RISK MANAGEMENT GUIDELINES 2019

Royal Monetary Authority of Bhutan

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PART 1: PRELIMINARY

1. These Guidelines are issued in pursuant to the relevant provisions of "Financial Services Act of Bhutan 2011", hereafter referred to as the Act and the Corporate Governance Rules and Regulations 2018 and amendment thereof.

TITLE, COMMENCEMENT AND APPLICATION

2. These Guidelines shall be called Risk Management Guidelines 2019, hereafter referred to as RMG 2019.

3. These Guidelines shall come into effect from 3rd Day of June 2019.

4. These Guidelines are applicable to all regulated financial institutions as defined in the Act, which the Royal Monetary Authority (RMA) finds necessary to regulate and supervise for the stability of the financial sector of the Kingdom of Bhutan.

5. A financial institution shall implement a risk management framework proportionate to its size, activity, and complexity. Financial institutions are required to self-assess their risk management framework to achieve compliance with this RMG 2019.

6. The RMA shall assess whether the risk management framework implemented by the financial institutions are proportionate to their size, activity, complexity and risks.

SCOPE

7. The RMA is issuing this RMG 2019 to provide guidance to all

financial institutions on minimum standards for risk management as required by Section 89 of CGRR 2018. This RMG 2019 is not intended to be so comprehensive as to cover each aspect of a financial institution's risk management activity. A financial institution may, depending on its size and the complexity of its organization or activities, establish a more complex framework than outlined in this RMG 2019.

8. Financial institutions are encouraged to self-assess their risk profile and operational context, and customize their risk management architecture and approach to attain organizational goals while meeting the minimum requirements standards set out in this RMG 2019.

9. Risk management need not be uniform across all financial institutions. Risk management practices considered suitable for one institution may be inadequate for another. Therefore, each financial institution shall put in place a comprehensive risk management program tailored to its needs and the circumstances under which it operates.

10. In addition to guidance on the general principles for sound risk management, the RMG 2019 provides guidance on the management of the various risks that financial institutions may face in Bhutan: Credit Risk, Liquidity Risk, Operational Risk, Market Risk, Interest Rate Risk and Insurance Risk.

OBJECTIVES

11. In publishing the provisions of RMG 2019, the objectives of the RMA are to:

    i. promote better risk culture at all levels of the financial institutions;

ii. provide minimum standards for risk management practices;

iii. improve financial soundness of individual financial institutions and stability of the overall financial sector; and

iv. encourage financial institutions to adopt and implement a sound risk management framework.

PART 2: THE DIMENSIONS OF RISK MANAGEMENT

2.1 Importance of Risk Management

12. Taking risk is an integral part of financial intermediation and banking business or insurance business. However, failure to adequately assess and manage risks may lead to losses endangering the soundness of individual financial institutions and affecting the stability of the overall financial system. Weak risk management is often identified along with weak internal governance as an underlying cause of financial institutions' failure.

13. There is a strong link between good corporate governance and sound risk management. Risk management is a part of the internal governance involving all areas of the financial institutions. Without proper risk management, the various functions in a financial institution cannot work together to achieve the institution's objectives. It is an essential part of helping the financial institution grow and promote sustainability and resilience.

14. The setting of an appropriate risk strategy and risk appetite/tolerance levels, a holistic risk management approach and effective reporting lines to the management and supervisory functions, enable financial institutions to take risks knowingly and treat risks where appropriate.

15. While the extent of risk management function performed and structure kept in place depend on the size and complexity of individual financial institutions, risk management is most effective when basic principles and elements of risk management are applied consistently throughout the financial institution.

2.2 Risk Culture

16. While the business of financial institutions involve risk taking, it is fundamental that risks are appropriately managed. A sound and consistent risk culture throughout a financial institution is a key element of effective risk management. Every financial institution shall develop an integrated and institution-wide risk culture, based on a full understanding of the risks it faces and how they are managed, considering risk appetite and tolerance.

17. The risk culture of a financial institution shall be developed through policies, communication, training of staff regarding their responsibilities for risk, and examples of appropriate risk behaviour. Every member of the financial institution must be fully aware of his/her responsibility regarding risk management. Risk management should not be confined to risk specialists or to control functions. Business and operational units, under the oversight of the senior management, shall be primarily responsible for managing risk on a day-to-day basis, considering risk appetite and risk tolerance, and in line with the financial institution's risk policies and procedures.

18. Risk culture and its impact on effective risk management shall be a major concern for the board of directors and senior management. Weaknesses in risk culture are often the root cause for occurrence of significant risk events, financial institution failures, and financial crisis. A sound risk culture should encourage effective risk management, promote sound risk-taking and ensure that risk-taking activities beyond the financial institution's risk appetite are recognized, assessed, reported, and addressed in a timely manner.

19. As stated under Section 92 of the CGRR 2018, the top

management of the financial institution shall set the tone for the desired risk culture. The risk culture can be strengthened through:

i. Enabling an open and respectful atmosphere in which employees feel encouraged to speak up when observing new or excessive risks;

ii. Clarifying the range of acceptable risks using a risk appetite statement and various forms of communication and training; and

iii. Aligning incentives with objectives and clarifying how breaches in policies/procedures will be addressed.

2.3 Risk Strategy, Risk Appetite and Risk Tolerance

20. A financial institution's strategy shall specify the long-term, medium-term and short-term goals and objectives, as well as how progress towards their achievement is measured. In addition, to its business goals, a financial institution shall have risk goals and risk strategies which enable it to achieve the desired risk profile.

21. Risk capacity is the maximum amount of risk a financial institution is able to support considering its available financial resources.

22. Risk appetite describes the absolute risks a financial institution is *a priori* open to take, considering its exposures and business activities, its business objectives and its obligations to stakeholders. A financial institution shall express in a Risk Appetite Statement, both in quantitative and qualitative terms, the potential impact of its risk on its earnings, capital, and funding/liquidity. Ideally, the risk appetite should incorporate both quantitative (e.g., ROA, earnings volatility, credit

concentrations, etc.) and qualitative measures (reputational impact, regulatory compliance, etc.).

23. Risk tolerance relates to the maximum amount of risks a financial institution is ready to tolerate above its risk appetite. Risk tolerance shall be based on the use of series of risk limits and indicators that serve as early warning mechanisms to alert management of threats to strategy and objectives.

24. The board of directors of a financial institution has the responsibility to set the strategies and the senior management is responsible for implementing those strategies and communicating them throughout the organization. The Risk Appetite Statement issued by the financial institution shall be used to cascade the risk strategy down through the institution. It shall be well-embedded and be consistent with the financial institution's capacity to take risk, taking into consideration the capital constraints, and potential profit and loss consequences. It shall also be regularly reviewed in a formal process.

2.4 Risk Governance and Organization

25. Risk governance refers to the structure, rules, processes, and mechanisms by which decisions about risks are taken and implemented. Each financial institution shall decide:

    i. at which levels the risk management responsibilities lie;

    ii. the roles, structure, and staffing of the risk management organization;

    iii. the ways the board influences risk-related decisions; and

iv. the involvement of the board on key risk issues.

2.5 The Three Lines of Defense Model

26. As prescribed under Section 90 of the CGRR 2018, the risk management framework shall follow the "*three lines of defense*" model, with the first line of defense relating to the business and operation units of the institution, the second line to the control functions (risk management and compliance) and the third line of defense to the internal audit.

2.6 Risk Assessment

27. Each financial institution is fully responsible for the assessment of its risks. Risk management process is the systematic application of management policies, procedures and practices to the assessment, treatment, controlling, and monitoring of risk. As such, it is an integral part of management, be embedded in the culture and practices, and should be tailored to the business processes of the organization.

28. Risk assessment is the overall process of risk identification, analysis, and evaluation.

29. Risk identification is the starting point for understanding and managing risks and/or crucial activities. Financial institutions shall identify the nature, sources and cost of risk, areas of impacts, events, causes, and potential consequences. Attention should be given not only on existing risks but also to those arising from new activities.

30. Risk analysis involves developing an understanding of the risk that will help to make the decisions most appropriate for risk treatment. Risk analysis involves measuring risk by considering

consequences of an unfavorable event and likelihood of such event occurring. Factors that affect consequences and likelihood shall also be identified. Risk analysis shall be quantitative and qualitative in nature and be undertaken with varying degrees of detail, depending on the nature of risk, severity of risk; and the information, data and resources available.

31. Risk evaluation helps in making decisions, based on the outcomes of the risk analysis, in particular to inform senior management. It mainly involves comparing the level of risk found during the analysis process with the financial institution's risk appetite, risk tolerance and regulatory limits.

2.7 Risk Treatment

32. After the risks are assessed financial institutions shall choose the best option to eliminate or mitigate unacceptable risks. Risk treatment options are not necessarily mutually exclusive or appropriate in all circumstances. Options could be to:

    i. avoid the risk by deciding not to start or continue with the activity that gives rise to the risk;

    ii. to accept the risk by making informed decision and having plans for managing and funding the consequences of the risk if it occurs;

    iii. reduce the likelihood of the risk through staff training, changing procedures, or by reducing the impact through diversifying credit portfolio, setting up off-site data backup, etc.; and

    iv. share the risk with another party or parties through insurance, reinsurance, consortium financing, etc.

2.8 Risk Control and Monitoring

33. The most important ways for financial institutions to address risks is to put in place adequate risk control mechanisms: establishment and communication of risk limits through policies, standards and procedures that define responsibilities and authority. It also helps the concerned parties know when the risk becomes unacceptable and align their actions and behaviors with the financial institution's set risk appetite, risk tolerance, and strategy.

34. Monitoring and review need to be integral part of the risk treatment plan to ensure that measures remain effective. The financial institution's monitoring and review processes should encompass all aspects of risk management process for the purposes of:

    i. detection of changing risk sources and factors within and outside the institution;

    ii. obtaining further information to improve risk assessment;

    iii. ensuring that controls are effective and efficient in both design and operation;

    iv. analyzing and learning lessons from events, trends etc.; and

    v. identifying emerging risks.

PART 3: THE RISK MANAGEMENT FRAMEWORK

35. The financial institution's risk management framework shall include policies, procedures, limits, and controls.

36. The risk management framework shall provide adequate, timely, and continuous identification, assessment, measurement, monitoring, mitigation, and reporting of risks posed by its activities at the business lines and institution-wide levels.

37. The success of risk management in financial institutions will depend on the effectiveness of the risk management framework providing the foundation and arrangements that are put in place throughout the organization at all levels.

38. The framework should be comprehensive enough to capture all the material risks to which the financial institution is exposed. It should facilitate processes for assessment and necessary treatment of these risks. The minimum standards of a sound risk management system include the following elements.

3.1 Active Board and Senior Management Oversight

39. The introduction of risk management and ensuring its ongoing effectiveness shall come from the top level of the financial institution. As the board of directors has been entrusted with the ultimate responsibility for the risks taken by the financial institution, it shall define the risk appetite and risk tolerance, and set risk strategies. It is responsible for understanding the nature of risks significant to the institution and for ensuring that management is taking necessary steps to implement those strategies and manage accompanying risks.

40. While the overall responsibility for risk management is recognized to rest with the board of directors, it is the duty of senior management to transform the strategies into appropriate operational policies, procedures, and processes for effective risk management. The senior management shall be fully aware of the activities undertaken by the institution that could expose it to various risks. It shall possess necessary knowledge and skills to be able to align the risk levels with the board's strategies through risk assessment and treatment. Top management shall be aware of the financial institution's risk profile on an ongoing basis and shall regularly report it to the board or a board level committee for review.

3.2 Risk Management Function and Various Committees

41. Financial institutions shall have an independent risk management function. As necessary, depending on the size and complexity of the organization, it may have separate risk management department, divisions or units for overseeing each key risk area. The main responsibilities of the risk management function include the following:

    i. managing the process for developing risk policies and procedures;

    ii. coordinating with business users to prepare functional specifications;

    iii. preparing and forwarding risk reports; and

    iv. assisting in the implementation of all aspects of the risk function.

42. The risk management function shall be functionally and hierarchically independent from business and other operational functions. The officials who take and own risks

shall not be given responsibility for monitoring and evaluating their risks. The Chief Risk Officer leading the independent risk management function shall have sufficient stature, authority and seniority. The Board approves the appointment, dismissal and other changes to the CRO position. The CRO makes direct report to the board of directors or the Board Risk Management Committee of the financial institution. For day to day risk management purposes, the CRO reports to the CEO. Safeguards against conflict of interest shall be put in place to maintain independence of the risk management function.

43. The risk management function shall be provided with sufficient resources. The risk management function shall have sufficient number of personnel who possess the needed experience and qualifications, including market and product knowledge and command of risk discipline. Likewise, adequate budget shall be allocated to this function to enable it carry out its crucial function effectively.

44. Depending on the size and complexity of the financial institution, various committees may be set up for monitoring and controlling risks. At board level, that would be the board itself and the Audit Committee or the Board's Risk Committee. At management level, that would be committees and sub-committees such as a Risk Management Committee, a Credit Risk Management Committee, an Operational Risk Management Committee, an Asset Liability Management Committee (ALCO), etc.

3.3 Policies and Procedures

45. The board of directors and senior management shall formulate and implement risk management policies and procedures to

deal with various risks that arise from the financial institution's business and operational activities. The policies and more detailed procedures shall provide guidance for the day-to-day implementation of broad risk strategies and shall include limits designed to shield the institution from imprudent and unwarranted risks. These policies and procedures shall include not only those relevant to specific risk areas like Credit Policy, Liquidity Management Policy, and Operational Risk Management Policy, but also those related to the overall risk management.

46. The senior management shall review risk policies, procedures, and limits in a timely manner and update them when necessary. Further, independent assurance from internal audit about the efficacy of these policies should also be obtained.

3.4 Appropriate Management Information System (MIS)

47. Effective MIS is necessary for adequate risk monitoring and reporting. When MIS can generate key risk indicators in the form of accessible reports in a timely manner, then risk managers can monitor the risk levels continuously and inform senior management and board as necessary or as required. These reports may include daily or weekly liquidity gap reports, list of loans of significance (troubled, large, maturing, etc.). The MIS shall be able to produce reports in accordance with regulatory requirements.

48. In addition to regular reporting, there shall be a system to address any exceptions observed. Further, there shall be an explicit procedure regarding measures to be taken to address such deviations.

3.5 Comprehensive Internal Controls and Limits

49. Internal control plays critical roles in managing risks of a financial institution. With comprehensive internal control structure in place, management will be better able to contain risks within the level commensurate with the institution's risk appetite, risk tolerance, and strategy. An effective internal control system enforces the official lines of authority and provides for appropriate separation of duties. A major part of the internal control structure is the establishment of limits such as limits on liquidity, officer limits, and limits on non-performing assets. These limits ensure that the financial institution's management does not take excessive risks while pursuing business targets.

50. The financial institution's internal control system shall be adequately tested and reviewed by its internal audit. The coverage, procedures, and findings of the audit regarding the internal controls shall be adequately reviewed by the Audit Committee and any material weakness found shall be addressed promptly and appropriately.

PART 4: THE MANAGEMENT OF CREDIT RISK

4.1 Overview of Credit Risk

51. Credit risk is the risk that a borrower or counterparty will fail to meet their obligations according to the agreed terms, resulting in economic loss to the financial institution. While loans are the largest source of credit risk, other sources of credit risk exist throughout the activities of a financial institution, including in the trading book, and both on and off the balance sheet.

52. Given the significant weight of the credit risk in the risk profile of financial institutions, robust arrangements to manage and control this risk shall be put in place. The effective management of credit risk is a critical component of a comprehensive approach to risk management. Appropriate governance, processes, and internal controls shall exist for accepting, managing and monitoring credit risk, on a group and solo basis, in a manner commensurate with the nature, scale and complexity of the financial institution's activities. Financial institutions must have sound procedures for valuing their credit exposures, which requires the existence of consistent provisioning policies. They shall have a forward looking perspective to evaluate if the arrangements in place are adequate to cope with the credit risk they might be exposed to in the foreseeable future.

53. The components of an appropriate credit risk management are: organizational structure; credit strategies, policies, and procedures; limits and indicators; credit granting process; credit administration, measurement and monitoring processes; credit risk mitigation techniques; and controls of credit risk.

4.2 Appropriate Organizational Structure

54. Organizational structures vary according to the size, complexity and diversification of financial institutions' activities. However, whatever the structure in place, it is important that it facilitates effective management oversight and proper execution of credit risk management and control processes.

55. There should be segregation of duties regarding various credit-related functions, such as credit assessment, analysis, approval, disbursement, administration, and monitoring. For large entities, different units may be established to perform each function. However, in smaller entities where it may not be possible to adequately staff different units, the structure in place must ensure that conflict of interests between these functions are identified and managed, and that sufficient checks and balances are in place even if they are within the same unit.

56. Financial institutions shall have a Credit Risk Management Function independent of the risk-taking units. This Credit Risk Management Function shall have the power to challenge and, if necessary, escalate its concerns to senior management, in relation to development of the credit risk management framework. This function shall be separated from other credit related functions and must be kept under the Chief Risk Officer, or similar authority or person (second line of defense).

4.3 Credit Risk Strategies, Policies and Procedures

57. Credit risk strategy shall include an assessment of the credit risk profile of the financial institution and a statement of

the financial institution's appetite to take credit risk for each activity type, product type (such as working capital, consumer loan, fixed-term, etc.), economic sector (such as real estate, construction, retail), geographical location, etc. The credit risk strategy shall be communicated throughout the organization and periodically reviewed at board or management level.

58. Credit strategy shall include the identification of target markets and overall characteristics that the financial institution would want to achieve in its credit portfolio, including levels of diversification and concentration tolerances. The strategy should not consider only target markets but be developed based on the internal strength of the organization. Finally, the credit risk strategy should provide continuity in approach and consider cyclical aspects of the country's economy and the resulting shifts in composition and quality of overall credit portfolio.

59. There shall be policies in place regarding the information and documentation needed to approve new loans, renew existing ones and/or change the terms and conditions of previously approved credits. For each type of loan, credit policies and procedures shall define criteria for granting loans in a safe and sound manner including, but not limited to:

    i. Purpose of credit and source of repayment;

    ii. Collection of relevant information based on the different client risk profiles;

    iii. Use of adequate tools such as scoring or internal rating systems;

    iv. Analysis of borrower's repayment history (including, when possible, that in other financial institutions), as well as current and future capacity to repay, based on historical financial trends and future cash flow projections;

v. For commercial credits, the borrower's business expertise and the condition of the borrower's economic sector and its position within that sector;

vi. Net worth of the borrower and personal guarantors;

vii. The proposed terms, conditions, and covenants of the credit agreement;

viii. Collateral and its sensitivity to economic and market developments; and

ix. Adequacy, enforceability, and liquidity status of collaterals, as well as the practical aspects of their mobilization.

60. Credit policies must address credit risk in all the financial institution's activities, at both individual and portfolio levels. Such policies should be clearly defined, consistent with the credit strategy, comply with regulatory requirements, international standards and banking practices, and be adequate for the nature and complexity of the financial institution's activities.

61. Policies and procedures shall clearly specify for the diverse types of loans, the actions the concerned staff of various functions involved must take to evaluate and approve the credit proposals and monitor credit relationships.

62. Credit policies shall include clear provisions regarding credit approving authority, defining delegations and exceptions or waivers, and their implementation. Delegation of authority must always be clearly spell out, considering knowledge and

experience.

63. Financial institutions shall have a well-defined policy regarding collateral, including types of collaterals accepted, haircuts, and maximum loan to value (LTV) for each type of products in relation to the collateral. Financial institutions may also consider debt-to-income (DTI) ratio to measure the borrower's ability to repay the money borrowed.

4.4 Credit Limits and Indicators

64. To ensure diversification of risks and limit concentration risk, limits on credit exposures shall be set for all relevant activities. They may include:

    i. Limits on exposure to specific activities or type of products, including off-balance sheet products;

    ii. Limits on single counterparties and groups of connected counterparties, including other financial institutions, domestic and foreign;

    iii. Limits on specific industries and/or economic sectors/ sub-sectors;

    iv. Limits on exposure to types of collateral;

    v. Limits on exposures to related parties;

    vi. Limits on branches and/or exposures to geographic regions, including other countries; and

    vii. Limits on the credit that may be granted by approving managers, etc.

65. These limits shall be reviewed and updated periodically at least once a year. In addition, financial institutions should

consider the results of stress testing in the overall limit setting and monitoring process.

66. In addition to setting limits, financial institutions shall use early warning indicators to signal at an early stage where there is increased exposure to specific components of credit risk, and shall respond to these indicators by assessing whether they point to potential problems in credit quality.

4.5 Credit Granting Processes

67. Granting of credit shall follow predetermined processes:

i. Assessment: credit proposal assessments should be performed at relevant level according to the financial institution's organization and structure. Credit assessment shall follow procedures, methodology and operating guidelines describing the necessary nature and extent of due diligence and collection of relevant supporting documents and information based on their risk profiles.

ii. Review: before submitting them to the approving person, unit and/or committee, the financial institution should undertake a review and analysis of loan proposals by a person independent from the initial assessment. While the credit risk management department/unit should generally be given responsibility to organize such review, in smaller organizations an independent review can be done by any appropriate official not involved in credit appraisal and approval process.

iii. Approval: the designated level of approving authority takes the approval decision, including the approval of specific terms and conditions, based on the initial credit assessment, independent review and analysis.

iv. Disbursement: following the notification of the approval decision, disbursement is made by the designated unit/ person, following procedures to ensure that all terms and conditions are verified and guarantees, if any, are taken.

v. Administration: the credit administration function is responsible for maintaining credit files and ensuring they are kept up to date, and for follow-up on necessary actions (renewal notices, updating information, etc.).

4.6 Credit Risk Monitoring

68. Monitoring of credit risk shall be performed by the Credit Risk Management function without any influence of the risk-taking units.

69. Financial institutions shall have in place a methodology to adequately classify their credit risk, at financial institution, portfolio and borrower level. The classification of the credit risk shall use quantitative and qualitative criteria, follow a graduation of the different level of inherent risk and with appropriate actions consistent with the level of risk identified.

70. A valuable tool in monitoring the quality of individual loans, as well as the total portfolio, is the use of internal rating systems (IRR) which help the financial institution to differentiate between the different credit exposures in its portfolio, determine the portfolio's characteristics (concentration, problem loan, etc.) and verify the accuracy of the provisions.

71. Financial institutions shall monitor quality of the credit relationships on an on-going basis and keep updated information on their credit portfolios, and on the risk profiles and situation of the borrowers. This includes timely collection and regular review of financial information, including audited annual financial statements.

72. Business borrowers should also be monitored through on-site visits, while repayment capacities of individual customers must be updated regularly for early identification of any adverse developments that may affect repayment of loans.

4.7 Remedial Actions

73. Financial institutions shall have effective processes and procedures in place for the early implementation of remedial actions on deteriorating credits and management of problem loans, including assessing the appropriate legal actions.

74. Appropriate remedial measures shall be taken without delay, including requiring additional or increased guarantees.

75. Rescheduling may be appropriate. It involves changing the tenure of loans, repayment schedules, and interest rates and is generally to be agreed when the loan is performing but the borrower's needs have changed; where used as a remedial action, it must follow a specific approval process that includes a justification for how it will improve repayment prospects.

76. Restructuring includes all aspects of rescheduling and looking at the relationship with completely new dimension requiring additional documents and fresh credit assessment. Where used as a remedial action, it must follow a specific approval process.

77. Neither rescheduling nor restructuring shall be used by way of forbearance.

4.8 Recovery Process

78. When rescheduling and restructuring are not options or fail

to improve the situation, problem loans should be dealt by a specialized recovery unit. This unit should make proactive efforts in dealing with problematic borrowers.

79. When all efforts fail, financial institutions should write-off loans and liquidate collateral to minimize cost.

80. Such process shall be strictly monitored, require specific level of approval, and specific information to the board and the RMA.

4.9 Provisioning Process

81. Financial institutions shall have and document a sound loss methodology, including credit risk assessment policies, procedures and controls, to identify troubled exposures and determine loss provisioning in a timely manner.

PART 5: THE MANAGEMENT OF LIQUIDITY RISK

5.1 Overview of Liquidity Risk

82 Liquidity risk is the risk that a financial institution loses its ability to fund its assets or to meet its obligations as they come due without incurring unacceptable cost or losses.

83 Liquidity risk encompasses various aspects:

i. Intraday liquidity risk is the risk the financial institution becomes unable to settle its financial obligations in due time during the day;

ii. Funding liquidity risk is the risk that the financial institution is unable to settle obligations when due without seriously affecting either its daily operations or financial condition. Funding liquidity risk derives from a maturity gap between assets and funding, resulting from the maturity transformation embedded in the financial institution business;

iii. Market liquidity risk is the risk that a financial institution cannot easily cover its liquidity needs by liquidating a position through securities lending or selling at the market price because of inadequate market depth, price deterioration or market disruption. Market liquidity risk materializes in asset and derivative markets; and

iv. Funding cost risk is the risk that a financial institution can replace maturing funding only at higher costs to fund its assets.

84 Virtually every financial transaction or commitment has implications for a financial institution's liquidity risk. Unstable deposits or unexpected withdrawal of deposits is a

major cause of liquidity risk. Unplanned expansion of credit may also be a source of such risk. Further, off-balance sheet commitments and other contingent liabilities including undrawn loan commitments may have serious impact on a financial institution's liquidity risk.

85 From a management point of view, under the oversight of the Asset-Liability Committee (ALCO), the funding liquidity risk is split between short-term liquidity risk (up to one year with a strong focus on the period up to one month) which is generally managed by the treasury function/department and/or the treasury committee of the financial institution, and long-term liquidity risk (beyond one year) which is generally managed by the asset liquidity management (ALM) function/department.

86 There are no specific ratios covering the periods under one month, between one month and one year, or intraday liquidity but financial institutions should monitor their liquidity and funding position over the whole spectrum of maturities from the shortest to the longest.

87 For effective liquidity risk management, a financial institution needs an appropriate organizational structure; strategies, policies, and procedures; limits and indicators; and monitoring and reporting mechanisms. In addition, it will need an adequate information system to ensure effective monitoring of its liquidity, including a cushion of unencumbered, high quality liquid assets, to withstand a range of stress events, including those involving the loss or impairment of both secured and unsecured funding sources.

5.2 Organizational Structure

88 The liquidity risk management and control functions shall be part of an organizational framework with clearly defined tasks and responsibilities, including those units or committees which are integrated in the monitoring and decision processes in charge of reviewing the risk profile and approving the risk strategy and appetite.

89 To establish a robust liquidity risk management framework, a financial institution shall put in place organizational structure that is well integrated into organization-wide risk management process and is based on the three lines of defense approach.

90 The Liquidity Risk Management function is involved in daily monitoring of liquidity risk levels, timely reporting of important liquidity risk related information, and plays crucial part in the development of liquidity risk management policies. It should be independent and directly report to the Chief Risk Officer.

91 The Asset-Liability Committee (ALCO), usually a senior management committee that comprises the managers of the liquidity risk taking units and oversights both the short-term and long-term liquidity risks, should periodically report to the board.

5.3 Strategies, Policies and Procedures

92 Considering its risk profile, a financial institution shall establish a liquidity risk management strategy that is customized to its institutional structure, organization, activities, products, and customers. The strategy should

outline the targeted mix of assets and liabilities with clear implications for liquidity risk. Financial institutions relying more on wholesale funding must maintain a relatively higher proportion of unencumbered, highly liquid assets than those that rely primarily on retail funding. If significant, the intraday liquidity risk management requires specific attention.

93 The assessment of its own liquidity risk position and profile by the financial institution is the first step for defining the liquidity risk strategy and risk appetite and to build up a consistent liquidity management and liquidity risk management system. This assessment of the risk profile, risk strategy and risk appetite shall be formalized in qualitative and quantitative terms, taking into account forward-looking aspects with regard to potential risks as well as changes in business strategies.

94 The liquidity risk strategy could in particular include the actual and targeted liquidity position, for example a maximum loan-to-deposit ratio or a maximum liquidity and funding market dependence. The liquidity risk appetite should at least take the form of minimum survival periods under different stress scenarios.

95 As a part of liquidity risk management strategy, a financial institution must have funding strategy that provides effective diversification in the sources and tenure of funding. Beside an ongoing presence in its chosen funding markets, financial institutions should maintain strong relationships with fund providers to promote effective diversification of funding sources. Medium to long-term funding plans should be aligned with the financial institution's strategy and annual budgets. Likewise, it should have strategy for uses of funds by considering the liquidity risk implications.

96 A financial institution needs to study its deposit base in relation to diversification, maturity, and structure. It shall also identify alternative sources of funding that strengthen its capacity to withstand a variety of severe institution-specific and market-wide liquidity shocks. Potential alternative sources of funding may include:

i. New issues of short-term and long-term debt instruments;

ii. Drawing down line of credit with other financial institutions;

iii. Borrowing from the RMA;

iv. Lengthening of maturities of liabilities;

v. Repo of unencumbered, highly liquid assets; and

vi. New capital issuance, sale of subsidiaries.

97 Policies and procedures shall clearly define and describe risk management tools that the financial institution plans to use for assessment, monitoring and control of its liquidity risk. The steps involved in these tools should be documented and communicated throughout the organization. The policies shall also include measurements of liquidity risk. In the future, financial institutions may use metrics such as Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR).

98 Policies shall include clear definition of roles and responsibilities of individuals and teams performing liquidity risk management functions, including structural balance sheet management, pricing, marketing, management reporting, lines of authority and responsibility for liquidity decisions.

5.4 Limits and Early Indicators

99 To control its liquidity risk exposure and vulnerabilities, a financial institution shall set limits on concentration of funding by counterparty, product type, currency, geographic market, etc.

100 Limits shall be used for managing day-to-day liquidity within and across the business lines both under normal and stress conditions. While assessing how limits would perform under stressed conditions, a financial institution should include measures aimed at ensuring that it can continue to operate in a period of market stress, institution-specific stress and/or a combination of two.

101 A financial institution shall also design a set of indicators to aid this process to identify the emergence of increased risk or vulnerabilities in its liquidity risk position or potential funding needs. Such early warning indicators should identify any negative trend and cause an assessment and potential response by management in order to mitigate the financial institution's exposure to the emerging risk.

102 Early warnings can be qualitative or quantitative in nature and may include (but not be limited to):

i. Rapid asset growth funded by unstable large deposits;

ii. Growing concentrations in either assets or liabilities;

iii. Deterioration in quality of credit portfolio;

iv. Significant deterioration in earnings performance or projections;

v. Increasing retail deposit outflows;

vi. A large off-balance sheet exposure;

vii. Deteriorating third party evaluation (negative rating) about the financial institution and negative publicity; and

viii. Unwarranted competitive pricing that potentially stresses the financial institutions.

5.5 Measurement and Monitoring

103 Financial institutions shall employ a range of customized measurement tools, or metrics, as there is no single metric that can comprehensively quantify liquidity risk. To obtain a forward-looking view of liquidity risk exposures, a financial institution should use metrics that assess the structure of the balance sheet, as well as metrics that project cash flows and future liquidity positions, considering off-balance sheet risks.

104 The risk measurement tools shall include vulnerabilities across normal and stressed conditions over various time horizons. Under normal conditions, prospective measures should identify needs that may arise from projected outflows relative to routine sources of funding. Under stress conditions, prospective measures should be able to identify funding gaps at various horizons.

105 Liquidity gap analysis involves a critical role for assumptions in projecting future cash flows. A financial institution should take steps to ensure that its assumptions are reasonable and appropriate, documented and periodically reviewed, tested and approved. The assumptions of duration of demand deposits, revolving type loans, and other off-balance sheet items with uncertain cash flows and the availability of alternative sources of funds during times of liquidity stress

are of particular importance.

106 Financial institutions shall have a reliable management information system designed to provide the board of directors, senior management and other appropriate officials with timely and forward-looking information on the liquidity position of the institution. Further, the financial institutions should have a set of reporting criteria, specifying the scope, manner, and frequency of reporting for various recipients (such as the board, senior management, ALCO) and the parties responsible for preparing the reports.

5.6 Reporting

107 Timely and adequate reporting of risk-related information is especially important for effective liquidity risk management. The top-level management should be able to easily look at the flash reports related to liquidity risk from the financial institution's MIS itself. The management must decide on the different reports (including regulatory reports) that are to be forwarded to the board and/or senior management and the frequency of such reporting. Further, the major issues discussed and decisions made in the ALCO meetings should also be forwarded to the board-level risk management committee.

5.7 Contingency Funding Plan

108 A Contingency Funding Plan is a set of predefined processes, actions and measures to be taken in case liquidity risks materialize. Contingency plans are designed for addressing short-term liquidity shortfalls in emergency situations such as those envisaged in stress scenarios. Therefore, they only have a real value if they are anchored in the liquidity

management and operational framework of the group, are regularly tested and reviewed, and define responsibilities and contain a set of practical actions. They shall be regularly reviewed and updated to reflect changing market conditions and the business and risk profile of the financial institution.

109 Financial institutions shall design and implement a Contingency Funding Plan (CFP) to meet funding needs under stress scenarios. Normally reliable funding can be seriously disrupted when put under stress. Hence, such funding plan is crucial for the financial institution's sustainability. CFPs shall be commensurate with the financial institution's complexity, risk profile, scope of operations and role in the financial systems in which it operates. CFPs should include a clear description of a diversified set of viable, readily available and flexibly deployable potential contingency funding measures for preserving liquidity and making up cash flow shortfalls in various adverse situations.

110 When developing a liquidity contingency plan, financial institutions shall consider two types of liquidity crises: idiosyncratic, related to a liquidity problem in the financial institution itself, and market-wide, related to a liquidity crisis involving the whole financial system.

PART 6: THE MANAGEMENT OF OPERATIONAL RISK

6.1 Overview of Operational Risk

111 Operational Risk is the risk of direct or indirect loss, or damaged reputation resulting from inadequate or failed internal processes, people and systems or external events. Operational risk has always been inherent to financial institutions and exists in all of their activities.

112 Operational risk is a broad field and can be sorted into numerous sub-categories, such as IT risk, outsourcing risk and operational risk in market activities.

113 The major sources for operational risk are:

i. Inadequate procedures and controls;

ii. External and internal frauds;

iii. IT related activities and system failures;

iv. Damage to physical assets;

v. Execution, delivery, and process management; and

vi. Cyber risk.

114 Effectively managing operational risk requires:

i. Identification and assessment of the operational risk inherent in all material products, activities, processes and systems;

ii. A governance structure, effective governance in practice and a decision-making process for operational risk issues;

iii. A definition of operational risk appetite which is consistent with the risk strategy;

iv. A documented and effective organizational framework for operational risk management with an adequate segregation of functions between risk-taking units and operational risk controls units, and clear assignment of tasks and responsibilities;

v. An independent Operational Risk Management function;

vi. Adequate and effective human and technical resources available for the functions involved in operational risk management and control;

vii. An effective reporting system; and

viii. Contingency planning for addressing failures due to operational risks.

6.2 Organizational Structure

115 Financial institutions shall develop a clear operational risk governance structure with well defined, transparent and consistent lines of responsibility. The governance structure should be commensurate with the nature, size, and complexity of the activities undertaken by the financial institution. However, in all cases, the operational risk governance function should be fully integrated into the institution's overall risk management governance structure.

116 A sound operational risk management structure should rely on three lines of defense: the business line management, an independent Operational Risk Management function, and internal audit. However, these three lines of defense

implemented in practice will vary according to the size, business and risk profile of the financial institution.

117 The business line should be responsible for identifying and managing risks inherent in the products, activities, process, and systems for which it is accountable. The Operational Risk Management (ORM) function is mainly responsible for independent review of processes put in place to control operational risk, and for measurement and reporting of the operational risk. In larger financial institutions, the ORM function will also be responsible for design, maintenance, and ongoing development of the operational risk framework. This function shall directly report to the chief risk officer of the financial institution.

6.3 Strategies, Policies and Procedures

118 Based on the financial institution's risk profile, the operational risk strategy shall clearly articulate the nature, types, and levels of risk that the institution is willing to take (risk appetite). While formulating the strategy, the board must understand not only the level and complexity of risks inherent in the financial institution's activities, products, services, and systems, but also the expected outcome of not undertaking certain activities or systems. The operational risk strategy should take into account forward-looking aspects with regard to potential risks as well as changes in business strategies.

119 Operational risk policies and procedures should include all the relevant operational risk areas and establish a minimum set of operating instructions to have an effective risk management. They shall be adequately documented, regularly updated, and available to all relevant staff. These policies and procedures should be aligned with the overall strategy and should support

continuous improvement of risk management. They shall be periodically reviewed by the senior management.

120 Policies shall clearly define operational risk and related losses. Financial institutions that do not adequately describe and classify operational risk and loss exposure may significantly reduce the effectiveness of their framework.

121 These policies and procedures shall describe the risk assessment tools and how they are used. Further, they must provide for a common taxonomy of operational risk terms to ensure consistency of risk assessment, measurement, and reporting.

122 There shall be different policies and procedures for undertaking existing and new activities. There shall be tests and more rigorous assessments before undertaking new activities such as launching a new product or opening a new branch.

123 The operational risk policies shall include clearly assigned authority, responsibility, and reporting relationships to encourage and maintain accountability.

6.4 Assessment and Measurement

124 Financial institutions shall identify and assess the operational risk inherent in all products, activities, processes, and systems. The business line should assess for itself the relevant operational risks in their operations considering both internal and external factors. The second line of defense should challenge the business line's inputs to and outputs from, the financial institution's risk management systems.

125 To ensure an adequate risk management framework based on their specific situation, historical observations and internal assumptions, financial institutions should quantify their operational risks and not only rely on standard calculation.

126 Financial institutions must systematically track and record all relevant operational risk data, such as frequency, severity, operational risk losses, and other information on individual loss events or near misses. Analysis of loss events and near misses provide insight into the causes of large losses and information on whether control failures are isolated or systematic. It is also useful to monitor operational risk events affecting other financial institutions, as far as available and relevant. Such data will be helpful for predicting future events and losses.

127 Business Process Mapping tools should be used for operational risk assessment. Identification of key steps in business processes, activities and organizational functions can reveal individual risks, risk interdependencies, and areas of control or risk management weaknesses.

128 Scenario analysis are also useful tools to assess operational risk, by obtaining expert opinion of business lines and risk managers to identify potential operational risk events and assess their potential outcome.

129 Specific attention should be devoted to low-frequency high-severity operational risk events (e.g. major fraud, bribery, etc.) which could deserve a specific process, in particular with regard to the timely information of the top management.

6.5 Monitoring and Reporting

130 Senior management shall implement a process to regularly monitor operational risk profiles and material exposures to losses. Regular monitoring enables timely detection and correction of deficiencies in procedures, controls, and systems thereby substantially reducing the frequency and severity of risk events.

131 Operational risk management and monitoring require an adequate internal reporting framework for making regular reports to the appropriate levels of the financial institution, to inform the senior management and the board on the implementation of the risk strategy and the extent to which the risk appetite is reflected in actual risks being taken by the financial institution. The reports should be comprehensive, accurate, consistent and actionable across business lines and products.

132 The reporting on operational risk should be adequately structured to meet the needs of the appropriate management levels and of business and control units.

133 Operational risk reports may contain internal financial, operational, and compliance indicators, as well as external market or environmental information about events and conditions that are relevant to decision making.

134 Operational risk reports should include:

i. Monitoring indicators;

ii. Breaches of the financial institution's risk tolerance level, as well as thresholds and limits;

iii. Details of recent significant internal operational risk events and losses; and

iv. Relevant external events and any potential impact on the financial institution and operational risk capital.

6.6 Contingency Planning

135 The partial or complete failure of one or several critical business processes or products represents a material operational, as well as reputational risk, for any institution. Planning is required for the actions which the financial institution may take in response to failures.

136 Contingency Planning refers to the set of predefined processes, actions and measures to be taken in case significant operational risks materialize, to enable the financial institution to face emergency situations. It shall be implemented especially for all high-severity operational risks, which have the potential to disrupt the daily business or threaten the existence of the institution.

137 Business Continuity Management relates to the measures to ensure that critical business processes can be continued in the event of an emergency and the activities necessary to return to business as usual levels. IT continuity management is an integral part of the Business Continuity Management.

138 Business Continuity Plans (BCP) describe plans that allow an organizational unit's time-critical activities and business processes to restore operational status in the event of an emergency. A Business Continuity Plan defines strategies and options for various scenarios relating to a specific area and its processes. The BCP should identify all time-critical activities, business processes or resources and determine their maximum tolerable downtimes.

139 Plan should be tested periodically to ensure that they are likely to be effective in case of need.

6.7 Outsourced Activities

140 The final responsibility for the outsourced services remains with the outsourcing institution. Financial institutions shall have an outsourcing policy that adequately reflects the risks associated. Board and Audit committee shall be adequately informed about outsourced activities.

141 Decision for outsourcing shall be made at the adequate level of management after an outsourcing risk assessment is conducted as well as an adequate due diligence is performed for the outsourcing of material activities. Outsourcing arrangements shall be subject to a formal and comprehensive contract with minimum requirements and adequate provisions for Service Level Agreement (SLA).

142 Implementation should follow a controlled process with defined milestones and timelines and adequate testing of outsourced activities including business contingency. Clear responsibilities for monitoring and managing the outsourcing arrangement shall be in place to ensure service quality and compliance with agreed service level.

6.8 Cyber Risk and Cyber Resilience

143 Cyber Risk is the combination of the probability of cyber incidents occurring and their impact. Cyber Security is the preservation of confidentiality, integrity and availability of information and/or information systems. A Cyber Incident is an event resulting or not from malicious activity that: (i)

jeopardizes the cyber security of an information system or of the information the system processes, stores or transmits; and/or, (ii) violates security policies and/or procedures. The Cyber Resilience is the ability of an organization to continue to carry out its missions and activities by anticipating and adapting to cyber threats and by withstanding, containing and rapidly recovering from cyber incidents.

144 A proper cyber-security framework requires: identification (risk exposure and expected losses), protection (third party security capabilities), detection (assessment of vulnerabilities), response (pre-determined incident response capabilities) and recovery (preparedness and effectiveness of business continuity plans)

145 To strengthen their resilience to cyber-risk, financial institutions shall: (i) incorporate cyber-risk into their governance and risk management framework; (ii) identify their critical information assets; (iii) develop an effective control and response framework for cyber-risk; (iv) promote cyber-security awareness among their staff; and, (v) collaborate with other institutions in strengthening the financial sector cyber-security. The RMA shall propose to the financial institutions a Risk Management Framework specific to cyber-risk.

PART 7: THE MANAGEMENT OF MARKET RISK

7.1 Overview of Market Risk

146 Market risk is defined as the risk of losses resulting from movements in market prices that adversely affect the value of on- and off-balance-sheet positions of financial institutions. They may be exposed to market risk in a variety of ways. Market risk takes various forms:

i. Foreign exchange risk, commodities risk throughout the institution;

ii. Position risks arising from interest rate related financial instruments and equities (both cash and derivatives); and

iii. Concentration risk in the trading book as well as in the banking book.

147 Foreign exchange risk is the risk of losses arising from the movement of foreign currency exchange rates. While foreign exchange risk is often categorized separately from other types of market risk, its management should follow the same structure and mechanisms.

148 Commodities risk is the risk of losses due to positions in commodities and trading in commodities-related financial instruments. It includes basis risk, interest rate risk, forward gap risk etc. It incorporates variations in the "convenience yield" between derivatives positions, such as forwards and swaps, and cash positions in the commodity.

149 Position risk is the risk of loss on debt or equity instruments held in the trading book. A distinction should be made between debt instruments and equity instruments. Debt

instruments are subject to general interest rate risk (related to maturity or duration of an instrument) as well as to specific interest rate risk (risk of losses resulting from changes in the creditworthiness of the single issuer). Equity instruments are subject to a general market risk component (i.e. the risk of losses caused by changes in the whole market) and specific market risk component (i.e. the risk of losses caused by price movements related to a single issuer).

150 Concentration risk relates to concentration and correlation factors in market transactions (not captured throughout the broader analysis of credit concentration risk). Financial institutions should assess if there is a concentration of instruments that may react in the same manner to a specific market event. It should also be pointed out that net positions may potentially conceal large gross underlying positions that can give rise to significant concentration risk.

151 Adequate market risk management practices vary widely across financial institutions depending on the nature, complexity and diversity of their market activities. Financial institutions shall have robust governance arrangements, including a clear organizational structure with well-defined, transparent and consistent lines of responsibility and effective processes to identify, measure, manage, monitor and report the risk they are or might be exposed to.

7.2 Organization Structure

152 The organization of the market risk management varies depending on the nature, size and scope of business activities of the financial institution. It shall be aligned with the risk profile of the institution and the overall risk strategy set by the board, with clear lines of authority. The risk-taking units

shall be aware of the organization's risk profile, products and limits assigned to them. The market risk management function shall be independent with clear reporting lines. For proper management of market risk, financial institutions should set up committees at management level, such as a Risk Management Committee and an Asset-Liability Management Committee (ALCO).

153 The Risk Management Committee (RMC) supervises overall risk management functions of the financial institution. The RMC shall ensure that the financial institution has complete, clear, comprehensive, well-documented policies and procedural guidelines regarding the management of market risk. Policies and procedural guidelines should be approved by the board and after that disseminated downward the hierarchy. It must assess the strength of management information system for adequate risk reporting and ensure robustness of financial models in the management of market risk.

154 The Asset-Liability Management Committee (ALCO) is responsible for the supervision/management of Market Risk. It may monitor maturity mismatch, gap identification, market risk inherent to new products, structure and composition of the financial institution's assets.

155 The first line of risk management functions in the business units (i.e. middle office), where market risk arises, monitors, measures, and analyzes risks inherent to market operations and prepares reports for senior management and ALCO. Depending on the size, complexity and diversity of their activities, financial institutions must select various methods and methodologies, ranging from simple gap analysis to computerized modeling techniques.

7.3 Strategy Policies, and Procedures

156 Based on its risk profile and the level of market risk it is willing and/or able to take, the financial institution should develop a strategy to manage its market risk. The market risk strategy should be aligned with the institution's objectives, risk appetite and risk tolerance. Approved by the board, the market risk management strategy shall be well communicated within the financial institution. The market risk strategy shall be periodically updated (at least once a year and immediately in case of change in market activity), and regularly reviewed to accommodate changes in business/strategic plan and significant developments in the external operational environment.

157 Policies and procedures shall clearly define and describe risk management tools that the financial institution plans to use to effectively identify, measure, manage, monitor and report the market risk to which it is exposed. The various steps involved shall be documented and communicated throughout the organization.

158 Policies shall include clear definitions of roles and responsibilities of individuals and teams performing market risk management functions, including structural balance sheet management, pricing, marketing, management reporting, lines of authority and responsibility for market related decisions.

159 Specific policies and procedures shall be put in place for new products and activities.

7.4 Limits and Indicators

160 An important dimension of the market risk management framework is the quantification of market risk which the financial institution faces, taking into account the institution's current portfolio and a forward-looking perspective based on budget figures as well as on behavioral approaches of on- and off-balance sheet items that can broadly differ with the contractual approach.

161 To control its market risk exposure and vulnerabilities, a financial institution shall set limits. The limit system should be established, taking into account the institution's risk appetite, in order to mitigate market risk, taking due account of risk concentrations.

162 Financial institutions must set limits based on portfolio, type of activity, product and strategy. Risk-taking units must have procedures for activities, which aid risk-takers to understand their limits and to ensure they operate within the approved limits. Limit breaches shall be immediately escalated to senior management as and when they occur.

163 Different sets of limits shall be in place to cover intraday and overnight exposures. While assessing how limits will perform under stressed conditions, a financial institution should include measures aimed at ensuring that it can continue to operate in a period of market stress, institution-specific stress and/or a combination of two.

164 Common approaches to measuring and limiting market risk are:

i. Formulate detailed structure of market risk limits that are consistent with the institution's risk appetite, risk profile and capital strength;

ii. Set limit on open positions in each type of product, limit may be based on nominal size or /and percentage of position;

iii. Set limit on concentration and identify areas of diversification of investment; and

iv. Use appropriate quantitative techniques, such as Value-at-Risk, to identify and measure market risk.

165 In addition, financial institutions should design a set of indicators to identify the emergence of increased risk or vulnerabilities in their market exposures.

7.5 Measurement and Monitoring

166 Measuring market risk is crucial for estimating potential losses to the financial institutions in event of any loss. It also helps them to ensure that potential losses resulting from market risk fall within their risk appetite and will not substantially erode capital and earnings.

167 Financial institutions shall ensure they have in place appropriate management information system (MIS) for accurate and timely identification, aggregation, monitoring, controlling, and reporting of market risk and aid it developing market risk reports to board and senior management.

168 Financial institutions shall monitor their market risk by using different techniques and models. They shall ensure that at any time their exposures fall within their market risk tolerance. To strengthen the monitoring, financial institutions may conduct stress testing to assess the vulnerability of their strategies and positions. The selection of stress test scenarios must suit the

size, complexity and diversity of activities. While considering stress test, emphasis should be placed on concentration of instruments and markets, when positions are difficult to liquidate under stressful situations.

169 Internal audit plays a vital role in the monitoring and control of market risk by reviewing and validating the market risk measurement process regularly; it also contributes to ensuring the accuracy of data entered in risk models, validity of risk models and risk measurement calculations, reasonableness of scenarios and assumptions.

7.6 Control of Market Risk

170 To reduce their market risk exposure, financial institutions should ensure adequate training and segregation of duties among front, middle and back office.

171 The financial institution's management information system should generate periodic reports that depict the actual size, return, risk, potential profit or loss, etc. of the exposure and such report should be forwarded to board and senior management for review.

172 Financial institutions shall have adequate internal controls to ensure proper risk management process. These internal controls shall be an integral part of the institution's overall risk management system. They shall promote effective and efficient operations, reliable financial and regulatory reporting, and compliance with regulatory requirements.

173 Appropriate contingency plans should be put in place.

PART 8: THE MANAGEMENT OF INTEREST RATE RISK

8.1 Overview of Interest Rate Risk

174 Interest rate risk is the exposure of a financial institution's condition to the adverse movement in interest rate. Changes in interest rates affect an institution's earnings and also affect the underlying value of the institution's assets, liabilities and off-balance-sheet instruments. Interest rate risk encompasses:

i. Risks related to mismatches in the timing of repricing of assets and liabilities and off-balance sheet positions (repricing risk); exposures will vary according to the nature of the change in interest rates: there are particular risks arise from changes in the slope and the shape of the yield curve (yield curve risk);

ii. Risks arising from hedging exposure to one interest rate with exposure to a rate which reprices under slightly different conditions (basis risk); and

iii. Risks arising from options, including embedded options.

175 When assessing interest rate risk, two different, but complementary, perspectives have to be considered. The earnings perspective focuses on the sensitivity of earnings in the short-term to interest rate movements. The economic value perspective focuses on the sensitivity of the economic values of on- and off-balance sheet positions. It provides a more comprehensive view of the potential long-term effects of changes in interest rates than is offered by the earnings perspective.

176 Financial institutions shall have in place robust governance arrangements, including a clear organizational structure with

well-defined, transparent and consistent lines of responsibility, effective processes to identify, manage, monitor and report the risk they are or might be exposed to. They shall have adequate internal control mechanisms and systems for the identification, evaluation and management of the risk arising from potential changes in interest rates that affect their non-trading activities.

8.2 Organization Structure

177 The organization of the interest rate risk management depends on the nature, size and scope of activities of the financial institution, the complexity and nature of its business, as well as on the level of interest rate risk exposure.

178 Risk management function shall be engaged in monitoring interest rate risk levels, setting out interest rate risk indicators, timely and accurate reporting of important interest risk related information, and in the development of interest risk management policies. The head of this function shall directly report to the Chief Risk Officer.

179 Financial institutions shall clearly define the individuals and/ or committees responsible for managing interest rate risk and shall ensure that there is adequate separation of duties in key elements of the risk management process to avoid potential conflicts of interest.

180 Depending on the size, risk exposure, and diversity of activities, financial institutions may establish an Asset Liability Committee (ALCO) to oversee the management of interest rate risks as well as the institution's funding, balance sheet management etc.

181 An appropriate Management Information System (MIS) shall be implemented to identify, measure, monitor, control and report interest rate risk related reports to senior management and the board.

8.3 Strategies, Policies and Procedures

182 Based on their risk profile, financial institutions shall establish an appropriate interest rate risk strategy, taking into account composition, tenure and diversification of loans, deposit and investment. As interest rate risk strategy adopted by financial institutions has a significant impact on profitability and capital, the strategy should therefore reflect a proper alignment between interest rate risk profile and business plans, and should have proper risk management system in place.

183 Financial institutions shall have appropriate strategies, policies and procedures in place to perform effective risk management that maintains interest rate risk within prudent levels, as is essential for the safety and soundness of the institution.

184 Interest rate risk policies and procedures shall be clearly defined and consistent with the nature and complexity of their activities. They should delineate a clear set of institutional procedures for acquiring specific instruments, managing portfolios, and controlling the total interest rate risk exposure. All interest rate risk policies shall include specific procedures and approvals necessary for exceptions to policies. They shall be reviewed periodically and revised as needed.

8.4 Limits

185 Interest rate risk policies should identify quantitative

parameters that define the acceptable level of interest rate risk for the financial institution. Financial institutions shall establish and enforce operating limits and other practices that maintain exposures within levels consistent with the internal policies.

186 Based on the size, complexity and diversity of activities, limits should be further specified for certain types of instruments, portfolios, and activities. Specific procedures and approvals are necessary for exceptions to limits, and related authorizations.

8.5 Measurement and Monitoring

187 Financial institutions shall set up appropriate interest rate risk measurement systems that capture all material sources of interest rate risk and that assess the effect of interest rate changes consistent with the scope of their activities. In measuring interest rate risk, financial institution scan consider:

i. Re-pricing risk;

ii. Yield curve risk;

iii. Basis risk;

iv. Optionality risks; and

v. Fee-based and any other income sensitive to changes in interest rates.

188 The assumptions underlying the system shall be reasonable and clearly understood by those engaged in the management of interest rate risk. Financial institutions must have an integrated view of interest rate risk across activity, products and business lines.

189 Risk measurement systems shall evaluate concentrations of positions taken and ensure interest-sensitive positions are commensurate with the complexity and risk inherent in those positions. Financial institutions may use quantitative techniques to capture interest rate risk but techniques used for measuring and reporting interest rate risks should be independently validated and regularly reviewed.

190 Financial institutions shall:

i. assess all material interest rate risk they are exposed to;

ii. adopt internationally accepted financial concepts and risk measurement techniques;

iii. have well documented and validated assumptions and parameters; and

iv. review at least annually, key assumptions recognized by senior management and risk managers.

191 To ensure proper monitoring, financial institutions shall have in place adequate information systems for measuring, monitoring, controlling, and reporting interest rate exposures on a timely basis to board, senior management and concerned parties.

192 Stress tests shall be undertaken to assess vulnerability to interest rate changes. Financial institutions should develop their own scenarios as appropriate, taking into consideration their risk profile. Scenarios shall be used to assess vulnerability to losses under stressful market conditions. Results from stress testing shall be considered when reviewing the policies and limits for interest rate risk.

8.6 Internal Control

193 Adequate system of internal controls requires regular independent reviews and evaluations of the effectiveness of the interest rate risk management process with appropriate revisions or enhancements to internal controls. These internal controls shall be an integral part of the institution's overall system of internal control and be consistent with regulatory requirement and policies of the financial institution.

PART 9: THE MANAGEMENT OF INSURANCE RISK

9.1 Overview of Insurance Risk

194 Insurance risk relates to the likelihood that an insured event will occur, requiring the insurance company to pay a claim, beyond either its original expectation during the pricing of the insurance product, or its risk appetite, such as in the case of natural catastrophes.

195 Some insured events have a much lower insurance risk than others. For example, the expected claim experience from a large portfolio of household contents insurance is more predictable, and thus less risky, than the expected claim payment on single insured risks such as commercial buildings. Similarly, claims with more measurable losses are less risky. For example, the damage to a motor vehicle under an auto insurance is more measurable (and thus less risky) than the medical cost or other liability amount incurred during the same auto accident.

196 Claims that are likely to be paid over a long period of time (such as those resulting from professional indemnity insurance) is riskier than, for example, personal accident insurance. The relative risks are reflected in varying levels of capital which the financial institution needs to hold. The higher the risk, the greater amount of capital required to support those risks.

197 Insurance risks may arise from any of the core activities of an insurance operation: pricing, underwriting, claims handling, and reinsurance.

9.2 Organization Structure

198 Financial institutions should adopt a risk management structure that is commensurate with their size and the nature of their activities. The organizational structure should facilitate effective management oversight and execution of risk management and control processes.

199 The Board of Directors is ultimately responsible for the sound and prudent management of a financial institution. The Board shall approve the risk management strategy and risk policies pertaining to core activities that give rise to insurance risk. It should ensure that adequate resources, expertise and support are provided for the effective implementation of the entity's insurance risk management strategy, policies and procedures. It shall also be the approving authority for changes to such policies and ensure that any exceptions should be escalated and approved by it, where necessary. The reasons for these changes and exceptions should be documented.

200 The senior management, or a committee comprising members of senior management from both the business operations and control functions, shall establish the insurance risk management framework. The framework should cover areas such as approval of business and risk strategy, review of the risk profile, implementation of risk policies approved by the Board, delegation of authority and evaluation of the business processes. There shall be adequate measures to address potential conflicts of interest.

201 Financial institutions shall establish an insurance risk management function, independent from the operational processes, if warranted by the size and complexity of its operations. This function would be primarily responsible for

the development of and ensuring compliance with the entity's insurance risk management policies and procedures. To be effective, this function should have the requisite authority, sufficient resources and be able to raise issues directly to the Board or relevant Board Committees.

9.3 Strategies, Policies and Procedures

202 Financial institutions shall have a sound strategy to manage risks arising from its insurance activities. Based on its risk profile, a financial institution shall establish an appropriate insurance risk management strategy, considering the board-established risk appetite including internal and regulatory solvency requirements. It shall determine its risk tolerance, considering its business objectives and available resources. The entity shall periodically review its insurance risk management strategy taking into account its own financial performance, changes to its operations or business objectives, and market developments. The strategy shall be properly documented and effectively communicated to all relevant staff.

203 Risk policies shall set out the conditions and guidelines for the identification, acceptance, monitoring and management of insurance risks. These policies should be helping to explain the relationship of the risk management system to the entity's overall governance framework and to its corporate culture. The policies shall, at a minimum, cover the following:

i. the identification, measurement and communication of key risks to the Board;

ii. the process by which the Board decides on the maximum amount of risk that insurer is able to take, and the frequency of review of risk limits;

iii. the roles and responsibilities of the respective units and staff involved in acceptance, monitoring and management of insurance risks;

iv. the principles and criteria relating to pricing, underwriting, claims handling and reinsurance management, as well as the approval structure relating to these activities including authority to approve deviations and exceptions; and

v. the management of concentration risk and exposures to catastrophic events, including limits, reinsurance, portfolio monitoring and stress testing.

204 Financial institutions shall establish appropriate procedures and processes to implement its insurance risk policies in the form of controls, checks and monitoring mechanisms. These shall be documented and set out in sufficient details to provide operational guidance to staff. These procedures shall be periodically reviewed and updated to take into account new activities, changes in systems and structural changes in the market.

205 Financial institutions shall have in place proper and effective reporting systems to satisfy the requirements of the Board with respect to reporting frequency, level of detail, usefulness of information and recommendations to address issues of concern. The head of risk management function shall have the authority and obligation to inform the Board promptly of any circumstance that may have a material effect on the risk management system of the entity.

9.4 Pricing

206 The pricing of an insurance product involves the estimation of claims, operational and financing costs and the income

arising from investing the premium received. The pricing process typically comprises collecting data on the underlying risks to be covered, determining the pricing assumptions and the base rate, setting the final premium rate, and monitoring the review of the appropriateness of pricing.

Risk Identification and Measurement

207 Financial institutions shall identify the probable scenarios which may lead to its revenue from premiums and investment income being insufficient to meet the payment of anticipated benefits and expenses.

208 The financial institution shall pay particular attention to any inconsistency between related assumptions (such as investment return and inflation), and inconsistent pricing of different products that share relatively similar features.

Risk Control and Mitigation

209 Financial institutions shall collect adequate data to validate the reasonableness of the underlying assumptions used for pricing. The base rate shall represent the amount required to meet the value of anticipated benefits, expenses, and margins for risks and profit. Data should primarily relate to the insurer's own historical experience and that of the industry where relevant. These may be supplemented by other internal and external data, and could include trends observed in claims costs and expenses.

210 Pricing shall be done by modelling all identified risks, using appropriate methodologies depending on the complexity of the risks and available data. There should be adequate buffers in the premiums to cushion against the risk that actual

experience may turn out to be worse than expected.

211 There shall be clear documentation that the base rate has been approved at the requisite level of authority. The premium rate that the entity eventually charges may be different from the approved base rate after taking into account market and competitive considerations, in which case, appropriate authorization shall be obtained and documented.

Risk Monitoring and Review

212 Financial institutions shall analyze the profit and loss of their business. There shall be procedures to monitoring emerging trends and risk indicators to trigger a pricing review. For example, a trigger may be based on an experience analysis which shows that the key risk driver for a product has deviated significantly from its pricing assumptions.

213 Financial institutions shall involve actuaries in the evaluation and provision of advice on product pricing and development matters.

9.5 Underwriting

214 Underwriting is the process by which the financial institution makes an assessment of the risks to be accepted and determines the terms on which the risks would be acceptable. For example, medical and financial condition in the case of a prospective life insurance applicant, or accident history in the case of a prospective motor insurance applicant.

215 The underwriting process generally involves obtaining and managing essential underwriting information on the risks, assessing and accepting risks according to underwriting

guidelines and authority levels, and monitoring and reviewing the risks accepted. The entity shall involve actuaries in the evaluation and provision of advice on underwriting matters.

Risk Identification and Measurement

216 Financial institutions shall consider the implications associated with selecting, accepting and retaining risks which may deviate from what was envisaged during the pricing stage. Such risks may include: accepting risks without imposing adequate loading or conditions; accepting risks which should have been declined given the risk tolerance; accepting non-homogeneous risks under the same risk category; inadequate reinsurance protection or inconsistencies between the terms offered under the direct policies and that under the reinsurance outward contracts.

Risk Control and Mitigation

217 Financial institutions shall regularly review the proposal or application form to ensure that the questions (which is the main source of underwriting information) remain clear and pertinent.

218 Financial institutions shall have an efficient insurance information system in place that links all key information on underwriting, claims and reinsurance. It shall ensure that the information captured, including the rationale for the underwriting decision, is up-to-date and accurate to facilitate monitoring of the progress of the underwriting process and validating the quality of the underwriting decision.

219 There shall be clearly documented underwriting guidelines for each of the key types of benefits or products it underwrites

so as to provide sufficient guidance to the underwriters. Any significant deviation of the underwriting decision from the guidelines shall be duly approved and the rationale for approval properly documented. No risks shall be accepted before the necessary reinsurance protection is finalized and effected.

Risk Monitoring and Review

220 Financial institutions shall conduct regular reviews to ensure that the underwriters continue to be competent in the area of their delegated authority and the quality of the underwriting decisions made remains satisfactory.

221 There shall be a systemic method to monitor its accumulation of risks across product types and geographical areas so that the overall risks underwritten are within its reinsurance protection limits and risk appetite.

222 Financial institutions shall conduct audits or checks of underwriting files regularly and monitor risk indicators, such as claims experience or number of complaints relating to underwriting decisions made or the timeliness of the decisions.

9.6 Claims Handling

223 Claims handling is the process by which a financial institution processes and pays claims in accordance to the terms and conditions specified in the insurance contracts. The process generally comprises registering new claims, setting and revising reserves, obtaining essential information to assess, manage and settle the claim, making reinsurance and other recoveries, and reviewing and closing claim files.

Risk Identification and Measurement

224 Financial institutions shall put in place measures to identify the risks associated with poor claims handling and case reserving, which may include:

i. making claim settlement decisions which are not in accordance with the policy terms and conditions, thereby either incurring liability that is not considered in the pricing or failing to fulfill its contractual obligations to policyholders;

ii. inefficient handling of claims leading to slow responses or higher cost overheads, thereby impeding its market competitiveness; and

iii. setting inadequate reserves or delay in revising case reserves for reported claims resulting in under provision of claims liabilities and time lag in adjusting premiums for new policies.

Risk Control and Mitigation

225 Financial institutions shall have a clear process in place for the notification of claims, which ensure that all claims are reported at the earliest opportunity and that relevant information is captured in its information system in a timely manner.

226 Financial institutions shall review the claims form regularly to ensure that questions remain clear, unambiguous and pertinent to enable the claims staff to form an accurate assessment of the validity of the claim.

227 Financial institutions shall have clearly documented claims handling guidelines for each of the key types of claims to

provide sufficient guidance to the claims staff, covering the documents required for verifying the claim, references to warranties or restrictions imposed at acceptance, method for calculating the settlement amount, settlement options, and policies on large or ex-gratia claims. There shall also be clear guidelines on when claims should be referred to the reinsurer or other parties such as lawyers for claims support or decision. The claims handling guidelines shall be regularly reviewed.

228 Financial institutions shall set case reserves accurately for each claim in a timely manner. The components of case reserves shall be captured in sufficient details to provide useful statistics for in-depth analysis.

Risk Monitoring and Review

229 Financial institutions shall conduct regular reviews to ensure that the claims assessors continue to be competent in their area of delegated authority and quality of the claims decisions remains satisfactory. It shall monitor whether the authority for granting ex-gratia payment is exercised sparingly and appropriately and review the appropriateness of the limits regularly.

230 Financial institutions shall conduct reviews of claim files regularly. There shall be a systematic way to identify files for review and clear guidelines for follow-up actions and closure of files.

231 Financial institutions shall have in place regular claims reporting to senior management to raise awareness of key claim exposures and losses, especially where a single claim, loss event or series of losses could in aggregate have an impact on its balance sheet.

9.7 Reinsurance Management

232 Reinsurance is an arrangement where a portion of the risks assumed by a direct insurance entity is ceded to other insurance entities. The mechanisms to transfer risks include traditional reinsurance and other alternative risk transfer approaches, such as catastrophe bonds and securitization.

Risk Identification and Measurement

233 Financial institutions shall analyze their risk profile to decide what and how much risks are to be retained, taking into consideration their risk appetite and the availability and cost of reinsurance. They should also be mindful of possible gaps in the reinsurance program, resulting in more risks being retained than intended.

234 Another potential material risk is the risk that the reinsurance contract wording does not accurately reflect the intent for the reinsurance cover, or the contract is not legally enforceable.

235 Financial institutions may also face credit risk arising from potential defaults by its reinsurers. In addition, they are exposed to liquidity risk in the event of large losses whereby they may have to pay the claims prior to receiving all the reinsurance recoverable.

Risk Control and Mitigation

236 In designing the reinsurance program, financial institutions shall take into account relevant factors including business plans and strategies; underwriting philosophy and capabilities; size and profile of each line of business; frequency and size of loss by line of business; geographical distribution of the

business; and financial strength.

237 Financial institutions shall ensure that their reinsurance contracts cover all applicable lines of business and the limits of cover are adequate. They shall assess the impact of likely adverse events through stress testing and realistic disaster scenario analysis to ensure that their catastrophe reinsurance cover can be relied upon to reduce the impact of most conceivable calamities to a magnitude that will not threaten their viability.

238 Financial institutions shall put in place appropriate systems and processes to facilitate achieving contract certainty.

239 The reinsurance management policy and procedures shall spell out clear criteria for the selection of reinsurers and outline the information that is required to assess the financial soundness of a reinsurer.

Risk Monitoring and Review

240 Financial institutions shall monitor that only approved reinsurers are used and track aggregate exposures to individual reinsurers or groups of related reinsurers against established exposure limits. They shall monitor the outstanding balances from their reinsurance counterparties and the credit standing of the reinsurers on their panel on an ongoing basis.

241 Financial institutions shall review whether their reinsurance program has, over a period of time, supported their business objectives and strategies, and helped to mitigate their losses to within their risk tolerance level.

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