Banking Management Regarding Operational Risks

Anca – Ioana BUMBENECI[1]

Abstract

Banks are functioning in a complex economic environment, which becomes increasingly dynamic whenever the competition gets stronger. The risks implied by the banking activity have a multiple determination, starting from the specific features of their own operations, to the features of the internal and external environment.

Under the Basel Agreement, the operational risk is approached depending on the category of events in which it is included. The Basel II Agreement uses three measuring methods: a fixed percentage (15%) of the average anual bank income (over the last three years), a variable percentage (between 12 and 18%) of the gross bank income (corresponding to the category in which the bank is included) and a combined methos based on the validity of the bank income.

The operational risk management system involves 4 key-processes: identification, assessment, analysis and control – reduction of the risk. Each key process operates with relatively standardized measures.

Keywords: *Basel Agreement, operational risk, measuring method, operational risk management, relatively standardized measures.*

JEL classification: G21, M10

Introduction

The expansion of bank activity both on the national and the international market has led to a sharp intensification of uncertainty, as a result of the difficulties experienced in the accurate estimation of the future evolution of assets and liabilities, therefore of revenues and expenses.

The recent events on the international financial market have determined the Basel Committee[2] to decide on the improvement of the legislation regarding the control of banking risks, especially of the operational risk. The objective of this strategy put into practice by the European banks starting with 2008 is to avoid the systemic risk.

The Basel I Framework[3] (International Convergence of Capital Measurement and Capital Standards adopted in 1988) cannot be considered

[1] **Anca – Ioana BUMBENECI,** University of Craiova, Romania**,**
E-mail: dorinbumbeneci@yahoo.com**,** Telephone: (004) 0722711302

[2] *It was created in 1988 by a committee gathering central bankers of the G10 countries. The first Basel agreements referred to a set of recommendations aiming at setting up a minimal ratio of equity compared to all the credits granted by banks, which was dubbed „the Cooke ratio".*

[3] Taylor M.W., Cem K., *Toward a New Global Banking Standard. The Basel Committee's Proposals, Finance & Development,* 2000

adequate for the contemporary banking environment, as it does not provide the necessary array of instruments designed to supervise the credit institutions functioning within the boundaries of a nation-state. While analyzing the procedures promoted by the Basel I Framework, as well as its technical component, we have detected the following negative aspects: inflexibility in determining the credit risk on credit institutions level, ignoration of the operational risk, insufficient particularization of relations with clients.

In 1995, the Basel Committee put forward a consultative act known as the „1996 Amendment" which modified the 1988 convention. This document became operational in 1998. In June 1999, the Basel Committee enforced new regulations under the name of Basel II Framework, which were revised in January 2001 and April 2003. The application of the Basel II Framework started in fact in 2007.

2. Approaching the operational risk according to the Basel II Framework

Within the framework of the **Basel II** strategy, measures have been established that must be put into practice by each and every financial entity. The national financial regulator is the entity which will evaluate and control these measures. Starting with this reform, the operational risk becomes part of the calculation of a bank's own compulsory funds.

The operational risk (Bichi, 2003) is defined as the risk of generating losses, resulting from: inadequate or failed internal processes, employee activity, operational functioning of IT systems or external events. This definition includes the legal risks, while the reputational risk (risk of generating losses as a result of damaging the reputation of the banking institution) and the strategic risk (risk of losses arising from a poor strategic decision) are not taken into account.

Each banking institution must establish its own operational risk profile for its own internal needs, within the framework of which it must set up specific policies. Banking operational risks can be defined as real facts in the contemporary banking field and their proper approach represents a condition for an effective management and for the capacity to avoid bankruptcy.

This definition of risk takes into account in the first place human errors, fraud and improper behaviour, inadequate functioning of IT systems, problems in dealing with human resources, commercial litigations, accidents, fires, flooding.

The Basel Committee has decided upon a classification which distinguishes between the following **categories of events related to this risk**:

- fraud, which can be internal or external;
- employment practices and workplace safety (for example: workers compensation, violating employee health and safety regulations, promoting discriminating practices);
- clients, products and business practice (for example: inadequate use of confidential client information, money-laundering, selling unauthorized products etc.;

- damaging the physical assets (for example: acts of terrorism or vandalism, natural disasters – fires, earthquakes);
- information system failures and business disruption;
- mismanagement of clients and trade-off, as well as erroneous collection of data (for example: data entry errors, the improper management of real warranties, etc.);
- security of the electronic banking system (for example: fraudulous commitments of the credit institution resulted from the counterfeiting of the electronic currency or from the registration of losses or any other supplementary commitment of clients in case of improper access to the system).

The control of operational risks includes the prevention and elimination or diminution of the probability of occurence of some loss-generating events.

Banks must take measures in order to identify and evaluate the operational risk. The main measures that could be taken are (Hull, 2007):

- evaluating of operations and activities in order to determine those elements vulnerable to the operational risk;
- establishing indicators by means of which the position of the credit institution affected by the operational risk can be determined (for example, the number of unfinished transactions, the frequency and/or the gravity of errors and ommissions, the staff fluctuation rate, the rapid increase of activity), as well as limits to them;
- a permanent control over exposures to the operational risk (for example, based on the analysis of history related to loss registration, or on the assessment of different scenarios).

In order to function properly, banks have elaborated a series of operational risk management procedures, such as: evaluation procedures, monitoring and risk-reducing procedures. Reducing risks can be achieved, either internally, by correcting in due time the stated errors and by introducing proper technologies for processing and ensuring the security of information, or by transferring the risk to other fields of activity (for example, insurance against certain unwanted events). More and more insurance companies offer products designed to protect against the operational risks of the banks, still there are many obstacles in the process of unfolding the insurance contracts (the difficulties encountered in calculating the sum of money representing the object of insurance, the lack of background information as to operational risk).

The legal risk associated to the operational risk is manifested in the context of improper or inconsistent application of legal provisions affecting the banking activity. Therefore, monitoring and eliminating the effects of the legal risk involves the implication of banking institutions in forming a well-qualified legal staff. Also, the banking institution must have efficient systems of informing on the legal provisions that affect the banking activity, as well as on proper ways to apply them.

The Basel II Framework[4] introduces the obligation to calculate the minimal capital requirements of banks to cover the operational risk and is based on **3 main pillars**:

- it regulates the minimal capital requirements necessary to cover specific risks deriving from banking activities : the credit risk, the market risk and the operational risk;
- it closely follows the process of prudential supervision, which urges the national supervisory authorities to make sure that the banks have solid internal evaluation procedures for their own risks;
- it supports the strenghtening the market discipline, by increasing the financial transparency of banks.

3. Measuring methods for the operational risk

The Basel II Framework proposes **three measuring methods**[5] of the own fund requirements for the operational risk: the basic indicator approach, the standardized approach and the advanced measurement approach.

The basic indicator approach is the simplest of the three methods. In order to calculate the capital requirement for a bank, only one risk indicator is used. The banks using this approach must have enough capital to cover the operational risk, corresponding to a fixed quota of their annual average income registered during the last three years. This quota (denoted « alpha ») has been settled by the Basel Committee to 15%. The implementation of this approach is not difficult and can be applied to all banks. It is highly appropriate for small banks having a relatively simple portfolio of activities. Its disadvantage is that it does not meet the specific characteristics and requirements of the banks.

Under **the standardized approach**, banks'activities are divided into eight business lines : corporate finance, negociation on one's own behalf, retail banking, banking activities with professional clients, payment and settlement, agency services, asset management, retail brokerage. Within each business line, gross income is considered an indicator of the exposure to the operational risk. The capital requirement is determined separately for each business line, by applying a specific factor (denoted beta) to the gross income. The beta factors range between 12% and 18%.

Compared to the basic indicator approach, the standardized approach provides a better reflection of the differences between the risk profiles of various banks and it stands for an intermediary step towards adopting the more complex techniques of the advanced measurement approach.

The advanced measurement approach (AMA): under the advanced measurement approach, the capital requirement is calculated based on internal bank

[4] Danielsson J., Enbrechts P., Goodhart Ch., Keating C., Muennich F., Renault O., Shin H.S., *An Academic Response to Basel II, Special paper no. 130, LSE Financial Markets*, 2001

[5] Bardoloi S., *Measuring Operational Risk: The Data Challenges, Banking and Technology New Service Network,* England, 2004

evaluation data of the registered losses. According to this approach, banks are allowed to design and use their own techniques or set of techniques to quantify required capital for operational risk, as long as they observe the eligibility criteria. The advanced measurement approach includes a series of techniques such as those based on the income volatility, asset evaluation, parametrical models, etc

The banking institutions have the possibility to opt for one of the three above-mentioned approaches to measure operational risk, in case the framework is applied. Banks have accepted the operational risk as an unpredictible component of cost. For the banking institutions, it becomes extremely difficult to identify the operational risk, its level and multiple sources.

In order to put into practice the basic indicator approach, the bank does not need any specific organizing measure. As opposed to this approach, the other two approaches generally require the presence of a specific entity, in charge with the management of the operational risk. These two approaches (the standardized approach and the advanced measurement approach) are based on the one hand, on a management system made of a succession of processes, and on the other hand, on the relatively standardized functions of the banks.

4. The operational risk management system

Mestchian (2005) considers that the operational risk management system comprises four key-steps, which are vital in the elaboration of a proper management system: identification, assessment, analysis and control – reduction of the risk:

The identification of operational risks means that the bank must define the factors leading inevitably to operational risks, as well as their dimension (encoding, internal/external appearance, frequency, origin, gravity, loss type, affected activity, process or functions).

The assessment of the risks. Up to now, in order to assess the costs incurred by risks, the risk experts have focused mainly on the credit and market risk, while emphasizing the role of quantitative and statistical techniques of modelling and simulating. Therefore, it becomes natural that they use the methods applied before also in the evaluation of operational risks. Still, the application of statistical modelling techniques to the management of operational risks has been highly criticized, especially in the academic environment, because of the difficulty to standardize events with lower frequency and higher impact.

Under the AMA approach, three types of models have been produced: the Internal Measurement Approach (IMA), the Loss Distribution Approach (LDA), and the Scorecar approach (all of them integrated into the Basel II system), which have been lately supplemented with other more dynamic techniques, aiming at managing operational risks by means of a global control over the processes in which such risks occur.

The analysis and follow-up of the operational risks are done by means of appropriate indicators (alert, risk and loss indicators). In this stage, the indicators will be consolidated depending on the approach of choice: bottom-up or top-down. Under the bottom-up approach, the key indicators are defined and measured starting from the basic level and are further consolidated at the central level. Under the top-down approach, the analysis is built according to the global strategic vision and the global operational efficiency.

The control and reduction of risks probably represents the most complex process within this management system, as it is essential for the capacity of the bank to provide the necessary means to prevent risk, while identifying the adequate measures to anticipate or to reduce as much as possible the impact of risks in case of their occurence.

This process is complex, as it is based simultaneously on two interacting functions. On the one hand, a function which settles the maximal level of the accepted operational risk involves settling limits, either global limits or limits corresponding to each type of operational risk. On the other hand, it involves a function which will involve choosing between various types of risk coverage (internal, external, insurance or externalization), as well as putting into practice the selected measures. This process should include the activity continuity plan (ACP); in fact, very few banks have regrouped the operational risk management and the ACP. The plan ensures the continuation of activities in case the bank is severely affected by losses arising from natural disasters (destruction of buildings or installations, loss of crucial information, etc.). These plans start from scenarios which take into account damaging events for the bank, such as earthquakes, fire, flooding, etc. These plans also involve preparing reserves and quick reactions to such events.

5. The relatively standardized measures

The two main measures which are applied to control an operational risk management system are the identification of the type of operational risks specific to a bank and the creation of a collection mechanism for risk events.

Determining the types of operational risks within a bank corresponds to the identification, on every level of the organization, of all the processes exposed to operational risks, to the expression and recording of those risks (probability of occurence and loss): it is the stage of mapping the operational risks. This stage is very important, as it allows the determination of the nature of incidents which will be further collected and monitored, and enables us to draw up a comprehensive list of operational risks specific to the entire organization.

For a better risk management, every bank shoud have at its disposal an **incident collection mechanism** accesible to all entities, as well as a datebase to stock incidents, in order to have a history of recorded losses.

The banking institutions have adequate IT solutions and proper internal policies and work procedures to manage and control risks. Collecting, processing and interpreting information are all components of a complex process involving the staff of all bank departments inherently generating the operational risk, which is difficult to monitor.

The operational risk is difficult to calculate and keep under control because it involves the bank staff to an extremely large extent. The bank employees must identify and report the unwanted events, which can produce possible losses. The banks create databases in which the employees can report the loss-producing events, as well as events that might produce losses. Based on these records, the operational risk officers calculate the level of operational risk to which the bank is exposed.

The bank must train its employees how to become aware and how to behave when a bank risk occurs. The bank employees must not take any chances if their behaviour might generate future losses for the bank. Another control technique of operational risks is determined by establishing and communicating policies and work procedures among the the bank employees. These must be clear and detailed to the point where there can be no interpretation as to their application. The bank employees must be trained as to the internal practices and policies, as well as to the legal regulations in force.

The banks can transfer the operational risks by externalizing some operations, thus reducing the costs related to the remuneration and training of specialized personnel (Şerban, 2002).

Based on the data identified and reported by the bank employees, some specific operational risk indicators can be established and calculated (the monthly number of client complaints, the number of fraudulous operations identified reported to the total number to approved credits, the monthly bank employee dynamics, the number of suspect transactions detected and reported to the authorities, etc). These indicators are permanently analyzed and monitored so that they range within the risk limits established by the bank. In case some indicators go above the safety limits, a series of risk reducing techniques are proposed and implemented, such as improving bank operations to reduce the number of client complaints and fraud, employing specialized personnel, etc.

Conclusion

The international financial crisis has generated significant changes worldwide. The banking system has not been protected against these changes; therefore the crisis has forced the banks into changing their short-term and medium-term strategies. The banks in Romania, mostly owned by European financial groups, affected by the financial crisis, have taken immediate measures such as the sharp reduction of the rhythm of crediting, as the bankers were trying to increase the liquidities, by encouraging savings.

Every bank must adequately manage the identified risks, in order to survive the competition and to maximize its profit and position on the market. The operational risks that might affect the activity of a bank can be grouped into several main types such as: internal and external fraud, employment practices and workplace safety, clients, products and business improper practice, damage generated by the deterioration of physical assets, natural disasters or other events, the security of the IT systems.

Since all banks, big or small, are affected by all these risks, their management and control represent an integral part of daily activities. To sum it up, accepting banking risks and keeping them under control are highly important to any banking institution. The poor assessment of operational risks and the lack of reducing measures generate financial and reputational consequences for the respective bank.

The ever-changing environment in which banks operate generates new business opportunities, while also involving various complex risks which represent a challenge for the bank management. Success in bank management is only possible when the risks accepted by the banks are reasonable and under control.

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