Cayman Monetary Regulatory Authority International

At the forefront of financial regulation, the Cayman Monetary Regulatory Authority International (CMRAI) is dedicated to upholding the highest standards of financial oversight and compliance. Our mission is to safeguard the stability and integrity of the global financial system by ensuring that financial services operate within a framework of transparency, accountability, and excellence.

As a trusted partner to financial institutions worldwide, CMRAI provides rigorous supervision, innovative solutions, and strategic guidance to foster a secure and thriving financial environment. With decades of experience and a commitment to global standards, we stand as a pillar of trust and security in an ever-evolving financial landscape.

With a legacy of excellence in financial oversight, the Cayman Monetary Regulatory Authority International (CMRAI) is a beacon of trust in the international financial community. Our role extends beyond regulation; we are innovators, collaborators, and protectors of the global financial ecosystem. By fostering compliance, promoting best practices, and embracing technological advancements, CMRAI ensures that financial services remain resilient and adaptable in a dynamic global market.

Our comprehensive approach to regulation encompasses a deep understanding of financial risks and a proactive stance on emerging challenges. We are committed to empowering financial institutions with the tools and guidance necessary to navigate complex regulatory landscapes, thereby contributing to global economic stability and growth.

The Supervisory Review Process (Pillar 2) Rules and Guidelines Revised: February 2018
Cayman Monetary Regulatory Authority International B ASEL II F RAMEWORK

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List of Acronyms
Acronyms Definition Basel II Accord International Convergence of Capital Measurement and Capital Standards (June 2006) BCBS Basel

Committee on Banking Supervision BTCL Bank and Trust Companies Law (2013 Revision) CEO Chief Executive Officer CMRAI Cayman Monetary Regulatory Authority International CRM Credit Risk Mitigation CRO Chief Risk Officer ICAAP Internal Capital Adequacy Assessment Process IRRBB Interest Rate Risk in the Banking Book FRN Floating Rate Note KRI Key Risk Indicators MIS Management Information Systems SREP Supervisory Review and Assessment Process

 Introduction 1. This document outlines the key principles of the supervisory review process or the second pillar (Pillar 2) of the Basel II Framework. The Rules and Guidelines contained in this document reflect the following Basel Committee publications: a) International Convergence of Capital Measurement and Capital Standards (herein after referred to as the Framework or Basel II Accord) that was issued in June 2006; b) Enhancements to the Basel II Framework that was issued in July 2009; c) Principles for sound stress testing practices and supervision that was issued in May 2009; and d) A Sound Capital Planning Process: Fundamental Elements that was issued in January 2014. 2. The financial crisis that began in 2007 highlighted the need for improved risk management in Banks, and as a result the Basel Committee issued supplemental guidance in July 2009. This supplemental guidance builds on the original Pillar 2 guidance with respect to firm-wide risk management and capital planning and reflects the lessons learned during the crisis. It seeks to reinforce key risk management principles which Banks must adopt when they manage and mitigate their risks that are identified through their Internal Capital Adequacy Assessment Process (ICAAP). 3. The supervisory review process is intended to ensure that Banks have adequate capital to support all the risks in their business, and also to encourage Banks to develop and use better risk management techniques in monitoring and managing their risks. This process highlights the responsibility of Banks and their management to ensure that adequate capital is available to support their risks beyond the core minimum requirements. A Bank s Board of Directors (the Board) and senior management are responsible for developing an ICAAP and setting capital targets that are appropriate for the Banks risk profiles and control environments. The Banking supervisor or regulator is responsible for reviewing the Banks ICAAPs and evaluating how well Banks are assessing their capital needs relative to their risks, and to intervene where appropriate. Whilst additional capital is not a substitute for a robust risk management framework, it may be necessary to require higher regulatory capital to mitigate the higher risk of unexpected losses resulting from inadequate risk management processes. 4. In order to highlight the Cayman Monetary Regulatory Authority International (CMRAI) Basel II rules within the compendium, a rule is written in light blue and designated with the letter R in the right margin. Four Key Principles of the Supervisory Review Process 5. The following four principles highlight the requirements for both Banks and supervisors regarding the supervisory review process. The remaining sections of this document expand on these four principles. Principle 1: Banks must have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels.

 Principle 2: Supervisors should review and evaluate Banks internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with

regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process. Principle 3: Supervisors should expect Banks to operate above the minimum regulatory capital ratios and should have the ability to require Banks to hold capital in excess of the minimum. Principle 4: Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular Bank and should require rapid remedial action if capital is not maintained or restored. 6. The supervisory review process is two tiered and comprises of the following: e) an internal capital adequacy assessment process (ICAAP) which Banks are obliged to undertake. This process requires Banks to assess their capital adequacy relative to their risk profile; and f) a supervisory review and evaluation process (SREP) which will be conducted by the Authority on a periodic basis. Internal Capital Adequacy Assessment Process (ICAAP) Principle 1: Banks must have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels. 7. Banks must have in place a Board approved Internal Capital Adequacy Assessment Process (ICAAP) that is proportional to their nature, scale, complexity and business strategy. Banks must submit their ICAAP to the Authority within four months of its financial year-end. 8. The ICAAP must be updated annually or more frequently if changes in the strategy, nature or scale of business activities of the bank or operational environment indicate that the level of financial resources is or may no longer be adequate. A. Scope of Application 9. The requirement for an ICAAP applies to all Banks incorporated in the Cayman Islands and regulated by the Authority under the Banks and Trust Companies Law (2013 Revision) (BTCL) as may be amended from time to time (herein after referred to as Bank(s)). The ICAAP requirement should apply on a consolidated basis to any holding company that is the parent entity within a Cayman Banking group. 10. A Cayman Banking group includes: a) a Bank s parent that is not subject to consolidated supervision by another Banking regulator and where the Authority is considered the primary (home) regulator; R Pillar 2 - Supervisory Review Process

b) a Bank s subsidiary that engages in Banking or relevant financial activities 1 ; c) an affiliate entity of the Bank that engages in Banking or relevant financial activities and is not subject to consolidated supervision by another Banking regulator; d) any joint ownership of a Bank s subsidiary, where the shareholder is not subject to consolidated supervision by another Banking regulator; and e) any subsidiary of either a) through d). 11. The Bank s ICAAP must be conducted on a consolidated basis. Generally, a separate ICAAP is not required at every legal entity below the Bank or below the parent entity within a Cayman Banking group. However, the Authority may request that a separate ICAAP be prepared at the legal entity level for each Bank in a Banking group. 12. Where the Bank is a subsidiary of a foreign Bank that is subjected to consolidated supervision, it may leverage off consolidated group methodologies for assessing its risk. However, the Bank s ICAAP must reflect its own circumstances and group-wide data. Additionally, the methodologies used must be appropriately modified to give rise to internal capital targets and a capital plan that is relevant to the Bank. 13. Banks must implement their ICAAP in a systematic manner that is comprehensively documented in appropriate policies, processes and procedures. The ICAAP must incorporate at a minimum: a) adequate systems and procedures to identify, measure, monitor and manage the risks arising from the Bank s activities on a continuous

basis to ensure that capital is held at a level consistent with the Bank s risk profile; and b) a capital management plan, consistent with the Bank s overall business plan, for managing Bank s capital levels on an ongoing basis. 14. Banks must be able to demonstrate to the Authority that the chosen internal capital targets are well founded and that these targets are consistent with their overall risk profile and current operating environment. Banks must focus their internal capital adequacy assessment on organisational and control aspects on the risks that are relevant to their circumstances and which may affect their current or future solvency. In assessing capital adequacy, Banks need to be mindful of the business cycles in which they are operating. The ICAAP must reflect rigorous, forward-looking stress tests that would identify possible events or changes in market conditions. 15. The ICAAP must address both short-term and long-term needs and consider the prudence of building excess capital over benign periods of the credit cycle and also to withstand a severe and prolonged market downturn. Where differences exist between the capital assessment under the Bank s ICAAP and the Authority s supervisory assessment of capital adequacy made under Pillar 2, the Authority will initiate dialogue with the Bank that is proportionate to the depth and nature of such

1 Relevant Financial Activities include majority owned or controlled Banking entities, securities entities and other financial entities such as those involved in financial leasing, issuance of credit cards, portfolio management, investment advisory, custodial and safekeeping services, trust administration and other similar activities that are ancillary to the business of Banking. It does not include the activities of an insurance entity.

differences in line with the Supervisory Review and Evaluation Process (SREP) guidance provided in this document. If the Authority deems it necessary, it may increase a Bank s minimum capital adequacy ratio to account for any shortcomings in a Bank s ICAAP. 16. Banks must perform a careful analysis of their capital instruments and their potential performance during times of stress, including their ability to absorb losses and support ongoing business operations. 17. The detail and sophistication of ICAAPs must be commensurate with the Bank s complexity, range of business activities, risk profile, and operating environment. 18. Banks must review and update their ICAAP at least on an annual basis taking into account actual results against projections, as well as examine and document significant variances and capture any new or additional risks that may have emerged. B. Main Features of the ICAAP 19. At a minimum, Banks must incorporate these six features in their ICAAPs: a) Board and senior management oversight; b) Established policies, procedures, limits and controls; c) Identifying, measuring, monitoring and reporting key risks 2 ; d) Implementing a sound capital assessment and capital planning; e) A comprehensive assessment of risks; and f) Internal control review. B.1. Board and Senior Management Oversight 20. Banks Board and senior management 3 are responsible for defining the risk appetite and ensuring that the risk management framework includes detailed policies that set specific firm-wide prudential limits on the Banks activities. 21. A sound risk management process is the foundation for an effective assessment of the adequacy of a Bank s capital position. Bank management is responsible for understanding the nature and level of risk being taken by the Bank and how this risk relates to adequate capital levels. Senior management and the Board must view capital planning as a crucial element in being able to achieve the Bank s desired strategic objectives. 22. The Board and senior

management must possess sufficient knowledge of all major business lines to ensure that appropriate policies, controls and risk monitoring systems are effective. The Board must have the necessary expertise to understand 2 Including the results of comprehensive stress testing and scenario analysis. 3 Senior management consists of a core group of individuals who are responsible and should be held accountable for overseeing the day-to-day management of the Bank. These individuals should have the necessary experience, competencies and integrity to manage the businesses under their supervision as well as have appropriate control over the key individuals in these areas. R Pillar 2 - Supervisory Review Process

Cayman Monetary Regulatory Authority International Page | 8 the capital market activities in which the Bank is involved such as securitisation and off-balance sheet activities and the associated risks.

23. The Board and senior management must remain informed on an on-going basis about the Bank s risks as financial markets, risk management practices and the Bank s activities evolve. In addition, the Board and senior management must ensure that accountability and lines of authority are clearly delineated. With respect to new or complex products and activities, senior management must understand the underlying assumptions regarding business models, valuation and risk management practices. In addition, senior management must evaluate the potential risk exposure if those assumptions fail. 24. The Board and senior management must identify and review the changes in firm-wide risks arising from potential new products or activities before embarking on new activities or introducing products new to the Bank. They must also ensure that the infrastructure and internal controls necessary to manage the related risks are in place. Banks must also consider the possible difficulty in valuing the new products and how they might perform in a stressed economic environment. 25. The risk management function of Banks must be independent of the business lines in order to ensure an adequate separation of duties and to avoid conflicts of interest. Banks must ensure that its risk function and its Chief Risk Officer (CRO) or equivalent person reports directly to the Chief Executive Officer (CEO) and Board. The risk function must highlight to the Board and senior management risk management concerns such as risk concentrations and breaches of tolerable risk limits. B.2. Policies, Procedures, Limits and Controls 26. The Bank s policies and procedures must provide specific guidance for the implementation of broad business strategies and should establish, where appropriate, internal limits for the various types of firm-wide risks to which the Bank may be exposed. These limits must consider the Bank s role in the financial system and be defined in relation to the Bank s capital, total assets, and earnings or, where adequate, measure its overall risk level. 27. In addition, Banks are required to develop effective internal policies, systems and controls to identify, monitor, measure and control credit risk concentrations. These policies must cover different forms of credit concentration risks such as: a) significant exposures to an individual counterparty or group of related counterparties. Banks might also establish an aggregate limit for the management and control of all of its large exposures as a group; b) credit exposures to counterparties in the same economic sector or geographic region; c) credit exposures to counterparties whose financial performance is dependent on the same activity or commodity; and d) indirect credit exposures arising from a Bank s CRM activities (e.g. exposure to a single collateral type or to credit protection provided by a single counterparty).

28. Banks must have documented written policies and procedures around its CRM practices and conduct regular reviews to assess effectiveness and the function of the process. CRM policies and procedures must give full recognition to each credit risk mitigant. A Bank s Board must ensure that the policies and procedures are appropriate to the level of the capital benefit.

29. Banks policies, procedures and limits must:

a) provide for adequate and timely identification, measurement, monitoring, control and mitigation of the risks posed by its lending, investing, trading, securitisation, off-balance sheet, fund management, fiduciary and other significant activities at the business line and firm-wide levels; b) ensure that the economic substance of the Bank s risk exposures, including reputational risk and valuation uncertainty, are fully recognised and incorporated into the Bank s risk management processes; c) be consistent with the Bank s stated goals and objectives, as well as its overall financial strength; d) clearly delineate accountability and lines of authority across the Bank s various business activities, and ensure there is a clear separation between business lines and the risk management function; e) provide for the escalation of breaches to the Board and address breaches of internal position limits; f) provide for the review of new businesses and products by bringing together all relevant risk management, control and business lines to ensure that the Bank is able to manage and control the activity prior to it being initiated; and g) include a schedule and process for reviewing the policies, procedures and limits and for updating them as appropriate.

B.3. Identifying, Measuring, Monitoring and Reporting of Risk

30. Banks must establish an adequate system for identifying, measuring, monitoring and reporting risk exposures and assessing how the Bank s changing risk profile affects the need for capital.

31. The Authority will determine whether a Bank has in place a sound firm-wide risk management framework that enables it to define its risk appetite and recognize all material risks, including the risks posed by concentrations, securitization, off-balance sheet exposures, valuation practices and other risk exposures. The Bank can achieve this by:

a) Adequately identifying, measuring, monitoring, controlling and mitigating these risks; b) Clearly communicating the extent and depth of these risks in an easily understandable, but accurate, manner in reports to senior management and the Board, as well as in published financial reports; c) Conducting ongoing stress testing to identify potential losses and liquidity needs under adverse circumstances; and d) Setting adequate minimum internal standards for allowances or liabilities for losses, capital and contingency funding.

32. It is expected that a Bank assesses its activities and risk management practices annually. The Authority recommends that a bank consider the following procedures, dependent on whether the Bank considers its activities and risk management practices as low risk, medium risk or high risk:

Low Risk

33. If the Board has defined its activities and risk management practices as low risk, the Bank should at a minimum:

a) identify and consider the Bank s largest losses over the last 3 to 5 years and whether those losses are likely to recur; b) prepare a short list of the most significant risks to which the Bank is exposed; c) consider how the Bank would act, and the amount of capital that would be absorbed in the event that each of the risks identified were to materialise; d) consider how the Bank s capital requirement might alter under the scenarios in (c) and how its capital requirement might alter in line with its business

plan for the next 3 to 5 years; and e) document the ranges of capital required in the scenarios identified above and form an overall view on the amount and quality of capital which the Bank should hold, ensuring that its senior management is involved in arriving at that view. Medium Risk 34. If the Board has defined its activities and risk management practices as medium risk, the Bank should at a minimum: a) have consulted the operational management in each major business line, prepare a comprehensive list of the major risks to which the business is exposed; b) estimate, with the aid of historical data, where available, the range and distribution of possible losses which might arise from each of those risks and consider using shock stress tests to provide risk estimates; c) consider the extent to which the Bank s capital requirement adequately captures the risks identified in (a) and (b) above; d) for areas in which the capital requirement is either inadequate or does not address a risk, estimate the additional capital needed to protect the Bank and its customers, in addition to any other risk mitigation action the Bank plans to take; e) consider the risk that the Bank s own analysis of capital adequacy may be inaccurate and that it may suffer from management weaknesses which affect the effectiveness of its risk management and mitigation; f) project the Bank s business activities forward in detail for one year and in less detail for the next 3 to 5 years, and estimate how that Bank s capital and capital requirement would alter, assuming that business develops as expected; g) assume that business does not develop as expected and consider how that Bank s capital and capital requirement would alter and what that Bank s reaction to a range of adverse economic scenarios might be; h) document the results obtained from the analyses in (b), (d), (f), and (g) above in a detailed report for the Bank s top management / Board; and i) ensure that systems and processes are in place to review the accuracy of the estimates made in (b), (d), (f) and (g) (i.e., systems for back testing) vis- -vis the performance / actuals. High Risk 35. If the Board has defined its activities and risk management practices as high risk, the Bank should at a minimum: a) follow a proportional approach to the Bank s ICAAP which should cover the issues identified in (a) to (d) in paragraph 33 above, but is likely also to involve the use of models, most of which will be integrated into its day-to-day management and operations; b) confirm that if models of the kind referred to above may be linked so as to generate an overall estimate of the amount of capital that a Bank considers appropriate to hold for its business needs. A Bank may also link such models to generate information on the economic capital considered desirable for that Bank; c) confirm if a model which a Bank uses to generate its target amount of economic capital is known as an economic capital model (ECM). Economic capital is the target amount of capital which optimises the return for a Bank s stakeholders for a desired level of risk. For example, a Bank is likely to use value-at-risk (VaR) models for market risk, advanced modeling approaches for credit risk and, possibly, advanced measurement approaches for operational risk; d) confirm whether or not a Bank might also use economic scenario generators to model stochastically its business forecasts and risks; and e) confirm if such a Bank is also likely to be part of a group and to be operating internationally. There is likely to be centralised control over the models used throughout the group, the assumptions made and their overall calibration. 36. A risk appetite framework is a key component of a successful risk management framework for identifying and measuring a Bank s risk exposures. The Bank s risk appetite should be based around its strategic objectives,

operating model and various stakeholders expectations. The risk appetite will stipulate the level of risks the group or entity is willing to accept in order to achieve its business objectives. The appetite or tolerance for risk will vary with strategy, evolving market conditions and regulatory requirements. 37. Banks may use different ways to measure risk appetite ranging from simple qualitative measures (such as reputational impact or regulatory compliance) to quantitative models (such as, capital adequacy or credit ratings) of economic capital and earnings volatility. Measurement and review of risk appetite must be conducted at different corporate layers which will assist in the identification of inconsistencies and real opportunities to manage the risk profile at a line of business level. Stress and scenario analysis may be used to inform the risk appetite of the Bank as well as influence the nature, scale and complexity of its business and of the risks that it bears. Banks should also, consider risk metrics to measure key risks such as Key Risk Indicators (KRIs) as a proxy measuring the impact of risks on finances. Pillar 2 - Supervisory Review Process

38. It is the responsibility of the Bank s Board and senior management to define its risk appetite. The Board must approve the Bank s approach to risk appetite, its policy statements and management framework. Banks must have a structure in place where the Board, at least on an annual basis, reviews risk appetite and risk tolerance. Banks must implement robust governance and reporting frameworks that ensure that day- to-day decisions are made in line with the Bank s risk appetite. Further guidelines for defining an appropriate risk appetite statement are discussed in more detail in (Annex II - Guidelines to defining a Statement of Risk Appetite). 39. Banks should have adequate management information systems (MIS) that provide the Board and senior management with timely and relevant reports on the Bank s risk profile and capital needs. Additional requirements with respect to MIS are included in the section titled Appropriate Management Information Systems (MIS) below, however, these reports must allow senior management to: a) evaluate the level and trend of material risks and their effect on capital levels; b) evaluate the sensitivity and reasonableness of key assumptions used in the capital assessment measurement system; c) determine that the Bank holds sufficient capital against the various risks and is in compliance with established capital adequacy goals; and d) assess its future capital requirements based on the Bank s reported risk profile and make necessary adjustments to the Bank s strategic plan accordingly. 40. The information must include all risk exposures, including those that are off-balance sheet. Management must understand the assumptions behind and limitations inherent in specific risk measures. Appropriate Management Information Systems (MIS) 41. The key elements necessary for the aggregation of risks are an appropriate infrastructure and MIS that 1) allow for the aggregation of exposures and risk measures across business lines; and 2) support customised identification of concentrations and emerging risks. 42. MIS developed to achieve this objective must support the ability to evaluate the impact of various types of economic and financial shocks that affect the whole of the Bank. Further, Banks systems must be flexible enough to incorporate hedging and other risk mitigation actions to be carried out on a firm-wide basis while taking into account the various related basis risks. 43. Banks MIS must be adaptable and responsive to changes in underlying risk assumptions and must incorporate multiple perspectives of risk exposure to account for uncertainties in risk measurement. In addition, MIS must be sufficiently flexible so that Banks can generate forward-looking Bank-wide scenario

analyses that capture management s interpretation of evolving market conditions and stressed conditions. Third-party inputs or other tools used within MIS (e.g. credit ratings, risk measures, models) must be subject to initial and ongoing validation. R R 44. Banks MIS must be capable of capturing limit breaches and there must be procedures in place to promptly report such breaches to senior management, as well as to ensure that appropriate follow-up and remedial actions are taken. For instance, similar exposures must be aggregated across business platforms (including the Banking and trading books) to determine whether there is a concentration or a breach of an internal position limit. B.4. Sound Capital Assessment and Capital Planning 45. The analysis of a Bank s current and future capital requirements in relation to its strategic objectives is a vital element of the strategic planning process. The strategic plan must clearly outline the Bank s capital needs, anticipated capital expenditures, desirable capital level, and external capital sources. 46. Banks are responsible for ensuring that their internal capital assessments are comprehensive and adequate to the nature of risks posed by their business activities and operating environments. 47. Fundamental elements of sound capital assessment include: a) a clear and documented process for evaluating risks and determining whether capital should be held for a specific risk; b) policies and procedures designed to ensure that Banks identify, measure, and report all material risks; c) a process that relates current and anticipated future capital to the level of risk in accordance with Board s approved risk tolerance; d) a process that states capital adequacy goals with respect to risk, taking account of the Bank s strategic focus and business plan; e) a process on internal controls, reviews and audit to ensure the integrity of the overall management process. 48. Banks are also responsible for ensuring that they have in place an effective capital planning process. Capital planning processes enable management at Banking organisations to make informed judgments about the appropriate amount and composition of capital needed to support a Bank s business strategies across a range of potential scenarios and outcomes. 49. Banks must identify the time horizon over which capital adequacy is being assessed and must evaluate whether long-run capital targets are consistent with short-run goals. The Authority recommends the analysis of capital planning to include financial projections for three to five years based on business plans and capital adequacy calculations. During the capital planning process, Banks must be cognisant that additional capital needs can require significant lead time and capital planning which can be costly. As such, Banks must factor in the potential difficulties of raising additional capital during downturns or other times of stress. Banks are expected to: a) assess both the risks to which they are exposed and the risk management processes in place to manage and mitigate those risks; b) evaluate the capital adequacy relative to their risks; and c) consider the potential impact on earnings, liquidity and capital from potential economic downturns. 50. There are four fundamental components of a sound capital planning process, each of which are discussed in more detail below: a) Internal control and governance b) Capital policy and risk capture c) Forward-looking view d) Management framework for preserving capital Internal Control and Governance 51. There is considerable variation in how Banks structure their capital planning processes.

Irrespective of how a Bank s capital planning process is oriented, it should aim at the sound practice of producing an internally consistent and coherent view of a Bank s current and future capital needs. 52. It is important that a capital planning process reflects the input of different experts from across a Bank, including but not limited to staff from business, risk, finance and treasury departments. There should be a strong link between the capital planning, budgeting and strategic planning processes within a Bank. Collectively, these experts provide a view of the Bank s current strategy, the risks associated with that strategy and an assessment of how those risks contribute to capital needs as measured by internal and regulatory standards. 53. Banks with sound capital planning processes must have a formal process in place to identify situations where competing assumptions are made. In this context, differences in strategic planning and capital allocation across the Bank are escalated for discussion and approval by senior executives. 54. Banks should consider exposing capital plans and their underlying processes and models to regular independent validation. This layer of review is important for confirming that the processes are strong, are applied consistently and remain relevant for the Bank s business model and risk profile. 55. Senior management and the Board are involved in the capital planning process. Sound practice typically involves a management committee or similar body that works under the auspices of a Bank s Board and guides and reviews efforts related to capital planning. Typically, the Board sets forth the principles that underpin the capital planning process. Those principles may include the forward strategy for the Bank, an expression of risk appetite and a perspective on striking the right balance between reinvesting capital in the Bank s operations and providing returns to shareholders. Banks with stronger governance of the capital planning process require the Board or one or more committees thereof to review and approve capital plans at least annually. Capital Policy and Risk Capture

 56. A capital policy is a written document agreed by the senior management of a Bank. It specifies the principles that management will follow in making decisions about how to deploy a Bank s capital. Typically, a capital policy will reference a suite of capital- and performance-related metrics against which management monitors the Bank s condition. Regulatory capital measures feature prominently in Banks capital policies. 57. Capital policies should incorporate minimum thresholds that are monitored by managers to ensure that the Bank remains strong. Banks should identify triggers and limits for every metric specified in the capital policy. The considerations of many stakeholders are taken into account when setting a minimum threshold, including those of market participants, shareholders, rating agencies and regulators. 58. It is important for a monitoring framework to be in place and complemented by a clear and transparent formal escalation protocol for those situations when a trigger or limit is approached and/or breached, at which point a timely decision needs to be taken. 59. An important input to a capital policy is an expression of risk appetite and tolerance by management and the Board. The risk tolerance statement is approved by the Board and renewed annually. Forward-looking View 60. Another key element of a sound capital planning process is stress testing or scenario analyses. These techniques are often used to obtain a forward view on the sufficiency of a Bank s capital base. 61. An effective capital planning process requires a Bank both to assess the risks to which it is exposed and to consider the potential impact on earnings and capital from an assumed economic downturn. In other words, stress testing needs to be an

integral component of the capital planning process. Stress testing and scenario analyses provide a view as to how the Bank s financial position could be affected if there were a dramatic Bank-specific or economic change. Sound stress testing principles are discussed in detail in the Authority s document titled Stress Testing: Principles and Guidelines (hereafter referred to as the Stress Testing Guidelines), issued in February, 2018. Management Framework for Preserving Capital 62. For a capital planning process to be meaningful, a Bank s senior management and directors should rely on it to provide them with views of the degree to which a Bank s business strategy and capital position may be vulnerable to unexpected changes in conditions. 63. Banks senior management and the Board should ensure that the capital policy and associated monitoring and escalation protocols remain relevant alongside an appropriate risk reporting and stress testing framework. In addition, they are responsible for prioritising and quantifying the capital actions available to them to cushion against unexpected events. 64. Banks may consider developing guiding principles for determining the appropriateness of particular actions under different scenarios, which take into account relevant considerations, such as economic value added, costs and benefits, and market conditions. In summary, it is important that actions to maintain capital are clearly defined in advance and that the management process allows for plans to be updated swiftly to allow for better decision-making in changing circumstances. B.5. Comprehensive Assessment of Risks 65. Banks must ensure that through the ICAAP, all material risks are identified and assessed. If any of the risks listed below are identified by a Bank, the Bank must assess the risk and determine whether additional capital is required to account for the exposure to the risk. The ICAAP must address: a) risks considered under Pillar 1 that are not fully captured by the Pillar 1 process (e.g. large exposures and credit risk concentration); b) risks inherent in Banks that are not considered or captured by the Pillar 1 process, referred to as Pillar 2 risks (e.g. interest rate risk in the Banking book, reputational risk, strategic risks); and c) risks and factors that are external to the Bank (e.g. business cycle effects and the macroeconomic environment).

66. Paragraphs 67 to 119 below provide guidance on risks Banks are likely to be exposed to and that the Authority expects Banks to address in the ICAAP. The risks discussed do not constitute a comprehensive list of all risks and the guidance provided is by no means exhaustive. Banks must refer to the Banking Services Index of Regulatory Measures, which can be found on the Authority s website 4 , as well as supporting Basel Committee on Banking Supervision publications for further guidance on expectations for measuring and managing various risks. A list of some of the Basel Committee s publications is attached as (Annex IV: Basel Committee s Publications on Risk Management). Credit Risk 67. Banks must have methodologies that enable them to assess the credit risk involved in individual exposures and at the portfolio level. The credit review assessment of capital adequacy should cover, at a minimum, portfolio analysis/aggregation, large exposures and risk concentrations. However, more sophisticated Banks should also consider, if applicable, risk rating systems, securitisation exposures and complex structured instruments. 68. The analysis of credit risk should adequately identify any weaknesses at the portfolio level, including any concentrations of risk. The credit review process must be comprehensive and at a minimum, have the ability to: a) generate detailed internal ratings for all credit exposures (if applicable); 4 The Authority s

Rules and Statements of Guidance on the management of various risks for banks can be found in the Banking Index of Regulatory Measures on the Authority s website at b) determine an adequate level of loan loss reserves and provisions for losses in other assets held; c) identify credit weakness at the portfolio level, especially large exposures and credit risk concentrations; and d) consider the risks involved in securitisation and complex credit derivative transactions.

69. The sophistication of the methodologies used to quantify credit risk must be appropriate to the scope and complexity of the institution s credit risk taking activities. Less complex credit risk taking activities may incorporate a variety of methodologies but must at minimum take into consideration:

a) historical loss experience;
b) forecast and past economic conditions;
c) attributes specific to a defined group of borrowers;
d) other characteristics directly affecting the collectability of a pool or portfolio of loans.

70. Internal risk ratings are an important tool in monitoring credit risk. Internal risk ratings should be adequate to support the identification and measurement of risk from all credit exposures, and should be integrated into the overall analysis of credit risk and capital adequacy of the Bank. The ratings system should provide detailed ratings for all assets, not only for problem assets. Loan loss reserves should be included in the credit risk assessment for capital adequacy.

Credit Concentration Risk

71. A risk concentration is any single exposure or group of exposures with the potential to produce losses large enough (relative to a Bank s capital, total assets, or overall risk level) to threaten a Bank s health or ability to maintain its core operations. Risk concentrations can arise in a Bank s assets, liabilities or off-balance sheet items, through the execution or processing of transactions, or through a combination of exposures across these broad categories. As lending is the primary activity of most Banks, credit risk concentrations are often the most material risk concentrations within a Bank.

72. Banks should have in place effective internal policies, systems and controls to identify, measure, monitor, and control their credit risk concentrations. Banks should explicitly consider the extent of their credit risk concentrations in their assessment of capital adequacy under Pillar 2. These policies should cover the different forms of credit risk concentrations to which a Bank may be exposed. Such concentrations include:

a) Significant exposures to an individual counterparty or group of related counterparties;
b) Credit exposures to counterparties in the same economic sector or geographic region;
c) Credit exposures to counterparties whose financial performance is dependent on the same activity or commodity; and
d) Indirect credit exposures arising from a Bank s CRM activities.

73. Banks must consider the full extent of its credit concentrations, if any, along with a clear definition of parameters for concentrations. The parameters must be set in appreciation of the Banks capital, overall assets and/or overall risk level.

74. Banks must analyse risk concentrations on both a Bank legal entity and consolidated basis of the Cayman Banking group. In addition, risk concentrations must be viewed in the context of a single or a set of closely related risk-drivers that may have different impacts on a Bank. These concentrations must be integrated when assessing a Bank s overall risk exposure. Banks must consider concentrations that are based on common or correlated risk factors that reflect more subtle or more situation-specific factors than traditional

concentrations, such as correlations between market, credit and liquidity risk. 75. Banks must include periodic stress test results of its major credit risk concentrations in their ICAAPs, and review the results of those tests to identify and respond to potential changes in market conditions that could adversely impact their future cash flow and performance. 76. Banks must ensure that an appropriate level of capital for risk concentrations is included in the ICAAP assessments. Credit Risk Mitigation 77. Banks must have credible risk mitigation strategies in place that receive the approval of the Board and senior management. This may include altering business strategies, reducing limits or increasing capital buffers in line with the desired risk profile. While implementing risk mitigation strategies, Banks must be aware of possible concentrations that might arise as a result of employing risk mitigation techniques. 78. Banks must consider and report instruments that offset credit or counterparty risk such as collateral, guarantees or credit derivatives and provide an explanation for the CRM such that, if sufficient, could lend itself to reduced capital charges. As CRM lends itself to additional risks, these inherent risks have to be measured, monitored, reported and a capital charge conceded. Residual Risks 79. While Banks may use CRM techniques to reduce their credit risk, these techniques give rise to risks that may render the overall risk reduction less effective. Accordingly, these risks (e.g. legal risk, documentation risk, or liquidity risk), referred to as residual risks, are of supervisory concern. Where such risks arise, and irrespective of fulfilling the minimum CRM requirements set out in Pillar 1, a Bank could find itself with greater credit risk exposure to the underlying counterparty than it had expected. Examples of residual risks include: a) Inability to seize, or realise in a timely manner, collateral pledged (on default of the counterparty); b) Refusal or delay by guarantor to pay; and c) Ineffectiveness of untested documentation. R Pillar 2 - Supervisory Review Process

 Off-balance Sheet and Securitisation Risk 80. Weaknesses in Banks risk management of securitisation and off-balance sheet exposures resulted in large unexpected losses during the financial crisis. To help mitigate these risks, Bank s on- and off-balance sheet securitisation activities should be included in its risk management framework, such as product approval, risk concentration limits, and estimates of market, credit and operational risk. 81. The use of securitisation has grown tremendously during the last several years particularly as an alternative source of funding and also as a mechanism to transfer risk. As a result, Banks must ensure that those risks that are not captured under Pillar 1 are addressed in the ICAAP. These risks include: a) credit, market, liquidity and reputational risk of each exposure; b) potential delinquencies and losses on the underlying securitised exposures; c) exposures from credit lines or liquidity facilities to special purpose entities; and d) exposures from guarantees provided by monoline insurers and other third parties. 82. Banks must include securitisation exposures in their MIS to help ensure that senior management understands the implications of such exposures for liquidity, earnings, risk concentration and capital. More specifically, Banks must have the necessary processes to capture in a timely manner updated information on securitisation transactions including market data, if available, and updated performance data from the securitisation trustee or servicer. 83. Banks that employ risk mitigation techniques must fully understand the risks to be mitigated, the potential effects of the mitigation techniques and whether or not they are fully effective. This is to help ensure that Banks do not understate the true risk in their assessment of capital. In particular, Banks

must consider whether they would provide support to the securitisation structures in stressed scenarios due to the reliance on securitisation as a funding tool. 84. Banks must document and report via policies and procedures how they intend to ensure that a securitisation transaction is legitimately a transfer of risk if it is to be used to reduce the credit risk capital charge. Banks must develop an established revision schedule of securitisation treatments as market innovation gives rise to new features that may clout credit risk transfer clarity. 85. Banks must document processes and procedures to ensure that Credit Rating Agencies ratings for segments of securitisation transactions are a supplement to the Bank s own credit analysis. 86. Banks must identify the business lines that are affected by its securitisation, if any. Furthermore, Banks must provide stress testing with regards to their securitized assets during times of declining market liquidity, asset prices and risk appetite. The assumptions and parameters of these stress tests must be well-founded and a wide array of scenarios included enhancing robustness. R Pillar 2 - Supervisory Review Process Cayman Monetary Regulatory Authority International Page | 20 87. Banks must develop prudent contingency plans specifying how the Bank would respond to funding, capital and other pressures that arise when access to securitisation markets is reduced. The contingency plans must also address how Banks would address valuation challenges for potentially illiquid positions held for sale or for trading. The risk measures, stress testing results and contingency plans must be incorporated into Banks risk management processes and ICAAPs, and must result in appropriate levels of capital under Pillar 2 in excess of the minimum requirements. Market Risk 88. Banks must have a framework to assess and manage all material market risks, irrespective of whether they arise, at position, desk, business line or firm-wide. More sophisticated Banks must include both value-at-risk (VaR) modelling and stress testing including an assessment of concentration risk and illiquidity under stressful market scenarios. The VaR model used must be adequate to identify and measure risks arising from all its trading activities and should be integrated into the Bank s overall internal capital assessment as well as subject to rigorous on-going validation. VaR model estimates should be sensitive to changes in the trading book risk profile. 89. Banks ICAAP documents must demonstrate that there is enough capital to not only meet the minimum capital requirements but also to withstand a range of severe but plausible market shocks. In particular, it must factor in, where appropriate: a) illiquidity/gapping of prices; b) concentrated positions (in relation to market turnover); c) one-way markets; d) non-linear products/deep out-of-the money positions; e) events and jumps-to-defaults; f) significant shifts in correlations; g) other risks that may not be captured appropriately in VaR (e.g. recovery rate uncertainty, implied correlations, or skew risk). 90. The stress tests applied and their calibrations must be reconciled back to a clear statement setting out the premise upon which the internal capital assessment is based. The shocks applied in the tests must reflect the nature of portfolios and the time it could take to hedge out or manage risks under severe market conditions. 91. The risk management system, including the VaR methodology and stress tests, must properly measure the material risks in the instruments currently being traded and the trading strategies. Interest Rate Risk in the Banking Book 92. Interest Rate Risk in the Banking Book (IRRBB) refers to the current or prospective risk to a Bank s capital and earnings arising from adverse movements in interest rates that affect the Bank s banking book positions. When interest rates change, the present value and timing of

future cash flows change. This in turn changes the underlying value of a Bank s assets, liabilities and off-balance sheet items and hence its economic value. Changes in interest rates also affect a Bank s earnings by altering R

 interest rate-sensitive income and expenses, affecting its net interest income (NII). Excessive IRRBB can pose a significant threat to a Bank s current capital base and/or future earnings if not managed appropriately. 93. The Board has responsibility for understanding the nature and the level of the Bank s IRRBB exposure. The Board should approve broad business strategies as well as overall policies with respect to IRRBB. It should ensure that there is clear guidance regarding the acceptable level of IRRBB, given the Bank s business strategies. 94. In measuring IRRBB, key behavioural and modelling assumptions should be fully understood, conceptually sound and documented. Such assumptions should be rigorously tested and aligned with the Bank s business strategies. 95. When assessing its IRRBB exposures, a Bank should make judgments and assumptions about how an instrument s actual maturity or repricing behaviour may vary from the instrument s contractual terms because of behavioral optionalities. 96. Banks must internally report all repricing and maturity data such as current balance and contractual rate of interest associated with the instruments and portfolios; principal payments; interest reset dates; maturities; the rate index used for repricing; and contractual interest rate ceilings or floors for adjustable-rate items. 97. The contribution of IRRBB to the overall internal capital assessment should be based on the bank s system outputs, taking account of key assumptions and risk limits. The systems used by Banks must have well-documented assumptions and techniques. Management must give additional consideration to the development of these systems and report its own internal methodologies because it is imperative that assumptions and techniques are evaluated for adequacy and completeness. The quality and reliability of the measurement system is contingent upon the data and various assumptions used in the model thus creating the necessity for management to afford increased focus to these items whilst bearing in mind that the Authority is using a standardised methodology. 98. Banks must include an overview of their methodologies for measuring the identified risks for capital purposes and include results of any stress and scenario testing performed. As part of the process, Banks must; a) document the reason for and result of the various stress tests; b) provide a summary of the assumptions and methodologies used in each scenario; c) indicate how the Bank would manage its business and capital to ensure ongoing compliance with minimum regulatory requirements; and d) provide stress tests results. At a minimum, the ICAAP stress test analysis must include: (i) A standardized 200 basis points interest rate shock; (ii) Reverse engineering to determine the likely causes of a breach in the Bank s statutory and/or regulatory capital requirements. 99. The overall level of capital should be commensurate with both the Bank s actual measured level of IRRBB and its risk appetite, and be duly documented in its ICAAP

 report. Further guidelines with respect to estimating IRRBB can be found in (Annex III Guidelines for calculating Interest Rate Risk in the Banking Book). Operational Risk 100. Operational risk is a significant component of any Banks risk profile. In line with the Rule and Statement of Guidance on Operational Risk Management for Banks, Banks must develop an

operational risk framework that must manage the various elements and evaluate the adequacy of capital given its operational risk framework. Risk appetite and tolerance must be outlined and policies must specify the extent of transference outside of the Bank. Liquidity Risk 101. Liquidity is crucial to the ongoing viability of any Banking organisation. Banks capital positions can have an effect on their ability to obtain liquidity, especially in times of crisis. Banks must have adequate systems for measuring, monitoring and controlling liquidity risk. Banks must evaluate the adequacy of capital given their own liquidity profile, that of their parent Bank and the liquidity markets in which they operate. 102. The ICAAP must reflect the importance of assessing the potential impact of liquidity risk on a Bank s capital adequacy. The Board and senior management must consider the relationship between liquidity and capital since liquidity risk can impact capital adequacy which, in turn, can aggravate a Bank s liquidity profile. 103. A key element in the management of liquidity risk is the need for strong governance of liquidity risk, including the setting of a liquidity risk tolerance by the Board. The risk tolerance must be communicated throughout the Bank and reflected in the strategy and policies that senior management sets to manage liquidity risk. Banks must also appropriately price the costs, benefits and risks of liquidity into the internal pricing, performance measurement, and new product approval process of all significant business activities. 104. Banks are expected to be able to thoroughly identify, measure, and control liquidity risks, especially with regard to complex products and contingent commitments (both contractual and non-contractual). This process must involve the ability to project cash flows arising from assets, liabilities and off-balance sheet items over various time horizons, and must ensure diversification in both the tenor and source of funding. 105. Banks must utilise early warning indicators to identify the emergence of increased risk or vulnerabilities in its liquidity position or funding needs. Banks must have the ability to control liquidity risk exposure and funding needs, regardless of their organisation structure, within and across legal entities, business lines, and currencies, taking into account any legal, regulatory and operational limitations to the transferability of liquidity. 106. Intra-day liquidity risks must be considered as a crucial part of a Bank s liquidity risk management. A Bank must also actively manage its collateral positions and have the ability to calculate all of its collateral positions.

 107. Banks must perform stress tests or scenario analyses on a regular basis in order to identify and quantify their exposures to possible future liquidity stresses, analysing possible impacts on the institutions cash flows, liquidity positions, profitability, and solvency. The results of these stress tests must be discussed thoroughly by the Bank s Board and senior management, and based on this discussion, must form the basis for taking remedial or mitigating actions to limit the Bank s exposures, build up a liquidity cushion, and adjust its liquidity profile to fit its risk tolerance. The results of stress tests must also play a key role in shaping the Bank s contingency funding planning, which must outline policies for managing a range of stress events and clearly sets out strategies for addressing liquidity shortfalls in emergency situations. Reputational Risk and Implicit Support 108. Reputational risk is multidimensional and arises from negative perception on the part of customers, counterparties, shareholders, investors, debt-holders, market analysts, other relevant parties or regulators that can adversely affect a Bank s ability to maintain existing, or establish new, business relationships and continued access to sources of funding (e.g.

through the interbank or securitisation markets). 109. Reputational risks exist throughout the organisation and exposure to reputational risk is essentially a function of the adequacy of Banks internal risk management processes, as well as the manner and efficiency with which management responds to external influences on Bank-related transactions. Banks policies and procedures must reflect the consideration of reputational risk via the level of its management and competence. 110. Banks must identify potential sources of reputational risk to which they are exposed. These include the Banks business lines, liabilities, affiliated operations, off-balance sheet vehicles and the markets in which they operate. The risks that arise must be incorporated into the Banks risk management processes and appropriately addressed in their ICAAPs and liquidity contingency plans. 111. Reputational risk can lead to the provision of implicit support, which may give rise to credit, liquidity, market and legal risk all of which can have a negative impact on a Bank s earnings, liquidity and capital position. By providing implicit support, Banks usually signal to the market that all of the risks inherent in the securitised assets are still held by the organisation and, in effect, had not been transferred. Since the risk arising from the potential provision of implicit support is not captured ex ante under Pillar 1, it must be considered as part of the Pillar 2 process. In addition, the processes for approving new products or strategic initiatives must consider the potential provision of implicit support and must be incorporated in the Banks ICAAPs. 112. Once potential exposures arising from reputational concerns are identified, banks must measure the amount of support they might have to provide (including implicit support of securitisations) or losses they might experience under adverse market conditions. In particular, in order to avoid reputational damage and to maintain market confidence, Banks must develop methodologies to measure as precisely as possible the effect of reputational risk in terms of other risk types (e.g. credit, liquidity, market or operational risk) to which they may be exposed. This could be R

accomplished by including reputational risk scenarios in regular stress tests. For instance, non-contractual off-balance sheet exposures could be included in the stress tests to determine the effect on a Bank s credit, market and liquidity risk profiles. Methodologies also could include comparing the actual amount of exposure carried on the balance sheet versus the maximum exposure amount held off-balance sheet, that is, the potential amount to which the Bank could be exposed. 113. Banks must also pay particular attention to the effects of reputational risk on their overall liquidity position, taking into account both possible increases in the asset side of the balance sheet and possible restrictions on funding, should the loss of reputation result in various counterparties loss of confidence. 114. Stress testing guideline consideration must be given to the effects on the other risks facing the Banks and how reputational risk might further exacerbate their exposures to these risks. Business and Strategic Risk 115. Banks must demonstrate that their strategic goals and objectives are compatible with the corporate mission and values, culture, business direction and risk tolerance. In addition, the Banks financial objectives must be consistent with their strategic goals and the strategic decisions must be generally prudent relative to the varying size and complexity including their target customers, the products they offer and the markets they operate in. 116. Banks must demonstrate their responsiveness to changes in the environment. As such, Banks strategic decisions must be indicative of their responsiveness to changes in the environment (including

those developments resulting in technological, economic, competitive or regulatory changes). 117. Banks must demonstrate that rapid growth in any business activity is identified, measured, managed, mitigated and controlled and outline the steps taken to readdress the risk management challenges that arise with the expansion of activity in any business line. Insurance Risk 118. Banks must implement adequate systems for measuring, monitoring and controlling insurance risk, if applicable Banks must implement adequate systems for measuring, monitoring and controlling insurance risk, if applicable. Insurance risk is primarily a consideration to be given by Banks with significant exposures derived from insurance business activities including the issuance of insurance-based derivatives. The major considerations are the risk of loss and the inability to meet liabilities, due to a deviation between actual and anticipated insurance business related costs. The projection of the Bank s exposure to the risk must be on-going and updated according to the Bank s planned activities and market trends. Pension Obligation Risk 119. Banks that offer pensions, or have a group member that offers pensions, must implement adequate systems for measuring, monitoring and controlling pension obligation risk and its effects on profit/loss as well as liquidity from an asset liability management standpoint. Banks must develop a pension obligation profile specific to the Bank and a well-founded projection to evaluate the Pillar 2 capital charge for this risk. Specific Risk Management Issues 120. In addition to addressing the risks discussed in the previous paragraphs, Banks must also have appropriate systems to address specific risk management issues. Some of these risk management issues affect a number of risk categories namely valuation practices and stress testing. The third specific risk management issue that will be discussed is sound compensation practices. Valuation Practices 121. Banks must ensure that they have adequate governance structures and control processes for fair valuing exposures for risk management and financial reporting purposes. The valuation governance structures and related processes must be embedded in the overall governance structure of the Bank, and consistent for both risk management and reporting purposes. 122. Banks must have clear and robust governance structures for the production, assignment and verification of financial instrument valuations. Policies must ensure that the approvals of all valuation methodologies are well documented. In addition, policies and procedures must set forth the range of acceptable practices for the initial pricing, marking-to-market/model, valuation adjustments and periodic independent revaluation. New product approval processes must include all internal stakeholders relevant to risk measurement, risk control, and the assignment and verification of valuations of financial instruments. 123. Banks control processes for measuring and reporting valuations must be consistently applied across the Bank and integrated with risk measurement and management processes. In particular, valuation controls must be applied consistently across similar instruments (risks) and consistent across business lines (books). These controls must be subject to internal audit. Regardless of the booking location of a new product, reviews and approval of valuation methodologies must be guided by a minimum set of considerations. Furthermore, the valuation/new product approval process must be supported by a transparent, well-documented inventory of acceptable valuation methodologies that are specific to products and businesses. 124. In order to establish and verify valuations for instruments and transactions in which it engages, Banks must have

adequate capacity, including during periods of stress. This capacity must be commensurate with the importance, riskiness and size of these exposures in the context of the business profile of the institution. In addition, for those exposures that represent material risk, Banks are expected to have the capacity to produce valuations using alternative methods in the event that primary inputs and approaches become unreliable, unavailable or not relevant due to market

 discontinuities or illiquidity. Banks must test and review the performance of its models under stress conditions so that it understands the limitations of the models under stress conditions.

125. Banks are expected to apply the accounting guidance provided to determine the relevant market information and other factors likely to have a material effect on an instrument's fair value when selecting the appropriate inputs to use in the valuation process. Where values are determined to be in an active market, Banks must maximise the use of relevant observable inputs and minimise the use of unobservable inputs when estimating fair value using a valuation technique.

126. Where a market is deemed inactive, observable inputs or transactions may not be relevant, such as in a forced liquidation or distress sale, or transactions may not be observable, such as when markets are inactive. In such cases, accounting fair value guidance provides assistance on what must be considered, but may not be determinative. In assessing whether a source is reliable and relevant, Banks must consider, among other things:

a) the frequency and availability of the prices/quotes;
b) whether those prices represent actual regularly occurring transactions on an arm's length basis;
c) the breadth of the distribution of the data and whether it is generally available to the relevant participants in the market;
d) the timeliness of the information relative to the frequency of valuations;
e) the number of independent sources that produce the quotes/prices;
f) whether the quotes/prices are supported by actual transactions;
g) the maturity of the market; and
h) the similarity between the financial instrument sold in a transaction and the instrument held by the institution.

Sound Stress Testing Practices

127. The paragraphs below provide a high-level overview of what is expected from a Bank with respect to stress testing. A Bank is required to adhere to the requirements listed in the paragraphs below. Banks should also refer to the Stress Testing Principles and Guidelines for guidance with respect to stress testing.

128. Stress testing is an important tool that Banks must adopt as part of their internal risk management. Stress testing alerts the Bank s management to adverse unexpected outcomes related to a broad variety of risks, and provides an indication to Banks of how much capital might be needed to absorb losses should large shocks occur. Moreover, stress testing supplements other risk management approaches and measures. It plays a particularly important role in:

a) providing forward looking assessments of risk,
b) overcoming limitations of models and historical data,
c) supporting internal and external communication,
d) feeding into capital and liquidity planning procedures,
e) informing the setting of a Banks risk tolerance,

f) addressing existing or potential, firm-wide risk concentrations, and
g) facilitating the development of risk mitigation or contingency plans across a range of stressed conditions.

129. Stress testing must form an integral part of the overall governance and risk management culture of the Bank. Board and senior management involvement in setting

stress testing objectives, defining scenarios, discussing the results of stress tests, assessing potential actions and decision making is critical in ensuring the appropriate use of stress testing in Banks risk governance and capital planning. Senior management must take an active interest in the development in, and operation of, stress testing. The results of stress tests must contribute to strategic decision making and foster internal debate regarding assumptions, such as the cost, risk and speed with which new capital could be raised or that positions could be hedged or sold. Board and senior management involvement in the stress testing program is essential for its effective operation. 130. Banks, under their ICAAPs, must examine future capital resources and capital requirements under adverse scenarios. In particular, the results of forward-looking stress testing must be considered when evaluating the adequacy of a Bank s capital buffer. Banks must also assess capital adequacy under stressed conditions against a variety of capital ratios, including regulatory ratios, as well as ratios based on the Bank s internal definition of capital resources. In addition, the possibility that a crisis impairs the ability of even very healthy Banks to raise funds at reasonable cost must be considered. 131. Banks must develop methodologies to measure the effect of reputational risk in terms of other risk types, namely credit, liquidity, market and other risks that they may be exposed to in order to avoid reputational damages and in order to maintain market confidence. This could be done by including reputational risk scenarios in regular stress tests. For instance, including non-contractual off-balance sheet exposures in the stress tests to determine the effect on a Bank s credit, market and liquidity risk profiles. 132. Banks must carefully assess the risks with respect to commitments to off-balance sheet vehicles and third-party firms related to structured credit securities and the possibility that assets will need to be taken on balance sheet for reputational reasons. Therefore, in the stress testing programme, Banks must include scenarios assessing the size and soundness of such vehicles and firms relative to their own financial, liquidity and regulatory capital positions. This analysis must include structural, solvency, liquidity and other risk issues, including the effects of covenants and triggers. 133. Stress testing is particularly important in the management of warehouse and pipeline risk 5 . Many of the risks associated with pipeline and warehoused exposures emerge

5 Warehousing risk refers to an event where the originating Bank is unable to transfer or sell their loans/assets due to unexpected changes in market conditions. The involuntary holding of these assets exposes the Bank to losses due to declining values of these assets. For instance, a rise in interest rates can decrease the value of the loans and make them less attractive to investors.

when a Bank is unable to access the securitisation market due to either Bank specific or market stresses. Banks must therefore include such exposures in their regular stress tests regardless of the probability of the pipeline exposures being securitised.

Sound Compensation Practices

134. Risk management must be embedded in the culture of the Bank. It must be a critical focus of the CEO, CRO, senior management, trading desk and other business line heads and employees in making strategic and day-to-day decisions. For a broad and deep risk management culture to develop and be maintained over time, compensation policies must not be unduly linked to short-term accounting profit generation. Compensation policies must be linked to longer-term capital preservation and the financial strength of the Bank, and must consider risk-adjusted

performance measures. In addition, the Bank must provide adequate disclosure regarding its compensation policies to stakeholders. Each Bank s Board and senior management has the responsibility to mitigate the risks arising from remuneration policies in order to ensure effective firm-wide risk management. 135. Banks must adopt the following principles set out in paragraphs a) through h) below in developing sound compensation policies and practices 6 : a) The Board must actively oversee the compensation system s design and operation, which must not be controlled primarily by the CEO and management team. Relevant board members and employees must have independence and expertise in risk management and compensation. b) In addition, the Board must monitor and review the compensation system to ensure the system includes adequate controls and operates as intended. The practical operation of the system must be regularly reviewed to ensure compliance with policies and procedures. Compensation outcomes, risk measurements, and risk outcomes must be regularly reviewed for consistency with intentions. c) Staff that are engaged in the financial and risk control areas must be independent, have appropriate authority, and be compensated in a manner that is independent of the business areas they oversee and commensurate with their key role in the Bank. d) Effective independence and appropriate authority of such staff is necessary to preserve the integrity of financial and risk management s influence on incentive compensation. e) Compensation must be adjusted for all types of risk so that remuneration is balanced between the profit earned and the degree of risk assumed in generating the profit. In general, both quantitative measures and human judgment must play a role in determining the appropriate risk adjustments, including those that are difficult to measure such as liquidity risk and reputation risk. f) Compensation outcomes must be symmetric with risk outcomes and compensation systems must link the size of the bonus pool to the overall

Pipeline risk refers to when the originating Bank (lender) makes a commitment to the borrower on certain terms and the borrower not to move forward and purchase the home. For instance, if interest rates fall, the borrower might reject the existing terms and pursue a more favourable interest rate.

6 Derived from the Principles for Sound Compensation Practices (April 2009) issued by the Financial Stability Board.

performance of the Bank. Employees incentive payments must be linked to the contribution of the individual and business to the Bank s overall performance. g) Compensation payout schedules must be sensitive to the time horizon of risks. Profits and losses of different activities of a Bank are realised over different periods of time. Variable compensation payments must be deferred accordingly. Payments must not be finalised over short periods where risks are realised over long periods. Management must question payouts for income that cannot be realised or whose likelihood of realisation remains uncertain at the time of payout. h) The mix of cash, equity and other forms of compensation must be consistent with risk alignment. The mix will vary depending on the employee s position and role. Banks must be able to explain the rationale for the relevant mix. i) Banks must disclose clear, comprehensive and timely information about their compensation practices to facilitate constructive engagement by all stakeholders, including in particular shareholders. Stakeholders need to be able to evaluate the quality of support for the Bank s strategy and risk posture. Appropriate disclosure related to risk management and other control

systems will enable Banks counterparties to make informed decisions about their business relations with the Bank. B.6. Internal Control Review 136. A Bank s internal control structure is essential to the capital assessment process. The Board has a responsibility to ensure that senior management establishes an internal control structure for assessing the various risks, develops a system to relate risks to Banks capital level, and establishes a method for monitoring compliance with internal policies. The Board must regularly verify whether its system of internal controls is adequate to ensure well-ordered and prudent conduct of business. 137. Effective control of the capital assessment process includes an independent review and, where appropriate, the involvement of internal or external audits. Internal as well as external auditors must frequently monitor and test risk management processes. The aim is to ensure that the information on which decisions are based is accurate so that processes fully reflect management policies and that regular reporting, including the reporting of limit breaches and other exception-based reporting, is undertaken effectively. 138. Banks must conduct periodic reviews of their risk management processes to ensure their integrity, accuracy, and reasonableness. Areas that must be reviewed include: a) appropriateness of the Bank s capital assessment processes given the nature, scope and complexity of its activities; b) identification of large exposures and risk concentrations; c) accuracy and completeness of data inputs into the Bank s assessment processes; d) reasonableness and validity of scenarios used in the assessment process; and e) stress testing and analysis of assumptions and inputs. ICAAP Outcome 139. The ICAAP should form an integral part of the management and decision-making culture of the Bank. The Board shall, at least once a year, assess and document whether the processes relating to the ICAAP implemented by the Bank successfully achieves the objectives envisaged by the Board. 140. The Authority will review a Bank s ICAAP document once it has been submitted. As explained later in this document, the review of the ICAAP will form a significant part of the Authority s risk-based supervisory assessment model, which is the outcome of its Supervisory Review and Evaluation Process (SREP). However, the Authority will also act upon its review of the Bank s ICAAP document in its own right. The Authority will review the ICAAP document and make a judgmental assessment, based on the information provided by the Bank in its ICAAP document, on the level of capital held by the Bank. 141. The Authority has an internal forum which is used to discuss the review of Banks ICAAP submissions. The internal forum holds ultimate responsibility for determining whether a Bank is under-capitalised based on the information provided by the Bank in its ICAAP submission. Should the internal forum believe the Bank is under-capitalised it will inform the Bank of the increased level of its minimum capital requirement. 142. Subsequent to the Authority s review of a Bank s ICAAP submission, the Authority may request a meeting with a Bank to further discuss its ICAAP. The Authority will write to the Bank s Board providing the results of its review and whether the Authority has increased the Bank s minimum capital requirement. 143. The Authority will take into consideration the nature, size and complexity of a Bank when reviewing the Bank s ICAAP submission. The systemic importance of a Bank will also be considered by the Authority as part of the review. The Supervisory Review and Evaluation Process (SREP) Principle 2: Supervisors should review and evaluate Banks internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with

the regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process. 144. The Authority will regularly review the process by which a Bank assesses its capital adequacy, risk position, resulting capital levels, and quality of capital held. The Authority will also evaluate the degree to which a Bank has in place a sound internal process to assess capital adequacy. This supervisory review will reflect the principle of proportionality, as it relates to the nature, scale and complexity of its activities, and the risks posed to the Authority s supervisory objectives. The review and assessment of a Banks ICAAP will form a significant part of the Authority s risk-based supervisory assessment model. The risk-based supervisory assessment model is an internal process the Authority uses to assess the risk of a Bank. 145. The supervisory review and evaluation process of Banks ICAAP forms an integral part of the Authority s overall supervisory approach and is expected to enable the assessment of the effectiveness, completeness and quality of a Banks ICAAP in

relation to its overall risk profile. The Authority s review process will leverage from information collected and assessments carried out as part of the wider supervisory regime, including desk-based reviews, on-site risk assessments, discussions with the Banks management, and reviews completed by internal and external auditors. 146. The Authority s supervisory review and evaluation process will involve a quantitative review of a Banks Pillar 2 inherent risk exposures. However, where risks are not readily quantifiable, the Authority will apply supervisory judgment as necessary. This may include qualitative assessments of a Banks ability to contain actual risk exposures within prudent, planned levels through effective risk governance, oversight, management and control practices. 147. The Authority s supervisory review process will also consider other important factors Banks need to take into account in arriving at its overall capital targets. These might include capital cover for plausible adverse stress scenario outcomes if there are uncertainties on the sufficiency of risk estimates, additional capital to support planned business growth, and additional capital to provide a general buffer for contingencies. The Authority will assess both the adequacy of a Bank s capital targets and its strategies and the capacity for achieving and maintaining these targets. 148. The SREP will involve some combination of: a) Off-site review including review of period reporting; b) On-site inspections; c) Discussions with senior management; d) Review of work done by external auditors; and e) Review of work done by internal auditors. Off-site Review 149. An off-site review of a Bank includes, amongst others, the review and evaluation of the Bank s Quarterly Prudential Return submissions, the Bank s business model and strategy, any applications made by the Bank and the Bank s ICAAP documentation. The SREP includes the review of all data that Banks are required to submit to the Authority. This includes the review of the data included in a Bank s submitted Quarterly Prudential Returns (QPR Form). On-site Inspections 150. One of the Authority s main functions is to inspect the affairs of regulated entities in order to determine whether they are complying with applicable legislation, regulatory requirements and policies and thus operating in a sound and prudent manner. The on- site inspection represents the fact-finding and/or sample testing components of the Authority s supervisory function. Discussions with Senior Management 151. The Authority will meet with senior members of the Bank, including the Head of Risk Management, to discuss any matters the Authority may have encountered through its

 off-site and on-site evaluations. This may include the discussion of any concerns or issues the Authority may have been made aware of. Review of work done by external auditors 152. A Bank s external auditor is required to assess the accuracy of a Bank s financial statements and may be required to assess certain select aspects of a Bank s business. The Authority will review all work performed by the Bank s external auditors in order to place reliance on the accuracy of the information received from the Banks. Review of work done by internal auditors 153. A Bank s internal audit function is required to audit all functions and business units within the Bank. The Authority will review all the work performed by the Bank s internal audit function in order to determine any issues that may lie within the Bank. Review of the adequacy of risk assessment 154. The Authority will assess the degree to which internal targets and processes incorporate the full range of material risks faced by the Bank. The Authority will review the adequacy of risk measures used in assessing internal capital adequacy and the extent to which these risk measures are also used operationally in setting limits, evaluating business line performance, and evaluating and controlling risks more generally. The Authority will assess the appropriateness of the risk appetite statement when compared to the Bank s strategic objectives. Assessment of the effectiveness of internal stress testing 155. The Authority will consider the results of sensitivity analyses and stress tests conducted by the Bank and how these results relate to capital plans. The Authority will assess the effectiveness of a Bank s stress testing programme in identifying relevant vulnerabilities. The Authority will review the key assumptions driving stress testing results and challenge their continuing relevance in view of existing and potentially changing market conditions. The Authority will challenge Banks on how stress testing is used and the way it affects decision-making. Where this assessment reveals material shortcomings, the Authority will require a Bank to detail a plan of corrective action. Assessment of capital adequacy and planning 156. The Authority will review the Bank s processes to determine that: a) Target levels of capital chosen are comprehensive and relevant to the current operating environment; b) These levels are properly approved, monitored and reviewed by senior management; and c) The composition of capital is appropriate for the nature and scale of the Bank s business.

 157. The Authority will consider the extent to which the Bank has provided for unexpected events in setting its capital levels. This analysis will cover a wide range of external conditions and scenarios, and the sophistication of techniques and stress tests used should be commensurate with the Bank s activities. Assessment of the control environment 158. The Authority will consider the quality of the Bank s management information reporting and systems, the manner in which business risks and activities are aggregated, and management s record in responding to emerging or changing risks. In all instances, the capital level at an individual Bank should be determined according to the Bank s risk profile and adequacy of its risk management process and internal controls. External factors such as business cycle effects and the macroeconomic environment should also be considered. Supervisory review of compliance with minimum standards 159. In order for certain internal methodologies, credit risk mitigation techniques and asset securitisations to be recognised for regulatory capital purposes, Banks need to meet a number of requirements, including risk management standards and disclosures. In

particular, Banks will be required to disclose features of their internal methodologies used in calculating minimum capital requirements. As part of the supervisory review process, the Authority will ensure that these conditions are being met on an ongoing basis. 160. The Authority reviews compliance with all conditions and requirements set for the standardised approaches for calculating the minimum regulatory capital requirement. In this context, the Authority will ensure that the use of various instruments that can reduce Pillar 1 capital requirements are utilised and understood as part of a sound, tested and properly documented risk management process. Supervisory Response 161. Having carried out the review process described above, the Authority will take appropriate action if it is not satisfied with the results of the Bank s own risk assessment and capital allocation. The Authority will consider a range of actions, such as those set out under Principles 3 and 4, as discussed below. Principle 3: Supervisors should expect Banks to operate above the minimum regulatory capital ratios and should have the ability to require the Banks to hold capital in excess of the minimum. 162. Pillar 1 capital requirements include a buffer for uncertainties surrounding the Pillar 1 regime that affect the Banking population as a whole, therefore, Bank-specific uncertainties are treated under Pillar 2. The buffers under Pillar 1 were set to provide reasonable assurance that a Bank with good internal systems and controls, a well- diversified risk profile and a business profile well covered by the Pillar 1 regime, and which operates with capital equal to Pillar 1 requirements, will meet the minimum goals for soundness embodied in Pillar 1. However, the Authority will typically require (or encourage) Banks to operate with a buffer, over and above the Pillar 1 standard. Banks should maintain this buffer for a combination of the following: a) Pillar 1 minimums are set to achieve a level of Bank creditworthiness in markets that is below the level of creditworthiness sought by many Banks for their own reasons. b) In the normal course of business, the type and volume of activities will change, as will the different risk exposures, causing fluctuations in the overall capital ratio. c) It may be costly for Banks to raise additional capital, especially if this needs to be done quickly or at a time when market conditions are unfavourable. d) For Banks to fall below minimum regulatory capital requirements is a serious matter. It may place Banks in breach of the relevant law and/or prompt nondiscretionary corrective action on the part of supervisors. e) There may be risks, either specific to individual Banks, or more generally to an economy at large, that are not taken into account in Pillar 1. 163. There are several means available to the Authority for ensuring that individual Banks are operating with adequate levels of capital. Among other methods, the Authority may set trigger and target capital ratios. Principle 4: Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular Bank and should require rapid remedial action if capital is not maintained or restored. 164. The Authority will consider a range of options if it becomes concerned that a Bank is not meeting the requirements embodied in the supervisory principles outlined above. These actions may include intensifying the monitoring of the Bank, restricting the payment of dividends, requiring the Bank to prepare and implement a satisfactory capital adequacy restoration plan, and requiring the Bank to raise additional capital immediately. The Authority has the discretion to use the tools best suited to the circumstances of the Bank and its operating environment. 165. The permanent solution to Banks difficulties is not always increased capital.

However, some of the required measures (such as improving systems and controls) may take a period of time to implement. Therefore, increased capital might be used as an interim measure while permanent measures to improve the Bank s position are being put in place. Once these permanent measures have been put in place and have been seen by the Authority to be effective, the interim increase in capital requirements can be removed. SREP Conclusion 166. The Authority will, as part of its SREP, take account of any relevant information obtained from off-site reviews, on-site examinations, prudential returns, meetings, media coverage and other research. The Authority will feed all this information, including its review of a Bank s ICAAP submission, into its risk-based supervisory assessment model. The outcome of the Authority s risk-based supervisory assessment will drive its supervisory review of a Bank.

167. The outcome of the SREP and the Authority s risk-based supervisory assessment will guide the Authority in using the following prudential measures in its supervisory review of a Bank: a) Intensified monitoring of the Bank; b) Restriction of certain activities; c) Prohibition on certain activities or acquisitions; d) Restriction or prohibition of the payment of dividends; e) Requiring the Bank to prepare and implement a satisfactory capital adequacy restoration plan; and/or f) Requiring the Bank to raise additional capital. 168. The Authority will consider, at a minimum, the following as circumstances which may necessitate a supervisory capital adjustment: a) CMRAI assesses the business model and/or strategy as very risky or difficult to assess; b) The Bank s capital assessment does not address all institution specific risks; c) The Bank is a recently licensed entity or has or plans to significantly change its business activities; d) The ICAAP and/or supporting inputs are considered ill-defined or inadequately implemented; e) Regulatory compliance risk of the Bank is assessed as high; and f) There exist material deficiencies in the governance and/or risk management framework of the Bank.

Annex I Summary of Rules RULE PARAGRAPH NUMBER PAGE NUMBER Banks must have in place a Board approved Internal Capital Adequacy Assessment Process (ICAAP) that is proportional to their nature, scale, complexity and business strategy. Banks must submit their ICAAP to the Authority within four months of its financial year-end. 7 5 The Bank s ICAAP must be conducted on a consolidated basis. 11 6 Banks Board and senior management are responsible for defining the risk appetite and ensuring that the risk management framework includes detailed policies that set specific firm-wide prudential limits on the Banks activities. 20 7 Banks are required to develop effective internal policies, systems and controls to identify, monitor, measure and control credit risk concentrations. 27 8 It is the responsibility of the Bank s Board and senior management to define its risk appetite. 38 12 Banks should have adequate management information systems (MIS) that provide the Board and senior management with timely and relevant reports on the Bank s risk profile and capital needs. 39 12 Banks must have credible risk mitigation strategies in place that receive the approval of the Board and senior management. 77 18 Banks must document and report via policies and procedures how they intend to ensure that a securitisation transaction is legitimately a transfer of risk if it is to be used to reduce the credit risk capital charge. 84 19 Banks must develop prudent contingency plans specifying how the Bank would respond to

funding, capital and other pressures that arise when access to securitisation markets is reduced. 87 20 Banks must perform stress tests or scenario analyses on a regular basis in order to identify and quantify their exposures to possible future liquidity stresses, analysing possible impacts on the institutions cash flows, liquidity positions, profitability, and solvency. 107 23 Banks, under their ICAAPs, must examine future capital resources and capital requirements under adverse scenarios. 130 27 Pillar 2 - Supervisory Review Process

Annex II - Sample ICAAP Document 1. The Authority does not prescribe any specific approach or format for the ICAAP; however, the amount of detail in the ICAAP must be proportionate to the nature, size and complexity of the Bank s business activities. Supplementary information such as policies, risk management frameworks and processes can be referred to by way of appendices. 2. The ICAAP document must be approved and signed off by the Bank s Board. Suggested Format 1. Executive Summary 2. Background 3. Statement of Risk Appetite 4. Capital Adequacy 5. Capital Planning 6. Liquidity Planning 7. Stress Testing 8. Risk Aggregation and Diversification 9. Challenge and Adoption of the ICAAP Executive Summary 3. This section must summarise the ICAAP methodology and results including: a) The purpose of the report and which Banks are covered by the ICAAP; b) Confirmation that the institution, on a consolidated basis where applicable, has assessed its capital as adequate based on the size and complexity of its business; c) The main findings of the ICAAP analysis: d) The level and composition of internal capital the Bank considers it appropriate to hold in comparison to the Bank s Pillar 1 requirement, e) Whether the Bank has adequate capital resources over its planning horizon including periods of economic downturn; and f) The adequacy of the institution s risk management processes; g) A summary of the financial position of the Bank including its balance sheet structure, financial projections with underlying assumptions, and strategic objectives; h) A brief description of the Bank s capital needs, anticipated capital expenditures, desirable capital levels, external capital sources and dividend policy; i) An indication of how the Bank intends to manage future capital allocation and for what purposes including periods of economic downturn; j) Information concerning the most material risks, whether or not the level of risk is acceptable and if it is not, what mitigants are proposed; k) A methodology for monitoring compliance with internal policies; l) Commentary on major issues where further analysis and decisions are required; Pillar 2 - Supervisory Review Process

m) Information disclosing who has carried out the assessment, how it has been challenged at the approval process of the ICAAP; n) A statement of the Bank s capital management philosophy and its alignment with the ICAAP; o) Includes details of any restrictions on the Bank s access to capital and the impact on projected capital requirements based on balance sheet projections of at least three years. Background 4. This section must provide an overview of the Bank including all relevant organizational and historical financial data for the Bank e.g. group structure (legal and operational), reporting structure and various sub-committees, financial standing in comparison to regulatory requirements, customer accounts, deposits by Banks, total assets, and any conclusions that can be drawn from trends in the data which may have a future impact on the Bank, albeit positive or negative. Statement of Risk Appetite 5. This section must provide an overview of the Bank s risk appetite and set the

frequency for the reviews of the Board and senior management s risk appetite and tolerance. It must be consistent with the findings of the ICAAP, asset composition and operations of the Bank. (Annex II Guidelines to defining a Statement of Risk Appetite) Capital Adequacy 6. This section must include a detailed review of the Bank s capital adequacy position. The information provided would include: Timing a) the effective date of the ICAAP calculations together with consideration of any events between this date and the date of submission which would materially impact the ICAAP calculation together with their effects; and b) details of, and rationale for, the time period over which capital has been assessed. Risks Analysed a) an identification of the major risks faced in each of the following categories such as: i. credit risk, ii. market risk, iii. operational risk, iv. insurance risk v. concentration risk vi. residual risk vii. securitisation risk viii. business risk ix. interest rate risk x. pension obligation risk xi. reputational risk xii. strategic risk xiii. any other risks identified b) an explanation of how each risk has been assessed and the quantitative or qualitative results of that assessment; c) where relevant, a comparison of that assessment with the results of the pillar 1 calculations; d) a clear articulation of the Bank s risk appetite by risk category if this varies from the overall assessment; and e) where relevant, an explanation of any other methods apart from capital used to mitigate the risks. Capital Planning 7. This section must include key assumptions and factors that could have a significant impact on the broader financial condition of the Bank as well as an analysis of the sensitivity tests undertaken. Banks must demonstrate that an emphasis has been placed on longer-term capital maintenance and an effective capital plan that accounts for stressful market conditions as well. These plans must incorporate both identified risks and the management processes in place that function to mitigate those risks. 8. The analysis must include financial projections for three to five years based on business plans and capital adequacy calculations. These must take account of expected capital requirements over economic and business cycles. Typical scenarios may include: a) how an economic downturn would affect the Bank s capital resources, capital requirements and its future earnings taking into account its business plan; b) how changes in the credit quality of the Bank s credit risk counterparties affect the Bank s capital and its credit risk capital requirement; c) an assessment by the Bank of how it would continue to meet its regulatory capital requirements; d) projections of cash inflows and outflows under stressed conditions. Liquidity Planning 9. This section must summarize how liquidity risk is managed (as distinct from capital aside to cover losses incurred in a liquidity stress) and the key assumptions and conclusions of cash flow stress testing performed to manage liquidity. Where relevant, Banks must have the following documents to support their ICAAP: a) Asset-Liability Committee (ALCO) papers and samples of ongoing management information used for treasury functions such as cash flow forecasts; b) Liquidity and funding policy documentation (solo and group for which the Authority is the home regulator and solo otherwise); c) Treasury related Internal Audit reports; d) An organization chart that covers liquidity and funding risk management delegated authorities and reporting lines within the Bank; e) Documentation of breaches of internal

limits and corrective action taken/recommended; f) Liquidity stress testing to consider at least scenarios such as ratings downgrades, reduction in deposits and access to short term funding, changes to the cost of funding, must be conducted and documented; g) Consideration of intra-group liquidity arrangements particularly in the case of international arrangements; h) Off-balance sheet financing long and short positions; i) Market counterparties (including margin or collateral obligations) towards clients; j) Analysis of liquidity demands and sources of liquidity; and k) Contingency funding plans. 10. Whilst capital is an imperfect mitigant (i.e. is not a preventative measure) for liquidity risk, there may well be a capital cost of a liquidity stress. Banks must therefore consider such scenarios as a ratings downgrade or other event which might increase their cost of funding and therefore absorb capital reserves. Stress Testing 11. This section must describe the Bank s stress testing methodologies/models for all applicable portfolios and/or risks. The Bank should describe the scenarios used in its stress testing, the factors that have been forecasted, the risks that are stressed and the final outcome to the Bank s portfolios. 12. The Bank should include the final outcome of its stress tests and explain how the stressed outcomes are used in its risk assessment and capital planning. The Bank should use the guidance provided by the Authority in the Stress Testing Guidelines to assist in this regard. Risk Aggregation and Diversification 13. This section must describe how the results of the various separate risk assessments are brought together and an overall view taken on capital adequacy. The Bank must consider the amalgamation of various separate risk assessments to take a holistic view of capital adequacy through diversification allowances based on assumed correlations within risks and between risks and the determination of those considerations. The Bank may incorporate technical aggregation using quantitative techniques to combine risks. However, at a broader level, the overall reasonableness of the detailed quantification approaches might be compared with the results of an analysis of capital planning and a view taken by senior management as to the overall level of capital that is appropriate. The technical aggregation must describe: a) any allowance made for diversification, including any assumed correlations within risks and between risks and how such correlations have been assessed, including in stressed conditions;

 b) the justification for any credit for diversification benefits between legal entities, and the justification for the free movement of capital between them in times of financial stress; and c) the impact of diversification benefits with management actions excluded. It might be helpful to set out revised ICAAP figures with all correlations set to 1 i.e., no diversification; and similar figures with all correlations set to 0 i.e. assuming all risks are independent. 14. The broad overall assessment must describe how the Bank has arrived at its overall assessment of the capital it needs taking into account such matters as: a) the inherent uncertainty in any modelling approach; b) weaknesses in the Bank s risk management procedures, systems or controls; and c) the differences between regulatory capital and internal capital; and the differing purposes that capital serves: shareholder returns, rating objectives for the Bank as a whole or certain debt instruments the Bank has issued, avoidance of regulatory intervention, protection against uncertain events, depositor protection, working capital, capital held for strategic acquisitions etc. Challenges and Adoption of the ICAAP 15. This section must describe the extent of challenge and testing of the ICAAP. It must include the testing and control processes applied to the ICAAP models

or calculations, and the senior management or Board review and sign off procedures. The Bank must also consider: a) documenting any challenges and testing of the ICAAP including the testing and control process applied to the calculations; b) describing the process of senior management and board review as well as documents ICAAP sign off by the board; c) including details of reliance placed on external suppliers of information and assumptions used and third-party reliance on the ICAAP review; d) indicating how the ICAAP is being used by the organization and to what extent it is embedded in the decision-making process; e) including a comparison of your actual stated operating philosophy on capital management and the ICAAP submitted; and f) detailing any anticipated future refinements within the ICAAP.

 Annex III Guidelines to Defining a Statement of Risk Appetite These guidelines have been largely adopted from a presentation by KPMG As part of the ICAAP process, the Bank s Board and senior management are responsible for defining the Bank s risk appetite. This sets the foundation of the risk culture for the Bank and essentially the tone at the top. The risk appetite should set out the level of risks the Bank is prepared to take or accept in order to achieve its business objectives. The risk appetite statement should be integral in the risk management framework of a Bank, and establishing an appropriate risk appetite is a key component of a successful framework. Key steps towards defining an appropriate risk appetite statement: 1. Identify your organisational strategies; these may have already been outlined in the Bank s business plan. Common objectives across Banks include: a) Market share b) Capital Adequacy c) External Credit ratings d) Regulatory obligations/reputation e) Earnings stability and growth f) Investor returns 2. Understand your stakeholders expectations, ultimately, they drive or impact your organizational objectives. These stakeholders include shareholders, investors, regulators, employees, creditors etc. Identify and document interests, benefits and outputs that stakeholders demand from your organisation, such as: a) Shareholder value b) Compliance with regulations c) Product safety d) Privacy of personal information 3. Determine how much risk the Bank is currently undertaking as compared to its capacity to undertake the level of risk. (This also forms part of the process towards sound capital assessment and capital planning.) a) Identify potential risks the Bank is exposed to that may prevent it achieving its objectives. b) Measure the aggregate level of unexpected losses that the Bank is willing to accept in the event that certain events occur. c) Review and understand the current risk-taking capacity assess the capital plans and business plans and determine whether adequate capital buffers exist. d) Consider the amount of capital (buffer) along with the provision for unexpected losses. The risk appetite of the Bank will determine the adequacy of the capital

 buffer. The Bank should endeavor to balance between competing strategic/business objectives. 4. Senior management consists of a core group of individuals who are responsible and should be held accountable for overseeing the day-to-day management of the Bank. These individuals should have the necessary experience, competencies and integrity to manage the businesses under their supervision as well as have appropriate control over the key individuals in these areas. 5. Determine risk limits and ranges (tolerances) to ensure that the risk appetite stays within the appropriate boundaries. 6. Formalise and

approve a risk appetite statement. Once the risk appetite has been approved, the statement should then be communicated to the wider organization. Example of a Risk Appetite Statement (taken from a Bank s annual report) a) maintaining an AA rating or better; b) ensuring capital adequacy by maintaining capital ratios in excess of rating agency and regulatory thresholds; c) maintaining low exposure to stress events ; d) maintaining stability of earnings; e) ensuring sound management of liquidity and funding risk; f) maintaining a generally acceptable regulatory risk and compliance control environment; and g) maintaining a risk profile that is no riskier than that of the Bank s average peer. Annex IV Guidelines for Calculating Interest Rate Risk in the Banking Book General Guidance Interest Rate Risk in the Banking Book (IRRBB) is part of the Basel capital framework s Pillar 2 (Supervisory Review Process) and subject to the Basel Committee s guidance set out in the 2004 Principles for the management and supervision of interest rate risk (the IRR Principles). The IRR Principles lay out the Basel Committee s expectations for Banks identification, measurement, monitoring and control of IRRBB as well as its supervision. This instruction guide is designed to assist Banks in carrying out stress tests of the impact of IRRBB. The asset and liability positions on the Bank s balance sheet should be slotted into a maturity ladder according to the following principles: a) Separate maturity ladders should be used for fixed and floating rate instruments: i Fixed-rate instruments are allocated according to the residual term to maturity, and ii Floating-rate instruments according to the residual term or the next repricing date whichever is earlier. b) All assets and liabilities belonging to the banking book and all off-balance sheet items belonging to the banking book which are sensitive to changes in interest rates (including all interest rate derivatives) are slotted into a maturity ladder comprising a number of time bands large enough to capture the nature of interest rate risk. Non- interest rate sensitive assets and liabilities should be slotted in the Non-interest rate time bands accordingly. c) Separate maturity ladders are to be used for each currency accounting for more than 5% of either banking book assets or liabilities i.e. a separate ladder for US, Euro, GPB etc. Assets: a) Report deposits with Banks according to the next contractual repricing date or repayment date. b) Report debt securities (e.g. CDs, FRNs and bills of exchange purchased) according to the next reprising date or repayment date, whichever is earlier. Fixed-rate instruments are allocated according to the residual term to maturity and floating-rate instruments according to the residual term to the next repricing date. c) Report overdrafts in the 0 to 1 month maturity band. Loans should be reported by the earliest date at which the Bank has the ability to obtain repayment or vary the interest rate. d) Report variable mortgages in the 0 to 1 month or the 1 to 3 months maturity band depending on the time frame the Bank expects to take to adjust its variable rates after movements in the official or market rate. Floating rate mortgages should be reported according to the reprising date or repayment date. Report fixed rate mortgages in the maturity band that reflect the residual term to maturity. e) Report all other assets according to contractual maturity or the next repricing date. f) Report off-balance sheet asset exposures according to contractual maturity or the next repricing date. Long Positions in Derivatives: Derivatives are converted into positions in the relevant underlying. The amounts considered are the

principal amount of the underlying or of the notional underlying. a) Report the notional amounts receivable under the relevant interest rate derivative contract. i. Swaps are treated as two notional positions with relevant maturities. For example, an interest rate swap under which a Bank is receiving floating-rate interest and paying fixed-rate interest will be treated as a long floating-rate position of maturity equivalent to the period until the next interest fixing and a short fixed-rate position of maturity equivalent to the residual life of the swap. ii. Futures and forward contracts, including forward rate agreements (FRA), are treated as a combination of a long and a short position. The maturity of a future or a FRA will be the period until delivery or exercise of the contract, plus - where applicable - the life of the underlying instrument. (For example, a long position in a June three month interest rate future (taken in April) is to be reported as a long position with a maturity of five months and a short position with a maturity of two months.) iii. Options are considered according to the delta equivalent amount of the underlying or of the notional underlying. b) Report forward foreign exchange purchases according to settlement date. For example, the separate legs of cross-currency swaps should be reported in the relevant maturity ladders for the currencies concerned. c) Report other derivative contracts amounts receivable by payment date. Liabilities: a) Report deposits from Banks according to the maturity band in which the interest rate payable on the deposit can be changed or varied by the Bank. b) Report total call and notice accounts according to the maturity band in which the interest rate payable on the deposit can be changed or varied by the Bank. c) Report fixed term deposits according to contractual maturity. d) Report all other deposits according to the next repricing date or repayment date, whichever is earlier. e) Report repos, debt and other borrowings issued according to the next repricing or repayment date, whichever is earlier. Variable and floating rate debt should be entered by next interest rate redetermination date. f) Report all other liabilities, capital and reserves. For capital and reserves, shareholder s equity that are non-interest sensitive should be slotted in noninterest sensitive time band. g) Report off-balance sheet asset exposures according to contractual maturity or interest rate redetermination dates. Short Positions in Derivatives: a) Report all other notional amounts payable under interest rate derivative contracts. (Refer to the long position guidance (above) and report the corresponding short positions accordingly.) b) Report forward foreign exchange sales by settlement date. c) Report other derivative contracts amounts receivable by payment date.

Calculation process: The calculation process consists of five steps: Individual Currency template a) Calculate the net position for each band by offsetting the asset and long positions with the liabilities and short positions. b) Calculate the weighted positions by multiplying the net positions by the respective weighting factors. These factors are based on an assumed parallel shift of 200 basis points throughout the time spectrum, and on a proxy of modified duration of positions situated at the middle of each time band and yielding 5%. (Table 1). c) Sum the resulting weighted positions, off-setting longs and shorts, leading to the net short- or long-weighted position of the banking book in the given currency. Summary Sheet d) Calculate the weighted position of the whole banking book by summing the net short- and long-weighted positions calculated for different currencies. (Each currency representing 5% of the assets or liabilities of the banking book should be reported in separate templates). e) The final step is to relate the weighted position of the whole banking book to capital. If the risk

reported here exceeds 5% of capital, this category should be specifically addressed within the ICAAP. Where that risk approaches 20% of capital, enhanced mitigation is likely to be required.

Annex V Basel Committee s Publications on Risk Management

1. Core Principles for Effective Banking Supervision (September 2012)
2. Corporate governance principles for banks (July 2015)
3. Sound management of risks related to money laundering and financing of terrorism (February 2016)
4. Principles for sound stress testing practices and supervision (May 2009)
5. Principles for effective risk data aggregation and risk reporting (January 2013)
6. Sound credit risk assessment and the valuation for loans (June 2006)
7. Principles for the Management of Credit Risk (September 2000)
8. Revisions to the Basel II market risk framework (July 2009)
9. Principles for the Sound Management of Operational Risk (June 2011)
10. Principles for Sound Liquidity Risk Management and Supervision (September 2008)
11. Interest rate risk in the banking book Standards (April 2016)