



HDFC BANK OF SRI LANKA

Integrated Risk Management Framework

Revision No	V
Next Review	April 2025
Owned By	Integrated Risk Management Division

Complied with

BANKING ACT DIRECTION NO. 7 OF 2011 INTEGRATED RISK MANAGEMENT FRAMEWORK FOR LICENSED BANKS

In order to ensure the soundness of the banking system, Sections 46(1) and 76(J)(1) of the Banking Act, No. 30 of 1988, last amended by the Banking Act, No. 46 of 2006, empowers the Monetary Board to issue Directions to licensed banks regarding the manner in which any aspect of the business of such banks is to be conducted. Accordingly, the Monetary Board issues this Direction to all licensed banks on integrated risk management as management of risks on banking business operations in an integrated manner would promote the soundness of banks and the banking system.

Sec.9 CORPORATE GOVERNANCE

Rules set out in Section 9 of these Rules shall be effective from 1st October 2023, by Colombo Stock Exchange Listed Entities establish and maintain the policies and disclose the fact of existence of such policies together with the details relating to the implementation of such policies by the Entity on its website; 9.2.1 (f) Policy on Risk management and Internal controls

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INTEGRATED RISK MANAGEMENT FRAMEWORK IN HDFC BANK

A. Integrated Risk Management

1. Introduction

HDFC bank was incorporated in 1984 as a public society with the primary objective of providing housing finance and ancillary services to the people. The Bank was converted into a public corporation under the provisions of Housing development finance corporation Act No.17 of 1997 and obtained the status as “licensed Specialized Bank-LSB” in year 2003 which is held under the supervision of the central Bank of Sri Lanka (CBSL). The Bank had confined to the “Housing Finance” and recently empowered to diversify the portfolio as per the “Schedule IV” of the banking Act NO. 30 of 1988 with the amendments to the HDFC act. Accordingly, Bank presently offers leasing, pawning, micro finance, SME project finance etc., in addition to the “Housing Finance”. The Bank is currently operating across the island with 39 Branches.

Purpose of the Document is to define the integrated risk management framework (IRMF) of HDFC Bank of Sri Lanka in line with the requirement of Banking Act Direction No 7 of 2011. IRMF is developed taking in to account current business environment of the country, HDFC’s business strategy and its operational model in the country. Given the global scale of the organization and the experience in managing risk for over 200 years IRMF draws from HDFC’s regional platforms that are designed to place cooperate oversight with well-defined independent risk management functions. It is also characterized by its country-specific risk architecture HDFC seeks to achieve in meeting regulatory requisites of the central Bank of Sri Lanka (CBSL).

1.1 Objectives

In publishing these guidelines, the objectives of the HDFC Bank are:

- To promote better risk culture at all levels of the financial institution.
- To provide minimum standards for risk management practices.
- To improve financial soundness of individual financial institutions and stability of the overall financial sector.
- To encourage financial institutions to adopt and implement a sound risk management Framework.
- To introduce important risk management tools and techniques for assessment and necessary treatment of various risks.

The IRMF includes the following aspects considered by the CBSL as integral to integrated risk management.

- Various potential risks and possible sources of risks
- Effective measures to control and mitigate risks at prudent levels
- Mechanism for managing, reporting and monitoring
- Risk Ownership (Relevant officers and Committees responsible for risk control and mitigation)

CBSL has also introduced several prudential risk limits, risk measurements, loss provisioning computation methodologies and reporting formats etc., to monitor the integrity of Internal Capital Adequacy Assessment Process (ICAAP) of Banks operating in Sri Lanka as part of Basel II compliance

requirements which too are recognized and factored into the IRMF taking advantage of Bank's satisfactory compliance record in the local regulatory environment for over three decades now. Some general topics of risk management are briefly discussed as a precursor to dealing with the Bank's risk policies/procedures/processes in order to help disseminate risk consciousness across HDFC particularly among the junior and middle management levels whose involvement is regarded as a factor contributing to the success of IRMF implementation as envisaged by the CBSL.

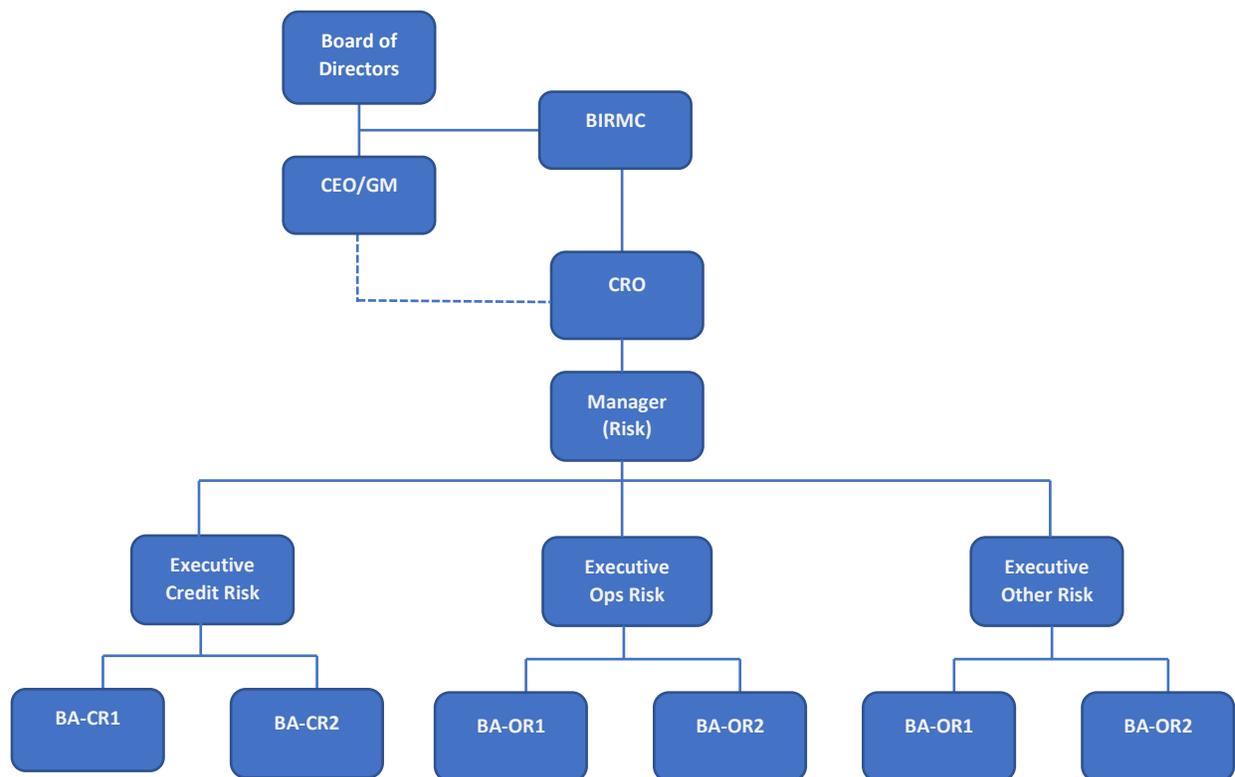
The following regulatory imperatives are discussed in the HDFC Risk Management policies.

- Active Board and Senior Management participation
- Adequate risk management policies and limits
- Appropriate risk measurements and reporting systems
- Strong risk oversight and monitoring structure and internal controls
- Compliance and disclosures

The IRMF document is also intended to serve as a source of reference for the Regulatory Supervisors and the External Auditors in their Risk Management and Good Governance Reviews of HDFC.

1.2 Organizational Structure of HDFC

Based bank's risk profile, volumes and the compliance requirements following structure would appropriate for the smooth functioning of the risk management division.



1.3 Organization-wide Risk Consciousness

Adaption of Risk Definition

“Risk” is commonly recognized as a probable loss that may arise as much from possibility that threats will materialize as from errors of judgment that will prevent rewarding opportunities from being realized. “Risk” is also to be understood as combining both “Uncertainty” and “Exposure” and that it is assessable / quantifiable. Accordingly, “Risk” is to be understood not merely as to avoid possible losses but also in helping the risk owners assess even the areas perhaps presumed to be of little or no risk, in its proper perspective. The adoption of a risk definition helps permeate risk consciousness across the organization in a manner that reflects the organization’s standard view of “risk.

1.4 Priority Risk

Risks are inherent in any business operation and should be identified in terms of their relative importance in the business. The risks, be they inherent, transient or emerging need to be classified so as to determine the form of structures capable of managing them; to fix responsibility to the individuals, groups and/ or the committees, to work with appropriate analytical tools and allocate human and technological resources needed to manage them. HDFC has identified Credit Risk, Liquidity Risk and Operational Risk as its priority risks and also perceives Interest rate, legal and Regulatory risks as highly interdependent and important categories in its risk management function.

1.5 Risk Ownership

The concept of risk ownership is to be practiced as helping to bring about an organization-wide compulsion to act uniformly while allowing the decision makers to exercise their discretion within set parameters pointed at the achievement of corporate business goals which entail management of complex and variant individual perceptions of and approaches to risk responses.

From a management perspective, the personnel who are vested with authority and placed at positions where they could exert perceptible influence on the HDFC bank’s assets and liabilities and are usually identified as the “Risk Owners”. Accordingly, Management and all other members of staff are expected to own up their decisions/actions (Responsibility) and the ensuing results of such decisions and actions (Accountability) which in “Risk Management” is known as Risk Ownership.

Ideally, “Risk Ownership” is accepted as an implicit contractual obligation in the employment contracts. The risk owners are expected to drive risk consciousness in their designated functional lines individually and across the organization in concert. They are not only accountable to a specific dimension of risk management but also obligated to compensate for gaps created by other players in the bank.

1.6 Boundaries of Risks

Risk owning responsibilities are generally demarcated at three levels:

1. Strategic (Policy/Governance) level
2. Managerial (Implementation) level
3. Operational level

and the presence of subtle and often complex combinations of this segmentation are illustrated below:

Characteristic	Strategic	Management	Operational
Level	Top Management	All levels - top to front-line supervision	Supervisory
Scope	Total	Overall related to sub-system	Operating unit
Time Frame	Long range	Short to Intermediate	Short periods
Environment	External, towards developing Internal	Internal, adjusting to external factors	Internal only
Goals and Objective	Basic objectives	Tangible goals within overall objectives	Short-term, tangible to operating unit
Structuring	Rather unstructured	Fairly highly structured, but flexible	Rigid, pre-established
Activity Pattern	Irregular	Rhythmic, regular	Highly repetitive
Character of Activity	Creative	Administrative, persuasive	Following directions, little initiative
Activity Focus	Entire Organization	All operations, line management	Operating unit

2. Integrated Risk Management oversight

2.1. Board and Senior Management

The Board of Directors (“BOD”) and Corporate/Senior Management personnel are key players having major influence in the bank’s risk management process. Each one is accountable for a dimension of risk management and expected to compensate for the gaps created by under-performance and/ or failure of other key players, by enhancing their own assigned roles.

The Board of directors is overall responsible for risk management policies, overall responsibility lies with the senior management team and the risk owners as;

- a) Ensure that the bank has established a robust and pervasive risk culture and clear policies that define risk management as the responsibility of each bank’s senior management, subject to the oversight of the Board.
- b) Establish risk limits based on risk appetite of the bank.
- c) Ensure that the Senior Management of the bank:
 - i. establishes an integrated framework in order to assess and appropriately manage various risk exposures of the bank;
 - ii. develops a system to monitor the bank’s risk exposures and to relate them to the bank’s capital;

- iii. establishes a method to monitor the bank's compliance with internal policies, particularly with regard to risk management; and
 - iv. Effectively communicates all relevant policies and procedures throughout the bank.
- d) Adopt and support strong internal controls.

2.2 Senior Management Responsibilities

HDFC is integrated into the overall HDFC risk and control framework, balancing senior management oversight with well-defined independent risk management functions. The senior management of HDFC's responsibility to implement HDFC policies and practices, oversee risk management, and respond to the needs and issues in the bank. The Bank's senior management as follow

2.3 Board Integrated Risk Management Committee (BIRMC)

The overall risk management has assigned to an independent Integrated Risk Management Committee (IRMC) of the BOD, established as per Rules 3(6)(v) of the Banking Act Directions Nos.11&12 of 2007 on Corporate Governance for Licensed Banks in Sri Lanka with the responsibilities stated therein.

The IRMC conforms to the following CBSL requirements:

- Assessment of priority risks, credit, market, liquidity, operational and the strategic risks through appropriate risk indicators and management information generated on a monthly basis and to submit risk assessment report within a week of each meeting to the CCC seeking the CCC's views, concurrence and/or specific directions
- Review the adequacy and effectiveness of all management level committees.
- To take prompt action to mitigate the effects of specific risks with particular reference to exposure beyond the prudent levels in terms of policies and regulatory and supervisory requirements.
- The committee sittings to take place at least quarterly to assess all aspects of risk management including updated business continuity plans
- To take appropriate actions against failure to identify specific risks and corrective actions as recommended by the committee and/or the regulatory supervisors
- To establish a compliance function to assess HDFC compliance with laws, regulations, regulatory guidelines, internal controls and approved policies on all areas of business operations
- To have a dedicated compliance officer selected from key management personnel who should carry out the compliance function and report to the committee periodically

2.4 Board Audit Committee

The audit committee of the Bank, acting on behalf of the board of directors, is responsible for assessing the effectiveness and independence of the Bank's internal audit function. Complying with board committees as set out in Directions 3(6) (ii), 3(6) (iii), 3(6) (iv) and 3(6) (v) of these Directions committee report directly to the board.

- a) To appoint of the external auditor for audit services to be provided in Compliance with the relevant statutes;
- b) the implementation of the Central Bank guidelines issued to auditors from time to time;
- c) the application of the relevant accounting standards; and
- d) the service period, audit fee and any resignation or dismissal of the auditor;
- e) provided that the engagement of the Audit partner shall not exceed five years, and that the particular Audit partner is not re-engaged for the audit before the expiry of three years from the date of the completion of the previous term.
- f) To review and monitor the external auditor's independence and objectivity and the effectiveness of the audit processes in accordance with applicable standards and best practices.
- g) To develop and implement a policy on the engagement of an external auditor to provide non-audit services that are permitted under the relevant statutes, regulations, requirements and guidelines.
- h) To, discuss and finalize with the external auditors the nature and scope of the audit, including an assessment of the bank's compliance with the relevant Directions in relation to corporate governance and the management's internal controls over financial reporting such as the preparation of financial statements for external purposes in accordance with relevant accounting principles and reporting obligations
- i) To review the financial information of the bank, in order to monitor the integrity of the financial statements of the bank, its annual report, accounts and quarterly reports prepared for disclosure, and the significant financial reporting judgments contained therein and reviewing the bank's annual report and accounts and quarterly reports before submission to the board,
- j) To discuss issues, problems and reservations arising from the interim and final audits, and any matters the auditor may wish to discuss including those matters that may need to be discussed in the absence of key management personnel, if necessary.
- k) To review the external auditor's management letter and the management's response thereto.
- l) To take the following steps with regard to the internal audit Function of the bank:

Review the adequacy of the scope, functions and resources of the internal audit department, and satisfy itself that the department has the necessary authority to carry out its work. Review the internal audit program and results of the internal audit process and, where necessary, ensure that appropriate actions are taken on the recommendations of the internal audit department;

- i. Review any appraisal or assessment of the performance of the head and senior staff members of the internal audit department;
- ii. Recommend any appointment or termination of the head, senior staff members and outsourced service providers to the internal audit function;
- iii. Ensure that the committee is appraised of resignations of senior staff members of the internal audit department including the chief internal auditor and any outsourced service providers,

- and to provide an opportunity to the resigning senior staff members and outsourced service providers to submit reasons for resigning;
- iv. Ensure that the internal audit function is independent of the activities it audits and that it is performed with impartiality, proficiency and due professional care;
- m) To consider the major findings of internal investigations and management's responses thereto;
- n) The chief finance officer, the chief internal auditor and a representative of the External auditors may normally attend meetings. Other board members and the chief executive officer may also attend meetings upon the invitation of the committee. However, at least twice a year, the committee meet with the external auditors without the executive directors being present. The committee have:
- (i) Explicit authority to investigate into any matter within its terms of reference;
 - (ii) The resources which it needs to do so;
 - (iii) Full access to information; and
 - (iv) Authority to obtain external professional advice and to invite outsiders with relevant experience to attend, if necessary.
- n) The committee meet regularly, with due notice of issues to be discussed and record its conclusions in discharging its duties and responsibilities.
- q) The committee review arrangements by which employees of the bank in confidence, raise concerns about possible improprieties in financial reporting, internal control or other matters. Accordingly, the committee shall ensure that proper arrangements are in place for the fair and independent investigation of such matters and for appropriate follow-up action and to act as the key representative body for overseeing the bank's relations with the external auditor

2.5 Internal Audit

Integrated risk management policies and procedures well as the functionalities at various levels of the risk management function reviewed by the internal audit function of banks on an on-going basis while the external audit makes an independent review on annual basis. Additionally, Internal Audit division validates any model used by the risk management division on a periodic basis as an independent party.

2.6 Operational Level

Risk management in operational areas confined to the operational procedures and guidelines set forth by the BOD and the Senior Management. Risk Management division headed by Chief Manager & Risk Management consist with both Integrated risk management division as well as the Credit administration department.

2.7 Risk Management Policies & Limits

The risk management policies and limits governing "Priority Risks"; Credit, Liquidity and Operational risks are discussed under separate sections.

2.8 Policy & Procedures

Board approved policy/procedure manuals are available covering practically all significant areas of risks. They are reviewed and updated periodically. A ready reference summary version thereof is also available.

2.9 Compliance

HDFC partially conforms to Basel II and fully complied with CBSL and ICAAP regulatory guidelines which offer the following options:

- Standardized Approach (SA) for Credit Risk
- Standardized Approach (SA) for Market Risk
- Basic Indicator Approach (BIA) for Operational Risk

3. Supervisory requirements Linked with IRMF priorities and processes

Given the diversity of balance sheet profile of bank, it is neither prudent nor desirable to adopt a uniform framework for management of risks. The architecture of an integrated risk management function is specific, dictated by the size, complexity of functions, operating environment and technical expertise of staff. All relevant factors that present a material source of risk incorporated in a well-developed integrated risk management system & all measurements of risk incorporate both quantitative and qualitative elements, but to the extent possible, a quantitative approach formed the foundation of a bank's measurement framework. Quantitative approaches that focus on most likely outcomes for budgeting forecasting, or performance measurement which are effective in gauging the consequences of outcomes that have low probability of occurrence but would have a considerable impact on safety and soundness of the banks.

- **Banking Act Direction No. 9 of 2021 Recovery Plans for Licensed Commercial**

A bank's recovery plan promotes the financial strength and viability of the bank, but the plan also be aligned with the bank's holding company's recovery and resolution planning efforts to the extent possible. The bank integrates our recovery planning into its risk governance functions. While the recovery plan guidelines do not dictate the format or process of developing a plan, it is anticipated that the recovery planning process will be integrated with and a component of the bank's ongoing operating continuum. Recovery planning is a business-as-usual activity and an extension of current practices. For example, triggers aligned to a bank's risk appetite with appropriate monitoring and management information systems reporting. If the triggers are breached, however, heightened reporting and governance are implemented. The analysis, tools, policies, and plans that banks have already developed have been considered in the development of the recovery plan. The bank leverages and aligns its recovery plan with other plans, including

- Bank's strategic planning.
- Bank's Operational planning (including business continuity and Disaster Recovery Plan).
- Bank's Contingency planning.
- Bank's capital planning as per the Internal Capital Adequacy Assessment Process

- Bank's liquidity planning.

- **Banking Act Direction No. 16 of 2021 Regulatory Framework on Technology Risk Management and Resilience for Licensed Banks**

This framework intends to set minimum regulatory requirements on technology risk management and resilience for licensed banks in general as well as based on sensitivity of data, criticality of information systems, and type of information system infrastructure used. Requirements in this framework shall be applicable to entire operations of licensed banks including operations conducted through agents and third-party service providers. All information systems and related infrastructure used by licensed banks including primary, disaster recovery, and any other types shall comply with the requirements specified in this framework.

- **Banking Act Directions No.1 of 2016 Capital Requirements Under Basel III for Licensed Commercial Banks and Licensed Specialized Banks**

The purpose of the Internal Capital Adequacy Assessment Process (ICAAP) is to inform the Board of the ongoing assessment of the bank's risks, how the bank intends to mitigate those risks and how much current and future capital is necessary having considered other mitigating factors. Process strengthen assessing its overall capital adequacy in relation to its risk profile and a strategy for maintaining its capital levels above regulatory minimum requirements. The assessment documented and submitted annually to the Central Bank for review (ICAAP Report).

4. Risk aggregation and diversification effects

In risk management system it assesses risks across the entire bank. The bank conduct risk aggregation among various risk types or business lines should understand the challenges in such aggregation. In addition, when aggregating risks, bank ensure that any potential concentrations across more than one risk dimension are addressed, recognizing that losses could arise in several risk dimensions at the same time, stemming from the same event or a common set of factors. The bank has systems capable of aggregating risks based on the bank's selected framework.

5. Disclosure

As per the cited direction over integrated risk management framework CBSL strongly considers that the market discipline could play an important role in maintaining financial system stability. However, bank ensures that market discipline provide a more meaningful picture of the extent and nature of various risks that banks are exposed to and of the efficiency of banks' risk management practices.

B. Credit Risk

Credit risk is undoubtedly one of the most crucial issues in the field of financial risk management. It can be defined as a potential loss arises when a debtor or financial instrument issuer is unwilling or unable to meet its contractual obligation to repay the debt according to the agreed terms with the lenders or financial institutions. It can occur when the counterpart either defaulting or making late payments of interest or principal. This loss stems from outright or partial default due to inability or unwillingness of customer or counter party to meet commitments in relation to lending, trading, settlement and other financial transactions. Alternatively, losses may result from reduction in portfolio value due to actual or perceived deterioration in credit quality. For most loans are the largest and most obvious source of credit risk; however, credit risk may emerge from both on and off-balance sheet activities.

Credit risk is not only associated with direct accounting loss but also with economic exposures. This encompasses opportunity costs, transaction costs and expenses associated with a non-performing asset over and above the accounting loss. Credit risk not necessarily occurs in isolation. The same source that endangers credit risk for the institution may also spread it to other risks. For instance, overall inferior portfolio of an FI may lead it to liquidity problem.

Credit Risk Management (CRM)

The effective management of credit risk is a critical component of a comprehensive approach to risk management. It is essential for long-term success of the bank. The goal of credit risk management is to maximize an FI's risk-adjusted rate of return by maintaining credit risk exposure within acceptable parameters. FIs need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. Credit risk management is a continuous effort of identifying, measuring, monitoring and mitigating the credit risk in both pre-sanction stage as well as post-sanction stage.

Following table refers the applicability of the steps in those two stages.

Table-1: Steps of CRM

Steps of CRM	Pre-sanction	Post-sanction stage
Risk Identifying	√	√
Risk Assess/Measuring	√	√
Risk Monitoring	X	√
Risk Control/Mitigation	√	√

1.1 Credit Risk Oversight

Bank has a Credit Committee consist with the senior management in the bank. The senior management of HDFC bank's responsibility to implement HDFC oversees risk management, and

responds to the needs and issues in the bank. The credit committee is the policy making body of bank with regard to credit management.

1.2 HDFC Credit Risk Management Fundamentals

- Credit risk is the risk of financial loss owing to the failure of the counterparty to perform its contractual obligations.
- Bank considers credit risk as one of the significant risks faced by bank, since bank is heavily concentrated on providing housing loans especially to the low and middle income groups who are sensitive even to slight changes in their disposable income.
- The Credit Risk Management Policy (CRMP) is the responsibility of the Credit Risk Committee Recommended by the Chief Risk Officer for approval by the Board of Directors. Key Fundamentals for Credit Risk Management
- Credit Risk committee is responsible for managing credit risk
- Loans are granted according to the internal credit rating of the system and the authorization of responsible officer.
- Approval limits are given to officers based on their seniority
- Credit rating standards are applicable to every obligator and facility.

1.3 Credit Risk Mitigation Process

Risk Types

Bank is subject to following major types of credit risk;

- ***Defaults in EPF loan repayments***

EPF loans (31.46% of the total loan Portfolio) are granted keeping the EPF of the customer as collateral. EPF loans are 100% recoverable, since default amounts can be collected from CBSL with an interest. But the impact on NPL ratio is high

- ***Risk of loan concentration***

This is the risk of limiting the spread of loan distribution, between customers. Bank currently has a sectorial concentration, since the loans are granted mainly to low and middle income earners, where most of them are having agriculture based income. At the point of granting the loan, credit risk assessment is done by a credit officer. But a continuous assessment is not done. Since most of the loans are granted to customers with zero banking relationship; the accuracy of the credit worthiness is low.

- ***Risk of adverse market value fluctuations of the mortgaged properties***

This is worse when the pledged assets consist of a particular type of an asset

1.4 Actions

The above risks are identified by the credit risk committee on a monthly basis using financial ratios. The following actions are taken place to mitigate the credit risk faced by the bank.

- I. Maintaining a risk management framework which clearly explains bank's structure, policies, procedures and infrastructure to manage the risk which will adversely affect the bank.

- II. Maintenance of a risk register on a monthly basis which reflects credit exposures to identify where the control and mitigation is required.
- III. Portfolio management
- IV. Granting pop-up loans based on the repayment pattern of the customer.
- V. MOUs with micro finance companies to disseminate loans, in-order to reduce the default risk.
- VI. Risk based pricing: the interest rate charged by bank is much higher than the industry average to absorb the associated risk.
- VII. Expansion of the branch network to reduce the geographical concentration.
- VIII. Availability of internal actuarial values to value the mortgage property at the time of granting the loan.
- IX. Loans are granted only to the customers who meet the threshold set as per the internal rating system.

1.5 Credit Exposure

- Credit exposure is the cost of replacing or hedging the contract at the time of default.
- This is the maximum value that will be lost if the counterparty to that contract defaults. Since default is an uncertain event that can occur at any time during the life of the contract, bank considers not only the contract's current credit exposure, but also potential changes in the exposure during the contract's life.

1.6 Prudential Limits

- ***Obligor Limits***

Obligor limits form the basis for credit portfolio managers to prevent concentrations of loss to any one obligor or relationship. The concentration is measured across two parameters – exposure and credit risk capital.

- ***Client Screening Criteria***

Client screening criteria is a precondition for origination of credit relationships that include pre-cleared industry segments and entity specifications.

The criteria are two fold namely:

1. Target Market (TM) Criteria: Bank has set up Target Market (TM) norms and accordingly determined its target market that comprises:
 - Top Tier Large Corporate (TTLCs) and GSG (Global Subsidiary Group) names in manufacturing/export manufacturing, automobiles, garment, tea exporters, telecommunications and petroleum /oil / lubricants, other external traders and large importers.
 - Financial Institutions namely, the state commercial banks, selected private domestic banks and selected leasing and finance companies.

Selected public sector entities

For each of the industries mentioned above, pre-defined TM norms are fixed which could be in terms of financial ratios or qualitative critical success factors for that industry. This shall be based on

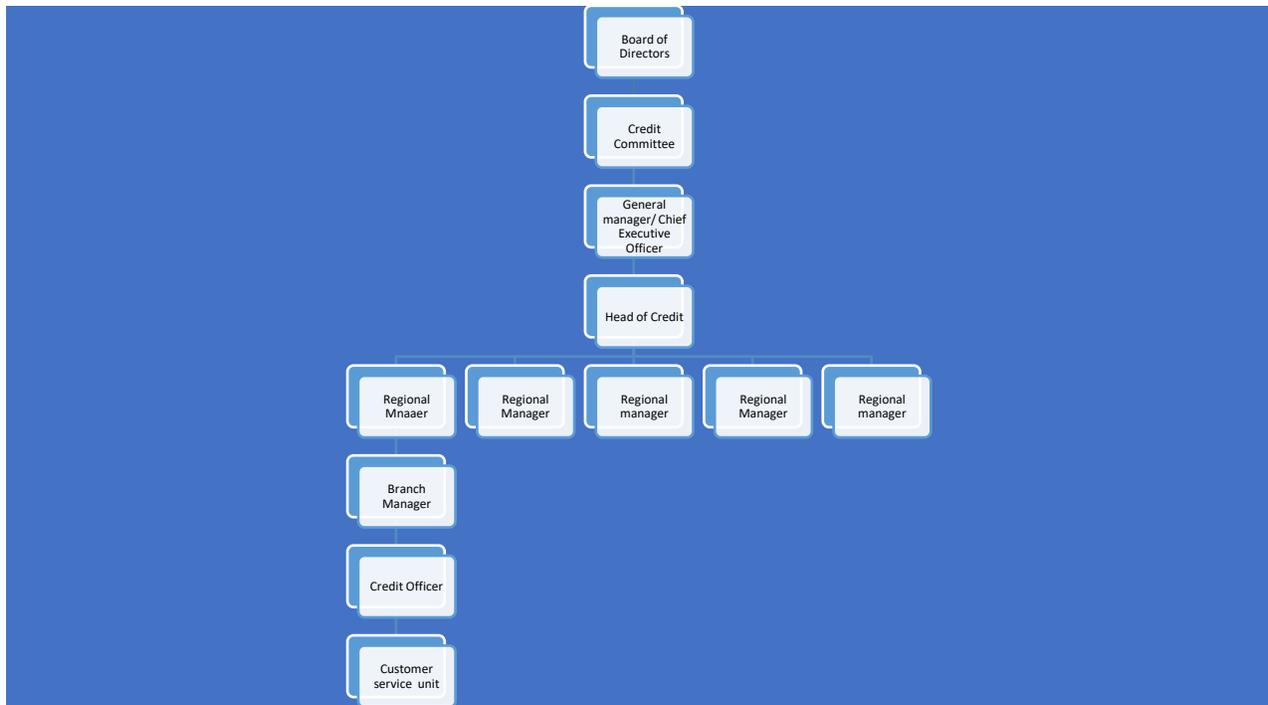
industry studies done for major industries. Up to 2 exceptions to these norms are considered acceptable.

2. Risk Acceptance Criteria (RAC): Risk Acceptance criteria lay down acceptable sanctioned limits and tenor / security profile based on size of borrower / ratings / product.

Exceptions to Target Market / RAC criteria are subject to approval at different levels depending on the defenses adduced and the special conditions

1.7 Credit Approval Limits & Conditions of Approval

1.7.1 Delegation of Credit Authority Structure



1.7.2 BOD responsible for implementation or approval of credit policies

The board of directors is responsible for the implementation of the credit policies. Authority of the compilation of credit policies is been assigned to the General Manager and the Head of Credit by the board of directors and advised by them. The Board of Directors will approve/amend loans above the limits of the credit committee.

1.7.3 Credit Committee

The Credit Committee consists of the General Manager, Chief Operating Officer, Chief Finance Officer and Head of Treasury and they have the authority to approve the loans that can be approved by the credit committee and the loans above the approval limit are been referred to the board of directors.

1.7.4 General Manager/ Chief Executive Officer

Approving loan facilities according to the given authority.

Amending/Recommending of loan files to the credit committee.

setting up of credit policies.

1.7.5 Chief Manager (Credit)

The Head of Credit should be responsible for the credit issued by all branches.

Responsibilities:

- Credit functions of all branches and business development.
- Recommending/Approving/Rejecting credit facilities which are beyond the authority of Regional Managers.
- Recommending/Approving/Rejecting credit facilities which are beyond the authority of Regional Managers.
- Maintaining quality credit reserves.
- Development and implementation of business strategies.
- Introducing new credit schemes.
- Improving credit decisions.
- Providing guidance in credit processing & preparing of Credit Manual
- Inspection of property
- Inspection of income
- Referring credit files to the General Manager/Credit committee/Board of Directors

1.7.6 Regional Managers

Responsibilities:

- Approving/recommending/rejecting/amending of credit proposals.
- Preparing Board Papers to be submitted to the Board of Directors related to release of part of the mortgage property.
- Business development.
- Supervision and recovery.
- Identifying credit deprivations and taking immediate action.
- Inspection of income.
- Inspection of property.
- Taking action to achieve credit targets allocated by the head office.
- Sole responsibility of branch profitability.

1.7.7 Branch Managers

Branch managers should report to the provincial managers.

Responsibilities:

- Conducting interviews with customers.
- Inspection of income and property.
- Approving/ rejecting and recommendation of credit facilities.
- Preparing the document to be submitted to the board of directors for approval.
- Recovery, supervision and follow up action should be conducted continuously.
- The responsibility of branch profitability, business development, maintaining credit reserves

1.7.8 Credit Officers

Credit officers should report to the Branch Managers. The officers should work towards the development of the bank by issuing quality credit, and at the same time, it is important that they involve in recovery as well. The credit officers of the HDFC bank should bear the responsibility of preparing the credit proposals and should ensure that the terms and policies of the credit approval process are followed. The main tasks of the credit officers are to issue credit while protecting the banks' funds and to maintain profitability of the bank.

Responsibilities:

- Conducting interviews with the customers.
- Obtaining all relevant documents.
- Preparing credit files.
- Forwarding sub files/documents to the valuation, technical and legal departments.
- Submitting the insurance documents to the insurance company.
- Preparing the credit proposals and recommendation.
- Releasing funds according to the recommendation of TO.
- Recoveries.
- Maintaining credit files/documents.
- Maintaining customer relationships.

1.7.9 Customer Service Officer

Customer service officers should report to the branch managers.

Responsibilities:

- Conducting interviews with the customers.

- Providing accurate and up to date information.
- Obtaining relevant documents from the customers and submitting them to the credit officers.

1.8 Credit Approval Grid

Each officer is given the authority to approve credit at a certain limit according to their seniority from the General Manager to the Branch managers. Periodically, the allocated authorities are revised. The Board of Directors will approve/amend loans above the limits of the credit committee.

The credit authority framework will include a periodic and regular review of a sample of loans approved within the delegated approval limits, to ensure that safe and sound underwriting practices. Bank's Lending Guidelines are applied with any allowed exceptions documented, mitigated and approved. This may be accomplished through a combination of periodic reviews by officers with higher lending limits and/or an internal loan review program.

1.9 Internal Credit Rating Model

1.9.1 Internal Credit Risk Rating Model

Internal credit rating is a mechanism where the bank assigns a rating to both its retail and commercial customers based on the customer's risk profile. All loans are checked for the rating at the point of granting loans and the minimum score obtained by a customer to obtain the facility should be **850 (BBB Category)**. At the completion of rating, customer and facility is coded according to the following table.

A Credit rating evaluates the credit worthiness of a borrower. This could be done upon a customer, company (Business) or a government. It is an evaluation of the borrower's ability to pay back the debt and the trend of defaulting. Credit ratings are determined by credit ratings agencies. These evaluations are not based on mathematical formulas. Instead credit rating agencies use their judgments, experience public and private information in determining a rate.

HDFC Bank is applying the following criteria at rating. Accordingly, the Bank weights more (72%) on customer and its repayment capacity where the rest (28%) for the facility rating. Basically this is done only for mortgage loan customers. At the completion of the rating, customer and facility is coded according to the following table.

Customer Rating	Maximum Points	Weight
Length of credit History	100	8%
Payment History	200	16%
Amount Owed	200	16%
Capacity to Repay	250	20%
Tax Paying Position	100	8%
Payer's age	100	8%
Facility Rating	Maximum Points	Weight

Title Acceptability	50	4%
Loan to Value Rates (LTV)	100	8%
Purpose	100	8%
Concentration Risk	50	4%
Total points	1250	100%

Category	Customer Rating Score	Classification
C	0	Lowest quality
CC	250	Very low quality
CCC	375	Low quality
B	625	Relatively low quality
BB	750	Low medium quality
BBB	850	Medium quality
A	1000	High quality
AA	1125	Very high quality
AAA	1,250	Highest quality

1.9.1 Two Way Rating

Two-way rating systems are on the opposite end of the spectrum in that they are developed using statistical models to predict expected loss based on the borrower's ability to repay—the probability of default (PD)—and the value of collateral recovery in the event of default—the loss given default (LGD). The system also includes a scorecard that integrates additional considerations for both the PD and LGD that are not captured by the model.

04. Credit scoring Criterion							
Customer Rating Criterion				Facility Rating Criterion			
S/No	Factor	Earned	Max	S/No	Factor	Earned	Max
1	Credit History	16.00	30	1	Security Type	3.50	5
2	Length of Relationship	4.00	10	2	Type of Employer	2.50	3
3	Stability of Income Source	9.00	10	Total Points Earned		6.00	8
4	Repayment Capacity	18.00	30	Facility Rating Level		Moderate	
5	Repayment Mode	18.00	20				
Total Points Earned		65.00	100	Overall Score		390	
Customer Rating Metric		BBB					

		Customer Rating							
		AAA	AA	A	BBB	BB	B	C	D
		95	90	80	75	65	50	40	25
Facility Grading	Very High	Very High	Very High	Very High	High	High	Moderate	Moderate	Low
	High	Very High	High	High	High	High	Moderate	Moderate	Low
	Moderate	High	High	Moderate	Moderate	Moderate	Low	Low	Low
	Low	Moderate	Moderate	Moderate	Low	Low	Low	Low	Very Low
	Very Low	Low	Low	Low	Low	Low	Very Low	Very Low	Very Low

1.10 Credit Risk Assessment & Adjudication

All requests for credit will be assessed based on the 5 C's, including:

Category	Customer Rating Score
• Character	Management ability, financial strength(s)
• Capacity	Ability to pay
• Collateral	Appropriate security based on bank's policy and guidelines, which will be consistent with Lending Guidelines, where appropriate;
• Conditions	Credit structure, credit environment, bank's risk appetite
• Credit	Credit history

All requests for credit must comply with bank's policy and guidelines and where allowed, exceptions will be highlighted, mitigated, authorized and monitored. Credit approval will be contained within assigned credit authorization limits, which will be subject to periodic review by the BODs. The originating officers and those who recommend approval to higher authority levels maintain accountability for the ultimate credit decision.

1.11 Credit Administration & Loan Review Mechanism

Loan review mechanism is an effective tool for constantly evaluating the quality of the loan book and bringing about the qualitative improvements in credit administration. Loan Review Mechanism provides a mechanism where bank's management and Board of directors can stay informed of the inherent risk of the bank's portfolio.

The Credit Administration division of the bank undertakes loan review mechanism after the bank grants the loan to the customer with the intention of evaluating customer's repayment ability. Based on the results of the loan review necessary actions are taken when administrating the loan.

Bank will establish and implement appropriate operating policies, guidelines and processes, supporting the Board's credit risk strategy and appetite, promoting sound credit risk management for loan approval; security preparation and registration; loan funding; amendments; annual reviews; security maintenance; collection of arrears and special debt management. Segregation of duties is

required to promote independence and integrity of the loan system, where resources are available, and where not available mitigated by appropriately mitigating and compensating internal controls. At a minimum, an out-of-order report including expired loans, security deficiencies, and margin deficiencies is maintained, and actions are taken on a regular basis.

1.12 Credit Risk Monitoring & Control

FIs should have monitoring and control procedures and systems in place that provide an early indication of deteriorating financial health of a borrower so that it can minimize the potential credit losses. It should be clearly mentioned in the monitoring and control procedures and systems that the monitoring team will report at least the following exceptions to relevant executives in CRMD and CRMC:

- Past due principal or interest payments, past due trade bills, account excesses, and breach of facility covenants;
- Non-receipts of financial statements on a regular basis and any covenant breaches or exceptions made; and
- Action not taken on time for findings of any internal, external or regulator
- inspection/audit.

1.13 Annual Reviews

All loans will be subject to an annual review in a format commensurate with the risk of the individual exposure. Exemptions may be approved by the appropriate exception authority level.

Minimum annual review requirements typically include:

- Full review of corporate financial statements
- Full review for covenant compliance
- On-site reviews

1.14 Collateral Valuation & Management

The collaterals are valued at the point of granting the loan and the bank follows CBSL guidelines on collateral valuation.

- Collaterals for the loans below 0.1% of equity capital are valued by the internal valuers.
- Properties valued over 0.1% of equity capital of the bank are assessed by an external valuer.

1.15 Portfolio Management

Potential adverse impact of concentration of exposures and necessity to optimize the benefits associated with the diversification are key considerations in need for credit portfolio management. The portfolio management involves defining the parameters within which the bank conducts its lending business. Portfolio management defines the target market and lays out the risk acceptance criteria (RAC) against obligor and facility ratings, industry dynamics and accordingly develops appropriate concentration criteria. The need for credit portfolio management arrives from the potential adverse impact of concentration of exposures and necessity to optimize the benefits associated with diversification.

1.16 Allowances

1.16.1 Collective Allowances (Provisions)

Bank will develop and maintain a collective allowance model to establish an appropriate level of provisions, mitigating potential losses from loans that are impaired, however not yet specifically identified. The collective allowance model will be consistent with regulatory guidance and industry best practice, recalculated on a minimum monthly basis and approved by the credit risk committee. Changes to collective model methodology require approval of the Board.

1.16.2 Specific Allowances

Specific provisions will be established by the Credit Department for project loans and auction properties, based on the estimated loss after deducting the net realizable value of security held. Net realizable value will take into account costs of disposal. Where recovery is expected to be protracted more than 1-year, the net realizable value is to be reduced under a net present value calculation. Specific provisions will be approved by the Credit Risk Committee and reviewed at least monthly.

1.17 Types of Collateral Taken by the Bank

Among the loan portfolio maintained by the bank, the nature of collaterals is described below.

Loan Type	Asset Type	Description
Mortgage loans	Land Building	The land and building has to be in a residential area.
EPF loans	EPF	The EPF of the particular loan holder is ceased until the loan is fully paid.
Leasing	Vehicles	The legal ownership of the vehicle is with the bank, until the full payment is made.

1.18 Write-Off

Write-off merely means the segregation of bad debts identified as very difficult to be recovered from the total advances for the purpose of recording same in our books as separate segment. This action on no account should be a reason either to abandon or even to reduce the intensity of the recovery process.

Loan recovery procedures stipulated in Circular No. GCL/2013/108 were followed in respect of NPL recovery and accordingly loans which cannot be recovered at all may be written off. Further, all relevant guide lines and factors that might aid recovery must be carefully taken into account before recommendations are made for writing off.

1.17.1 General Conditions

- (1) The loan / Leases account should have remained under NPL category and those advances should be 37 months in arrears or more.
- (2) 100% provisions should have been made for loss given default value for guarantor loans.
- (3) Unable to locate customers, lessees or guarantors/sureties despite efforts made to trace them.
- (4) For security backed loans (Mortgage/EPF/Leases & others) the write off should be limited to exposure at default minus realizable value (Shortfall after liquidation of the security).
- (5) No substantial repayments have been received during the past two years.
- (6) All recovery attempts were made but unable to recover the loans.
- (7) Cost and expected time taken for recovery does not justify proceeding with legal actions.
- (8) Request letter with supporting documents to prove that the loan borrower, Lessee or the surety has expired or has been subject to permanent disability or illness and un-employed situation with no source of income at all where his/her spouse is not in a position to honor the payment of the loan.
- (9) The documents submitted to obtain the loan or lease facilities are later found to be fraudulent and also whereabouts of the customers, lessees and guarantors/sureties or movable or immovable assets cannot be traced and therefore the amount outstanding cannot have recovered.
- (10) Should adhere to all rules and regulations issued by the Central Bank from time to time.

1.17.2 Specific Conditions

All NPL accounts which satisfy to the above general conditions may be written off as listed below:-

- (1) Total outstanding below Rs.50,000/=
- (2) Rs.50,000/= to Rs.250,000/=- Report to Mediation Board. Follow up based on Mediation Board decision and if no Progress is made.
- (3) Over Rs.250,000/=-:If no recovery made after legal action.

1.19 Early Warning Signals

Early warning triggers will be developed for borrowings in excess of Rs. 2.50 million rupees to indicate increased risk, requiring increased monitoring and initiating communication with the borrower, before a default condition is incurred. Portfolio early warning signals will be developed to trigger analysis, monitoring and reporting, including any recommended corrective action, and potentially result in a model review of collective allowances. Early warning signals could be based on internal indicators or external events, such as a specified increase in the unemployment rate or increase in interest rates.

2. Impaired Loan Management

Bank applies SLFRS 9 for the Recognition and Measurement of the Financial Instruments with a forward looking "General Expected Credit Loss" (ECL) model to calculate the impairment provision

of Loans and receivables. No impairment provisions are made on receivables which are not accrued or accounted for

Two categories of impairment

According to the standard, impairments can be performed under main two categories, namely;

- Specific impairment
- Collective impairment

2.1 Specific Impairment

Specific impairment should be provided for specifically identified contracts and based on the prudential judgments which can be supported by substantial evidences of the officers who are connected with marketing and recovery process. If any contract selected for the purpose of impairment does not subject to any provision under this method, then that particular contract will come under the preview of collective impairment.

At HDFC Bank, specific provision will be made for main business segments separately.

1. All Above Rs.8 million (original advance amount) cases will be considered for specific assessment. Even though the SLFRS 9 does not require to have a threshold for specific impairment, the management has set this limit to be consistent with the Bank's monitoring process which had been carried out for some years after the introduction of LKAS 39. However, the number of contracts under this category will not be significant as most of the contract will fall within the other categories as discussed in other paragraph of this document. Cash flows will be discounted if it is to be collected after one-year period on facility's effective interest rate.
2. All Vested Properties will be considered for specific assessment. Cash flows will be discounted if it is to be collected after one-year period using facility's effective interest rate. (Vested Properties: Properties mortgaged to HDFC Bank are auctioned if the customers default for a reasonable time and the properties which are not disposed at such auctions are recognized as acquired properties which are considered as collaterals under the loans & advances. The valuations of such properties with Cash flow predicted with reasonable assurance are made on individual basis.)
3. Guarantee loans – Specific impairment is made for the guarantee loans over 36 months (1095 days) in arrears with reasonable assurance for future cash recoveries. (Cash flows will be discounted if it is to be collected after one-year period based on effective interest rate)
4. Loans subject to Eviction / legal cases
Forecasted date of completion of the case by Head of Legal or forecasted cash flow by Head of Credit / Recovery within three years' time.
5. If the loan is secured by a property mortgage and cash flows are expected after one-year period, the value of the property is assumed to increase by 10% yearly (year on year basis)

Any other contract which has objective evidence for impairment will be treated under the specific impairment regardless of the facility value. Please refer Appendix One for the list of objective evidences and cash flow assumptions on individual assessment.

2.2 Collective Impairments

All the contracts which are not subject to individual impairment (specific) are subject to a minimum provision under the collective impairment depending on their aging position (arrear position). Assets categories are as follows;

Category	Segmentation for ECL
Mortgage Loans	Mortgage (M)
Guarantor Loans	Guarantor (G)
EPF Loans	EPF (E)
Other Loans	Guarantor (G)
Cash Backed loans	Cash (C)
Lease Receivables	Lease (L)
Gold loans	Gold (G)
Deposits with Banks and other debt securities	Investments

2.3 Three Stage Approach of ECL Model

SLFRS 9 presents a “three-stage” model for estimating expected losses on the basis of changes in credit quality since initial recognition.

•**Stage 1** includes financial instruments that have not had a significant increase in credit risk since initial recognition [SLFRS 9, 5.5.5]. For these assets, a 12-months ECL is recognized, representing the ‘portion of lifetime expected credit losses that result from default events that are possible within 12 months after the reporting date.’ Note that it is not only the expected cash shortfalls over the 12month period, but the lifetime expected credit loss on an asset, weighted by the probability that the loss will occur in the next 12 months.

•**Stage 2** includes financial instruments that have experienced a significant increase in credit risk since initial recognition, but for which the exposure is not yet defaulted. For these assets, lifetime ECLs are recognized, representing the expected credit losses that result from all possible default events over the expected life of the financial asset.

•**Stage 3** includes financial instruments which are deemed to be credit impaired. This is where a credit loss has already been suffered on the assets. For these assets, lifetime ECLs are recognized, representing the expected credit losses that result from all possible default events over the expected life of the financial asset.

The diagram below illustrates the concept of staging through changes in the credit quality of the asset: As soon as a financial instrument is purchased or originated, 12-month expected credit losses are recognized in profit or loss and a loss allowance is established.

2.4 Loss given default

For LGD calculation, last 20 years' data will be analyzed.

For this purpose, defaulted contracts as at respective balance sheet dates of last 20 years which have subsequently been closed or are in legal category will be considered. Category wise LGD will be applied to have more accurate picture and will be adjusted periodically to reflect current economic trends where necessary.

Category	LGD%
Mortgage	5.44%
Guarantor	10.94%
EPF	1.95%
Other	10.94%
Cash	0.00%
Lease	30.00%

C. Market Risk & Interest Rate Risk

Market Risk

Market risk can be defined as the risk of losses in on and off-balance sheet positions of the bank arising from adverse movements in market rates or prices such as interest rates, equity prices, foreign exchange rates, commodity prices and general credit spreads. Market risk of a bank may arise, broadly.

Interest Rate Risk

Interest rate risk arises when the value of a bank's cash flows changes due to a change in the absolute level of interest rate. Basically this risk arises from the mismatch of re-pricing dates of cash flows (including final maturities). It has potential impact on a Bank's earnings and net asset values. The volume of risk depends on the magnitude and direction of interest rate changes and the size of the maturity structure of the mismatch portion. Interest Rate Risk is the potential for loss to the bank arising from changing value of the assets or liabilities due to variation in interest rates in the market. As a part of a market risk, bank identifies the impact on interest rate risk.

1.1 Forms of Risk

The Net Interest Income (NII) or Net Interest Margin (NIM) of banks is dependent on the movements of interest rates. Any mismatches in the cash flows (fixed rate assets or liabilities) or re-pricing dates. (Floating rate assets or liabilities) expose banks' NII or NIM to variations. As financial intermediaries, banks encounter interest rate risk in many forms:

- Gap or Mismatch Risk
- Basis Risk
- Embedded Option Risk
- Yield Curve Risk
- Price Risk
- Reinvestment Risk
- Net Interest Position Risk

1.2 Measuring Risk

Bank essentially have interest rate risk measurement systems that capture all material sources of interest rate risk and that assess the effect of interest rate changes in ways that are consistent with the scope of their activities. The assumptions underlying the system should be clearly understood by risk management.

Before the interest rate risk (IRR) is to be managed, same should be identified and quantified. In this regard, banks need to adopt an IRR measurement system which should:

- Address all material sources of interest rate risk including gap or mismatch, basis, embedded option, yield curve, price, reinvestment and net interest position risks, exposures associated with assets, liabilities and off balance sheet positions.

- Take into account the specific characteristics of each individual interest rate sensitive position.
- Capture the full range of potential movements in interest rates, in detail.
- Use different techniques, ranging from the traditional maturity Gap Analysis (to measure the interest rate sensitivity of earnings), Duration (to measure interest rate sensitivity of capital), and Simulation
- Match on a daily basis the potential loss in Present Value Basis Points (PVBP) vis-à-vis prudential limits for trading book.
- Undertake scenario analysis with specific possible stress situations by linking hypothetical, simultaneous and related changes in multiple risk factors present in the trading portfolio to determine the impact of moves on the rest of the portfolio.
- Adopt VAR as an analytical tool for measuring and managing currency risk in the Banking Book.

1.3 Measuring Techniques

- Maturity Gap analysis
- Duration Gap Analysis
- Simulation

1.4 Interest Rate Risk Management

In managing interest rate risk ALCO provide the necessary guidance. Followings are the ways and means bank expects to utilize in this attempt;

- Well defined liquidity policies
- Net interest analysis
- Maturity gap analysis
- Duration gap analysis
- Scenario analysis
- tress testing
- Risk models

1.5 Controls and Mitigation

Whilst there are no absolute measures to control the effects of interest rate movements, protection is afforded by managing the maturity profile of customer balances and investment holdings and by maintaining margins, wherever possible, as rate changes occur. In terms of the consequences of interest rate risk on capital adequacy, the Bank's capital planning options represent potential actions. Risk Based Pricing has to be implemented in order to mitigate the Interest Rate Risk.

Current practice;

- Portfolio Management through floating rate.
- On unpredicted and unforeseen movements in market Interest rates, Bank has the rights to change the interest rates of loans which have been granted.

- Matching (Preparing reports on interest bearing assets and interest bearing liabilities)

1.6 Stress Test

Interest rate Risk is the potential adverse effect in the value of the on and off-balance sheet position of the bank with the change in the interest rates. The vulnerability of the bank towards the adverse movements of the interest rate can be gauged by using simple sensitivity analysis as well as duration GAP analysis. The standard scenarios of shock levels are 2% (Minor), 4% (Moderate) and 6% (Major) increase in interest rate. For simplicity these shocks will be stress in the cumulative GAP of Rate Sensitive Assets (RSA) and Rate Sensitive Liabilities (RSL) up to one year and Duration GAP analysis only to the Bond portfolio of the FI. We improved conducting stress testing on monthly basis

1.7 Management Reporting

Set of reports are generated using Interest rate risk data in order to identify and apply the business decisions by the Treasury and senior management. Treasury must maintain the integrity of the interest rate risk data and the data can be effectively reported. Chief Manager Treasury is responsible of reporting to the ALCO twice a month. This is reported with the ALCO paper.

1.7.1 ALCO Roles and Responsibilities pertaining to Liquidity Risk;

- Recommend and monitor asset and deposit levels for the balance sheet, including balance sheet trends and targets, structural liquidity usage, returns on all business assets and competitive analysis of deposit pricing across businesses
- Endorse the annual funding and liquidity Plans and limits, targets for structural liquidity ratios, market triggers; and assumptions and review/recommend changes in these parameters.
- Review stress test results for liquidity and integrate the results into the Annual Funding & Liquidity Plans
- Monitor MAR utilization and address the limit excesses and exceptions
- Establish Significant Funding Sources thresholds
- Assist in the quality control process
- Discussion on the action plan the branch contingency plan
- Determine and ensure adherence to minimum capital standards which should be consistent with regulatory and rating guidelines

D. Operational Risk Management

Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. The definition includes legal risk but excludes strategic and reputational risk. Legal risk includes, but is not limited to, exposure to fines, penalties, or punitive damages resulting from supervisory actions, as well as private settlements.

Operational risk can be created by a wide range of different external events ranging from power failures to floods or earthquakes to terrorist attacks. Similarly, operational risk can arise due to internal events such as the potential for failures or inadequacies in any of the bank's processes and systems (e.g. its IT, risk management or human resources management processes and systems), or those of its outsourced service providers. Operational risk arising from human resources management may refer to a range of issues such as mismanaged or poorly trained employees; the potential of employees for negligence, willful misconduct; conflict of interests; fraud; rogue trading; and so on.

Therefore, the emergence of mistrust, failure to communicate, low morale and distrust among staff members, as well as increased turnover of staff, should be regarded as indicative for potential increase in operational risk. Operational risk differs from other banking risks, in that it is typically not directly taken in return for an expected reward, but exists in the natural course of corporate activity, and that this affects the risk management process.

1.1 Operational Risk Management Overview

The framework is to ensure the management of the Bank on operational risks and exposures from the developments and new products and services. Encourage development of operational risk management across the Bank to identify measure and monitor the activities that are risk 'Events' of the Bank. Establishes a framework which, segments the activities that resulting from operational risks and then to assess them in order to take controls and corrective actions. Documentation and communication need to be in place once the corrective action has taken place.

1.2 Operational Risk Governance Structure

The Bank maintains a governance structure to support its core operational risk management activities. There are three lines of defense in place to monitor and control the operational risks of the Bank.

The first line of defense is where the senior management and the business units' head to manage the overall business risk of the Bank and the divisions. Second line of defense is where the risk management division along with the compliance department establishes and controls the overall Bank risks. Third line of defense is the internal audit that recommends and provides an independent assessment of the Bank's operational risks

1.3 Managers Control Assessment (MCA)

The events mentioned above may occur due to both internal and external factors in the following areas:

1.3.1 Internal factors

People

The management of human resources and employee's behavior can become a major source of operational risk. Poorly trained or overworked employees may inadvertently expose the Bank to operational risk (for example, via processing errors). Understanding of the mandate, confidence in and respect for the institution as well as adherence to the Bank's policies and strategies are key for effective use of human resources. In addition, the continuous availability of its employees, or the Bank's ability to replace them, can influence its ability to recover from interruptions to the continuity of its operations. Therefore, the Bank can realize significant improvements in its control of operational risk and reduce exposure if it would invest time and money in creating an appropriate risk culture, in which employees are aware of operational risks and are encouraged to learn from their mistakes.

Processes and systems.

Bank's operations are supported by many different systems and processes, such as IT systems, human resource management systems, credit, market, insurance and liquidity risk management systems and even operational risk management systems.

These systems may have many different components, each of which requires the operation of various processes. Complex or poorly designed systems and processes can give rise to operational losses, either because they are unfit for purpose, or because they malfunction. As a result, the Bank may experience a wide range of problems, including settlement-processing errors, fraud and information security failures. In addition, the increasing automation of systems and the reliance on IT has the potential to transform risks from minor manual processing errors to major systematic failures.

1.3.2 External factors

The Bank should be aware that both expected and unexpected changes to its operations can be major sources of operational risk. The Bank should have in place appropriate arrangements, having regard to the nature, scale and complexity of its business, to ensure that it can continue to function and meet its regulatory obligations in the event of an unforeseen interruption. These arrangements should be regularly updated and tested to ensure their effectiveness.

- **Disruptive Events**

Such events include fire, flooding, earthquakes, terrorist actions, vandalism, power failures, etc. The Bank should assess the potential risk for such events to happen, design and put in place disaster recovery systems and procedures, with a view to ensuring continuity of activity. Against the monetary loss derived from such events the Bank should evaluate potential cost and acquire proper insurance.

- **Consultants and Outsourcing of Services**

Outsourcing arrangements require careful management if they are to yield benefits, and where they are not managed adequately the degree of operational risk faced by the Bank may increase, as is also the case of excessive use and dependency upon the use of consultants for activities that may be more effectively developed internally. In particular, an issue for concern is the loss of control over processes. This could create a serious threat to the continuity of its operations if these providers were to fail.

1.4 Measurement

Each risk category must develop and document a process for guiding and using scenario analysis maintain the operational risk management and capital allocation process. HDFC uses the Basic Indicator Approach (BIA) to measure the capital allocation. The capital charge for the operational risk is a fixed percentage of the average positive gross income over the previous three years. Although, the capital allocation is made for capital adequacy requirement, the connection between operational processes & losses with the operational risk capital is lacking.

1.4.1 Responsibilities of Management

The Board of Directors:

Are aware of the major aspects of the Bank's operational risks as a distinct risk category that should be managed, and will approve and periodically review this framework. They will ensure that the Bank's operational risk management framework is subject to effective and comprehensive internal audit.

Senior Management:

have responsibility for implementing the operational risk management framework approved by the Board of Directors. The framework should be consistently implemented throughout the Bank, and all levels of staff shall understand their responsibilities with respect to operational risk management. Senior Management shall also ensure that the necessary policies, processes and procedures for managing operational risk in all of the Bank's material products, activities, processes and systems are in place.

Compliance Officer:

has responsibility according to its Charter, approved by the BOD.

1.4.2 Internal Audit Function

To provide independent appraisal of all the activities of the Bank aiming to add value, improve operational efficiency, risk management and internal control systems on behalf of stake holders, the internal control function is not outsourced. There is a separate internal audit committee with 7 members (4 Board members and 3 Management members). Internal audit committee is set up by Board of directors and on annual basis audit committee is reviewed and changed.

The prime objective of this Audit division is to examine and evaluate whether the Bank's framework of Risk Management, Control and governance processes is adequate and functioning properly. In addition, the objectives of Audit division include advising and recommending the Senior Management for improvements in internal control and risk management systems. According to the corporate

governance all the requirements are full filled. To ensure the independency, compliance members, risk members and audit members are not involved in any other business activities in the bank.

1.5 Internal Controls

Internal control systems established to ensure adequacy of the risk management framework and compliance with a documented set of internal policies concerning the risk management system. Principal elements of this could include

- Top-level reviews of the FI's progress towards the stated objectives;
- Policies, processes and procedures concerning the review, treatment and
- Resolution of non-compliance issues; and a system of documented approvals and authorizations to ensure accountability to the appropriate level of management.

Although a framework of formal, written policies and procedures is critical, it needs to be reinforced through a strong control culture that promotes sound risk management practices. Board and senior management are responsible for establishing a strong internal control culture in which control activities are an integral part of the regular activities of Bank. Operational risk can be more pronounced where FIs engage in new activities or develop new products (particularly where these activities or products are not consistent with the Bank's core business strategies), enter unfamiliar markets, and/or engage in businesses that are geographically distant from the head office. It is therefore important for Bank to ensure that special attention is paid to internal control activities including review of policies and procedures to incorporate such conditions.

Bank has an adequate internal audit coverage to verify that operating policies and procedures have been implemented effectively. The board (either directly or indirectly through its audit committee) should ensure that the scope and frequency of the audit program is appropriate to the risk exposures. Audit should periodically validate that the Bank's operational risk management framework is being implemented effectively across the Bank.

To the extent that the audit function is involved in oversight of the operational risk management framework, the board should ensure that the independence of the audit function is maintained. This independence may be compromised if the audit function is directly involved in the operational risk management process. The audit function may provide valuable input to those responsible for operational risk management, but should not itself have direct operational risk management responsibilities.

An effective internal control system also requires existence of appropriate segregation of duties and that personnel are not assigned responsibilities which may create a conflict of interest. Assigning such conflicting duties to individuals, or a team, may enable them to Risk Management Guidelines for Bank conceal losses, errors or inappropriate actions. Therefore, areas of potential conflict of interest should be identified, minimized, and subjected to careful independent monitoring and review. In addition to segregation of duties, Bank ensure that other internal practices are in place as appropriate to control operational risk which include

- Close monitoring of adherence to assigned risk limits or thresholds;
- Maintaining safeguards for access to, and use of, FI's assets and records;
- Ensuring that staffs have appropriate expertise and training;
- Identifying business lines or products where returns appear to be out of line with reasonable expectations e.g. where a supposedly low risk, low margin trading activity generates high returns that could call into question whether such returns have been achieved as a result of an internal control breach; and
- Regular verification and reconciliation of transactions and accounts.

1.4.3 Business Continuity Management

Preliminary assessment of the incident:

The BCM team meets and plans the approaches to be taken immediately after being notified of the incident. A preliminary problem report will be prepared within the 15 minutes (depending on the circumstances) of being notified of the incident.

Disaster detection and determination:

BCM coordinator will call a meeting within the first hour of being notified the incident. Based on the report, Coordinator will review and assess the health and safety risks and estimate the financial loss/cost. If there is an impact on critical processes a detailed problem report is prepared and provided to the AGM- IT.

Disaster declaration:

The AGM-IT will assess whether the incident is a disaster. If the incident is not a disaster, the normal procedures shall be used to restore services. If it is a disaster, AGM-IT together with BCM coordinator shall prepare a disaster declaration statement.

Incident response:

The incident response will be carried out in three phases. The first phase will identify the incident, the second will be the action taken to respond and the third stage will be to review the incident and responses taken. The incident response will be differed according to the situation.

- Response to IT related incidents
- Response to non-IT related incidents
- Response to natural disasters affecting premises
- Response to disasters affecting people

Business recovery actions: Actions carried out based on the different scenarios mentioned above.

1.5 Key Operational Risks

Operational risk event types having the potential to result in substantial losses include:

Internal fraud: For example, intentional misreporting of positions, employee theft, and insider trading on an employee's own account.

- External fraud: For example, robbery, forgery, cheque kiting, and damage from computer hacking.
- Employment malpractices and workplace safety risk.
- Disregard of Bank policies, strategies, guidelines, rules and regulations, as well as inappropriate or ineffective use of existing control mechanisms by Bank personnel in relation to a particular client, or attempts to create “shortcuts” in order to advance personal agendas.
- Clients, products and business practices: For example, fiduciary breaches, misuse of confidential customer information, improper trading activities on the Bank’s account, and sale of unauthorized products.
- Damage to physical assets: For example, terrorism, vandalism, earthquakes, fires and floods.
- Business disruption and system failures: For example, hardware and software failures, telecommunication problems, and utility outages.
- Execution, delivery and process management: For example, data entry errors, collateral management failures, incomplete legal documentation, unapproved access given to client accounts, non-client counterparty MIS-performance, and vendor disputes.

1.6 Operational Risk Appetite

HDFC has a low appetite and tolerance for material operational risks it is exposed to. Therefore, all appropriate measures will be taken towards achieving a high level of operational risk awareness and the establishment of a rigorous operational risk management system.

1.7 Electronic Data Transfer

Electronic Data Interchange (EDI) is the electronic interchange of business information using a standardized format; a process which allows one party to send information to another party electronically rather than with paper.

It is important to ensure that EDI systems are provided with adequate protection without wasting resources on unneeded security controls. A risk assessment can help identify vulnerabilities and select appropriate and cost-effective countermeasures. A detailed approach can be used to perform a risk assessment for EDI systems. Review the control mechanisms for authentication, no repudiation, availability, integrity and confidentiality of EDI transactions are major concerns in mitigating the risk arising from electronic data transfer.

1.8 Business Continuity/Disaster Recovery/Contingent Plans

Bank has a policy on business continuity and it explains the policies, processes and activities that the bank will follow to ensure the continuity of their services in the event of unplanned disruptive events. This policy is reviewed frequently by the business continuity management team. The main objective of this policy is to provide direction to establish service continuity and recovery plans and procedures to ensure that; safety of employees, customers and the general public are maintained, core services to customers continue uninterrupted, and shareholder interests are safeguarded.

Instances where policy is reviewed:

- Significant change to staff
- Significant change in the operations
- Change in legislation related to financial services

- Change in legislation related to HDFC
- Introduction of new products and services
- Change in the political situation in Sri Lanka
- At least annual

Business Continuity Management team

- Coordinator
- Team leader, crisis communication
- Team leader, response and continuity
- Coordinator, facilities management & recovery of functional areas
- Coordinator, Human resource and personnel
- Representative, workplace health and safety
- Coordinator, insurance
- Representative, finance
- Representative, internal audit
- Team leader, IT response
- Team leader, IT recovery

Accordingly, the Recovery Time Objective (RTO) is 15 minutes and the maximum downtime is 1 hour. There is no acceptable amount of data loss. However, the Maximum Time in Alternate operations (MTA) is 3 days. Bank maintains a secondary office at SLT Welikada Data Center and all daily backups are sent to that location, in order to eliminate any risk of loss of data. The links between potential impacts for the possible disaster scenarios of the bank with the measurement and risk mitigation actions adopted by the bank were identified. The bank has implemented preventive controls for asset protection, HR management, backup of data and procurement system. Also the bank is in the process of creating a secondary site as a disaster recovery site and an emergency response Centre. This site will be in a geographical area that is unlikely to be affected by the same disaster/ failure events as the HDFC's primary site and this will be appropriately equipped to enable the bank to supervise and maintain communication with their business units and external parties during disastrous events or failures.

1.9 Physical access controls:

Site access controls

The entrance lobby area must contain a manned reception/ security desk.

- All visitors including third-party service personnel gaining access to the site must sign in a register after authenticating themselves to the security personnel by submitting a valid proof of identity.
- Entry and exit times of all visitors including third-party service personnel must be recorded
- There should be a single entry point to the secondary site.
- The entry point to the site must contain a two-factor authentication system installed (A swipe/ proximity card plus PIN code or biometric system plus PIN code).
- All staff members must wear their staff identification badge whenever they are inside the premises.
- All visitors must wear a visitor badge whenever they are inside the premises
- Server/ Equipment room access controls

- There should be a single entry door to access the server/ equipment room.
- The server room access must be controlled via two-factor authentication.
- All server room access must be logged in a register.

2.0 Physical facility security:

- Building entrance and perimeter
- The building site must have a well demarcated perimeter either with fencing, walls or bollards.
- There shall be sufficient lighting around the building to illuminate all surrounding areas.
- The number of ingress points to the building should be kept to a minimum and if possible only one ingress point should be used.
- Security guards should be deployed at the ingress points to the site.
- The surrounding area and the ingress point must be under CCTV surveillance

Server room

- The server/ equipment room must not be located in the ground floor to protect against floods.
- There should be intrusion detection systems such as proximity sensors installed in server rooms and other sensitive areas.
- It must be under CCTV surveillance.
- All visitors such as external service personnel must be escorted while in the sensitive areas

Surveillance and monitoring

As we bound to the Guidelines for Financial Institutions on CCTV Operations for AML/CFT Purposes, No. 2 of 2021. CCTV Systems are often used to support comprehensive security systems by incorporating video Coverage and security alarms for barriers, intrusion detection, and access control.

- All public areas such as hallways and lobbies must be under CCTV surveillance.
- CCTV surveillance deployed must have both real-time monitoring and recording of CCTV footage on a 24*7 basis

Building Interior

There must be sufficient lighting to illuminate all areas inside the site.

- All doors in the building should be self-closing.
- There should be hold open door alarms installed in the access doors into sensitive areas.
- All fire escape doors must only open to outside. It must not be possible to gain entry to the premises via fire escape doors.
- All auxiliary doors and windows of the building must be kept closed. The keys on the auxiliary doors should be maintained with security personnel.
- Any use of auxiliary doors must be properly authorized and logged.
- There should be proper signage demarcating the restricted areas

Movement of equipment

- Movement of equipment in and out of the premise must be logged.

- A gate pass document detailing the serial numbers and description of the equipment and containing a proper authorization from a responsible manager must be required to move equipment out of the premises.
- Security personnel must be trained to cross check the equipment with the details in the document.
- Site must have separate work areas, computer rooms and server/ equipment rooms.
- Server/ equipment rooms must be physically separated from the rest of the work area using solid walls which extend from floor to the roof.
- Server/ equipment rooms must not be placed adjacent to any public areas or outside walls of the building. Ideally the server room should be located in the core of the building.

Environmental controls

- There should be a HVAC (heating, ventilation and air condition) system installed in the premises.
- The HVAC system must be capable of filtering out external smoke and other contaminants from the air flow to the building.
- The HVAC system should maintain a positive air pressure within the premises (i.e. air and smoke- in the case of a fire should flow out from the room due to the higher pressure maintained inside).
- Anti-static floors or carpets must be maintained inside server rooms.
- All equipment racks must be separately grounded to avoid accumulation of static electricity.
- All liquid (water, sewage) and gas lines within the disaster recovery site must contain emergency shut-off valves.

Telecommunications at the secondary site

- The secondary site must contain sufficient number of telephone connections to the PSTN which are independent from the primary site.
- The PABX at the secondary site must be capable of providing enough number of extensions during a disaster.
- Extensions must be properly cabled to the work areas since the site is going to operate as a warm site.
- A sufficient number of telephone sets should be kept in-house.
- All telephone cables must be laid within ducts in order to physically protect them and prevent tampering.
- If available in the area, telephone connectivity should be obtained from at least two different service providers, preferably using a mix of copper and wireless loops.

Further, bank has established risk mitigating actions for;

- Internet connectivity
- Power supply
- Fire protection

2.1 Outsourcing Plan

Service provider', whereby the service provider performs an activity, function or process connected with the operations of a licensed bank. Service provider' includes the head office, parent institution, another branch or related company of a licensed bank, or an unrelated institution, whether located in Sri Lanka or elsewhere. Banking Act Direction No. 2 Of 2012 Outsourcing of Business Operations Of A Licensed Commercial Bank And A Licensed Specialized Bank, The CBSL guidelines apply to outsourced arrangements that are not directly related to the provision of financial services such as mail, courier services, catering of staff, housekeeping and janitorial services, Security of premises, printing services (e.g., application forms, brochures etc.), recruitments on contract and temporary basis and communication services.

Outsourcing arrangements are entered with only who have specialized resources and skills to perform the related activities. Outsourcing arrangements are not being entered into with a service provider of which the majority of the ownership is held by employees and/or close relatives of an employee of the bank. For the outsourcing arrangements which are directly related to the provision of financial services, the compliance officer ensures whether the bank meet the following criterion;

1. Services associated with acceptance of deposits and withdrawals excluding the agency arrangements approved under the provisions of section 12(1)(b) of the Banking Act
2. Assets and Liabilities management
3. Compliance function
4. Customer due diligence and Know Your Customer (KYC) procedures
5. Treasury functions, foreign exchange trading and management
6. Risk Management
7. Strategic planning and decision-making
8. Sanctioning of loans except where the basis of approval has been previously approved by the Board
9. Internal Audit Function
10. Information Technology (IT) related services.

HDFC outsource some of its non-core business functions to outside vendors, consultants and manage service providers in order to:

- Reduce the bank cost.
- Ensure greater focus on core-business by outsourcing non-core functions.
- Access to world class skills and resources.

According to the CBSL guidelines there should be a separate division to handle bank's outsourcing functions and procedures. But HDFC has made an agreement with central bank regarding the inability to have a separate division or a policy for outsourcing. Therefore, the responsibility is passed to the head of HR. An outsource policy document has prepared by head of HR.

There are number of services outsourced by the bank.

- Part of software development
- Cleaning services
- Security services.
- Acquiring people from Job agencies (this has been stopped from last year)

Outsourced IT related business processes are (Software development)

- ATM Banking
- Internet Banking
- Leasing
- Pawning

HDFC's written outsourcing policy contains the following;

Criteria for selecting an outsourcer

- Assessing of outsourcing risk by the administration officer of each function outsourced and the risk officer
- Roles and responsibilities of Outsource Evaluation Committee.
- Entering into contracts and confidentiality agreements with outsourcers
- The placing of overall responsibility on the Board of Directors.
- Cost-benefit analysis on each activity or function or process to be outsourced.
- Tender procedures to be followed for the procurement of outsourced services.
- Setting up of a monitoring and control unit in the event of having several outsourcing arrangements.
- A framework to conduct KYC and due diligence process on the service provider.

2.2. Technology risk management function

No. 16 of 2021 Regulatory Framework on Technology Risk Management and Resilience for Licensed Banks intends to set minimum regulatory requirements on technology risk management and resilience for licensed banks in general as well as based on sensitivity of data, criticality of information systems, and type of information system infrastructure used. Implementation and transitional arrangement to be complied with. The progress made by the bank in achieving the timelines for compliance on quarterly basis from the date of issue of this regulatory framework and take necessary measures to ensure compliance with the given timeline.

Bank ensure that the risk management function possess a level of maturity in technology risk management that commensurate with the magnitude of technology risk faced by the bank. The level of staff and other resources allocated to the risk management function for technology risk management to be decided by BIRMC in consultation with the head of risk management.

The technology risk appetite is defined through a framework of clearly delineated and measurable technology risk indicators with approved risk tolerance levels and assess technology risk as a part of the comprehensive assessment of risks in the bank's Internal Capital Adequacy Assessment Process

(ICAAP). Bank ensures stringent product approval process approved by the Board of Directors and focused on software quality assurance, internal controls, and risk management measures are adhered to, when a new technology driven product or service is introduced or when a change is made to such product or service and ensure that business units responsible for technology driven banking products and services such as payment cards and electronic banking, and information technology and information security related service delivery functions are subjected to quarterly Risk and Control Self-Assessment (RCSA) process implemented and monitored by the risk management function.

Implementation of adequate technology risk management and monitoring measures including RCSA processes for third-party service providers and agents that commensurate with the criticality and sensitivity of services carried out by such third-party service providers and agents as approved by BIRMC of the licensed bank.

2.2.1 Information Security Management

Information security management is considered for protecting Bank's sensitive data from threats and vulnerabilities. The main objective of information security management is to prevent data breaches, but it's helpful to break this down into more granular detail. At the center of the framework is information risk management in, which Bank's assess risks and the ways that they can compromise the confidentiality, integrity and availability of information.

The Central Bank of Sri Lanka ('CBSL') established under the Monetary Law Act No. 58 of 1949 ('MLA') is the main authority for securing objectives of the financial system. The CBSL issues **Baseline Security Standard** for Information Security Management under Banking Act Directions No. 4 of 2014 licenses and regulates, administers, and supervises all licensed commercial banks ('LCBs'), licensed specialized banks ('LSBs'), finance companies, and finance leasing companies. The CBSL has imposed specific regulations which cover the following areas:

- Information security
- Availability of systems
- Customer protection

HDFC Bank Information Security organization comprises of the ISMS Steering committee and the ISMS working committee, who have demonstrable information security knowledge, appropriate to maintaining defined security objectives.

Information Security policy has been formulated to provide a mechanism to establish procedures aligning with currently available Information Security standards to protect against security threats and minimise the impact of security incidents. The scope of the policy covers physical and logical security of information assets. All managers are directly responsible for implementing the policy within their business areas, and for adherence by their staff. It is the responsibility of each employee to adhere to the policy.

2.3 Management Information System (MIS)

MIS is a multi-disciplinary approach to the business management that provides required information to organizations. It helps Bank to manage themselves in an effective and efficient manner. MIS is essential for any organization to process and present data at regular interval. The Core Banking system is largely capable of handling the data from collection stage to processing. Bank can analyze the data in a number of ways as per their requirement. The system needs to be kept under a constant review and modification to meet the corporate needs of the information. It supports the management of the business in every phase by giving the information which is crucial in that phase. It provides more information on the critical success factors for decision making.

2.4 Data Maintenance

Bank has established a strong database by maintaining an effective MIS model/program that supports them in the following ways:

- providing, collecting, and processing data;
- reducing operating cost;
- enhancing communication among staff; and
- identifying and measuring its risks on a timely manner and generate data and reports as per the requirement of the FI.

The quality risk management of an FI mostly depends on the accuracy, validity, reliability and timeliness of available information. For effective monitoring of all types of risk, a robust MIS must be in place.

2.5 Characteristics of MIS

An effective MIS takes data that originates in the areas of activity that is extractable to the manager at any given time, and organizes it into forms that are meaningful for making decisions. Effective MIS should have the following characteristics.

a. Accuracy

A key measure of the effectiveness of an MIS is the accuracy and reliability of its information. The accuracy of the data it uses and the calculations it applies determine the effectiveness of the resulting information. The sources of the data determine whether the information is reliable. Historical performance is often part of the input for an MIS, and also serves as a good measure of the accuracy and reliability of its output.

b. Usefulness

The information an FI receives from an MIS may be relevant and accurate. It will only be useful if it helps the FI to take proper decision associated with risk management.

c. Timeliness

Management has to forecast based on data from the present, even when evaluating trends. The more recent the data, the more these decisions will reflect present reality and correctly anticipate their effects on the company. When the collection and processing of data are delayed, the MIS must take

into consideration its potential inaccuracies due to age and present the resulting information accordingly, with possible ranges of error.

d. Completeness

An effective MIS presents all the most relevant and useful information for a particular decision. If some information is not available due to missing data, it highlights the gaps and either displays possible scenarios or presents possible consequences resulting from the missing data. Management should make appropriate decisions being aware of the missing information. An incomplete or partial presentation of information can lead to decisions that don't have the anticipated effects.

E. Liquidity Risk

Liquidity is a financial institution's capacity to meet its cash and collateral obligations without incurring unacceptable losses. Adequate liquidity is dependent upon the bank's ability to efficiently meet both expected and unexpected cash flows and collateral needs without adversely affecting either daily operations or the financial condition. The primary role of liquidity risk management is to;

- Prospectively assess the need for funds to meet obligations.
- Ensure the availability of cash or collateral to fulfill those needs at the appropriate time by coordinating the various sources of funds available to the bank under normal and stressed conditions.

1.1 Liquidity Risk Policy, Procedure and Limits

The fundamental role of banks is the maturity transformation of short-term deposits (liabilities) into long-term loans (assets) and this makes banks inherently vulnerable to liquidity risk. The transformation process creates asset and liability maturity mismatch on a bank's balance sheet that must be actively managed with available liquidity.

The Bank has established systems and processes to monitor and control liquidity risk by the management of asset and liability maturities and available liquid resources to ensure that it is in a position to meet its liabilities as and when they fall due. These are set out in more detail in the Bank's liquidity Risk Management policy statement. **No. 09 Of 2021 Recovery Plans for Licensed Commercial Banks and Licensed Specialized Banks, RCP** identify the full range of recovery options available to a licensed bank to deal with shocks to capital, liquidity and all other aspects that may arise from institution-specific stresses, market-wide stresses, or a combination of both.

The availability of liquidity either internally or externally is thus paramount in the management of these maturity mismatches. The effective management of liquidity allows a bank to fund increases in its assets (loans and investments) and to meet obligations as they come due (withdrawal of deposits).

A failure in liquidity risk management may result in a bank becoming unable to meet its obligations. This scenario could easily cause a bank to fail. A bank can continue to meet its uncertain cash flow obligations and stay healthy by managing liquidity risk prudently.

1.2 Risk Appetite

The bank maintains its tolerance level at minimum average monthly liquid assets of not less than 20% and the bank should not use more than 75% of available credit facilities.

1.3 Risk Oversight, Monitoring Structure and internals

The liquidity is managed by the Treasury Department in different portfolios with distinct objectives. Figure 1 shows the composition of the treasury department. The portfolio set-up consists of Cash in hand, balance in current accounts in a licensed commercial bank, money at call in Sri Lanka, treasury Bills securities issued or guaranteed by the Government of Sri Lanka which have a maturity not exceeding one year, treasury bonds issued under section 21A of Registered Stock and securities Ordinance.

Treasury division and ALCO (Asset & Liability Committee) of the Bank are responsible for managing the liquidity of the overall Bank. The division is given the responsibility of maintaining the statutory liquidity requirement of 20% of total deposits. Treasury reports to ALCO and if the liquidity asset ratio falls below 20%, the corporate management has been notified to take necessary actions. Further ALCO is mandated to execute liquidity management policies, procedures and practices approved by the BOD. The BOD periodically monitors the liquidity profile to assess the risk of the bank.

As part of the responsibilities of the Treasury and ALCO, the team maintains the liquidity risk tolerance, adequate level of liquidity by allocating liquidity costs, benefits and risk to business. Further, identification and measurement of contingency liquidity risk and plan the funding accordingly is also part the above teams' responsibilities.

▶ **Treasury Division**

- Maintain the capital adequacy ratio determined by CBSL
- Submission of timely management information to the ALCO and the corporate management.

▶ **DGM Treasury (DGMT)**

- DGMT responsible officer will produce weekly, monthly and annually reports summarizing the savings Deposits, Borrowings, Maturity mismatch, Balance sheet composition and cash forecast.
- Managing the day to day treasury operations, covering liquidity management, funding arrangements and formulating strategies and methodologies to maintain the liquidity mismatch.

▶ **Unit Manager-Back Office & Finance**

Managing day to day transactions of the bank. Covering ledger updating, transaction verifications, balance confirmations, loans repayment and tax calculations.

1.3.1 ALCO Roles and Responsibilities pertaining to Liquidity Risk;

Recommend and monitor asset and deposit levels for the balance sheet, including balance sheet trends and targets, structural liquidity usage, returns on all business assets and competitive analysis of deposit pricing across businesses

- Endorse the annual funding and liquidity Plans and limits, targets for structural liquidity ratios, market triggers; and assumptions and review/recommend changes in these parameters.
- Review stress test results for liquidity and integrate the results into the Annual Funding & Liquidity Plans
- Monitor MAR utilization and address the limit excesses and exceptions
- Establish Significant Funding Sources thresholds
- Assist in the quality control process
- Discussion on the action plan the branch contingency plan

- Determine and ensure adherence to minimum capital standards which should be consistent with regulatory and rating guidelines

1.3.2 Funding and Liquidity Planning

Bank's liquidity is managed through cash management and investment management. As part of the cash management, daily cash management and cash flow monitoring is conducted. Further, investment management is done through main fixed income products such as treasury bills, bonds, debentures, commercial papers and asset backed notes. Liquidity ratios maintained within the CBSL required rate. In case of liquidity risk, the Bank has funded arrangements to secure sufficient liquidity by retaining access to funding and by possessing liquid assets.

Each liquidity management unit must prepare a funding and liquidity plan that considers the forecast of future business activities. The Treasurer is responsible for preparation of the plan for liquidity management units. ALCO do the review and approval of the plan.

1.4 Liquidity Portfolio

The objective of the Liquidity Portfolio is to warehouse liquidity in financial assets that can be sold to meet the Bank's obligations. Liquidity portfolio is funded mainly from short term liabilities that include short term fixed deposits especially corporate fixed deposits. The Bank classifies assets as liquidity if the Bank is able to sell the assets at market prices or realize the asset on a specific date to meet obligations. The following assets can be used as liquidity:

Account balances with other banks

- Repos
- Treasury Bills
- Money in collection
- Short term fixed deposits in different banks approved by CBSL
- Commercial papers
- Unit Trust

1.5 Liquidity Limits

Risk Management is responsible for the daily calculation, monitoring and follow-up on compliance with the risk limits. The objective is to control and report whether risk is kept at an acceptable level.

Through the Financial Policies and Guidelines, the Board of Directors approves the risk limits applying to the Bank's treasury operations. The risk limits are applied in three areas counterparty risk; market risk; and liquidity risk. Counterparty risk limits apply to the credit exposures in the treasury operations arising from all instruments used in relation to the Bank's counterparties. Market risk limits apply to all interest rate risk, foreign exchange rate risk; credit spread risk, and refinance and reinvestment risk.

A duration limit applies to the Own Capital Portfolio and serves to restrict the duration of the investments. Liquidity risk limits address the positive liquidity requirement for the first 12 months

and funding deficits in longer maturities. Stresses can be carried out to measure the liquidity requirement at shocks and unexpected funding needed to maintain the liquidity of the Bank's portfolio. Bank believes that its liquidity crisis trigger with events such as;

- Volatility of funding sources, where premature deposit withdrawal increases whilst loans & advances rollover increases.
- Negative news, speculations on acquisition, rating downgrading and loss of reputation could affect the reduction in deposits, access to inter-bank credit lines and other borrowing methods in the market are abridged.

1.5.1 Liquidity Ratios

This measures and monitors the structural liquidity of the balance sheet. Standard liquidity ratios have been used on periodically basis.

- Liquidity Assets - Bank maintains a 20% ratio of monthly liquidity assets compare to its total deposit liabilities.
- Credit Facilities – Bank uses 75% of the credit facilities through non liquid assets investment fund and mobilizes through the market to improve the liquidity position.

1.6 Management Reporting

Set of reports are generated using liquidity risk data in order to identify and apply the business decisions by the Treasury and senior management. Treasury must maintain the integrity of the liquidity risk data and the data can be effectively reported. The maturity analysis and mismatch analysis reports are provided to the Board Integrated Risk Management Committee (BIRMC) for monitoring and review purposes. Treasury further maintains daily reports on internal controls.

1.6.1 ALCO Roles and Responsibilities pertaining to Liquidity Risk;

- Recommend and monitor asset and deposit levels for the balance sheet, including balance sheet trends and targets, structural liquidity usage, returns on all business assets and competitive analysis of deposit pricing across businesses
- Endorse the annual funding and liquidity Plans and limits, targets for structural liquidity ratios, market triggers; and assumptions and review/recommend changes in these parameters.
- Review stress test results for liquidity and integrate the results into the Annual Funding & Liquidity Plans
- Monitor MAR utilization and address the limit excesses and exceptions
- Establish Significant Funding Sources thresholds
- Assist in the quality control process
- Discussion on the action plan the branch contingency plan
- Determine and ensure adherence to minimum capital standards which should be consistent with regulatory and rating guidelines

1.7 Internal Controls

Bank has adequate internal controls to ensure the integrity of their liquidity risk management process. These should be an integral part of the institution's overall system of internal control aimed at promoting effective and efficient operations, reliable financial and regulatory reporting, and compliance with relevant laws, regulations and institutional policies. An effective system of internal control for liquidity risk includes:

- a. a strong control environment;
- b. an adequate process for identifying and evaluating liquidity risk;
- c. the establishment of control activities such as policies and procedures;
- d. adequate management information systems; and,
- e. continuous review of adherence to established policies and procedures.

With regard to control policies and procedures, attention should be given to appropriate approval processes, limits, reviews and other mechanisms designed to provide a reasonable assurance that the FI's liquidity risk management objectives are achieved. Many attributes of a sound risk management process, including risk measurement, monitoring and control functions, are key aspects of an effective system of internal control. Bank ensure that all aspects of the internal control system are effective, including those aspects that are not directly part of the risk management process.

In addition, an important element of a Bank's internal control system over its liquidity risk management process is regular evaluation and review. This includes ensuring that personnel are following established policies and procedures, as well as ensuring that the procedures that were established actually accomplish the intended objectives. Such reviews and evaluations address any significant change that may impact on the effectiveness of controls. The board should ensure that all such reviews and evaluations are conducted regularly by individuals who are independent of the function. When revisions or enhancements to internal controls are warranted, there should be a mechanism in place to ensure that these are implemented timely. Breaches of the limit should receive prompt attention of appropriate management and be resolved according to the processes described in approved policies.

F. Capital Management

The extant prudential guidelines on capital adequacy **No. 01 of 2016 Capital Adequacy Requirement** under prescribe that commercial banks in India to maintain a minimum capital-to-risk weighted assets ratio (CAR) on an ongoing basis. In order to address other risks exposed by the banks, in addition to the Pillar 1 risks (credit, market and operational risk) by CAR, as also to address the possibility of some under-estimation of risks under Pillar 1 and the actual risk exposure of bank vis-à-vis the quality of its risk management architecture, the banks are required to make their own assessment of their various risk exposures, through a well-defined internal process [called as Internal Capital Adequacy and Assessment Process (ICAAP)], and maintain an adequate capital cushion for such risks. The ICAAP document, inter alia, includes the capital adequacy assessment and ions of capital requirement for the ensuing year, along with the plans and strategies for meeting the capital requirement.

Bank required to focus on effective and efficient capital planning, as well as long-term capital maintenance. An effective capital planning process requires a bank to assess both the risks to which it is exposed and the risk management processes in place to manage and mitigate those risks; evaluate its capital adequacy relative to its risks; and consider the potential impact on earnings and capital from economic downturns. A bank's capital planning process incorporates rigorous, forward-looking stress testing, the bank's capital plan spells out the institution's objectives in regard to the level of capital, the time horizon for achieving those objectives, and in broad terms, the capital planning process and allocates responsibilities for that process.

1.1 Importance of Capital Management

Most of the risks of Bank can be quantified as numerical indicators, and this quantification naturally leads to the urge for increased capital need to be held to cover unexpected losses at a certain confidence level. Several implications are:

- Capital management helps to ensure that the Bank have sufficient capital to cover the risks associated with its activities;
- as part of the Internal Capital Adequacy Assessment Process (ICAAP), management identifies the risks that the Bank are exposed to, and determines the means by which
- they should be mitigated; and capital is used to cover some of these risks, and the remainder of these risks is mitigated by means of collateral or other credit enhancements, contingency planning, additional reserves and valuation allowances, and other mechanisms.

1.2 Framework of Capital Management

Bank devise and establish suitable capital management systems complying regulatory instructions in order to calculate the capital adequacy ratio and secure adequate capital to cover the risks they face, from the standpoint of ensuring soundness and appropriateness of their businesses.

1.3 Roles and Responsibilities of Board of Directors and Senior Management

The Board of directors and senior management will take the following steps:

- Define the goals of capital management in a policy statement comprising regulatory compliance issues and strategic plan that will help maintaining an appropriate balance between maximizing shareholder returns and protecting the interests of depositors and other creditors;
- Review capital ratios, targets, and levels of different classes of capital against the Bank's risk profile and risk appetite under various probable stressed scenarios;
- Review the policies and specific measures for developing and establishing an adequate capital management system with a full grasping of the assessment, monitoring and control techniques of internal capital adequacy as well as the significance of capital management; and
- Set an appropriate level of capital target for the short-term, medium-term and long-term and Maintain Internal Capital Adequacy Process to achieve the target. The CP must identify the capital issuance requirements and options around capital products, such as the issuance of common equity, timing and markets to execute the CP under differing market and economic conditions.

G. Stress Testing

Stress tests are used by bank for risk management purposes. They complement a financial firm's other quantitative risk management tools by providing insights into its risk profile and alerting management to vulnerabilities in the case of exceptional events. Stress testing can also help in efforts to improve governance, data quality, and quantitative analytical capabilities and risk management practices. It also fosters greater understanding of the relationship between capital, liquidity and risk.

Banks have been advised to put in place a board-approved "Stress Testing framework" to suit their individual requirements which would integrate into their risk management systems. Stress tests undertaken on a bank-wide basis enable the board and the senior management to assess the potential impact of the stress situations on the bank's earnings and capital position and enable them to develop or choose appropriate strategies for mitigating and managing the impact of those situations. The framework also helps bank management understand the bank's risk profile and adjust it in accordance with their risk appetites.

Banks are required to identify the major risks to which they are exposed to with regard to their bank-specific circumstances and portfolio. They stress the relevant parameters at least at three levels of increasing adversity – minor, medium and major – with reference to the normal situation and estimate the financial resources needed by it under each of the circumstances to;

- (a) meet the risk as it arises and mitigate the impact of manifestation of that risk,
- (b) meet the liabilities as they fall due, and

A few examples of stress factors/ scenarios include: domestic economic downturn, the economic downturn of major economies to which the bank is directly exposed or to which the domestic economy is related; decline in the prospects of sectors to which the banks are having significant exposures; increase in the level of NPAs and provisioning levels; unexpected deposit withdrawals on account of a sudden loss of depositors' confidence; increase in the level of rating downgrades; failure of major counterparties; timing difference in interest rate changes (repricing risk); unfavorable differential changes in key interest rates (basis risk); parallel/non-parallel yield curve shifts (yield curve risk); changes in the values of standalone and embedded options (option risk); adverse changes in exchange rates of major currencies; decline in market liquidity for financial instruments; stock market declines; tightening of market liquidity; significant operational risk events, etc.

1. Management Oversight

- a) BOD or a committee formed under the Board with delegated authority should put in place a, Stress Testing Framework" as a part of integrated risk management system with approved "Stress Testing Policy", procedures to be followed and the methodology to be adopted.
- b) BOD and the Senior Management should regularly review the results of stress tests, including major assumptions that underpin them.
- c) BOD and Senior Management should put in place appropriate fallback mechanisms for mitigating tail-end risks, considering an organized approach to manage extreme systemic risks.

Stress Testing Policy should include the following aspects;

- a) Frequency and procedure for identifying the principal risk factors, which affect the bank's portfolio and required to be stressed.
- b) Methodology for constructing stress tests.
- c) Procedure for setting the stress tolerance limits.
- d) Process of monitoring the stress loss limits.
- e) Necessary remedial/trigger actions to be taken at various risk levels as revealed by the stress tests.
- f) Delegation of authority to ensure timely execution of remedial/trigger action. Roles and responsibilities of the persons involved in the exercise must be defined by well constituted organizational structure and they should be independent.

An effective Management Information System (MIS) is necessary to ensure flow of information to take necessary measures to avoid certain difficult conditions by the Senior Management.

1.1. Frequency of Stress Testing

Banks may apply stress tests at varying frequencies dictated by their respective business requirements, relevance and cost. In general, stress tests on market-sensitive portfolios should be run more frequently (eg: daily, weekly). These may include trading portfolios in marketable securities, foreign exchange and interest rate exposures. Other portfolios which are less volatile in nature could be stress-tested at longer intervals (eg: monthly, quarterly). Further, ad-hoc stress tests may be warranted when there are any special circumstances.

1.2 Scope of Stress Tests

Stress testing can and should be applied to the full range of material risks that a bank runs both at business unit level and on an aggregated group basis. Stress testing can be commonly used for interest rate, equity, liquidity, foreign exchange, credit and market instruments. Further, it is also important to introduce stress testing for operational risk. There are three different hypothetical scenarios that can be used in stress testing:

- (a) Major Level Shocks: It involves large shocks to all the risk factors and is also defined separately for each risk factor.
- (b) Moderate Level Shocks: It involves medium level shocks and the level is defined each risk factor separately.
- (c) Minor Level Shocks: It involves small shocks to risk factors.

1.3 Methodology and Calibration of Shocks

1.3.1 Credit Risk

Stress test for credit risk assesses the impact of increase in the level of nonperforming loans of the bank on Capital Adequacy Ratio (CAR). This involves three types of shocks, namely;

- a) Type One deals with the increase in the Non-Performing Loans (NPLs) and the respective provisioning.
- b) Type Two deals with the negative shift in the NPL categories and hence the increase in respective provisioning.
- c) Type Three deals with the fall in the Forced Sale Value (FSV) of mortgaged collateral.

1.3.2 Liquidity Risk

Stress test for liquidity risk evaluates the resilience of the banks towards the fall in liquid liabilities. The ratio “liquid assets to liquid liabilities” should be calculated before and after the shocks by dividing the liquid assets with liquid liabilities. They include cash and balances with banks, call money lending, lending under repo and investment in government securities. Liquid liabilities include deposits and borrowings.

1.3.3 Equity Price Shock

Stress test for equity price risk assesses the impact of the fall in the stock market index. The impact of resultant loss should be calculated after shocks on current market value of all the on-balance sheet and off-balance sheet securities listed on stock exchanges including shares, mutual funds, etc. and it should be calibrated in terms of the CAR.

1.3.4 Interest Rate Risk

Interest rate risk is the potential that the value of the on-balance sheet and the off-balance sheet positions of the bank would be negatively affected with the change in the interest rates. The vulnerability of an institution towards the adverse movements of the interest rate can be gauged by using duration gap analysis. Banks should follow the under mentioned steps in carrying out the interest rate stress tests.

- a) Estimate the market value of all on-balance sheet rate sensitive assets and liabilities of the bank to arrive at market value of equity.
- b) Calculate the durations of each class of asset and the liability of the on-balance sheet portfolio.
- c) Arrive at the aggregate weighted average duration of assets and liabilities.
- d) Calculate the duration gap by subtracting aggregate duration of liabilities from that of assets.
- e) Estimate the changes in the economic value of equity due to change in interest rates on on-balance sheet positions along the three interest rate changes.
- f) Calculate surplus/(deficit) on off-balance sheet items under the assumption of three different interest rate changes, i.e., 1%, 2%, and 5%.

- g) Estimate the impact of the net change (both for on-balance sheet and off-balance sheet) in the market value of equity on the CAR.
- h) Market value of the assets or liabilities should be assessed, by calculating its present value discounted at the prevailing interest rate. The outstanding balances of assets and liabilities should be taken along with their respective maturity or reprising period, whichever is earlier.

1.4 Interpretation of Stress Testing Results

- a) Before interpretation of stress testing results, it is important to the banks to be aware of its limitations as stress testing is influenced by the judgment and experience of the risk managers designing the stress tests. Therefore, the effectiveness of the stress tests will depend upon whether banks have identified their major risks and they have chosen the right level of stress/ stress scenarios.
- b) Senior Management should review the results of the various stress tests and report to the Board. It is important to document the results of each of the sensitivity tests and scenario analysis undertaken and should also document, as part of the details of those tests and analyses, the key assumptions including the aggregation of the results. These should be preserved for a considerable period as mentioned in the policy document.

1.5 Review & Update

- a) Regular review and updating is important to ensure effectiveness of the stress testing program of the bank.
- b) Such review should be done at least once a year or more frequently if the portfolio or the environment changes are significant. Following should be covered in the review process.
 - i. The integrity of the management information system.
 - ii. Completeness and accuracy of the data used.
 - iii. Consistency, timeliness and reliability of data sources.
 - iv. The approval process for the stress testing program
 - v. Integration of stress testing into risk management.
 - vi. Interpretation of stress testing results.