised, a financial institution must put in place appropriate safeguards to address such risk in a timely manner including by applying more conservative assumptions when recognising these mitigants. For instance, a larger haircut could be applied on collateral values or in the case of guarantees, the rating of the guarantor could be notched down.
- S** 9.18 Where valuations are obtained from an external valuer, a financial institution must demonstrate to the Bank that it has a sound understanding of the methodologies and assumptions adopted by the valuer and has ensured that the appraisal has fulfilled other requirements on collateral as set out in paragraph 9.
- S** 9.19 A financial institution must consider the correlation between the value of collateral or the strength of the guarantor or protection provider, vis-à-vis the creditworthiness of the original counterparty. For example, where a material correlation exist between the value of collateral and the creditworthiness of the counterparty, the financial institution may apply more conservative assumptions when recognising such collateral as a credit risk mitigation arrangement.
- S** 9.20 A financial institution must undertake a credit risk assessment on guarantors or protection providers as though the financial institution is exposed directly to the guarantor or protection provider to ascertain the guarantor's or protection provider's ability to honour its obligations in a credit event and the continued effectiveness of the credit risk mitigation arrangement.

10 Credit approval

- G** 10.1 A well-defined authority structure for approving credits is underpinned by a clear delineation of duties, and an appropriate separation between credit risk oversight and decision-making.
- S** 10.2 A financial institution must establish a board-approved authority structure for any credits that have undergone the credit risk assessment process. The structure must set out the limits granted to each credit approval authority and circumstances under which the delegation of authority is allowed. The financial institution must ensure that the authority structure mitigates potential conflicts of interest by individuals within the credit approval authority.
- S** 10.3 Where the board is involved in the credit approval process, the board's capacity to perform its credit risk oversight role must not be compromised and must be without undue influence from any party. In this respect, the nature and extent of board involvement in the credit approval process, including in respect of veto powers to reject credits, must not place undue demands on the time and resources of the board. Therefore, the board shall only be a credit approval authority in limited and exceptional circumstances that are clearly defined and documented. These circumstances may include where a credit is inconsistent with the financial institution's risk appetite or where required under legal or regulatory requirements.

- S** 10.4 The involvement of the chief risk officer (CRO)¹² is key to strengthen the overall management of credit risk. The CRO must provide an independent risk perspective as part of the credit approval process.
- S** 10.5 In respect of a financial institution where the CRO has the authority to approve credits or to vote in a credit approval process, there must be clear avenues for the CRO to escalate uninhibited concerns on specific credit decisions to the board or senior management.
- S** 10.6 A financial institution must establish arrangements to preserve the independence of the CRO throughout the credit approval process. These include ensuring that the CRO is not placed in a position of conflict, having proper documentation of the CRO's accountabilities¹³ and ensuring that the CRO's compensation structure does not result in perverse incentives¹⁴.
- S** 10.7 When approving credits, a financial institution must ensure that the credit approval authority undertakes a balanced assessment which has regard to the appropriateness of the contractual terms of the credit to be granted, the risk management function's assessment and impact on the overall credit risk profile if the credit is approved. The considerations underlying all credit decisions, including any key reservations raised throughout the credit approval process, must be clearly documented.

11 Exceptional credits

- G** 11.1 There may be circumstances where credits that do not satisfy a financial institution's pre-defined governance and risk management arrangements, such as the risk appetite, credit risk strategy and credit risk policy, represent legitimate credit needs with sound credit risk profiles. This can arise where gaps in the credit risk policy or credit risk management practices exist due to the practical challenge of identifying all probable circumstances under which credits may be extended. Notwithstanding these considerations, exceptional credits warrant greater scrutiny by the financial institution.

¹² For purposes of paragraphs 10.4 to 10.6, any reference to the CRO shall include any officers responsible for risk management involved in the credit approval process.

¹³ In the case of a credit committee, the role of the CRO may be outlined in the committee's terms of reference or charter.

¹⁴ For example, the CRO's compensation should not be primarily tied to credit growth.

- S** 11.2 A financial institution must ensure that exceptional credits, if granted, are underpinned by sound credit risk management practices. Therefore, the financial institution must establish systems and controls for managing and monitoring exceptional credits, including to–
- (a) identify the appropriate credit approval authority to approve exceptional credits;
 - (b) set conditions for the approval of exceptional credits to ensure that the contractual terms of such credits are commensurate with the associated credit risks¹⁵;
 - (c) ensure that such exposures remain controlled by way of established limits within the credit risk policy;
 - (d) document the assessment leading to the approval of exceptional credits, including the rationale and specific areas where the credit is inconsistent with the credit risk policy; and
 - (e) implement processes to monitor and report the performance of exceptional credits to the board and senior management, including the default rates, recovery rates and effectiveness of risk mitigation arrangements.
- S** 11.3 Where exceptional credits have been granted, a financial institution must draw on these experiences to continuously strengthen its credit risk management practices, including by refining the credit risk strategy or specific areas in its credit risk policy.

12 Credit risk measurement

- G** 12.1 A robust approach to credit risk measurement is key to provide the financial institution with a complete and accurate understanding of the credit risk profile of its portfolio, thereby strengthening the feedback loop of information for more effective planning and decision-making.
- S** 12.2 A financial institution must establish an approach for measuring the risks in all credit exposures, with the capability to aggregate and appropriately segment different credit exposures based on shared credit risk characteristics¹⁶.
- S** 12.3 The credit risk measurement outputs must also be duly considered by the financial institution in developing the credit risk strategy and credit risk policy, particularly in areas of credit approval, pricing, limit-setting, identification of problem credits, provisioning and compensation design.

¹⁵ For example, this may result in a lower exposure limit to the credit applicant, higher pricing or requiring additional guarantees or collateral.

¹⁶ For example, by groups of connected counterparties, product type and risk characteristics.

Methodology

- S** 12.4 A financial institution must have in place appropriate credit risk measurement methodologies to estimate credit losses, having regard to the nature, scale and complexity of its credit exposures. At a minimum, the financial institution must estimate the PD, LGD and EAD for its significant credit exposures.
- G** 12.5 The level of sophistication of the credit risk measurement methodologies, including in estimating PD, LGD and EAD, may vary across credit exposures. A financial institution is therefore expected to consider the availability of historical data and portfolio-specific factors, such as the number of customers, and the homogeneity and size of individual exposures. Statistically-driven methodologies¹⁷ are generally more appropriate where the credit portfolio is homogenous with large volumes of small individual exposures. Conversely, judgment-based methodologies may be more appropriate where the credit portfolio is heterogeneous with small volumes of large individual credit exposures.
- G** 12.6 Where default experience data to reliably estimate credit losses is insufficient, a financial institution may consider using proxy data that is relevant to its own default experience (e.g. rating agency's loss studies). Financial institutions are expected to periodically review the appropriateness of using such proxy data and adopt own internal data, whenever feasible. Alternatively, a financial institution may consider credit loss estimations using expert judgment. Suitability of assumptions and judgment-based estimates used are also expected to be periodically reviewed and should be revised to statistical-based alternatives, when feasible.
- S** 12.7 Where external ratings are leveraged on for purposes of credit risk measurement¹⁸, the financial institution must ensure that the methodology adopted by the rating agency fulfils requirements set out in paragraph 12.
- G** 12.8 For securities financing transactions and derivatives contracts that are governed by a legally enforceable netting agreement, a financial institution may net transactions with a counterparty when estimating the EAD.
- S** 12.9 A financial institution must ensure that the credit risk measurement methodologies are based on a comprehensive range of risk factors. The methodologies must capture all relevant macroeconomic, transaction and counterparty-related factors, and the impact of country-specific factors¹⁹.

¹⁷ Such as Monte Carlo simulations, multiple regressions and neural network models.

¹⁸ Such as for investments in sovereign debt securities, deposit placements in financial institutions and ceding of insurance risk to a reinsurer/retakaful operator.

¹⁹ This may include establishing a country risk rating system, whereby the rating assigned to a specific country is linked to pre-defined adjustments to ratings for counterparties which are domiciled in the country.

- S** 12.10 In respect of qualitative²⁰ risk factors within the credit risk measurement methodologies, the financial institution must establish clearly defined criteria to differentiate between varying credit risk levels for a particular risk factor.
- S** 12.11 A financial institution must establish an appropriate number of rating grades to facilitate meaningful differentiation of credit exposures and consistent loss estimation practices across credit exposures. The rating grades must include sufficiently granular triggers or factors to enable the identification of both migration of credit risk and significant changes in credit risk that result in a change in rating grades of credit exposures.
- G** 12.12 In respect of paragraph 12.11, as an example, a financial institution may assess whether there is a significant concentration of counterparties within a particular rating grade, which indicates a lack of granularity in the design of the credit risk measurement methodology.
- S** 12.13 A financial institution must exercise prudence in adjusting the rating grade for a particular credit by applying more stringent criteria for upgrades compared to downgrades to reflect changes in the level of credit risk. In particular, rating upgrades must be supported by evidence of a sustained improvement in the repayment capacity, gearing, associated cash flows and financial position of a counterparty, over a specified period. In contrast, a shorter specified period must be considered when demonstrating a sustained deterioration in credit quality to effect a rating downgrade.

Validation of credit risk measurement methodologies

- S** 12.14 A financial institution must establish a framework to validate its credit risk measurement methodologies to ensure that such methodologies are conceptually sound, fit for purpose and remain relevant on an ongoing basis. The framework must clearly set out the responsibilities of officers within the financial institution in respect of the validation process of the credit risk measurement methodologies.
- S** 12.15 A financial institution must ensure that the objectivity of the validation process is preserved. In this respect, the financial institution must ensure that validation process is undertaken by a party that is independent from those who have developed the credit risk measurement methodologies.
- S** 12.16 A financial institution must ensure that the scope of the validation process is comprehensive, covering both quantitative and qualitative aspects of credit risk measurement methodologies.

²⁰ Such as when assessing the management experience of a corporate borrower in respect of the specific business sector for which the credit is granted.

- S** 12.17 In respect of paragraph 12.16, at a minimum, the quantitative aspects must include assessments on data quality, appropriateness and relevance of risk factors used and back-testing. Qualitative aspects must include the adequacy and effectiveness of internal processes, sufficiency of documentation, and the level of expertise and competence of relevant officers.
- S** 12.18 The financial institution must ensure that any weaknesses in the credit risk measurement methodologies identified during the validation process are rectified and reported to senior management, and validation results are reported to the board. In this respect, the financial institution must clearly define the appropriate remedial actions to be taken for different degrees of weaknesses, including circumstances where a credit risk measurement methodology may warrant further recalibration or full replacement.
- S** 12.19 The financial institution must adopt alternative approaches to validate the credit risk measurement methodologies where insufficient data is a constraint (for example, insufficient historical data to back-test the output of the methodologies). This may include a review of the methodology's output by credit experts and a comparison of the methodology's output against other methodologies and market data, such as credit spreads.
- S** 12.20 Where credit risk measurement methodologies are judgment-based, the financial institution must adopt suitable assessment techniques to ascertain the predictive capability of such methodologies.

Pre-implementation validation

- S** 12.21 As part of the pre-implementation validation process, a financial institution must ensure that information used to develop the credit risk measurement methodologies—
- (a) represent the relevant portfolio and is in line with the financial institution's overall risk appetite and credit risk strategy; and
 - (b) meets internally established data quality standards.
- S** 12.22 Where credit risk measurement methodologies are externally developed, the financial institution must ensure that such methodologies are supported by a sound analytical framework and sufficient empirical evidence. This includes by obtaining more granular information from the external party to ensure that the requirements set out in paragraph 12 are met.

Post-implementation validation

- S** 12.23 A financial institution must periodically review whether its credit risk measurement methodologies continue to be relevant. At a minimum, this must include an assessment of the accuracy and discriminatory power of the credit risk measurement methodologies²¹, whether the risk factors underlying the methodologies remain appropriate and whether the existing methodologies continue to suit the nature of the portfolio.

13 Credit risk monitoring

- G** 13.1 Credit risk monitoring refers to the ongoing monitoring of the performance of individual credit exposures and the overall credit portfolio. Having a robust framework to support monitoring activities is essential for a financial institution to identify changes in its credit risk profile in a timely manner. In addition, well-defined reporting structures will ensure that key monitoring outcomes, such as those relating to significant credit exposures, are escalated appropriately to support oversight and decision-making by the board and senior management.
- S** 13.2 A financial institution must establish credit risk monitoring procedures to identify early signs of deterioration in a counterparty's ability to honour its obligations, and assess whether credit exposures remain consistent with the contractual terms, risk appetite and credit risk policy. In doing so, the monitoring procedures must take into account the utilisation of off-balance sheet facilities, and sources and degree of credit concentration risk.
- S** 13.3 In performing credit risk monitoring, a financial institution must consider the potential impact of changes in the operating environment, whether domestic or abroad²², on the credit risk profile of an individual credit exposure and the overall credit portfolio, such as those pertaining to interest rates²³, inflation, asset prices, competition and socio-political conditions.
- S** 13.4 The roles, responsibilities and reporting structure pertaining to monitoring activities must be defined by the financial institution in a manner that facilitates objectivity in credit risk monitoring. Where a monitoring activity or function is carried out by business units, appropriate safeguards must be in place to mitigate the potential for undue suppression of information to the board and senior management, such as through a periodic and independent evaluation²⁴ of the scope, timeliness and quality of information reported.

²¹ Where credit risk measurement methodologies are statistically-driven, tools that could facilitate this assessment include the Accuracy Ratio (AR), Gini Coefficient and the area under the Receiver Operating Characteristic (ROC) curve.

²² May include a foreign counterparty's ability to obtain foreign currency to service cross-border obligations.

²³ For example, adverse interest rate movements may increase the debt service ratio of a counterparty with a floating rate loan, thereby affecting the repayment capability of the counterparty.

²⁴ This may be achieved where the monitoring activity falls within the scope of the independent credit review.

- S** 13.5 The monitoring frequency of credit exposures must be commensurate with the nature of credit exposures and facilitate timely escalation of emerging issues to support oversight and decision-making by the board and senior management. For example, where the value of a particular credit exposure can change due to market fluctuations, such as in the case of derivative transactions, a financial institution must monitor such exposures more frequently.
- S** 13.6 In respect of credit exposures with a bullet repayment structure, a financial institution must monitor such credit exposures periodically throughout its lifetime and not only when it is closer to the repayment date. This is to ensure that any potential deterioration in the credit risk of the counterparty can be detected early.

14 Credit concentration risk

- S** 14.1 A financial institution must have adequate processes that enable the effective management of credit concentration risk, particularly where the potential losses can jeopardise the solvency of, or public confidence in, the financial institution.
- S** 14.2 A financial institution must identify the sources and degree of credit concentration risk in its portfolio, including the following:
- (a) single counterparties and groups of connected counterparties²⁵;
 - (b) counterparties in the same industry, economic sector or geographic region²⁶;
 - (c) counterparties whose financial performance is dependent on the same activity or commodity; and
 - (d) exposures in particular asset classes, products, collateral or currencies.
- S** 14.3 A financial institution must establish appropriate methodologies²⁷ to assess credit concentration risk. The methodologies to assess credit concentration risk must incorporate correlations between credit exposures, taking into account the historical trend of defaults, credit losses or relevant proxies²⁸ across an appropriate time horizon. At a minimum, the financial institution must assess name correlations between significant credit exposures and correlations between sectors within its portfolio.

²⁵ Where relevant, including those counterparties identified as “connected” in the *Single Counterparty Exposure Limit* and *Single Counterparty Exposure Limit for Islamic Banking Institutions*.

²⁶ Including in respect of counterparties’ country of incorporation or residence.

²⁷ The sophistication of the methodology may vary (either statistically-driven or judgment-based methodologies), depending on the size, nature and complexity of the credit portfolio as well as data availability. Examples of methodologies to identify or measure concentration risk include the Herfindahl-Hirschman Index (HHI), Gordy Granularity Adjustment (GA) and economic capital modelling approaches.

²⁸ Such as sectoral stock market indices.

- S** 14.4 In respect of paragraph 14.3, where external expertise is leveraged on for purposes of establishing methodologies to assess credit concentration risk and correlations between credit exposures, the financial institution must demonstrate to the Bank that it has a sound understanding of the methodologies and has ensured that the methodology fulfils requirements set out in paragraph 14.
- S** 14.5 As part of prudent management of credit concentration risk, the financial institution must establish exposure limits based on clear rationale and supported by an appropriate analytical framework. These limits must be supplemented with early warning indicators to identify credit exposures approaching these limits. These indicators must be calibrated such that the financial institution has sufficient time to undertake necessary actions to maintain exposures at a prudent and manageable level.

15 Problem credits

- G** 15.1 Despite financial institutions making credit decisions based on prudent considerations, the risk profile of a credit exposure can deteriorate over time. This may occur due to a variety of reasons, including a sudden downturn in the economy leading to a default in payments by a counterparty's customers, thereby affecting the repayment capability of the counterparty itself. Continued vigilance of credit exposures is therefore crucial, particularly to identify weaknesses at an early stage where more options may be available to manage the resultant risks.
- S** 15.2 Problem credit refers to any credit exposure for which there is reason to believe that a portion or all amounts due will not be repaid or recovered in accordance with the contractual terms. A financial institution must establish criteria for identifying problem credits. At a minimum, a credit exposure must be classified as a "problem credit" if any of the following is met–
- (a) the counterparty is experiencing financial difficulty in meeting its financial obligations, such as where the counterparty is currently past due on any of its material obligations;
 - (b) the financial institution has granted a concession following an increase in credit risk of the counterparty, such as by making changes to contractual terms, that the financial institution would not otherwise consider under normal circumstances; or
 - (c) under the relevant accounting standards, the credit is deemed to have experienced a significant deterioration in credit risk, whether due to counterparty-specific factors or those relating to macroeconomic and sectoral considerations.

- S** 15.3 The management of problem credits must be undertaken by the financial institution in a structured and targeted manner, with a focus on improving recovery outcomes and providing feedback to further strengthen the financial institution's credit risk strategy and credit risk policy. In supporting this outcome, the financial institution must clearly define the responsibilities for identifying and managing problem credits²⁹, and establish processes that set out the relevant remedial plans³⁰. The financial institution must preserve the independence of the problem credit management process which includes ensuring that problem credits are not solely managed by the originating credit officer or team.
- S** 15.4 Problem credit management process³¹ employed by a financial institution must be commensurate with the severity of problem credit. A financial institution must periodically assess the appropriateness of its existing process, taking into consideration the volume, materiality, nature and complexity of problem credits as well as availability of relevant expertise and resources. For example, if faced with voluminous or complex problem credits that require more time and focus to improve recovery outcomes, the financial institution must establish a specialised team to manage material problem credits.
- S** 15.5 A financial institution must conduct periodic reviews to identify the key drivers leading to significant credit exposures being classified as problem credits and communicate the outcome of this review to the board. The review must be undertaken in a comprehensive manner, including to assess the timeliness of problem identification, accuracy of collateral valuation and effectiveness of contractual terms.
- S** 15.6 In respect of rescheduled and restructured credits, a financial institution must establish controls to avoid 'ever-greening' of credits. Specifically for rescheduled and restructured loans/financing facilities, a banking institution must also comply with the requirements specified in Appendix 1.
- S** 15.7 Write-offs must be undertaken by the financial institution in a timely manner and reflect realistic repayment and recovery expectations. To this end, the financial institution must establish a board-approved policy for write-offs that, at a minimum, sets out the circumstances, conditions and approving authority under which a credit can be written-off.

²⁹ Such as those related to enforcing recourse to a guarantor, foreclosing collateral, rescheduling or restructuring a credit, and undertaking write-offs.

³⁰ Such as the handling of rescheduled and restructured facilities, negotiation, management and liquidation of collateral, and monitoring of debt recovery performance.

³¹ Including the need to establish a specialised team to manage material problem credits.

16 Credit risk reporting

- S** 16.1 In addition to the requirements under Principle 9 of *Risk Governance*, a financial institution must ensure that credit risk reports provide important insights on credit quality and are submitted in a timely manner to the board and senior management.
- S** 16.2 A financial institution must ensure that credit risk reports to the board and senior management are prepared in a manner that clearly explains and gives sufficient prominence to significant credit risk issues and developments that may materially impact the financial institution. In particular, the structure, depth and coverage of the reports must enable the board and senior management to–
- (a) relate the information being presented to the financial institution’s credit risk strategy, risk appetite and credit risk policy, and to identify any of these arrangements that need to be reviewed;
 - (b) be aware of significant credit exposures (including portfolio of credits supported by implicit support arrangements), both on an individual and aggregated basis; and
 - (c) assess the need for measures to mitigate any emerging risks³².

17 Independent credit review

- S** 17.1 An independent credit review must be undertaken by a financial institution in accordance with paragraphs 17.2 to 17.5, to ensure that credit decision-making remains consistent with the financial institution’s overall credit risk management arrangements. To preserve the objectivity of the independent credit review, the financial institution must ensure that this review is undertaken by an independent party that is not within the scope of the review, such as those involved in credit risk assessment and credit approval.
- S** 17.2 A financial institution must ensure that the scope, depth and frequency of the independent credit review is commensurate with the significance of a particular area or activity to the financial institution’s credit risk profile.
- S** 17.3 At a minimum, the independent credit review must include assessments of–
- (a) quality of credit risk assessment and rigour of credit approval processes, including in respect of the scope of information obtained for credit decisions;
 - (b) whether credit decisions are in accordance with the credit risk strategy, credit risk policy, and relevant legal and regulatory requirements;
 - (c) scope, effectiveness and timeliness of credit risk monitoring activities;
 - (d) accuracy and timeliness of ratings assigned to counterparties; and
 - (e) appropriateness of credit classifications and provisioning levels.

³² Including significant changes in the conditions of a country where the financial institution has credit exposures.

- S** 17.4 An effective internal audit function facilitates the identification and rectification of any weakness in the financial institution's credit risk management process and ensures that the financial institution's credit risk activities are in compliance with its credit risk policies and procedures. Therefore, the role of chief internal auditor and internal audit is important in providing an independent assessment of the overall effectiveness of a financial institution's credit risk management processes, systems, internal controls and governance arrangements. The independent credit review function, as part of the credit risk management process of the financial institution, must therefore be subject to internal audit assessments.
- S** 17.5 A financial institution must ensure that the outcomes of, including any recommendations arising from, independent credit reviews are clearly documented and escalated directly to the Board Risk Committee, Board Audit Committee and senior management.

APPENDIX I **SPECIFIC REQUIREMENTS FOR BANKING INSTITUTIONS: RESCHEDULING AND RESTRUCTURING OF LOAN/FINANCING FACILITIES**

1. A rescheduling and restructuring of a loan/financing facility involves any modification made to the original repayment terms and conditions^{33,34} of the loan/financing facility following an increase in the credit risk of a counterparty³⁵.
2. A banking institution must establish a board-approved policy on the circumstances and conditions where a loan/financing facility may be rescheduled or restructured. The policy must—
 - (a) define situations where a loans/financing facility may be rescheduled or restructured more than once, and establish appropriate provisioning policies with respect to such loans/financing facility;
 - (b) ensure compliance with Shariah rules and principles in respect of the rescheduling or restructuring of an Islamic financing facility. This may include administrative policies on the performance of the new agreement (*'aqad*), determination of a new selling price and the treatment of charges (e.g. policy on non-capitalisation of compensation amount in relation to the restructured financing facility); and
 - (c) define a minimum repayment period (based on the revised and restructured terms and conditions) to be continuously observed before the rescheduled and restructured loan/financing facility can be reclassified as non-impaired. For the avoidance of doubt, such repayment period shall not be less than six months.
3. In specific and exceptional circumstances, such as when a counterparty is affected by natural disasters, the rescheduling and restructuring exercise may involve the granting of a moratorium on the loan/financing repayments. In such cases, a banking institution must establish clear parameters and internal processes for the consideration of a moratorium on loan/financing repayments, including a clear authority structure for the approval of the moratorium. These processes must also be subject to adequate monitoring and review by an independent party.
4. Where a moratorium on loan/financing repayments is granted under paragraph 3 above, the moratorium shall be for a period of not more than six months from the date of the counterparty's application for the moratorium.

³³ This includes but is not limited to an extension of tenure and flexible repayment schedule including payment vacation, interest/profit-only payments, or capitalisation of principal or interest/profit or both.

³⁴ Irrespective of whether the modification is carried out pursuant to a clause provided in the original repayment agreement.

³⁵ For the avoidance of doubt, any modification made to a loan/financing facility where the principal is scheduled to be paid at the end of the tenure in one lump sum payment should be deemed to be indicative of an increase in the credit risk of the counterparty.