



CENTRAL BANK OF
TRINIDAD & TOBAGO

Guideline for the Management of Market Risk

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1. INTRODUCTION

- 1.1 Market risk is defined as the risk of financial loss resulting from adverse movements in the market prices of on and off-balance sheet positions. Market risk comprises interest rate risk, foreign exchange rate risk, equities risk and commodities risk.
- 1.2 Market risk emanates from both trading and non-trading activities of a financial institution and is inherent in typical activities such as investing, foreign exchange transactions and commodities trading. However, market risk may also arise from other financial risk, such as, credit and market liquidity risks¹ and is often triggered by events including recessions, political turmoil, natural disasters and pandemics. For example, a downgrading of the credit standing of an issuer could lead to a drop in the market value of securities issued by that issuer. Likewise, a major sale of a relatively illiquid security by another holder of the same security could depress the price of the security.
- 1.3 Failure to manage market risk robustly can have adverse consequences for a financial institution's earnings and the economic value of its assets, liabilities and off-balance sheet items. It is therefore essential that a financial institution's risk management infrastructure incorporates market risk as a key risk.
- 1.4 The Basel Core Principles encourage banks to have market risk management processes that *"take into account their risk appetite, risk profile, and market and macroeconomic conditions and the risk of a significant deterioration in market liquidity. This includes prudent policies and processes to identify, measure, evaluate, monitor, report and control or mitigate market risks on a timely basis"*. Similarly, the Insurance Core Principles promote market risk management processes by encouraging insurers to implement enterprise-wide risk management frameworks that address all reasonably foreseeable and relevant material² risks including market risk.³
- 1.5 In keeping with their risk management obligations, financial institutions are expected to have systems in place to effectively mitigate and control their market risk exposure. In particular, financial institutions should have systems to minimize potential losses stemming from market risk and ensure that they operate within their risk appetite. Institutions are also expected to consider the correlation between market risk and other risks including (but not limited to) credit risk, liquidity risk, operational risk, legal risk and reputational risk. There should be some co-

¹ See definition in section 2 of this Guideline.

² The assessment of the materiality of an event or issue should be guided by the risk appetite and tolerance of the institution taking into account both quantitative and qualitative issues which may have a significant impact on the institution. Examples include (but are not limited to) issues which may significantly impact the institution's operations, profitability, reputation or compliance with legislation and guidelines.

³ The "Core Principles for Effective Banking Supervision" (Basel Core Principles) are a framework of minimum standards espoused by the Basel Committee on Banking Supervision (BCBS) for sound supervisory practices with the aim of enhancing financial stability. The International Association of Insurance Supervisors (IAIS) also establishes Insurance Core principles that similarly promote minimum supervisory and regulatory principles for insurance companies.

ordination of the market risk management strategy with strategies for the management of these other risks.

2. DEFINITIONS

Central Bank or Bank	means the Central Bank of Trinidad & Tobago
commodities risk	means the uncertainties of future market values and of future income, caused by the fluctuation in the prices of commodities
equity risk	means the risk of losses arising from changes in the value of an equity investment
financial institution/ institution	means an institution referred to in section 4 of this Guideline
foreign exchange risk	means the risk that a financial institution's financial performance or position will be affected by fluctuations in the exchange rates between currencies
Guideline	means the <i>Guideline for the Management of Market Risk</i>
interest rate risk	means the risk that movements in market interest rates cause an adverse effect on the financial condition of a financial institution
market liquidity risk	means the risk that a firm cannot easily offset or eliminate a position at the market price because of inadequate market depth or market disruption
market risk capital	means capital set aside in respect of the market risk exposure of an institution
risk appetite	means the level and type of risk an institution is able and willing to assume in its exposures and business activities given its business objectives and obligations to stakeholders
risk tolerance	means the degree of variance from the institution's risk appetite that the institution is willing to tolerate

3. PURPOSE OF THE GUIDELINE

3.1 The objectives of this Guideline are:-

- 3.1.1 to outline the key principles and establish minimum standards and requirements for the management of market risk by financial institutions; and
- 3.1.2 to provide guidance to enhance the effectiveness of the governance, systems and processes adopted by financial institutions to manage market risk.
- 3.2 The Central Bank expects an institution's market risk management framework to reflect the elements of this Guideline and be commensurate with the size, nature and complexity of its operations and market risk exposures.

4. APPLICATION AND SCOPE

- 4.1 This Guideline applies to all:
 - 4.1.1 licensees and financial holding companies (FHCs) under the Financial Institutions Act, 2008 ("FIA"); and
 - 4.1.2 insurers and FHCs under the Insurance Act, 2018 ("IA").
- 4.2 In addition, the following financial institutions deemed as systemically important financial institutions⁴ pursuant to section 123 of the FIA should be guided by the principles in this Guideline as relevant:
 - 4.2.1 The Agricultural Development Bank.
 - 4.2.2 The Home Mortgage Bank;
 - 4.2.3 The National Insurance Board;
 - 4.2.4 The Trinidad and Tobago Mortgage Finance Company Limited; and
 - 4.2.5 The Trinidad and Tobago Unit Trust Corporation.

5. IMPLEMENTATION OF A SOUND MARKET RISK MANAGEMENT FRAMEWORK

- 5.1 A financial institution should establish a comprehensive, reliable and forward-looking market risk management framework that is consistent with relevant legislative requirements and which at a minimum incorporates:-

⁴ Five financial institutions, other than licensed banks or nonbanks or registered insurers, were deemed as systemically important financial institutions by Cabinet Note in 2013.

- 5.1.1 effective oversight and management by the board of directors (Board) and senior management, respectively;
 - 5.1.2 comprehensive policies, procedures, systems and controls for identifying, measuring, monitoring and controlling market risk, including but not limited to stress testing or scenario/sensitivity analysis;
 - 5.1.3 robust reporting systems and processes that provides sufficient information to the Board and senior management on market risk;
 - 5.1.4 sound internal controls and independent review procedures; and
 - 5.1.5 effective mechanisms for market risk capital allocation.
- 5.2 A financial institution should incorporate its market risk management framework into its overall risk management system. This would enable the institution to understand and manage its consolidated risk exposure more effectively. In addition, where the institution is part of a financial group, the market risk management processes should, as far as possible, be integrated across the group.
- 5.3 The market risk management framework should align with the financial institution's risk appetite and risk tolerance and should be commensurate with the nature, scale, risk and complexity of its trading and other financial activities and market risk exposures.
- 5.4 In particular, the framework should reflect an understanding of the potential market risk implications of the institution's business activities, products and strategies and should consider the potential interaction with other risks such as credit, liquidity or reputational risks.
- 5.5 The market risk management framework (along with any changes) must be documented and approved by the institution's Board.

Governance Framework

- 5.6 Effective Board and senior management oversight is critical to sound risk management and should therefore be an integral part of the institution's market risk management infrastructure.
- 5.6.1 In particular, the Board⁵ of a financial institution has ultimate responsibility for the governance of market risk at the institution and should therefore ensure that an overarching enterprise-wide risk management framework is in place that addresses market risk adequately and is proportionate to the size, complexity and risks of the institution. **The Board should, at a minimum:-**
- a) *establish an enterprise-wide market risk appetite and tolerance that is forward looking and takes into account, inter alia, the institution's short and long term*

⁵ Any of the functions of the Board may also be delegated to a committee of the Board.

strategic goals, business model, available resources and internal and regulatory capital targets and other regulatory requirements;

- b) understand the nature and level of the institution's market risk exposure and the extent to which these exposures affect enterprise-wide operations and strategic plans. The Board should understand how market risk is managed and appreciate how this risk may affect the financial institution's soundness. The Board should also have an understanding of the methodologies used by senior management to evaluate the institution's market risk profile;*
- c) define senior management's authority and responsibilities and oversee senior management's compliance with Board approved policies and limits. The Board should also ensure that senior management implements market risk strategies, policies and processes that are 1) aligned with the institution's risk appetite and tolerance and 2) fully integrated into the institution's overall risk management process;*
- d) review information/reports on the institution's market risk on a regular basis⁶ including data on its sensitivity to market risk and market risk capital against exposure. The information should be timely and of sufficient detail to allow the Board to effectively evaluate the institution's market risk profile and any market risk issues that may have adverse consequences for the institution;*
- e) review and approve the institution's market risk management framework, including the risk appetite, risk tolerance, strategies, policies and procedures at least annually or more frequently where, for example, there are changes in financial performance, changes to business strategy or activities, or changes in market conditions that may impact the institution's market risk profile; and*
- f) notify the Central Bank immediately upon becoming aware of any material developments that may adversely impact the institution's market risk profile.*

5.6.2 The **senior management of a financial institution** should ensure that the Board-approved market risk management framework is effectively implemented throughout the institution. At a minimum, senior management should:-

- a) develop policies, procedures and strategies for managing and controlling market risk (including limits and controls) that are documented and accord with the Board's market risk goals, objectives, risk appetite and tolerance ensuring that these are appropriately communicated throughout the institution;*

⁶ The frequency should be determined by the nature, scale and complexity of an institution's market risk exposure and could be monthly, quarterly, or other frequency as stipulated in the market risk management policy.

- b) adhere to the lines of authority and market risk policies and limits established and approved by the Board;*
- c) establish a market risk measurement system and document standards, procedures and methodologies for measuring market risk, valuing positions and assessing performance, including, for example, procedures for updating stress scenarios and key underlying assumptions driving the institution's market risk analysis;*
- d) monitor compliance of relevant business units with the prescribed market risk lines of authority and responsibilities and ensure that staff responsible for analysis and market risk management is knowledgeable, capable and experienced given the characteristics and sophistication of the market risk exposures undertaken by the financial institution;*
- e) implement and maintain systems that allow for monitoring market risk institution-wide and facilitate accurate and timely reporting to the Board, the Central Bank and other relevant stakeholders;*
- f) establish effective market risk internal controls;*
- g) implement a comprehensive market risk reporting system that provides key aggregate information on the institution's market risk in sufficient detail that would allow for sound evaluation and decision making by the Board and Senior management;*
- h) review the institution's market risk policies, procedures and strategies, at least annually. The reviews should, inter alia, ensure consistency with the Board's market risk goals, objectives, risk appetite and tolerances, ensure continued relevance and help to identify where updates may be needed based on, for example, deficiencies in the market risk management framework, changes to the business model or risk profile, changes in regulations or accounting standards, changes in technology etc. Reviews should be conducted more frequently where there are proposed changes in business strategy and operations or where there are changes in market conditions that could impact the institution's market risk profile. Senior management should, where appropriate, make recommendations for changes that should be presented to the Board for approval;*
- i) ensure that market risk analysis (including analyses of the respective markets in which the institution has or intends to have market risk exposures) and risk management activities are conducted by competent staff with technical knowledge and experience, consistent with the nature and scope of the institution's activities.*
- j) in conjunction with the Board, evaluate the effectiveness of the market risk management framework; and*

- k) *establish a system of independent review in accordance with subsection 5.13 of this Guideline on Internal and External Audit.*

Policies and Procedures

5.7 A financial institution's market risk management framework must include prudent policies and procedures that are documented, clear, comprehensive and govern all material aspects of its market risk management process. The Board must approve the market risk management policy in addition to the overall market risk framework. Operational procedures may be approved by senior management.

5.7.1 Policies and procedures should be proportionate to the nature, size and complexity of the institution and should provide definitive market risk management guidance across the institution and should:

- a) *detail the process by which the Board determines the institution's market risk appetite and tolerance;*
- b) *be aligned to the risk appetite and tolerance of the institution, providing robust parameters for risk taking by staff;*
- c) *be effectively communicated to all relevant staff and embedded within the culture of the financial institution;*
- d) *apply on a consolidated basis, where appropriate;*
- e) *be reviewed, at least annually, to ensure they continue to be relevant and allow for the institution's market risk management objectives to be achieved;*
- f) *delineate the lines of authority and the responsibilities of the Board, senior management and other personnel responsible for managing market risk. They should include approval thresholds for different levels of staff and clearly outline how exceptions from these approved limits should be addressed;*
- g) *set out general methods for market risk identification that, among other things, clearly identifies and assesses the scope of activities that expose the institution to market risk and evaluates the degree of market risk inherent in those activities;*
- h) *establish how market risk is to be measured and communicated throughout the institution, including communication to the Board. These should cover, inter alia:-*
 - i. *methodologies and benchmarks for the measurement and management of market risk to ensure they are being used consistently and appropriately, fully understood by all relevant internal stakeholders and contribute to safe business continuity practices;*

- ii. the valuation process ⁷ including policies and processes for making appropriate valuation adjustments for uncertainties in determining the fair value of assets and liabilities, such as positions that otherwise cannot be prudently valued, including concentrated and less liquid positions and clearly defined responsibilities of the various areas involved in the process;
 - iii. assumptions and parameters underlying the measurement system (and stress tests) which should be proportionate to the nature scale and complexity of the institution.
- i) *outline appropriate strategies and internal controls including risk limits and segregation of duties that are consistent with the institution's risk appetite, risk profile and capital strength. Policies should address strategies and limits for areas including trading desks (currencies, sources of funds), investment portfolios (high risk investments, portfolio mix, geographic regions, sectors, types of instruments), products (types of loans, types of accounts), instruments (issuance of shares, bonds, etc.);*
 - j) *describe the manner and frequency of market risk monitoring and reporting to be undertaken including exception tracking and exception reporting;*
 - k) *set out the process and frequency of independent reviews (for example by the internal audit function) of the institution's market risk management framework;*
 - l) *ensure that significant new strategies, products, and business units are integrated into the market risk management process. In particular, with respect to new products, at a minimum, the procedures should outline the:-*
 - i. steps to be taken to assess the levels of market risk and sources of market risk associated with the product;
 - ii. measures that could be undertaken to mitigate the risk; and
 - iii. market risk limits for the new product.
 - m) *comprehensively consider the market risk that emanates from the various business units of the institution;*
 - n) *provide controls over permissible market risk mitigation activities such as hedging strategies;*
 - o) *address business continuity in the event of market risk issues that may impact the institution on a stand-alone basis or arising from systemic market risk events;*

⁷ Valuation processes should accord with accepted accounting standards and requirements.

p) where applicable, outline the process for determining capital adequacy for market risk ensuring that:

- i. the method of calculating market risk for capital adequacy purposes complies with standards prescribed by the Central Bank⁸;*
- ii. persons responsible for capital adequacy and capital adequacy reporting fully understand all aspects of the market risk capital adequacy framework.*

Measurement of Market Risk

5.8 A financial institution should have appropriate systems in place to measure its market risk accurately and in a timely manner. The systems should be able to:-

- a) identify and quantify its major sources of market risk exposure;*
- b) measure and aggregate the risk on an institution-wide basis;*
- c) capture and reliably estimate all material exposures; and*
- d) consider all significant balance sheet categories, income statement items and risk factors.*

5.8.1 Measurement systems may range from simple methods to sophisticated programmes and can be internally developed by the financial institution or developed by a third party external to the institution. However, methodologies adopted by the institution to calculate market risk should be commensurate with the size, complexity, risk profile and available resources of the institution.

5.8.2 Consideration of the institution's business lines and the risk characteristics of its activities should guide senior management's selection of the most appropriate measurement system. However, they should ensure that the measurement systems use generally accepted financial concepts and risk measurement techniques and have an adequate level of transparency.

5.8.3 Where models have been developed (whether internally or externally developed) to measure and mitigate market risk exposures, these models should be vetted thoroughly by an independent function. There should also be effective controls around the use of models to identify and measure market risk.

5.8.4 When implementing a measurement system, the institution should:-

⁸ Licensees and FHCs under the FIA should also take into account any additional capital that may be required in respect of market risk under their Internal Capital Adequacy Assessment Process (ICAAP).

- a) assess its suitability by evaluating the system's ability to reasonably capture all relevant and material exposures;*
- b) ensure the system is subject to rigorous testing to, among other things, assess the model's accuracy, robustness and potential limitations;*
- c) ensure that the systems are supported by adequate documentation. The documentation (including documentation on changes or upgrades to the model) should be reviewed by the institution's Board (or relevant Board Committee) and senior management;*
- d) periodically re-evaluate the model to determine its appropriateness especially where risk positions, strategies and business activities change;*
- e) conduct back-testing to verify that the measurements systems or models adopted are reliable in measuring potential market risk losses over time. The verification should be done at both individual and consolidated levels to ensure that exceptional losses are not concealed in the aggregation. The rigor and sophistication of validation should be commensurate with the institution's overall use of models, the complexity and materiality of its models, and the size and complexity of its operations. This notwithstanding, institutions should test annually any measurement systems or model used in material aspects of their operations.;*
- f) conduct exceptional back-testing where there are significant market developments or when there are changes in the model adopted or its major assumptions.*

5.8.5 In particular, if a third-party model is used, the institution should review the relevant documentation to ensure the adequacy and comprehensiveness of the vendor's model-validations and internal control reviews. In addition, the capabilities of the software to meet the institution's future needs and the adequacy of ongoing vendor support and training should be assessed.

5.8.6 Management should also review and maintain documentation of changes or upgrades to any model adopted. The review process should address items including the:-

- a) capabilities of the measurement system;*
- b) accuracy of system inputs;*
- c) reasonableness and documentation of material assumptions;*
- d) usefulness of system output/reports; and*
- e) adequacy of periodic variance analysis.*

- 5.8.7 A financial institution should ensure that assumptions underlying the measurement system, including for stress tests, are derived using a combination of internal analysis and external sources (for example, interest rates and volatility, the portfolio mix and market conditions including market stress and market liquidity). All material assumptions should be regularly updated to reflect the current market and operating environment and supported with thorough analysis and documentation.
- 5.8.8 Furthermore, the process for developing material assumptions should be formalized and periodically assessed (at least annually for critical assumptions). This periodic assessment should be used by the Board and senior management to re-evaluate assumptions to better reflect current strategies or customer behaviors.
- 5.8.9 A financial institution's market risk measurement system should, where applicable, enable:-
- a) quantification of current⁹ and prospective market risk exposures and monitoring of changes in market risk factors (e.g. changes in interest rates, foreign exchange rates, equity prices and commodity prices) and other market conditions on a daily basis;*
 - b) intra-day monitoring of an institution's risk profile where its risk levels fluctuate significantly within a trading day;*
 - c) sufficiently frequent revaluations of marked-to-market positions that take into account external market conditions;*
 - d) prompt identification of risks and quick remedial action in response to adverse and sudden changes in market factors;*
 - e) market risk to be broken down by factors such as risk type, customer, instrument or business unit to facilitate easy identification of current or potential market risk exposure and enable prompt actions to be undertaken; and*
 - f) accurate capture of market risks associated with options.*
- 5.8.10 A financial institution should ensure that the measurement systems used are:-
- a) applied consistently by all relevant personnel to ensure that the data produced is accurate, reliable and comparable;*
 - b) capturing and reliably estimating all material market risk exposures, in a timely manner. In particular, the system should consider all significant balance sheet*

⁹ For example through mark-to-market pricing.

categories (including off balance sheet), income statement items and risk factors (e.g. prices, interest rates, exchange rates).

- c) fully understood by all who produce, review and use the data;*
- d) reviewed periodically in accordance with the institution's risk policies, and particularly if there are significant changes to the business model or market conditions; and*
- e) verified independently to ensure that they are being accurately applied.*

5.8.11 A financial institution should ensure that the capabilities, strengths, limitations, quantitative methodologies and assumptions underlying the market risk measurement system is understood by the Board, senior management and relevant staff.

Stress Testing

5.9 As part of its market risk measurement framework, at least annually, a financial institution should perform stress tests¹⁰ on its financial assets to identify potential vulnerabilities and assess the likely impact on the institution's market risk exposures.

5.9.1 The stress tests performed should consider sufficiently extreme but plausible assumptions. Stress testing should be qualitative and quantitative and take into account the effects of unusual changes in market and non-market risk related factors including prices, volatility, market liquidity, historical correlations and assumptions in stressed market conditions.

5.9.2 The Board and senior management should consider the results of stress tests when making decisions regarding the institution's market risk strategies, policies and limits and regulatory and internal capital adequacy requirements. The results should also be compared with approved limits and thresholds established by the Board.

5.9.3 The assumptions underlying the tests should also be reviewed to ensure they continue to be relevant, sufficiently rigorous and appropriate for the risk profile of the institution.

5.9.4 The stress testing methodologies adopted should be appropriate for the type and complexity of the financial institution.

Internal Controls

5.10 A financial institution should have a robust system of internal controls to ensure the integrity of the market risk management framework that includes, among other things, appropriate approval processes and thresholds, exposure limits, reconciliations, reporting, reviews, and

¹⁰ Scenario and Sensitivity Analysis are also expected to be incorporated.

other mechanisms to provide a reasonable assurance that market risk management objectives are achieved.

5.10.1 The financial institution should implement and enforce levels of authority that establish appropriate responsibilities and approval thresholds for varying levels of staff. There should be protocols in place to address breaches and exceptions.

5.10.2 The financial institution should ensure there is sufficient segregation of duties to ensure the independence of the officers responsible for the monitoring and controlling of risks from those engaged in risk taking activities. Further, compensation packages should not be structured in a way that provides incentives for performance that encourage inappropriate risk-taking.

5.10.3 Appropriate limits¹¹ which are aligned with the institution's risk appetite and tolerance should be established. Changes in market conditions or the resources of the financial institution should prompt a reassessment of limits. An appropriate limit system should:-

- a) enable management to control market risk exposures, initiate discussion about opportunities and risks and monitor actual risk taking against predetermined risk tolerances;*
- b) ensure that positions that exceed certain predetermined levels receive prompt management attention;*
- c) be consistent with the overall approach to measuring market risk;*
- d) be approved by the Board and re-evaluated periodically;*
- e) be appropriate to the size, complexity and capital adequacy of the institution as well as to its ability to measure and manage its risk; and*
- f) be aligned to individual business unit, portfolios, instrument types or specific instruments.*

5.10.4 Financial institutions should implement systems and processes to ensure controls are complied with and breaches are appropriately captured, reported and addressed.

5.10.5 A financial institution should ensure that the internal control system covers its branch network and subsidiaries and is sufficient during normal times as well as under volatile, stressed market conditions. It should be reviewed at least annually and amended as needed.

¹¹ For example, loss control limits, position limits and product concentration limits.

Monitoring and Reporting

5.11 A financial institution should establish a sound reporting framework, including an appropriate management information system (“MIS”), that:-

- a) allows for efficient analysis and review of its market risk management framework;*
- b) provides timely and accurate market risk reports and information to the Central Bank and other regulatory authorities, the Board, senior management, relevant individual business line managers as appropriate; and*
- c) facilitates prompt responses to market risk issues.*

5.11.1 In particular, the Board and senior management should regularly receive and review reports on the level and trend of the institution’s market risk that are sufficiently detailed. All material aspects of the institution’s market risk exposures should be covered to enable informed and effective decision-making. The frequency of reporting to the Board should be stated in the market risk management policy.

5.11.2 The scope of the MIS should be consistent with the institution’s market risk profile, size and complexity. In addition, the frequency of reporting should be aligned with, *inter alia*, the level of inherent market risk, the controls in place to mitigate the risk, and the volatility of the market conditions of the jurisdiction/s in which the institution operates.

5.11.3 Typical market risk reports¹² may include:

- a) market risk exposures by product, market, currency and duration and details on its assets, liabilities, cash flows, and strategies (including hedging program activities) that are driving the level and direction of the institution’s market risk;*
- b) exception tracking and compliance with policies, procedures, controls (including limits) and regulatory requirements;*
- c) key modelling assumptions such as prepayments on fixed rate loans and currency aggregation;*
- d) results of market risks stress tests, including assessment of sensitivity to key assumptions and parameters;*

¹² It is expected that the types of reports will vary based on the institution’s portfolio composition.

- e) *reviews of market risk policies, procedures and adequacy of the measurement systems and controls, including any findings of internal and external auditors and/or other equivalent external parties (such as consultants).*

5.11.4 The Board and senior management should review the institution's market management policies, procedures, strategies and controls in light of the reports to ensure that they continue to be appropriate and sound. They should have sufficient technical knowledge to question and challenge the reports generated and should ensure that adequate resources are devoted to address any issues identified.

5.11.5 Reports should provide aggregate information as well as sufficient supporting detail to enable an assessment of the sensitivity of the institution to changes in market conditions, with particular reference to portfolios that may potentially be subject to significant mark-to-market movements.

5.11.6 Market risk reports submitted to the Board and senior management should be available for review by the Central Bank upon request.

Outsourced Services

5.12 Financial institutions should ensure that there are appropriate and effective controls in place where any of its market risk activities/ functions (including investment management) are outsourced either to a third party or to another entity within the financial group.

5.12.1 Where services are outsourced, financial institutions are required to put adequate systems in place to manage the outsourcing relationship¹³.

5.12.2 The reporting by outsourced services should be sufficient to enable the institution to assess whether the operations of the outsourced entity are in line with its strategy and, in particular, meet the institution's risk-reward criteria. The reporting should also allow the institution to ascertain if the outsourced service is in compliance with relevant regulatory requirements.

5.12.3 Specifically, where the investment management function is outsourced:-

- a) *there should be a clear investment mandate setting out the parameters within which the investment management function may operate;*
- b) *the investment mandate should be tailored to the specific institution and consider any legal constraints or investment limits set by the institution;*
- c) *the parameters referred to in a) should also strike an appropriate balance between risk and reward, taking into account the nature of the institution's liabilities and,*

¹³ Financial institutions should be guided by the Central Bank's Outsourcing Guideline, February 2022.

*where appropriate, the interests and reasonable expectations of its stakeholders;
and*

- d) the capitalization and financial standing of the manager should be regularly assessed where it holds funds on behalf of the institution, or is a counterparty to certain investment transactions.*

Internal and External Audit

- 5.13 To determine the integrity and effectiveness of the market risk management systems, controls, policies and procedures and outsourced services, a financial institution should ensure that there is independent evaluation (for example by internal or external audit) of all material aspects of the market risk management framework.
- 5.13.1 Independent reviews should be performed at least annually, and the scope, responsibility and authority for the reviews should be clearly documented. The scope should also be defined by the audit staff and approved by the Board, or the Audit Committee of the Board, as appropriate.
- 5.13.2 The level and depth of the reviews should be commensurate with the institution's risks and activities. More complex institutions are expected to have a more rigorous independent review process.
- 5.13.3 A financial institution should ensure that the person conducting the review (e.g. internal or external audit) are independent and not involved in development of the market risk framework or the operations. Institutions may use internal staff, an outsourcing arrangement, or a combination of both to perform this review.
- 5.13.4 When the independent review is outsourced, the Board and senior management should ensure that the procedures used in the review are sufficiently robust and meet the same standards required of a satisfactory internal review.
- 5.13.5 The Board and senior management must ensure that person performing the independent review possesses the requisite knowledge, skills and resources to competently assess the measurement system and its control environment. In particular, the internal audit unit should have sufficient authority to carry out their mandate.
- 5.13.6 The procedures used in the independent review should be clearly documented and working papers should be available for review by the institution's management, its auditors, and the regulators.
- 5.13.7 Internal and external audit reports should be incorporated into management reports submitted to the Board and senior management. They should provide sufficient detail and recommendations to inform planning and decision-making. Shortcomings in the market risk framework highlighted in reports should be addressed in a timely manner.

5.13.8 Reports of internal and/or external audit reviews must be made available to Central Bank upon request.

6. ROLE OF THE CENTRAL BANK

- 6.1 The Central Bank will, as part of its supervisory framework, assess the adequacy of the market risk management framework instituted by financial institutions relative to its size, complexity and risks. The requirements of this Guideline together with any other requirement on market risk imposed by the Central Bank will be used as a baseline for the assessment, including compliance with minimum capital ratios specified by the Central Bank.
- 6.2 Where necessary, the Bank will consult with other supervisory authorities in assessing the market risk profile of a financial institution.
- 6.3 The Central Bank may require a financial institution to undertake remedial actions to address any deficiencies identified with its market risk management framework.

7. EFFECTIVE DATE AND IMPLEMENTATION

- 7.1 This Guideline will come into effect on the date of issuance of its issuance.
- 7.2 Financial institutions referred to in section 4.1 are required to conduct a self-assessment against the Guideline and develop an action plan within 6 months of the Guideline's issuance to remedy material deficiencies. The action plan should be approved by Board and must be made available to the Inspector of Financial Institutions or his delegate, upon request. The action plan should address the rectification of material gaps within a reasonable period, for example, 12 to 18 months.
- 7.3 Financial institutions referred to in section 4.2 should also review this Guideline and take steps to enhance their market risk management, as appropriate.