The Imperatives of Developing Risk Management Framework for Individual Risk Elements in Nigerian Banks

*Emmanuel Moore Abolo, PhD**

I. Introduction

Risk is a fact of life, inherent in the business of banking and is constantly changing. Simply defined, "risk" is the likelihood that the outcome of events will vary from expectations". It can also be defined as anything that may happen that would impact the achievement of an organization's objectives. It is an event having a cause and a consequence that could be either positive (upside) or negative (downside).

Risk can also be considered to be the level of exposure opportunity, threat and uncertainty that a bank must identify, measure, understand and effectively manage, as it executes its strategies to achieve its business objectives and create value.

Risk as an opportunity refers to the relationship between risk and return. The greater the risk, the greater the potential return (except operational risk) and, necessarily, the greater the potential for loss. In this context, managing risks means using techniques to optimize the upside within the constraints of a bank's

**Dr. E.M. Abolo is Chief Economist and Head, Market Risk Management, Access Bank Plc. The views expressed in the paper are entirely those of the author and should not in any way be ascribed to the CBN and Access Bank Plc; or their respective management.*

business environment. Risk as a threat refers to the potential for negative events such as financial loss, fraud, damage to reputation or public image, loss of key staff and loss of competitive advantage. Managing risk in this context means introducing management techniques to reduce the probability of these negative events occurring without incurring excessive costs or hampering the initiative, innovative, and entrepreneurial flair of a bank.

Risk as uncertainty refers to the distribution of all possible outcomes both positive and negative. In this context, risk management seeks to reduce the variance between anticipated outcomes and actual results.

For a bank to be successful over the long term, it has to effectively manage its opportunities, threats and uncertainties. The point of risk management is not to eliminate it. That would eliminate reward. The point is to manage it. That is, choose where to place bets and where to avoid betting altogether.

II. Types f Risk in Banking

Banking risks are of various types and include the following:

II.1 Credit Risk

This is the potential for financial loss if a borrower or counterparty in a transaction fails to meet its obligations. Credit risk is not confined to the risk that borrowers are unable to pay; it also includes the risk of payments being delayed, which can also cause problems for the bank. This can affect the lender holding the loan contract, as well as other lenders to the creditor. The real risk for credit is the deviation of portfolio performance from its expected value. Accordingly, credit risk is diversifiable, but difficult to eliminate completely.

II.2 Market Risk

This is the risk that the value of on- and off-balance sheet positions of a bank will be adversely affected by movements in market rates or prices such as interest rates, foreign exchange rates, equity prices, credit spreads and/or commodity prices resulting in a loss of earnings and capital. In other words, this relates to the risk of loss associated with unfavourable deviations in the value of the trading portfolio, which arises through fluctuations in prices. It arises where banks hold financial instruments on the trading book or where banks hold equity as some form of collateral. This is associated with the problems of actually processing, settling and taking or making delivery on trades in exchange for cash.

II.3 Operational Risk

According to Basel II, this is the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. Operational risk is present in virtually all banking transactions and activities. Operational risk arises from shortcomings or deficiencies at either a technical level (i.e. in a bank's information systems or risk measures) or at an organizational level (i.e. in a bank's internal reporting, monitoring and control systems). Technically, operational risks arise in a multitude of forms (such as errors in recording transactions, deficiencies in information systems or the absence of adequate tools for measuring risks). Its impact can result in financial and reputational loss, regulatory penalties and censure.

II.4 Liquidity Risk

This is the potential loss to a bank arising from either its inability to meet its obligations as they fall due or to fund increases in assets without incurring unacceptable cost or losses. In other words, it is the potential that an institution will be unable to meet its obligations as they fall due because of inability to liquidate assets or obtain adequate funding (referred to as "funding liquidity risk")

or that it cannot easily unwind or offset specific exposures without significantly lowering market prices because of inadequate market depth or market disruptions.

Banks require liquidity for four major reasons:

- as cushion to replace net outflows of funds;
- to compensate for the non-receipt of expected inflows of funds;
- source of funds when contingent liabilities fall due; and
- source of funds to undertake new transactions when desirable.

Liquidity risk relates to the eventuality that banks cannot fulfill one or more of these needs.

II.5 Legal Risk

This arises from the potential that unenforceable contracts, lawsuits, or adverse judgments can disrupt or otherwise negatively affect the operations or condition of a banking organization. In particular, legal risks can result if a financial institution does not pay adequate attention to operating circulars, procedures and rules of the payment and settlement systems in which it participates.

II.6 Compliance Risk

This arises from an institution's failure to enact appropriate policies, procedures, or controls to ensure it conforms to laws, regulations, contractual arrangements, and other legally binding agreements and requirements. This risk is sometimes also referred to as integrity risk, because a bank's reputation is closely connected with its adherence to principles of integrity and fair dealing.

II.7 Reputational Risk

This is the potential that negative publicity regarding an institution's business

practices, whether true or not, will cause a decline in customer base, costly litigation, or revenue reductions. It is a risk of loss caused by a negative impact on the market positioning of the bank.

II.8 Strategic Risk

This is the risk of loss caused by a lack of a long-term development component in the bank's managing team. It is the current and prospective risk to earnings and capital arising from adverse business decisions or improper implementation of business decisions. Many senor managers do not fully understand the strategic and technical aspects of some products. Spurred by competitive and peer pressures, banks may seek to introduce or expand those products even when the organizational structure and resources may not have the skills to manage them.

II.9 Country Risk

This is a risk present in international banking. It refers to the ability and willingness of borrowers within a country to meet their obligations. It is thus a credit risk on obligations advanced across borders. Assessment of country risk relies on the analysis of economic, social and political variables that relate to the particular country in question. Although the economic factors can be measured objectively, the social and political variables will often involve subjective judgments.

Country risk can be categorized into two major headings. The first sub-category of country risk is **sovereign risk**, which refers to both the risk of default by a sovereign government on its foreign currency obligations, and the risk that direct or indirect actions by the sovereign government may affect the ability of other entities in that country to use their available funds to meet foreign currency debt obligations. In the former case, sovereign risk addresses the credit risk of national governments, but not the specific default risks of other debt issuers. Here, credit

risk relates to two key aspects: economic risk, which addresses the government's ability to repay its obligations on time, and political risk, which addresses its willingness to repay debt. In practice, these risks are related.

The other sub-category of country risk is **transfer risk**. This refers to the risk that the sovereign government will be unable to secure foreign exchange to service its foreign currency debt, and also to the likelihood that the sovereign government may constrain or prohibit non-sovereign issuers' access to foreign exchange. The latter would prevent the issuer from meeting its foreign obligations in a timely manner.

II.10 Solvency Risk

This relates to the risk of having insufficient capital to cover losses generated by all types of risks and, is thus, effectively the risk of default of the bank. From a regulatory viewpoint, the issue of adequate capital is critically important for the stability of the banking system.

III. Risk Management Process

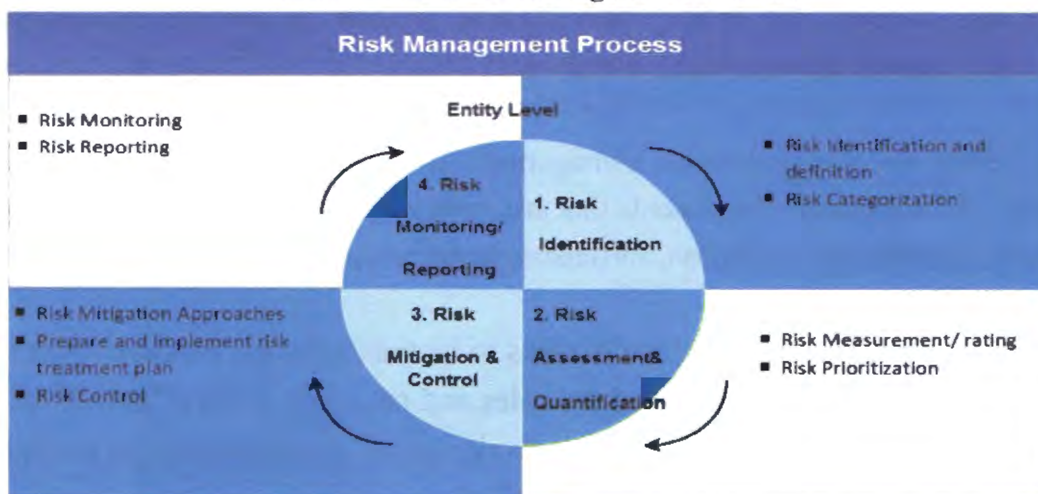
Risk management is the process by which an organization identifies, measures, monitors and controls its risk exposures to ensure that risks are understood and within tolerance limits established by the Board of Directors. This is to ensure that, risk-taking decisions are consistent with strategic business objectives and expected return usually compensate for the risk taken.

Risk management as commonly perceived does not mean minimizing risk; rather the goal of risk management is to optimize risk-reward trade -off. Notwithstanding the fact that banks are in the business of taking risk, it should be recognized that an institution need not engage in business in a manner that unnecessarily imposes risk upon it: nor should it absorb risk that can be transferred to other participants.

The primary role of risk management is to minimize the divergence between expectations and outcomes, thus ensuring the realization of more predictable results. This can only be achieved through a robust framework and clearly defined and transparent processes for the identification of all factors that may lead to the said divergences ("Risk Identification"); estimation of the likelihood of their occurrence and the extent or severity of their impact in the event of occurrence ("Risk Assessment/Measurement"); design of effective controls to minimize both the likelihood and the impact of risk events ("Risk Control"); establishment of procedures to ensure that these controls are effective and are being complied with ("Risk Monitoring"); regular reporting of risk events and controls ("Risk Reporting"); and provision of sufficient capital to absorb the adverse impact of expected and unexpected losses.

The outcomes of these processes have several important functions, including implementation of strategy, development of competitive advantages, ensuring capital adequacy and solvency, aiding decision-making, reporting and control of risks, and management of portfolios of transactions. Chart I is a graphic representation of this process.

Chart 1: **The Risk Management Process**



This is a formalized process for managing risk on an explicit basis. The framework must contain or cover the entire risk management process: risk assessment, response and accountability for the risk as well as mitigation activities around it.

IV. Developing Enterprise Risk Management Framework (ERMF)

Risks must not be viewed and assessed in isolation, not only because a single transaction might have a number of risks but also one type of risk can trigger other risks. Since interaction of various risks could result in diminution or increase in risk, the risk management process should recognize and reflect risk interactions in all business activities as appropriate. While assessing and managing risk, management should have an overall view of all HR risks the institution is exposed to. This requires having a structure in place to look at risk interrelationships across the organization. This is known as Enterprise Risk Management Framework (ERMF).

Enterprise Risk Management (ERM) is *a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.*

Developing an enterprise risk management framework (ERMF) requires a number of interrelated components that are, working in harmony and iteratively, support commitment, execution, and ensure sustainability.

An ERMF encompasses the scope of risks to be managed, the process/systems and procedures to manage risk and the roles and responsibilities of individuals involved in risk management. The framework should be comprehensive enough

to capture all the risks to which a bank is exposed to and have the flexibility to accommodate any change in business activities. An effective ERMF should include:

- Clearly defined risk management policies and procedures covering risk identification, acceptance, measurement, monitoring, reporting and control.
- A well-constituted organizational structure defining clearly, roles and responsibilities of individuals involved in risk taking as well as managing it. Banks, in addition to risk management functions for various risk categories, may institute a setup that supervises overall risk management at the bank. Such a setup could be in the form of a separate department or bank's Risk Management Committee (RMC) could perform such function. The structure should be such that ensures effective monitoring and control over risks being taken. The individuals responsible for review function (Risk review, internal audit, compliance etc) should be independent from risk taking units and report directly to board or senior management who are also not involved in risk taking.
- There should be an effective management information system that ensures flow of information from operational level to top management and a system to address any exceptions observed. There should be an explicit procedure regarding measures to be taken to address such deviations.
- The framework should have a mechanism to ensure an ongoing review of systems, policies and procedures for risk management and procedure to adopt changes.

The issues covered in the policy framework are integral to the processes of

identification, measurement, controlling and monitoring of its risks. This ensures that overall, an institution properly balances risk and reward to optimize performance, provide superior client services, innovative products and solutions.

The key elements of an ERMF are:

- Establishment of risk philosophy, culture and objectives;
- Establishment of risk management governance framework;
- Articulation of risk management stakeholders and development of an action plan to meet risk management expectations; and
- Establishment of policies and procedures to identify, measure, monitor, report and control risks.

Governance Structure in ERMF is a detailed risk management function in an institution. It describes risks organogram, responsibility and roles of the Board, its committees and management committees

V. Developing Framework for Each Risk Element

The ERMF is a high-level document and does not provide the level of details required for managing the different types of risks. It is, therefore, important to develop specific framework to cover the different risk areas. These specific risk policies must be in alignment with the ERMF. Developing a framework for each risk element is, therefore, intended to provide the level of granularity necessary for the effective management of risks. The Central Bank of Nigeria (CBN) has issued "Guidelines for Developing Risk Management Framework for Individual Risk Elements in Banks." The aim of this section, therefore, is to highlight the basic elements that should be covered in the following risk areas:

- Credit risk;
- Market risk;

- Liquidity risk; and
- Operational risk.

It must be emphasized that these elements can be adapted to cover other risk areas of banks.

V.1 Credit Risk

Banks should have Credit Risk Management Procedures that are holistic. In the minimum, they should cover formulation of overall credit strategy, credit origination, administration, measurement and control. They should also include the risk review process and procedures for managing problem credits. The basic elements in the framework are:

- Board and Senior Management oversights;
- Organisational structure; and
- System and procedures for identification, acceptance, measurement, monitoring and control.

Board and Senior Management's Oversight

It is the overall responsibility of a bank's board to approve the credit risk strategy and significant policies relating to credit risk and its management which should be based on the bank's overall business strategy. To keep it current, the overall strategy has to be reviewed by the board, preferably annually. The responsibilities of the board with regard to credit risk management shall, inter alia, include:

- Delineate the bank's overall risk tolerance in relation to credit risk;
- Ensure that the bank's overall credit risk exposure is maintained at prudent levels and consistent with the available capital;
- Ensure that top management as well as individuals responsible for credit risk management possess sound expertise and knowledge to

accomplish the risk management function;

- Ensure that the bank adheres to sound fundamental principles that facilitate the identification, measurement, monitoring and control of credit risk; and
- Ensure that appropriate plans and procedures for credit risk management are in place.

The very first purpose of a bank's credit strategy is to determine the risk appetite of the bank. Once it is determined, the bank could develop a plan to optimize return while keeping credit risk within predetermined limits. The bank's credit risk strategy thus should spell out

- The institution's plan to grant credit based on various client segments and products, economic sectors, geographical location, currency and maturity.
- Target market within each lending segment, preferred level of diversification/concentration.
- Pricing strategy.

It is essential that banks give due consideration to their target market while devising credit risk strategy. The credit procedures should aim to obtain an in-depth understanding of the bank's clients, their credentials and their businesses in order to fully know their customers.

The strategy should provide continuity in approach and take into account cyclic aspect of the country's economy and the resulting shifts in composition and quality of overall credit portfolio. While the strategy would be reviewed periodically and amended, as deemed necessary, it should be viable in the long term and through various economic cycles.

The senior management of the bank should develop and establish credit policies and credit administration procedures as a part of overall credit risk management framework with approval of the board. Such policies and procedures shall provide guidance to the staff on various types of lending including corporate, SME, consumer, agriculture, etc. At the minimum, the policy should include :

- Detailed and formalized credit evaluation/ appraisal process;
- Credit approval authority at various hierarchy levels including authority for approving exceptions;
- Risk identification, measurement, monitoring and control;
- Risk acceptance criteria;
- Credit origination and credit administration and loan documentation procedures;
- Roles and responsibilities of units/staff involved in origination and management of credit; and
- Guidelines on management of problem loans.

Organizational Structure

To maintain a bank's overall credit risk exposure within the parameters set by the board of directors, the importance of a sound risk management structure is second to none. While the bank may choose different structures, it is important that such structure should be commensurate with institution's size, complexity and diversification of its activities. It must facilitate effective management oversight and proper execution of credit risk management and control processes.

Each bank, depending upon its size, should constitute a Credit Risk Management Committee (CRMC) ideally comprising the head of Credit Risk Management Department, Credit and Marketing Department and Treasury, inter alia. This committee that should be reporting to the bank's risk management committee

should be empowered to oversee credit risk taking activities and overall credit risk management function. The CRMC should be mainly responsible for:

- The implementation of the credit risk policy/strategy approved by the Board;
- Monitor credit risk on a bank-wide basis and ensure compliance with limits approved by the Board;
- Recommend to the Board, for its approval, clear policies on standards for presentation of credit proposals, financial covenants, rating standards and benchmarks; and
- Decide delegation of credit approving powers, prudential limits on large credit exposures, standards for loan collateral, portfolio management, loan review mechanism, risk concentrations, risk monitoring and evaluation, pricing of loans, provisioning, regulatory/legal compliance, etc.

Furthermore, in order to maintain credit discipline and to enunciate credit risk management and control process, there should be a separate loan origination function. Credit policy formulation, credit limit setting, monitoring of credit exceptions/exposures and review /monitoring of documentation are functions that should be performed independently of the loan origination function. For small banks where it might not be feasible to establish such structural hierarchy, there should be adequate compensating measures to maintain credit discipline. This would include the introduction of adequate checks and balances and standards to address potential conflicts of interest. Ideally, the banks should institute a Credit Risk Management Department (CRMD). Typical functions of CRMD include:

- To follow a holistic approach in management of risks inherent in banks portfolio and ensure that risks remain within the boundaries established by the Board or Credit Risk Management Committee;

- The department also ensures that business lines comply with risk parameters and prudential limits established by the Board or CRMC;
- Establish systems and procedures relating to risk identification, management information system, monitoring of loan/investment portfolio quality and early warning. The department would work out remedial measure when deficiencies/problems are identified; and
- The Department should undertake portfolio evaluations and conduct comprehensive studies on the environment to test the resilience of the loan portfolio.

Notwithstanding the need for a separate or independent oversight, the front office or loan origination function should be cognizant of credit risk and maintain high level of credit discipline and standards in pursuit of business opportunities.

System and Procedures

Credit Origination.

Banks must operate within a sound and well-defined criteria for new credits as well as the expansion of existing credits. Credits should be extended within the target markets and lending strategy of the institution. Before allowing a credit facility, a bank must make an assessment of risk profile of the customer/transaction. This may include:

- o Credit assessment of the borrower's industry and macro economic factors;
- o The purpose of credit and source of repayment;
- o The track record/repayment history of borrower;
- o Assess/evaluate the repayment capacity of the borrower;
- o The proposed terms and conditions and covenants; and
- o Adequacy and enforceability of collaterals.
- o Approval from appropriate authority

Limit setting

An important element of credit risk management is to establish exposure limits for single obligors and group of connected obligors. Institutions are expected to develop their own limit structure while remaining within the exposure limits set by the Bank. The size of the limits should be based on the credit strength of the obligor, genuine requirement of credit, economic conditions and the institution's risk tolerance. Appropriate limits should be set for respective products and activities. Institutions may establish limits for a specific industry, economic sector or geographic regions to avoid concentration risk.

- **Measuring credit risk**

The measurement of credit risk is of vital importance in credit risk management. A number of qualitative and quantitative techniques to measure risk inherent in credit portfolio are evolving. To start with, banks should establish a credit risk-rating framework across all type of credit activities.

The tool that can be used and described in the framework is Internal Risk Rating which would facilitate:

- Credit selection
    - Amount of exposure
    - Tenure and price of facility
    - Frequency or intensity of monitoring
    - Analysis of migration of deteriorating credits and more accurate computation of future loan loss provision
    - Deciding the level of Approving authority of loan.

Credit Risk Monitoring & Control

A bank's credit policy should explicitly provide procedural guideline relating to credit risk monitoring. At the minimum it should lay down procedure relating to:

- The roles and responsibilities of individuals responsible for credit risk monitoring;
- The assessment procedures and analysis techniques (for individual loans & overall portfolio);
- The frequency of monitoring;
- The periodic examination of collaterals and loan covenants;
- The frequency of site visits; and
- The identification of any deterioration in any loan.

Managing Problem Credits

The institution should establish a system that helps identify problem loan ahead of time when there may be more options available for remedial measures. Once the loan is identified as problem, it should be managed under a dedicated remedial process.

A bank's credit risk policies should clearly set out how the bank will manage problem credits. Banks differ on the methods and organization they use to manage problem credits. Responsibility for such credits may be assigned to the originating business function, a specialized workout section, or a combination of the two, depending upon the size and nature of the credit and the reason for its problems. When a bank has significant credit-related problems, it is important to segregate the workout function from the credit origination function. The additional resources, expertise and more concentrated focus of a specialized workout section normally

Central Bank of Nigeria
LIBRARY

improve collection results.

The problem loan management process should encompass the following basic elements:

- **Negotiation and follow-up;**
- **Workout remedial strategies;**
- **Review of collateral and security document; and**
- **Status Report and Review.**

V.2. Market Risk

Board and Senior Management Oversight

Like other risks, the concern for the management of market risk must start from the top management. Effective board and senior management oversight of the bank's overall market risk exposure is the cornerstone of risk management process. For its part, the board of directors has following responsibilities.

- Delineate the bank's overall risk tolerance in relation to market risk;
- Ensure that the bank's overall market risk exposure is maintained at prudent levels and consistent with the available capital;
- Ensure that top management as well as individuals responsible for market risk management possess sound expertise and knowledge to accomplish the risk management function;
- Ensure that the bank adhere to sound fundamental principles that facilitate the identification, measurement, monitoring and control of market risk; and
- Ensure that adequate resources (technical as well as human) are devoted to market risk management.

The institutions should formulate market risk management polices which are approved by the board. The policy should clearly delineate the lines of authority and the responsibilities of the Board of Directors, senior management and other personnel responsible for managing market risk; set out the risk management structure and scope of activities; and identify risk management issues, such as market risk control limits, delegation of approving authority for market risk control limit setting and limit excesses.

Organizational Structure

The organizational structure used to manage market risk varies and depends upon the nature, size and scope of business activities of the institution. However, no structure absolves the directors of their fiduciary responsibilities of ensuring safety and soundness of institution. While the structure varies depending upon the size, scope and complexity of business, at a minimum it should take into account the following aspects.

- The structure should conform to the overall strategy and risk policy set by the board of directors (BOD);
- Those who take risk (front office) must know the organization's risk profile, products that they are allowed to trade and the approved limits;
- The risk management function should be independent, reporting directly to senior management or BOD; and
- The structure should be reinforced by a strong management information system (MIS) for controlling, monitoring and reporting market risk, including transactions between an institution and its affiliates.

The structure should cover roles relating to:

- The Risk Management Committee;
- The Asset-Liability Management Committee (ALCO); and
- The Middle Office.

Risk measurement

Accurate and timely measurement of market risk is necessary for proper risk management and control. Market risk factors that affect the value of traded portfolios and the income stream or value of non-traded portfolio and other business activities should be identified and quantified using data that can be directly observed in markets or implied from observation or history. The measurement system ideally should:

- Assess all material risk factors associated with a bank's assets, liabilities, and off-balance sheet positions;
- Utilize generally accepted financial concepts and risk measurement techniques; and
- Have well documented assumptions and parameters. It is important that the assumptions underlying the system are clearly understood by risk managers and top management.

Risk Monitoring

Risk monitoring processes are established to evaluate the performance of a bank's risk strategies/policies and procedures in achieving overall goals. Banks should have an information system that is accurate, informative and timely to ensure dissemination of information to management to support compliance with board policy. Reporting of risk measures should be regular and should clearly compare current exposures to policy limits.While the types of reports for board and senior management could vary depending upon overall market risk profile of the bank, at a minimum the following reports should be prepared:

- Summaries of the bank's aggregate market risk exposure;
- Reports demonstrating the bank's compliance with policies and limits; and
- Summaries of finding of risk reviews of market risk policies, procedures and the adequacy of risk measurement system including any findings of internal/external auditors or consultants

Risk Control

A bank's internal control structure ensures the effectiveness of the process relating to market risk management. Establishing and maintaining an effective system of controls including the enforcement of official lines of authority and appropriate segregation of duties, is one of the management's most important responsibilities. Key elements of internal control process include internal audit and review as well as an effective risk limit structure that should be covered in the framework.

Limit breaches or exceptions should be made known to appropriate senior management without delay. There should be explicit policy as to how such breaches are to be reported to top management and the actions to be taken.

V.3 Liquidity Risk Management Framework

Board and Senior Management Oversight

The prerequisites of an effective liquidity risk management include an informed board, capable management, staff having relevant expertise and efficient systems and procedures. It is primarily the duty of board of directors to understand the liquidity risk profile of the bank and the tools used to manage liquidity risk. The board has to ensure that the bank has necessary liquidity risk management framework and is capable of confronting uneven liquidity scenarios. Generally speaking the board of a bank is responsible:

- To position the bank's strategic direction and tolerance level for liquidity risk;
- To appoint senior managers who have the ability to manage liquidity risk and delegate to them the required authority to accomplish the job;
- To continuously monitor the bank's performance and overall liquidity risk profile; and
- To ensure that liquidity risk is identified, measured, monitored and controlled.

The senior management is responsible for the implementation of sound policies and procedures, keeping in view the strategic direction and risk appetite specified by board. In order to effectively oversee the daily and long-term management of liquidity risk, senior managers should:

- Develop and implement procedures and practices that translate the board's goals, objectives and risk tolerances into operating standards that are well understood by bank personnel and consistent with the board's intent;
- Adhere to the lines of authority and responsibility that the board has established for managing liquidity risk;
- Oversee the implementation and maintenance of management information and other systems that identify, measure, monitor and control the bank's liquidity risk; and
- Establish effective internal controls over the liquidity risk management process.

Liquidity Risk Strategy

The liquidity risk strategy defined by the board should enunciate specific policies

on particular aspects of liquidity risk management, such as:

- **Composition of Assets and Liabilities;**
- **Diversification and Stability of Liabilities**; and
- **Access to Interbank Market**.

Liquidity Risk Management Process

Besides the organizational structure, an effective liquidity risk management include systems to identify, measure, monitor and control its liquidity exposures. Key elements of an effective risk management process include an efficient MIS, to measure, monitor and control existing as well as future liquidity risks and reporting them to senior management.

Management Information System.

An effective management information system (MIS) is essential for sound liquidity management decisions. Information should be readily available for day-to-day liquidity management and risk control as well as during times of stress. Data should be appropriately consolidated, comprehensive yet succinct, focused and available in a timely manner. Ideally, the regular reports a bank generates will enable it to monitor liquidity during a crisis; managers would simply have to prepare the reports more frequently. Managers should keep crisis monitoring in mind when developing liquidity MIS.

There is usually a trade-off between accuracy and timeliness. Liquidity problems can arise very quickly, and effective liquidity management may require daily internal reporting. Since bank liquidity is primarily affected by large, aggregate principal cash flows, detailed information on every transaction may not improve analysis.

Liquidity Risk Measurement and Monitoring

An effective measurement and monitoring system is essential for adequate management of liquidity risk. Consequently, banks should institute systems that enable them to capture liquidity risk ahead of time, so that appropriate remedial measures could be prompted to avoid any significant losses. The framework should cover the following:

- **Contingency Funding Plans (CFP);**
- **Use of CFP for routine liquidity management;**
- **Use of CFP for emergency and distress environments;**
- **Scope of CFP;**
- **Cash Flow Projections; and**
- **Liquidity Ratios and Limits**

Internal Controls

In order to have effective implementation of policies and procedures, banks should institute review process that should ensure the compliance of various procedures and limits prescribed by senior management. Persons independent of the funding areas should perform such reviews regularly.

Monitoring and Reporting Risk Exposures

Senior management and the board, or a committee thereof, should receive reports on the level and trend of the bank's liquidity risk at least quarterly. The framework should indicate the type of reports.

V.4. Operational Risk Management Framework

Operational Risk Management Principles

There are six fundamental principles that all institutions, regardless of their size or complexity, should address in their approach to operational risk management.

a) Ultimate accountability for operational risk management rests with the board, and the level of risk that the organization accepts, together with the basis for managing those risks, is driven top-down by those charged with overall responsibility for running the business;

b) The board and executive management should ensure that there is an effective, integrated operational risk management framework. This should incorporate a clearly defined organizational structure, with defined roles and responsibilities for all aspects of operational risk management/monitoring and appropriate tools that support the identification, assessment, control and reporting of key risks;

c) Board and executive management should recognize, understand and have defined all categories of operational risk applicable to the institution. Furthermore, they should ensure that their operational risk management framework adequately covers all of these categories of operational risk, including those that do not readily lend themselves to measurement;

d) Operational risk policies and procedures that clearly define the way in which all aspects of operational risk are managed should be documented and communicated. These operational risk management policies and procedures should be aligned to the overall business strategy and should support the continuous improvement of risk management;

e) All business and support functions should be an integral part of the overall operational risk management framework in order to enable

the institution to manage effectively the key operational risks facing the institution; and

f) Line management should establish processes for the identification, assessment, mitigation, monitoring and reporting of operational risks that are appropriate to the needs of the institution, easy to implement, operate consistently over time and support an organizational view of operational risks and material failures.

The framework incorporating the above principles should cover:

- **Board and senior management's oversight**
- **Operational Risk Function**
- **Risk Assessment and Quantification**
- **Risk Management and Mitigation of Risks**
- **Risk Monitoring**
- **Risk Reporting**
- **Establishing Control Mechanism**
- **Contingency planning**

VI. The Imperatives of Developing Risk Management Framework for Individual Risk Elements

An enterprise risk management framework (ERMF) is a comprehensive document detailing various aspects of the risk management process, procedures, roles, responsibilities, etc. The document usually contains a general framework for managing risks, without giving detailed guidelines with respect to individual risk elements. However, it is imperative for developing a framework for each element for the following reasons:

- Each risk element is essentially different from the other, thus, the procedures and systems required to manage each is different. It is,

therefore, imperative to provide separate policies and procedures for managing each risk element;

- Developing individual frameworks for each risk element enables the standardization of policies and procedures for managing each risk exposures across a bank;
- Dedicated risk management frameworks serve as reference documents providing guidelines for managing individual risk elements; and
- Having separate frameworks for each element facilitates training and mastery of the specific procedures for managing each risk element.

VII. Conclusion

To develop an ERMF, an institution has to develop an ERMF manual. The manual would provide all stakeholders with the appropriate guidance to ensure that the actions and activities of the bank with respect to risk management are consistent with the need to meet competitive challenges and are in line with regulatory requirements.

Significant emphasis must be placed on establishing a strong, independent risk management unit to champion, coordinate and monitor the enterprise-wide risk methodology across the institution and its subsidiaries. Formal assignment of accountability and responsibility for risk management is also required. In addition, a breakdown of the risk universe into manageable, tailored, well-resourced and specialized components is essential.

Much as ERM is essential in order to better manage uncertainty (both risk and opportunity) and optimize performance, it is not a panacea. No matter how well designed or mature, even the best ERM framework can only provide a reasonable assurance that the bank's strategic objectives can be achieved and their assets and revenue streams protected.

This is because no process or system can provide absolute certainty about the future. At the same time, there are limitations inherent in all management processes and certain events will simply be outside of management's control.

Applied holistically and effectively, a strong ERM framework should enable management to be more effective in balancing opportunity and risk, enhancing and protecting the bank's reputation, embedding a continuous process of improved decision-making and performance, and promoting an environment where there are "fewer negative surprises".

For ERM to be effective, everyone in an institution has to be involved. Constant education of all staff is required to increase their knowledge and understanding of risks and, thus, their capacity to manage them.
Finally, the need to develop a framework for each risk element is to ensure granularity and understanding to facilitate effective management of risks.

References

Bessis, J. (2002) "Risk Management in banking, 2nd ed.", Wiley, New York

Caouette, J.B., Altmann, E.I., Narayanan, P. (1999),"Managing Credit Risk- the next great Financial Challenge", Wiley, New York

Crouhy, M., Galai, D.; Mark, R. (2001), "Risk Management", Wiley, New York

Crouhy, Michel, D. Galai, R. Mark (2001), 'Risk Management' McGraw Hill.

Figlewski, St.(2002), "Risk Management: The State of the Art", Boston

Golub, B., Tilmann, L. (2000), "Risk Management: Approaches for Fixed Income Markets", New York

Jorion P, (2000), Value at Risk-The new Benchmark for Managing Financial Risk, Second Edition., published by McGraw-Hill

Mikes, Annette, (2005), "Enterprise risk management in action", Discussion Paper No. 35, ESRC Centre for Analysis of Risk and Regulation, London School of Economics.

Meulbroek, Lisa, (2002), "Integrated risk management for the firm: A Senior Manager's Guide, Harvard Business School.

Santomero, A. M (1997), Commercial Bank Risk Management: An Analysis of the Process, Financial Institutions Centre, The Wharton School, University of Pennsylvania

Stulz, René M. and Nocco, Brian W., (2006), "Enterprise Risk Management Theory and Practice", Available at SSRN: http://ssrn.com/abstract=921402