Basic Elements of an Integrated Risk Management System

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I. INTRODUCTION

In his address to the general assembly, the Chairman of Arab Bank Plc. highlighted the need for financial institutions to adapt in order to meet successfully the challenges and changes of the future. The professional management of risks is one of the most important areas where financial institutions need to adjust to new conditions so as to understand the higher complexity added by regulators, clients and technology and to function effectively. Without such adaptation, a financial institution will most probably face a situation that will threaten its ability to continue in business and, ultimately, its very existence.

The recent bank failures, especially the cases of BCCI and Barings, have increased the awareness of banks and regulators of the need for greater control of the related risks in the banking industry. Accordingly, new regulations have been enacted to strengthen the risk control and risk management in banks, especially in the Group of Ten countries. Although risk control and risk management existed in the banking industry before the new regulations, the recent requirements by the regulators concentrate on the ability of the banks to measure the impact on their business of all risks as an integrated whole. An integrated risk management system gives the decision makers an overall view of the bank’s exposure in addition to the most important functional (but smaller) pictures which are produced and managed by the individual departments such as credit, treasury, etc.

The major part of this article addresses two main issues. The first involves a concise presentation of the risks which a financial institution needs to deal with in order to succeed in its business, while the second contains a brief description of the main elements of a successful integrated risk management system for financial institutions.

II. RISKS IN FINANCIAL INSTITUTIONS

For a financial institution, risk represents the uncertainty related to the expected rate of return on assets. Without the need to take risks, the need for the banking industry may cease to exist. Due to the fact that the banks invest a large part of their funds in interest-sensitive assets, primarily loans, they face several types of risk that can be grouped in two broad categories: (1) Product market risk and (2) Capital market risk. The total risk of a bank can be estimated by combining these two categories. (1)
II.1. Product Market Risk

Product market risk reflects the operational and strategic aspects of managing operating revenues and expenses.

The main components of product market risks are the following:
- credit (default) risk
- strategic (business) risk
- regulatory risk
- operating risk
- commodity risk
- human resources risk
- legal risk
- product risk

Usually, the credit risk is the most significant part of a bank's total risk. Thus, it is prudent to separate the management of credit risk from the management of the other components of product market risk.

The remaining part of this section contains brief descriptions of all the risks listed above.

Credit (Default) Risk
This arises from the possibility that the borrower will be unable or unwilling to make regular payments of principal and interest, and may default. An additional risk related to credit risk consists of the erosion of the value of a financial asset due to the borrower's inability or unwillingness to pay.

Strategic (Business) Risk
This is the risk that an entire line of business may collapse as a result of competition or obsolescence. For example, those banks that placed great emphasis on large corporate loans have faced this type of risk since the 1980s when commercial papers replaced large, low-risk corporate lending. Business risks accrue from both entering too early into lines of business and/or from staying out too long. This category of risk explains the increasing importance of strategic planning to banks worldwide.

Regulatory Risk
This is a broad risk in financial services arising from the following three main types of regulatory changes:
- change in regulations versus the concerned company (risk related to license granting and revocation);
- change in the operating policies of the regulatory authorities (e.g., risk of eroding value through usury laws);
- change in capital adequacy requirements (regulatory risk of penalties, fines or closure).

Operating Risk
This represents the risk that systems will simply not function properly, resulting in losses of funds or value. It is the possibility, for instance, that a data processing failure from a natural disaster or from other causes will impede or prevent a bank from maintaining normal service.

Commodity Risk
The prices of primary commodities and agricultural goods can have negative effects either through the fundamental business risk of clients and customers or through interest rate
effects. For instance, both the macro- and micro-economic effects of the 1970s increase and 1980s collapse in oil prices negatively impacted banks.

**Human Resources Risk**

This is a subtle form of risk related to a company’s personnel policy, including recruitment, training, motivation and retention of employees. Human resources risks take various forms such as the risk of losing key personnel, the risk of inadequate or misplaced motivation among management personnel, etc.

**Legal Risk**

This is the risk that the legal system will expropriate value from banks' shareholders. Legal risk concerns, for instance, litigation for toxic waste problems on repossessed real estate. Thus, a bank can be held responsible for the toxic cleanup of a piece of uncultivated land that was repossessed because of a creditor’s inability to repay. Although often unrelated to prior events and nearly impossible to estimate, it is a category of risk that must be taken into account by the management of a bank.

**Product Risk**

This is the risk that a financial service product may become obsolete or non-competitive. An example of product risk is the risk of loss through misplacement of R&D investment. In financial services, it is the case of Automatic Teller Machines (ATM) developed concurrently by the manufacturers and by the banks themselves. When the manufacturers’ machines proved superior to those developed by the banks, the banks faced such a risk. Currently, with the utilization of the Internet the improvement of financial services represents a serious product risk.

**II.2. Capital Market Risk**

Beside the product market risks, banks also face risks related to the capital markets in which they function.

The large group of capital market risks includes the following:
- interest rate risk
- basis risk
- liquidity risk
- currency risk
- payments system risk

**Interest Rate Risk**

This is the risk that an interest-earning asset (for instance, a bank loan) will decline in value as market interest rates change. The change in asset values caused by interest rate fluctuations is a function of both the magnitude of change in the rate and the maturity of the asset. Although in extreme conditions, interest rate fluctuations can create a liquidity crisis, the potential impact of this type of risk is much broader than the liquidity theme.

**Basis Risk**

Directly connected to the interest rate risk theme, basis risk refers to the risk that prices on financial instruments in the cash market will react to changes in rates in a different way from prices on future market contracts.

**Liquidity Risk**

The foremost capital market risk is that of inadequate liquidity to meet financial obligations. Liquidity risk represents the risk that a bank will have insufficient cash or short-term marketable assets to meet maturing needs of depositors and borrowers.
Currency Risk

This risk represents the possibility of a loss on an uncovered position resulting from an appreciation or depreciation of a foreign currency. It is a category of risk that affects both product markets and capital markets.

Payments System Risk

This risk represents the possibility that the failure of a major bank, or its inability to meet payment commitments in a wire transfer network, will have a "domino effect" on other banks, thus provoking failures elsewhere.

An efficient financial institution should aim to control and manage all components of risk within a well-defined framework. The main elements of the risk management environment are described in the following section.

III. MAIN ELEMENTS FOR A SUCCESSFUL INTEGRATED RISK MANAGEMENT SYSTEM

To build a successful integrated risk management system it is important to underline the need for a top management philosophy and support for the restructuring of the financial institution in order to create an optimum risk-oriented entity. Without a strong degree of commitment, the creation of an integrated risk control environment may not be possible. (2)

In 1998 the Committee on Regulatory Capital of the Bank for International Settlements allowed multinational financial institutions to use their own internal trading market risk measurement models to calculate the regulatory capital required. These regulations may be a good starting point from which to build the overall integrated risk system. As a matter of fact the multiplying complexity of the financial products in interrelated markets and the strong autocorrelation among business elements are forcing financial institutions to move towards standardization of their approach to risk management.

Unified risk management is a process that enables a bank to measure and manage all the institution's risks simultaneously. It also provides the tools for evaluating the bank's portfolios, utilizing unified risk-adjusted return criteria. The basic requirement for such a system is the creation of a generally acceptable and utilized standard measurement tool through which the management of the bank will be able to differentiate between the score of any transaction on the spectrum of the risk and return ladder. A unified measurement unit could be calculated on a common basis by utilizing the Value-at-Risk (VaR) methodology.

In order to come up with a unified integrated measure of risk, banks need to combine their measurements of trading market risk, credit risk and ultimately operational risks. To achieve such an objective the financial institution concerned should have a very well designed and integrated framework for overall risk management. This framework should address (1) Risk Policies; (2) Risk Methodologies, and (3) Risk Management Infrastructure. The following paragraphs will describe briefly the main attributes of the above stated elements.

III.1. Risk Policies

An integrated risk management system should be centered on the main risk management elements, which include limit management, risk analysis, capital allocation, cost and pricing of risk, and the management of the portfolios of the bank concerned.

Policies to manage risk should be derived from the business strategy of the financial institution concerned as well as the risk class chosen by the management. A specific risk policy
needs to be developed for each element of risks under management, namely trading market risk, credit risk, and operational risk.

A market risk policy should be able to describe in a statistical manner the worst case loss a financial institution is willing to accept within a certain period of time. Such a policy should consider all possible scenarios and movements of the yield curve including shifts with different possibilities for the term structure of the interest rate.

An optimum credit risk policy allows for the daily measurement of all related risks including those depicted in the off-balance-sheet accounts. The measurements in this area should be based on the calculation of mark-to-market value in addition to an element for related exposure.

Good operational risk policies deal with all possible losses from incidents such as a failure in technology, business interruption or breakdown of processes. Internal or external environments in which a bank operates can cause operational risks. They can specifically be generated by the markets, the technology, the strategies, the customers, the products or the models utilized by the financial institution in question. A proper operational risk policy should basically deal with the risks of new products, the systems as well as regulatory compliance.

III.2. Risk Methodologies

In risk management systems, methodologies deal with the application of appropriate formulas to measure risk and to ensure the employment of generally accepted methodologies. For example it is well established that trading market risk and credit risk should be qualified by using a VaR framework. Within this framework the financial institution should develop proper measurement tools to ensure that it is operating on the efficient frontier which requires the implementation of a risk-adjusted return on capital approach (RAROC).

It is important to mention here that the generally accepted practice for valuation adjustments recommends taking the mid-market price of the trade less the sum of the expected credit loss and the going forward administrative cost when valuing a perfectly matched derivative transaction. Accordingly, there is a need to analyze the rationale of the bank’s approach to estimating an expected credit loss. It is also suggested that additional adjustments should be made for finalization costs (i.e. “eliminating” market risk), as well as investing and funding costs.

III.3. Risk Management Infrastructure

Methodologies and policies are not sufficient to build an integrated risk management system. A proper infrastructure has to exist in order to complete the process and make the system work. Infrastructure is composed of several important layers at the top of which are the people concerned. Such people with great skills and proper training will actually make all the difference by taking into consideration the expected outcome based on their better judgement and correct decisions.

The quality of the information and data available are important elements, which enable the management to translate the market statistics into information that is useful for decision making.

The ability of the financial institution to integrate risk management operation and technology is a key element that is critical to the successful management of risks. The risk management system is an integral component of the infrastructure of the integrated risk management program. Successful financial institutions should be able to utilize complex technology in their risk management efforts.
IV. CONCLUDING REMARKS

In the preceding paragraphs we have briefly discussed the main elements of risks, and the basic components of a successful integrated risk management system. It has been emphasized that a commitment from the top management for the building of an integrated risk management system is the main ingredient for success. In addition to a clearly defined philosophy, sufficient resources should be committed for successful adaptation to the newly required overall risk controlled environment.

The risks, which need to be measured, controlled and managed in a financial institution, can be categorized in three main groups: credit, market, and operational. A brief description of these three groups and their components has been given.

The elements of a risk management framework have been highlighted under the concepts of risk policies, risk methodologies, and related infrastructure.

An integrated risk management system should include, in addition to the above, a system for specific risk measurement as well as a system for combining the value of these risks.

NOTES


REFERENCES


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