"BABEŞ-BOLYAI" UNIVERSITY CLUJ-NAPOCA
FACULTY OF ECONOMICS
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SUMMARY OF THE PHD THESIS

BANKING ANALYSIS SYSTEM

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THE STRUCTURE OF THE PHD THESIS

Key words: banking analysis system**,** Romanian banking system, globalization, European Union integration, financial performance indicators, banking performance, rate of return on assets, rate of return on equity, banking activity risk, risk management, credit risk, market risk, liquidity risk, operational risk, Basel II capital framework, banking liquidity indicators, necessary liquidity, effective liquidity, institutional crisis and bank bankruptcy.

INTRODUCTION

The present interest of the research theme

The banking institutions have an important role within the financial sector, for the well functioning of economic units and of the overall economy. Furthermore, the creation of a functional banking system has become a permanent preoccupation, one capable of offering a wide range of products and services, in order to satisfy the requirements of all potential clients, from the very beginning of banking up to the present day.

This ***PhD thesis*** specifically focuses on the banking system as a compulsory segment of the economic ensemble. Taking into account the financial and economic reality, both internationally and internally, each country and Romania as well is interested in creating a solid banking system, which would assure the proper organizational framework for the development of financial mechanisms.

I have chosen this ***theme*** considering the impact of the banking system upon the whole economy and considering the fact that a market economy cannot function without profitable and consolidated banks. Once the economy developed and the business environment improved, the Romanian banking system evolved exponentially. Considering the challenges the globalization imposed, the process of European integration, including Romania's development process, it cannot be realized without the existence of a performant banking system, which is able to face the strong competition among the countries of the world. The determinant factors for the Romanian economy – transition, integration and globalization – offer important opportunities for increasing the economic-financial performances, obtaining supplementary profits, but also implying major risks.

Once the effects of the crisis manifested and extended, the existence of some unhealthy banking practices has revealed. The lack or insufficient coverage of certain highly volatile capital market segments has proved, as well as the insufficient control of hybrid financial products and inadequate risk management practices within banks.

The present interest of this paper lies in the need to create a banking system analysis that would provide information, arguments and necessary solutions in order to avoid triggering certain events leading to the vulnerability of the banking sector.

The research domain

The research topic of this thesis is the systemic approach of banking activity by analyzing the main coordinates regarding profitability, liquidity and banking risks in order to create a viable and efficient banking system.

The general purpose of the research

The purpose of this research is to create a banking analysis system based on obtaining banking performances while monitoring and keeping under control banking risks, permanently ensuring an adequate liquidity in particular, both in terms of balanced economy and economy in crisis conditions.

The objectives of the research

The following objectives are established:

- To analyze the Romanian banking system in the context of globalization and European Union integration;
- To establish the bank management strategies in the context of European Union integration and its prospects;
- To identify and analyze the key financial performance indicators within the Romanian banking system;
- To analyze the key financial performance indicators within some banking institutions;
- To determining the specifics, the identification principles and the categories of banking risks;
- To determine the content, the structure and the methods of identification, evaluation and control of banking risks, especially for the credit risk, the liquidity risk, the market risk and the operational risk.
- To analyze the liquidity of a banking institution;
- To analyze the requirements of the banking supervisory units, and the Basel Committee agreements;
- To analyze some cases of failures and banking crises, focusing on identifying the causes that led to bank bankruptcies;
- To analyze the evolution of the financial crisis and its impact upon world banking.

The structure and the content of the thesis

I considered it appropriate to begin this paper with ***The analysis of the Romanian banking system in the context of globalization and European Union integration,*** by reviewing the reform undertaken by the banking system, because of its importance for the whole economy. It played an important role in the transition from a command economy to a market economy in the context of Romania's European Union integration.

While approaching, I pointed out the state of the Romanian banking system under the impact of various historical and social events that contributed to its formation and evolution, and in the context of the transition towards a market economy, starting from the functions held by commercial banks and the role played by the National Bank of Romania in the evolution of the banking system. Romania's integration process within the European Union represented an event that labeled the banking activity, the restructuring of the banking system becoming a necessity in order to financially support all the economic activities implied by the reform process of the Romanian economy.

We cannot talk about restructuring the banking system without highlighting two of the main issues regarding the reshaping of the Romanian banking system, which are the authorization and supervision regulation of banking activities in order to create a banking system specific to the market economy and to harmonize our Romanian legislation with that of European Union countries.

In the transition period the Romanian banking system registered a structural and qualitative development for the activities of most banks; the focus upon specialized products or certain customer segments provided an alternative for maintaining the viability of the banking system, by increasing the number of domain-specialized banking units in this period.

Romania’s entrance to the European Union represented another important step in the evolution of the banking system. For highlighting this issue, I have presented the banking management strategies in the context of integration and its future perspectives after Romania’s adhesion to the European Union. In this context, Romanian banks have reshaped their business options and internal management structures starting from redefining the organization of its activities from the customers’ point of view and its reshaping according to customers’ demands.

Through Romania’s adhesion to the European Union, its banking system has actively involved in the development of some projects for modernizing the banking system, among them being the drafted Single Euro Payments Area (SEPA), whose goal is to create a more transparent and competitive Europe.

For an efficient and dynamic financial system, the banks’ performance should be encouraged, so ***the second chapter of the thesis*** details ***Profitability analysis in banking institutions***. One of the main objectives of banking institutions is its profits’ optimization; furthermore banking performance indicates its stability and the confidence of its depositors, so achieving higher performances should be encouraged within a stable financial system.

Banking management mainly ceases to obtain profit, which stands for a higher bank performance. In banking practice there are various instruments for measuring and estimating the performance of banks, but one of the most effective ones is the system of special indicators used for this purpose. This chapter presents a theoretical review of the key performance indicators, like the economic rate of return (ROA - return on assets), financial rate of return (ROE - return on equity), the leverage (EM - equity multiplier), net profit ratio (profit margin PM), the usage degree of assets (AU - asset utilization). The indicators for estimating banking performances are very relevant, reflecting a variety of aspects like profit generation, operational and management efficiency. Taking into account the strong competition between banking institutions domestically and internationally, I've evaluated and analyzed the rates of return on assets and on equity for the Romanian banking system as compared to the European one in order to estimate the viability of the Romanian banking system as opposed to the one of the other European Union countries. In order to exemplify the extent to which the indicators of banking performance assessment reflect the global situation of a banking institution, I have made a detailed analysis of the financial performance indicators of three studied banks: Banca Transilvania, Banca Romana de Dezvoltare - GSG and Banca Comerciala Carpatica. After performing the analysis, I may state that BRD-GSG's activity has had a constant evolution because of its banking management, maintaining an upward trend for its most performance indicators.

Because of its results obtained during these years and of its managerial efforts, in 2007, Banca Transilvania SA situated in the 1000 top banks of the world, according to the ranking given by 'The Banker' magazine.

Throughout its activity, Banca Comerciala Carpatica seeks to enhance its image as a Romanian bank with national vocation that imposes itself by its European spirit and by offering a wide range of products and services, particularly for the population and for small and medium enterprises, proving flexibility and efficiency.

The continuous change of the economic and financial environment brings out new business opportunities, but it also involves more complex and diverse risks, which are a real challenge for the traditional approaches on banking management, which the bank must operate as appropriate as possible in order to survive its competition and to support the national economy. That is why ***the third chapter of the thesis*** deals with ***Risk analysis within the banking environment***, starting from banking risk management, the concept and typology of banking risks, and insisting upon the risk of the banking activity.

To monitor banking risks means to identify, to evaluate and to monitor the policies and practices of banking risk management, that enable the detection of problems faced by a bank, and banking risk management resides in the overall risk administration for limiting, dividing and funding them, as well as diminishing the bank's exposure to risk. According to the exposure upon the significant risks of banking institutions, I have selected for analysis the ones I have considered to have the largest impact on their business: the credit risk, the market risk (interest rate risk and currency risk), the liquidity risk and the operational risk.

The crediting activity identifies itself as being the main activity of the banking entities and the credit risk is the most important one out of the various risks that may affect the results obtained by financial intermediaries. Credit risk should be evaluated by comparing it to the expected benefits from lending, so the most important function of banking management is that of controlling and analyzing the quality of the loan portfolio, because the low quality of credits is one of the main causes of bank bankruptcy. For assessing financial standing and classifying each client or trader into one of the classes for general credit risk, I've analyzed an economic society in terms of the methods used by two different banks CEC Bank SA and MKB Romexterra Bank SA.

Market risk represents a main component of the financial risk management system if the credit institution operates on developed financial markets and nowadays, the best-known method for measuring market risk is the Value-at-Risk indicator (VaR). Value-at-Risk measures the maximum potential changes for the value of a portfolio consisting of many financial instruments, with a given probability and time horizon. It tries to answer the following question: How big can a bank's potential loss get to be, if determined by an x% given probability, on a certain time horizon.

The interest rate analysis is of particular importance because the unexpected changes in interest rates may cause significant changes of a bank's profitability and of its capital market value, by increasing or decreasing the net interest income related to the cash flow characteristics of the bank's assets and liabilities. The interest rate risk should be managed so that a greater and time-stable interest rate margin is obtained, and the profitability and the value of a bank's capital should not significantly change as a result of some unexpected changes in the interest rate level originating from the assets and liabilities cash-flows.

The currency risk as a market risk component that arises from the exchange rate market fluctuations, expresses the probability for an exchange rate change to affect the bank's interest margin negatively.

Regarding the liquidity risk arising from the non-correlation between the maturities of certain assets and liabilities, an extremely important task of banking management is to estimate and to cover its liquidity needs correctly. A bank's profitability may be affected negatively on long terms if the bank owns too many liquid assets as compared to its needs, but on the other hand, a low level of liquidities may create great financial problems or even lead to bankruptcy for small banks.

Due to the continuous development of the economy, the globalization and expanding of all economic activities, the international financial market as well as the European one is undertaking a complex and continuous process of adapting their products and services to the competing environment. Under these circumstances, the operational risk has become an increasingly important element for credit institutions that are obliged to redefine their own products and services in order to reach new markets, and to use innovative financial products such as secured products and structural products frequently. The Basel Committee defines the operational risk as the risk of losses resulting from inadequate or defective internal processes, from people and systems or from external events, focusing on the loss causes in order to distinguish the operational losses by losses provoked by other risk categories.

Ensuring an adequate liquidity is one of the most important objectives of the management of any banking institution, so this is why ***Liquidity analysis in banks*** is presented in ***the fourth chapter of the thesis***. In order to highlight the role and the importance of liquidity I have presented its concepts and the monetary position as an expression of liquidity. For the permanent control of liquidities, the National Bank of Romania has regulated the banking liquidity through its No. 1 Norm / 2001 with subsequent modifications, which defines the liquidity indicator as the ratio between effective liquidity and necessary liquidity. For banks not to find it difficult to acquire the necessary resources and not to fulfill their commitments, they must deal with the liquidity risk. The art of transforming short-term resources into long term investments and of facing liquidity crisis is very specific to bank management. This further implies the bank management to deal with three aspects of liquidity risk, which I further submitted: protection against liquidity risk, liquidity risk measurement and management of liquidity risk.

For a detailed analysis and a better vision upon bank liquidity, I have presented a bank procedure for liquidity risk and its control, and I have analyzed its applicability on MKB Romexterra Bank SA, by also determining and analyzing its liquidity indicator for two years (2007 and 2009).

Liquidity analysis requires bank management to not only continuously estimate its liquidity situation, but also to examine how funding requirements may evolve in different situations, including adverse conditions, because the supervision activity of the Basel Committee focused on how banks manage their overall liquidity. At the end of this chapter, I approached the international regulations on banking supervision, in particular the works of the Basel Committee on banking supervision, which was originally called the Committee on banking regulation and supervision practices. It was made up in 1974 because of some strong crisis of the major currencies and some financial crisis of the large banking institutions. Thus, the G10 country representatives for supervising banking activities established the first regulations for minimum capital requirements covering banking risks in 1988, and they were included in the Basel I Accord. But the content change of the global financial sector, financial market volatility over the past decade, the development degree in financial innovation, economic crisis and the increasingly complex risks faced by banks, led to the conclusion that the Basel I Accord from 1988 no longer offered an effective tool for relating the capital requirements to the true risk profile of a bank. As a result, the Committee recommended the adoption of a new scheme for capital adequacy, in June 2004 through Basel II Accord. According to the existing European legislation, the Authority of the member states permitted banks to begin applying Basel II from January 1st, 2008 and to continue applying Basel I by that date. The National Bank of Romania has chosen this option, enabling Romanian credit institutions to choose the moment for starting Basel II. As a result, all banks have decided to start its application from January 1st, 2008.

Banks have to adopt decisions correlated to the potential results and risks they may assume in order to achieve such levels, so profit-risk knowledge and application of key measures for future decisions stand for a central objective of bank management.

Because of these single or combined risk actions, influenced by the economic status, credit institutions may go bankrupt. Therefore, ***the fifth chapter of the thesis*** deals with ***the institutional crisis in banks and bank bankruptcy***, presenting the judicial reorganization procedure and credit institution bankruptcy, by reviewing the first banks to have gone bankruptcy and their reasons for reaching bankruptcy threshold.

The first year that affected the image of the banking system was 1996, when the National Bank withdrew its support for Dacia Felix and Credit Bank, as a start-up point in the reform of the banking system. The first two bank failures were written down in the history of the banking system.

The problems of the Romanian banking system after 1989 were not only the prolonged structuring of banks or the bankruptcy of others, but there also were problems not related to banks, but which banks had to face. These were the hyperinflation of the 1993-1994 and 1997-1998 periods, that forced banks to outbid real estate investments (mainly offices), in order to preserve their capital. The worsening financial situation picture was completed by a terrible tax accounting system, which heavily taxed inflated profits and losses, contributing to the continuous decapitalisation of Romanian banks having lei capitals. There also was a lack of firmness on behalf of the central bank, which permitted the substantial accumulation of bad loans without acting appropriately.

Once Romania joined the European Union, a new stage for the evolution of the Romanian banking system began. European integration process has been equivalent to the Romania’s development for reform, following the European countries existing model.

Regarding the financial crisis and its impact upon the banking world, I have described the socio-economic and political situation that triggered the crisis. Some modern economic theories reject the idea of a valid general theoretical model for crisis, considering that each financial crisis is unique, in fact each crisis represents a historical accident, caused by specific factors, in a certain socio-economic and political conjuncture.

According to these theories, crises cannot be anticipated in order to minimize their negative effects.

Credit crisis that erupted in the U.S. in August 2007 led to the bankruptcy of some of the largest banks in the world and its effects are felt up to the day on the European financial markets.

After Lehman Brothers' bankruptcy, Merrill Lynch's acquisition by Bank of America and the nationalization of American International Group (AIG), the U.S. government adopted the "Law of economic stabilization", meant to save the U.S. financial system from collapse.

This international economic crisis has produced large economic fluctuations on the Romanian market too, affecting both the stock market and the exchange market. However the Governor of the National Bank assured Romania's banking system to be stable, explaining that all foreign banks that held shares on the Romanian market would not be able to get their money back under any circumstances.

The impact of the global financial crisis upon the Romanian financial system was concluded to have been relatively low by the members of the National Committee for Financial Stability (NCFS) who examined the impact of international crisis upon institutions, markets and financial infrastructure, and upon the real economy of Romania.

Chapter I

THE ANALYSIS OF THE ROMANIAN BANKING SYSTEM IN THE CONTEXT OF GLOBALIZATION AND EUROPEAN UNION INTEGRATION

Given the importance and the role held by the banking-financial sector in the proper functioning of the companies as well as of the economy, as a whole, the implementation of a modern banking system has been required after 1989, a system able to offer a wide range of high quality products and service, in order to satisfy the requirements of all categories of financial intermediaries and of the population living in a market economy.

Until 1990's, the banking system in former communist countries followed the Soviet model, namely a central bank, which also had the attributions of the main commercial bank and several specialized banks (for investments, for agriculture and food industry, for foreign trade), as well as houses and savings cooperatives the letter serving to draw available public money, in order to be used in the economy through the central bank.

In this context, essential changes have been made in the banking activity from Romania right after 1989, during the early transition period. More accurate, in December, 1990, the reform of the Romanian banking system led to a structural division of the "single bank" system, on two different levels:

a) First, the National Bank is recognized as the Central Bank
b) On the other hand, former state-owned banks (Romanian Bank for Foreign Trade, Agricultural Bank, Investments Bank) have been converted into commercial banks, with state owned and local private capital, based on a decision of Government, and new organizational and functioning regulations have been also established for these banks.

The transition from centralized economy to market economy has also involved the reorganization of banks as stock companies and also their autonomy, the privatization and the emergence of new banking institutions with both local and foreign capital (*Căpraru 2009, p.147*).

As the synthetic indicator which reflects the economical efficiency of the banking activity in a market economy is profit, during this transition period, the banks organized their activity in such way to attract as many customers as possible, in order to ensure the achievement of the proposed objective.

The Romanian banking system passed through a serious crisis due to the granting of a large number of non-performing bank loans during the transition period, and this was due to the fact that for a large period of time the main function of loans was to support of state companies with losses.

All banking institutions, in their capacity of commercial banks, must not only be seen as “a business”, but also as institutions with a real public character. They shouldn’t be exclusively characterized as commercial companies focused towards meeting a certain interest of the shareholders or of other interested groups, but also as specialized entities supposed to solve financial-banking problems of certain large collectivities, including both legal persons and individuals.

Currently, it can be asserted that the global organizational goal of each commercial bank is to survive among financial and capital structures. In order to reach this goal, each bank has to maximize its social utility function and to target the increase of its own profitability.

In the first part of this chapter I have outlined the state of the Romanian banking system under the impact of several historical, economical and social events which contributed to its formation and evolution, as well as in the context of transition towards a market economy, starting with the role played by the National Bank of Romania in the evolution of the banking system and continuing with the evolution of the banking activity in the context of globalization.

It is quite difficult to conceptualize globalization and it also requires complex approaches due to its abstract nature, which doesn’t refer to something material, easily identifiable, measured by dedicated units. There is no indicator or statistical parameter, obtained by calculation, not even sophisticated ones, able to reflect globalization in its true essence. Therefore, there are several points of view on globalization, views being divided; this situation gave rise to three schools or schools of thought, namely: hyperglobalists, sceptics and transformationalists, each trying to present a different perspective on globalization in order to better understand this process.

The internationalization of banking in recent decades was marked by four major factors which influenced the internationalization activities of banks[1]:

- The changing of the international role of banks: the elimination of financial intermediaries, the augmentation of the role of capital markets;
- The transforming of the global banking industry: the cancellation of restrictions, financial crises and changing of the new monetary paradigms;
- The emergence of economic structures in European Union;
- The development of financial products and services.

These directions have shaped the internationalization of banks since the early 70’s, when banks have substantially expanded their external activities; innovations of capital markets also

[1] Smith, R., Walter, I. – Global Banking. New York: Oxford University Press, 1997, p. 67

experienced a significant growth. The main innovations targeted the improvement of security, involving the elimination of financial intermediaries, the increasing of direct grants, as well as the implementation of negotiable loans within security markets[2].

Romania's European Union integration process was an event which marked the banking activity, the restructuring of the banking system became necessary in order to financially support all economic activities necessary in the reform process of Romanian economy.

Restructuring the banking system along with the regulation, licensing and banking activity supervision are two main issues addressed by the Romanian banking system remodeling (remodeling of the banking system aimed the creation of a banking system specific for a market economy, as well as the harmonization of Romanian legislation with the European Union countries legislation).

Romanian banks have reshaped business options and internal managerial structures, starting with redefining the organization of the activity in terms of its relationship with customers and subdivision of activity according to customers' requirements. The changing of the Banking Strategies in Romania and their growing orientation towards the customer, especially of the big banks that have significant financial capacity shows that they are following the behavior of banks from more developed economies. Financial activities will be separated according to customers, not to their intrinsic nature. There is a services integration trend due to the customers' request of complete financial services packages. Placing emphasis on customer-bank relationship, banks are currently interested in business relations convenient for both parties. Before preparing developmental strategies, the bank must know the evolution forecast of the area in which they operate.

Through the investments support policy in the area, tha bank can be seen as a shaping factor of the economic process in the area where they operate. Romanian banks have a good example in US banks in what regards the accomplshment of this particular function, US banks being even obliged to contribute to the economic development of the area in order to maintain their operating authorization, but also some European countries.

The restructuring of Romanian banks in this direction, meaningly to suport bussiness projects through credits that they can support themselves or ventures with other banks from richer areas, must consider the overall economic development.

Operational changes are an urgent need for banks from Romania as they compete for funds with other banking companies from developed countries in the European Union which are very strong and have much experience within the economic structures of market.

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[2] Mullineux, A., Murinde, V. – Globalization and convergence of banking systems, în "Handbook of International Banking," editted by Mullineux, A. şi Murinde, V., Cheltenham, UK: Edward Elgar. 2003, p. 23

With Romania joining EU, the Romanian banking system is actively involved in running projects aimed at modernizing the banking system, among these projects being also included the project of the single Euro payments area, which aims at making European economy more transparent and competitive.

Single Euro Payments Area (SEPA) Project refers to the Euro zone where will no longer exist differences between the current internal and external payments - consumers, merchants and corporations will be able to make payments in the Euro area as follows:

- From a single bank account,
- Using a single set of payment instruments,
- As safe, fast and effectively as in the current national context.

We can also conclude that a single market is not complete until it has a unique payment system, so that payment transactions can be run with a single bank account and with a single set of payment instruments in the entire Euro zone, as simple and secure as it operates today, on national level.

Chapter II

PROFITABILITY ANALYSIS IN BANKING INSTITUTIONS

Stable banking systems are able to provide credible information to all participants in financial markets, being concerned about the optimization of the bank's performance.

One of the main objectives of credit institutions is to optimize profits, furthermore the performance of the bank indicates its stability and the confidence of its depositors, and so achieving higher performances should be encouraged both for an efficient and dynamic financial system.

Performance can be defined as the measure of stability of the activity of the bank, characterized by low levels of risks of any kind and a normal trend of profits growth from one analysis period to another[3].

Performance management intersects the area of bank management, quality being reflected in bank performances, directly related to the management of the assets and liabilities of the bank, which are reflected in its balance sheet and in the profit and loss account.

Bank management is mainly profit-driven, meaning a higher bank performance. In the specialty literature, but also in banking practice, various instruments for measuring the performance of the bank are known, but one of the most effective is the system of indicators used for this purpose.

Indicators assessing the performance of the bank are very expressive, reflecting a variety of aspects: the level of profit generation, operational and managerial efficiency etc.

In this chapter we theoretically presented the main performance indicators of a banking institution, namely:

- **Economic rate of return** *(ROA - return on assets)*, – is determined as the ratio between net profit and total assets of banks and expresses the profitability of the assets use, meaning the net profit of an asset monetary unit[4].
- **Financial rate of return** (*ROE – Return on equity)* – is determined as the ratio between net profit and equity and provides information regarding the profit registered by a single accounting value unit of the shareholders investment in the bank.
- **Leverage effect (***EM – equity multiplier)* – or *capital expanding* is a synthetic indicator which shows the degree to which the use of additional attracted resources leads to equity profitability increase.

[3] I.Bătrâncea, I.Trenca, A.Bejenaru, S.N.Borlea – Analiza performanțelor şi riscurilor bancare (Performance Analysis and Banking Risks), Risoprint Publishing House, Cluj-Napoca, 2008, p.374
[4] I. Bătrâncea ş.a., - „Analiza performanţelor şi Riscurilor bancare" (Performance Analysis and Banking Risks), Risoprint Publishing House, Cluj-Napoca, 2008, Op.cit..p.382

- **Net profit rate** – *(Marginal profit- MP)* – is calculated as the percentage ratio between net profit and total income
- **The degree of assets utilization** *(AU – assets utilization)* – is an indicator which depends on the size of the market active interest and on the structure of banking assets and is calculated as the percentage ratio between the total income from banking operations and total assets and reflects the total revenue obtained from the use of assets (interest incomes, fees, taxes and nonprofit incomes).

Given the internal and external competition between banking institutions we assessed and analyzed the economic and financial rate of return in Romanian banking system, as well as reported to the European one in order to asses the viability of the Romanian banking system compared to other European Union countries.

In the Romanian banking system Financial rate of return (ROE) registered a slightly lower level than that registered in the previous year (11,44 % in 2007 to 11,67% in 2006) in terms of net profit dynamics comparable to that of equity, will meet a slight increase in 2008, reaching 1,7%. ROE analysis based on determinant factors, using **Du Pont** decomposition, reveal a slight deterioration of banking capital as a result of the diminishing capacity of assets to generate income (from 1.46% in 2006 to 1.3 in 2007), at the same time the leverage effect registered a rise (from 7.97 in 2006 to 8.82 in 2007), but it only partially compensated the decrease recorded by the rate of economic profitability (ROA).

Table no. 1 Evolution of ROE and ROA indicators during 2005 – 2008

Indicators	**Calculation**	**2005**	**2006**	**2007**	**2008**
ROE – banking system	Net profit / Equity	15,2%	11,7%	11,4%	18,1%
ROA – banking system	Net profit / total assets	1,9%	1,5%	1,3%	1,7%

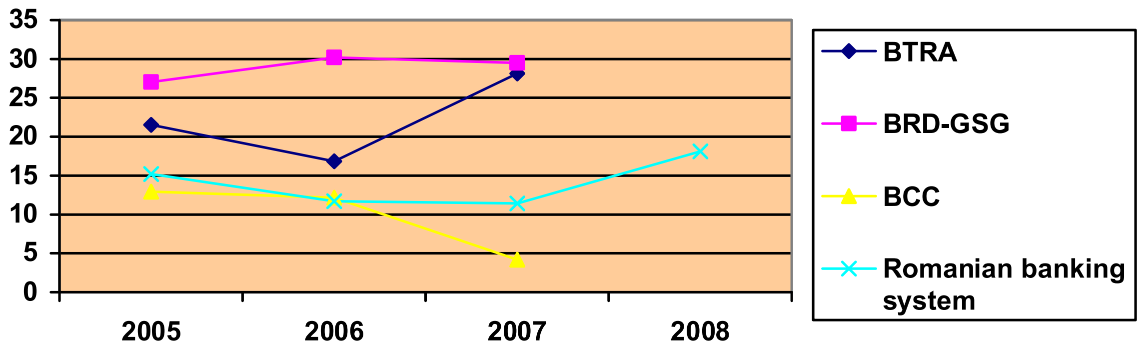
Source: Financial Stability Report, NBR 2009

Massive investments, mainly targeting banking networks expansion, as well as increasingly competition led to a decrease of profit percentage in the operating income of approximately 2.6 percentage points, from 20,18% in 2006 to 17,6% in 2007. However the assets ability to generate income was not affected. The value of assets usage rate slightly increased, reaching 7,37% at the end of 2007 from 7,26 in late 2006. Under these conditions, the economic rate of return (ROA) had again a decreasing dynamic during 2007, but at a slower pace than in previous years (See Table 1), for which, its size remains comparable to levels recorded in other European countries.

We made a detailed analysis of financial performance indicators in three banks that we have taken in study, based on the models previously presented: Banca Transilvania, Banca Română de Dezvoltare-GSG and Banca Comercială Carpatica, as well as a comparative analysis between these banks and ROE –ROA of the Romanian banking system.

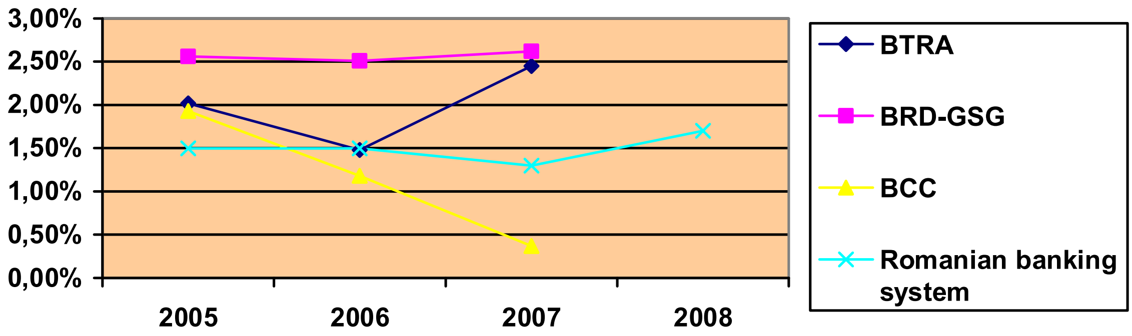
Economic rate of return (ROA) in the banking system and in the BTRA, BRD-GSG, BCC is the expression of the overall profitability of a banking company. It is also called assets profit or return on assets and measures the effect of the managerial capacity to use financial and actual resources of the banking company in order to generate profit. Thus, the graphs below show the evolution of ROE and ROA in the Romanian banking system and BTRA, BRD-GSG and BCC.

Evolution of ROE at BTRA, BRD-GSG, BCC and for the Romanian banking



Source: Author's processing

Evolution of ROA at BTRA, BRD-GSG, BCC and for the Romanian banking



Source: Author's processing

Graph no. 1

The trend of financial rate of return (ROE) for the banking system compared with BTRA and BRD-GSG reveals that the two banks have a higher ROE than the banking system, respectively there BRD has a margin of 18,09% more done in 2007. This denotes an effective risk management and a healthy crediting policy of the bank. The BCC financial rate of return was below the threshold recorded in the banking system, registering the lowest level of 4,19% in 2007.

The analysis of the economic rate of return (ROA) in the banking system and BTRA, BRD-GSG, BCC highlights an increased level of profit, particularly at BRD-GSG, registering an upward trend throughout the entire period under review. As the rate of financial return, economic rate of return at BCC showed a decreasing trend, resulting values below the level of the banking system. BTRA, registered a value of ROA of 2.45% in 2007, very close to the level recorded by BRD-GSG, respectively 2,62%, but still over the level of the banking system.

In terms of ROE[5] and ROA, values recorded at the end of December 2008 were: 18,1% and 1,7%, and are comparable with those of the parent banking companies having branches in Romania[6].

Conclusions:

As discussed in this chapter, banks operate based on the criteria of profitability, like any other commercial company, permanently seeking to achieve net profit in terms of specific risks (general economic development, restrictions imposed by the Central Bank, insolvency, the financial structure of the bank) that any bank should take into consideration during carrying out its activity.

Profitability is an indicator of the bank's competitive position on banking markets and of the quality of its management, ensuring the health of the banking system.

Traditional banking practice - based on deposits formation and loans granting – is only one part of the specific activity of banks, often being the least profitable. Major sources of profitability of banks are trading on financial markets and generating revenue through fees.

Unlike other areas, banking activity is a particular one if we consider the bank's functions and characteristics of extreme volatility of most banking products and services, and therefore a directly proportional connection between ***profit and risk*** is required in the management of banking institutions.

[5] ROE, ROA are currently calculated using the monthly average of equity at the nominator, respectively that of assets. For comparison, levels recalculated associated to the 31st of Decembe, 2007 are 10.8% and 1.3%.

[6] ROE: 19,5% for Raiffeisen International (septembrie 2008, *3rd Quarter Report 2008*), 18% for Piraeus Bank Grecia (*Financial Highlights of the Group 2008*), 15,7 % for Alpha Bank (December 2008, *Alpha Bank Press Release: Full Year 2008 Performance Overview)*, 6,4 % for Groupe Societe Generale (December, *Resultats de l'annee et du 4-eme trimestre 2008);* ROA: 1,1% for Piraeus Bank Grecia (Financial Highlights of the Group 2008), 0,9% for Eurobank EFG (*FY 2008 Financial Results, p.2).*

Banks act in more uncertain conditions than non-banking institutions, both in the fields of resources which have no quantifiable stability, as in the field of investments containing a risk factor in their nature.

Banks obviously are willing to obtain high profits and, equally, to minimize risks, so bank performance concerns first of all determining the bank's stability, the degree of its exposure to various risk categories and then the level of its efficiency.

For these reasons, the banking financial diagnosis has two components:

- Diagnosis of profitability (return on equity, economic profitability)
- Diagnosis of risk (operational risk, financial risk, the risk of bankruptcy).

Chapter III

RISK ANALYSIS WITHIN THE BANKING ENVIRONMENT

The economic, monetary and financial banking environment is permanently subjected to a fierce competition and the appearance of unknown new risks, which manifest differently. Under these circumstances it is extremely difficult to present a certain form of risk, or to seek a precise definition, given the uncertainty feature of our contemporary world.

According to these, the risk is approached in various ways by some experts, so they expressed their different opinions in the literature of the country and abroad.

Professor George Manolescu, PhD believes that the risk concept is strongly related to those of profitability and flexibility. The financial result of the company is subject to unanticipated events that accompany its activity in all areas. The risk affects the variability of the result, as it affects the assets return and therefore the invested capital[7].

This chapter presents a risk classification, mainly referring to the significant risks of the banking institutions; it selects and analyses the risks with the largest impact upon their activity: credit risk, market risk (interest rate risk, exchange rate risk), liquidity risk and operational risk.

Credit risk

The crediting activity risk is the probability of loss due to a debtor's insolvency and non-payment of a loan. For the commercial banks on the whole, this risk has a systemic character; its extent does not result from the simple summation of the credit risks faced by the individual components of the banking system, but it is the 'synergistic' result of the propagated effects in the whole system[8].

The lending activity is the main activity of banking entities and credit risk is the most important one out of the various risks that may affect the results of the bank financial intermediaries. Its intensity is measured by the damaging or improvement in the quality of the loan portfolio related to the customers' solvency.

For financial standing evaluation and the risk classes of customers, I analyzed a company in terms of the method used by two different banks: CEC Bank and MKB Romexterra Bank.

[7] Gh. Manolescu-Managementul financiar (Financial Management), Economic Publishing House, Bucharest, 1995, p.169.

[8] I.L. Popa, B. Dima, - Analiza Sistemului Bancar Comercial (Commercial Banking System Analysis), Mirton Publishing House, Timişoara 2004.

Table no. 2 Evaluation of general credit risk classes - CEC Bank SA Method

	31.12.2006	31.12.2007	30.06.2008
1. Points for financial indicators	**18**	**13**	**13**
2. Points for non-financial indicators	**12**	**12**	**12**
Total points	**30**	**25**	**25**
Financial reliability grade	**A**	**B**	**B**

Source: Author's processing

Table no. 3 Evaluation of financial performance classes– MKB Romexterra Bank SA Method

	31.12.2006	31.12.2007	30.06.2008
1. Points for financial indicators	**52**	**42**	**35**
2. Points for non-financial indicators	**30**	**30**	**30**
Total points	**82**	**72**	**65**
Financial reliability grade	**A**	**B**	**B**

Source: Author's processing

To conclude with, after estimating the financial performance indicators of a company through the two specific methods of the above listed banks, although the applied methodology slightly differs from one bank to another, at the end of the analysis, the company was placed in the same risk class (financial reliability class), that is A on 31.12.2006; B on 31/12/2007, B on 30.06.2008.

Taking into account the fact that banks must filter businesses and promote the efficient, reliable and legal ones for the lending process, thus encouraging effective activities for all bank loan users, the estimation of financial reliability indicators represents a very important milestone in decision taking. Banks have to evaluate the potential risks of crediting a business, to investigate the reasons for asking the loan and to identify the payback resources that depend on the development of the credited business.

The analysis methods currently used by banking societies are based on a series of concepts and techniques that represent the gravity center of technical and quantitative analysis of crediting. Furthermore, banks prove a great dependence on the financial reliability indicators and the guarantees presented by the loan applicant, but these indicators do not always reflect the reality and even if they did, this should be only a visit card of the company, and its guarantees should be looked upon like an insuring measure, and not like a certainty for recovering the loan by their turning to good account.

Nowadays, having the circumstances of the new world economic crisis, all the principles and methods for giving a loan by taking less risks on behalf of the creditors, are under a lot of pressure from both the internal and international economic environments. Even though the credit analysis considered the company to have its financial reliability indicators situated in a comfortable risk class and the presented guarantees were considered solid at the time, under crisis conditions, the company may face problems for paying back the loan. Moreover, the bank may face difficulties in foreclosing the guarantees because of the fact that their price might have decreased in time, so the resulting sums have a much smaller amount then the original amount of the loan. There's also the uncertainty of being able to foreclose the guarantees in times of crisis, when most transactions are blocked, furthermore leading to difficulties in providing liquidity to banks, forced it to turn to extreme and expensive solutions. All in all I believe that the important factors of approving loans are the quality of the management, business efficiency and its security.

Market risk

The market risk is a basic component of the financial risk management system if the credit institutions operate on well-developed financial markets. Market risk is defined as the risk associated to the occurrence of losses on balance sheet and outside the balance sheet items due to changes in the market prices (Isaic - Maniu, I., 2006: 76).

The main risk categories that lead to changes in the financial markets, and which actually lead to market risk are: *interest rate risk* - the variation of the development trend; *exchange rate risk* - exchange rate variation and thus the worth value of different foreign assets and liabilities in national currency; *shares price risk* - corresponds to the loss or the lack of profit that may result from the change in the value of shares held by credit institutions.

Starting with 1998, the authorizing institutions have required a supplementary capital reserve for the insurance covering of significant losses that might affect their stability on behalf of the banks with large trading activities. The size of the reserve, also known as the capital requirement for covering the market risk is directly proportional to an indicator which reflects the portfolio risk. Currently the market risk is measured in terms of value at risk (VaR[9]).

For the risk factors categories for which estimated by the credit institution through an internal model, the capital requirement is determined according to:

$$\mathbf{Ct = max(VaRt)}$$

where:

Ct – the capital requirement of the t working day;
VaRt – value at risk for the *t* working day;
K – multiplication factor;
VaRt-i – value at risk for the *t-1* working day;
RSt – capital requirement.

[9] Value at Risk

In order to determine the value at risk for the *t* working day, the financial instruments positions would be used (only the instruments of the advanced method portfolios), out of the trading book at the end of the *t-1* day[10] and using the National Bank of Romania validated methodology.[11]

Interest rate risk

As it has been defined by some authors, (I.L.Popa, B. Dima), the *interest rate* represents the cost of "new" and "old" financial resources assigned by bank and non-bank financial intermediaries in the process .

The interest is the amount reimbursed to the owner of the loan or the price for using the capital and it also covers the potential risks of that loan.

The main indicator for assets and liabilities management is the **net interest margin**. The objectives of asset and liabilities management reside in increasing the bank's incomes out of investments, while decreasing the costs of the attracted resources and maintaining an acceptable risk level and compliance to the capital adequacy and bank liquidity regulations.

Assets and liabilities management that collects and uses all funds represents the financial core of a bank[12]. Furthermore, assets and liabilities management refers to strategic planning and monitoring processes that influence the volume diversity and sensitivity of interest rates, as well as the quality and liquidity of a bank's assets and liabilities. The main objective for assets and liabilities management is to produce a net interest revenue flow that should be high, stable and with an increasing tendency. This level may be attained by an optimal combination of assets, liabilities and financial risks.[13]

Assets and liabilities management focuses upon the *net interest margin* (NIM) that expresses the monetary unit difference between interest incomes and interest expenses and is computed by subtracting the interest out of the interest revenues for valuable assets.

Net interest margin = Interest incomes – Interest expenses

The objective of assets and liabilities management is to control the net interest margin. The bank management may adopt a defensive or offensive attitude towards controlling the net interest margin. When adopting a defensive attitude, the emphasis is set upon a low dependency

[10] The positions of the VaR determining day won't be taken into account.

[11] The capital requirement for a non-working day is equal to the capital requirement of the last working day. The multiplication factor of a working day is determined by summing up the minimum multiplication factor and the additional multiplication factor of the day. The minimum multiplication factor cannot be less than 3; if the NBR asks for a multiplication factor greater than 3, it has to justify its reasons for adjusting the minimum multiplication factor and their importance. The additional multiplication factor is determined according to back-testing results.

[12] Greuning H.v., Brajovic Bratanovic J. – Analyzing and Managing Banking Risk, A Framework for Assessing Corporate Governance and Financial Risk, Irecson Publishing House, Bucharest, 2004 – Op.cit., p.44

[13] Idem

of the net interest margin in the market interest rate variations. An offensive attitude in the assets and liabilities management aims to increase the net interest margin by restructuring the financial investments' portfolio of that banking institution.

The interest rate is the main element to be negotiated with clients by any banking company and the interest rate risk is due to the fluctuations in the interest rate level.

Foreign exchange risk – is another component of the market risk and it depends on the market fluctuations of the exchange rate[14].

Foreign exchange risk (currency risk) may be defined as being the risk of potential losses out of the exchange rate fluctuations. It is strongly related to interest rate risk[15].

Foreign exchange risk expresses the probability that a change of the market exchange rates to adversely influence the bank's interest margin.

Exchange rate risk may be estimated through two basic indicators, which are the *individual exchange position* of each currency and the *global exchange position* that has the advantage of an overall overview for the bank's foreign exchange exposure and the disadvantage of overselling the currency situation, instead of managing it.

From the performed analysis, I concluded that the exchange rate evolution and the exchange market characteristics had not induced any particular risks upon the financial stability of 2008. For the forth consecutive year, the weight of the total positions in own funds has been below 2%, so the direct exposure of Romanian credit institutions to the currency risk has been kept at a low level. The transition from predominantly short positions to predominantly large positions in 2006 was maintained in 2008, but their absolute difference increased. However, the Romanian banking system would not be affected by an eventual big change of the exchange rates on the direct channel, considering that the regulated total position may not exceed 20% of own funds, which was also confirmed by a stress test analysis of banks.

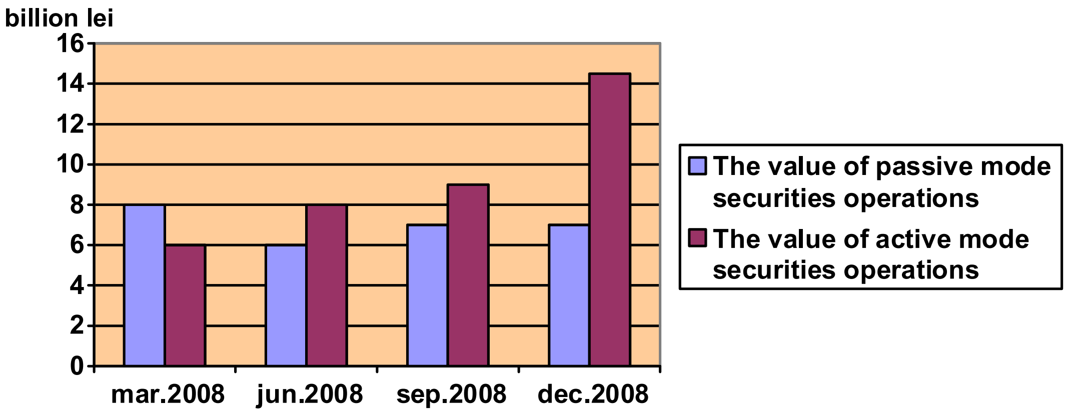
Corporate sector exposure to exchange rate risk is greater than the one indicated by the internal contracted loans. This is mainly due to large companies, whose foreign direct loans increased during 2008. Furthermore, this vulnerability increases indirect exposure of banks to exchange rate risk.

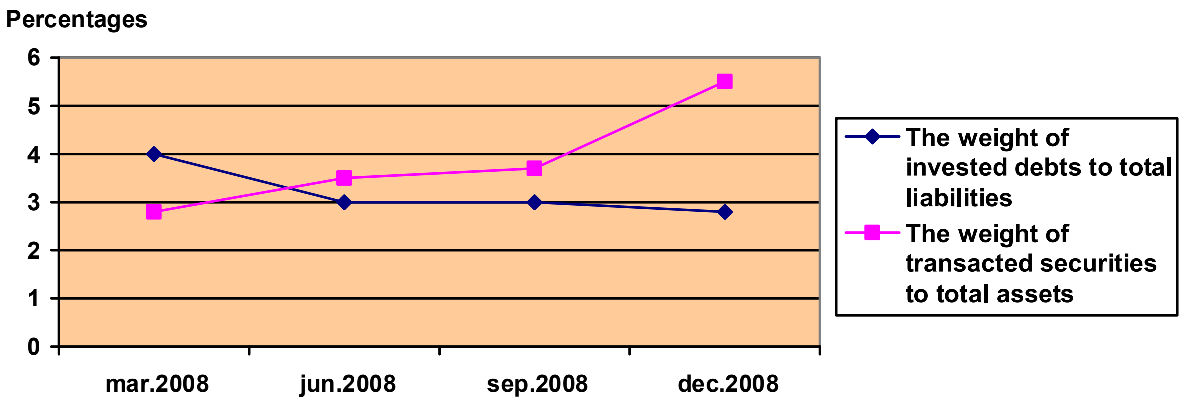
On December 31st 2008 the weight of transacted securities to total assets was of 5%, and in late March 2009 it became of over 8%, indicating an increased preference for certificates, that are liquid instruments with very low risks. The weight of securities in total liabilities decreased

[14] Norm no.17 of 18.12.2003 of NBR, regarding the organization and internal control of credit institutions' activity and significant risks' administration, as well as the development of internal audit activities of credit institutions, published in O.M. no. 47 of 20.01.2004.

[15] C.Basno, N.Dardac – Op. Cit., p.19

by 0.23%, as compared to the 2.9% for the month of September and the 2,6% in March 31st 2009, but the increased share of transacted financial derivatives did not covered the reduced ratio of invested debt to total liabilities (*NBR - Financial Stability Report 2008*).





Source: NBR-Financial Stability Report 2009

Graph no. 2 – Evolution of securities operations

The results of the stress tests performed in March 2009 on an International Monetary Fund (IMF) scenario proved that although the global exchange rate risk of foreign currency denominated assets and liabilities is relatively low, by negatively affecting 1,56% of own funds, there are significant individual differences.

Liquidity risk

Liquidity risk, also known as financing risk, is the potential risk of an enterprise to face difficulties in finding the funds for covering financial instruments commitments. Financial risk may result out of incapacity of quickly trading a financial asset for its real value[16].

The liquidity risk expresses the probability for a bank not to be able to fulfill payments towards its customers, because of widening the long-term investments to short-term investments ratio and their lack of correlation to the liabilities structure[17].

Long-term investments are generally greater than the short-term investments of the bank; therefore banks may encounter two delicate situations:

a) not to be able to fulfill short-term commitments;

b) to get short maturity resources, while their investments have long maturities.

The first situation, which is also called immediate liquidity risk, is due to the massive and sudden withdrawal of its creditors.

If a bank faces liquidity risk, it may be determined either to borrow emergency funds for excessive costs in order to cover its immediate cash needs or to attract new depositors by paying them greater interest rates than the ones of the market .

Immediate liquidity risk is a specific risk for banks and the art of managing a bank resides precisely in knowing how to manage liquidities in order to face withdrawals, without harming the opportunities of requested loans.

The second situation is also known as transformation risk and it requires the following considerations on behalf of banks:

- resources and investments should be judged according to their real liquidity and payability and not the legal ones. Thus, sight deposits are often more stable than term deposits, interbank deposits are more volatile than customer deposits, customer debtor accounts are often more tied up than long maturity loans.

- the financial innovation of recent years change the liquidity risk of a bank by increasing it through credit commitments development such as multi options facilities and by decreasing it through the development of negotiable claims secondary markets.

The art of transforming short maturity resources to long maturity investments and quickly coping with the liquidity crisis at low costs is a specific skill of bank management.

[16] International Accounting Standards, Economic Publishing House, Bucharest, 2001, p.765-766

[17] M. Stoica - Op.cit., p.153

Operational risk

The international financial markets as well as the European ones are undergoing a continuous and complex process of adapting their products and services to market competition, the development of economies and expanding globalization of economic activities.

Under these circumstances, *the operational risk* has become an increasing important element of credit institutions because they have to redefine their own products and services in order to strengthen their market position and to penetrate new markets, because of the increased demand in financial innovative products (example: securitized products, credit derivatives, structural products)[18].

Basel Committee[19] defines operational risk as the risk of losses resulted from inadequate or defective internal processes, people and systems or external events, focusing on the determinant causes of losses in order to differentiate the operational losses of other risk categories losses.

In order to maintain their market position and to remain competitive and profitable, financial institutions must comply with the legal standards and regulations and they also have to anticipate the development of the market and to be sensitive to significant factors affecting market dynamics.

The increased complexity of banking practices and the financial markets tendency to deal global transactions in real time, involve a greater supervising concern on behalf of the authorities for the financial institutions. This financial market evolution brings along new risks and exposures that have to be determined, quantified and managed, hence the need to develop robust operational risk management systems.

In this context all European banking/financial institutions have adopted the regulations proposed by the Basel Committee and Basel II Accord.

The Basel Committee associates unexpected losses to operational risks, further arising from the following determinants: *human errors, computer system errors, inadequacy of procedures and controls, external events*.

The key determinants of operational risk may be categorized:

Table no. 4 Main determinants of operational risk

Human	Systems	Processes	External Events
Frauds and other penal deeds	IT Problems (hardware or software problems, computer viruses etc.)	Execution errors, registration errors, control errors and documenting errors (transaction risk)	Penal activities (thefts, terrorism or vandalism)

[18] Chernobai A., 2007:2

[19] BCBS, 2001:25

Internal or external rule violation (unauthorized transactions, etc)	Unauthorized access to information and system security	Modeling errors, methodologies and market stamping (model risk)	Politic or military events (war or international accords)
Errors connected to management lack of competence or negligence	Absence or doubting data integrity	Balance sheet errors and tax payment errors. Inadequate or formalized internal procedures	Changes of the political, juridical regulating and fiscal environment (strategic risk)
Loss of important employees (sicknesses, injuries, etc)	Telecommunication errors	Inadequate assignation of responsibilities	Natural events (fire, earthquake, flood, etc)
Security system violation			Operational errors of suppliers or outsourced operations

Source: Resti, A. & Sironi, A., 2007:515

Operational risk is a banking risk that may occur from the very incorporation of the banking institution, taking all possible shapes for the different development stages of the banking institution's activity, because the operational risk also includes the legal risk[20]. Having the largest manifestation area, operational risk has become the biggest threat of the worldwide banking systems, causing many bankruptcies in the global banking landscape.

In Romania, the NBR issued Norm no. 17 of 2003 for regulating the internal control and internal audit structures of credit institutions, also referring to the measures recommended for operational risk management. For compliance with Basel II requirements, NBR issued in late 2006 several regulations that determine the capital requirements for operational risk management to be applied for most Romanian credit institutions starting with 2008.

Essentially, credit institutions are required to establish strong principles for operational risk management, but at the same time they have to calculate their minimum capital requirements according to their operational risk. The various quantitative worldwide studies have shown that the operational risk capital amount is compensated by the reduced credit risk capital requirement of the new Basel II regulations.

The methods for determining the operational risk capital requirement of banking institutions[21] are:

- ***Basic indicator*** *approach;*
- ***Standardized*** *approach;*

[20] The legal risk describes the potential for loss arising from fines, penalties and sanctions given to the credit institution for not applying or wrongly applying the legal or contractual proceedings or the potential inadvertence in the contracted rights and obligations of parts.

[21] The computation method for the operational risk minimum capital requirements is set by National Bank of Romania – Romanian National Securities Comission Regulation no. 24/29/14.12.2006 regarding the operational risk minimum capital requirements of credit institutions and investment companies.

- ***Alternative standardized*** *approach;*
- ***Advanced measurement*** *approach;*
- ***Combined*** *approach***.**

Furthermore, this chapter presents methods for determining the operational risk minimum capital requirement by the above presented approaches.

No matter the approach adopted by the credit institutions in order to calculate their operational risk minimum capital requirements, it may only by applied having the prior approval of NBR.

In addition to determining the minimum capital requirements for covering the various risks faced by the banking activities in recent years, the Basel Committee has focused upon liquidity management in banks because liquidity analysis constitutes a core activity of bank management, so the next chapter presents liquidity analysis in banks.

Chapter IV

LIQUIDITY ANALYSIS IN BANKS

In order to highlight the role and importance of bank liquidity I have detailed some of its concepts and the monetary position as the expression of liquidity.

One of the most important things in bank management is to ensure an adequate liquidity. According to some authors, „a bank is considered to have liquidity if it has an immediate access to necessary funds, at reasonable costs”[22]. This may mean that the bank either has that money, or may easily get them by loans or selling of assets.

The management of a financial institution may control their own liquidity through a careful planning and anticipation of the variations registered in deposits, loans and profits. For being able to control their own liquidity, the management will set up a strategy for the holding of more or less liquidities, according to the *anticipated need for funds*, the risk aversion, risk determinants and other considerations. They should also take into account the relationship between liquidity and profitability. Thus, a bank may minimize liquidity by selling liquid assets and investing the resulted funds on the long term, for maximizing its profits (the bank counts on the fact that it would obtain the liquidities for covering unexpected needs from its given loans).

This brings up an increased risk: on the one hand, the lack of liquidity at a crucial time for the bank and, on the other hand, the interest rate risk associated to long-term investments.

In the reverse situation, the bank may maximize its liquidity degree by having liquid assets as a major part of its total assets, but its profitability will be substantially affected. Thus, taking into account these issues, a good liquidity management has to take into account all the determining factors of liquidity risk and bank profitability.

Bank liquidity in regulated in our country by Norm no. 1 / 2001 with subsequent modifications of our National Bank (Norm 1 / 2002 and Norm 7 / 2003).

The liquidity indicator is calculated as a ratio between the effective liquidity and the necessary liquidity, further determined in accordance with Norm no. 1 / 2001[23] of our National Bank on banks' liquidity.

♦ *Effective liquidity* is determined by adding, on every maturity line, balance sheet assets to engagements received and presented outside the balance sheet.;

♦ *Necessary liquidity* is determined by adding, on every maturity period, balance sheet obligations to engagements given and presented outside the balance sheet.

[22] C. Basno, N. Dardac, Management bancar (Bank Management), Economic Publishing House, Bucharest 2002

[23] Norm no.1 from April 9th 2001 regarding banks’ liquidity, published within O.M. no.201/April 20th 2001.

According to the governing norms of the National Bank, a minimum threshold limit of 1 is required for the liquidity indicator.

The liquidity risk represents the probability for a bank not to be able to make payments to customers because of an uncorrelated deviation in the structural proportion of short-term loans and bank liabilities[24].

Better said, the liquidity risk represents a difficulty in getting the necessary resources for fulfilling its commitments at a certain time.

There is a clear distinction between *the liquidity risk* that refers to an immediate availability of funds and *the solvency risk*, which means to cover the existing liabilities by expanding assets and, ultimately, the ability to cover the resource commitments through equity[25].

A bank manages liquidity through a) a prudent correlation between the maturity of assets and liabilities and by maintaining a permanent stock of liquid assets (e.g. cash and highly liquid securities).

Reaching bank liquidity involves an improved effort to raise the performance indicators and a better yield. Moreover, banks have to make a particular effort in order to improve the accurate determination of resource needs by forecasted models that would reflect the magnitude and regularity of the money market requirements.

These basically enhance an important way to increase the bank's ability to gain more profit and to increase its performance.

The bank management has to deal with three aspects of the liquidity risk; to protect against liquidity risk, to measure the liquidity risk and to manage the liquidity risk.

For demonstrating the importance of ensuring an adequate liquidity, I have presented a banking procedure for determining liquidity, the liquidity risk and its control, by illustrating this calculation and analysis procedure of liquidity for MKB Romexterra Bank SA, by completing the calculation of its liquidity indicator for 2007 and 2009 (Annex 1, Annex 2).

[24] M.Stoica, Management Bancar (Bank Management), Economic Publishing House, Bucharest 1999, p. 153.
[25] C.Basno, N.Dardac, Management Bancar (Bank Management), Economic Publishing House, Bucharest, 2002, p.14.

Liquidity Indicator Determination

MKB Romexterra Bank SA

Annex 1

Date of the report 08/31/2007

Indicators		Maturity period					
		D < 1 month	1 month < D < 3 months	3 months < D < 6 months	6 months < D < 12 months	12 months < D	Total
0	1	2	3	4	5	6	7
Total assets (Annex 1a, rd.Total, col.2÷7)	1	33,013,472.00	82,673,446.00	113,559,062.00	257,395,560.00	499,785,821.00	1,486,427,361.00
Total engagements received outside the balance sheet (Annex 1c, rd.Total, col.2÷7)	2	532,731.00	-	-	-	(532,731.00)	-
Effective liquidity rd.3col.3÷6=rd.1col.3÷6+rd.2col.3÷6+rd.7col.(n*-1), rd.3 col.2,7=rd.1col.2,7+ rd.2 col.2,7	3	533,546,203.00	286,792,843.00	397,573,779.00	652,203,452.00	1,068,736,961.00	1,486,427,361.00
Total balance sheet obligations (Annex 1b, rd.Total, col.2÷7)	4	238,243,601.00	2,778,126.00	2,765,887.00	82,719,581.00	80,216,345.00	406,723,540.00
Total engagements given outside the balance sheet (Annex 1d, rd.Total, col.2÷7)	5	91,183,205.00	-	-	-	(91,183,205.00)	-
Necessary liquidity rd.6=rd.4+rd.5	6	329,426,806.00	2,778,126.00	2,765,887.00	82,719,581.00	(10,966,860.00)	406,723,540.00
Exceeding liquidity (reported for the next column) rd.7=rd.3 - rd.6, if rd.7>0	7	204,119,397.00	284,014,717.00	394,807,892.00	569,483,871.00	X	X
Liquidity Indicator rd.8=rd3/rd.6[1]	8	**1.62**	**103.23**	**143.74**	**7.88**	**1.00**	**3.65**

* n is taking values from 3 to 6

Liquidity Indicator Determination

MKB Romexterra Bank SA

Date of the report 03/31/2009

Indicators		**Maturity period**					
		D < 1 month	1 month < D < 3 months	3 months < D < 6 months	6 months < D < 12 months	12 months < D	Total
0	1	2	3	4	5	6	7
Total assets (Annex 1a, rd.Total, col.2÷7)	1	1.019.783.896	126.045.357	250.194.141	245.146.559	1.074.945.836	2.716.115.789
Total engagements received outside the balance sheet (Annex 1c, ed. Total, col 2-7	2	308.352.727	0	0	0	-308.352.727	0
Effective liquidity rd.3col.3÷6=rd.1col.3÷6+rd.2col.3÷6+rd.7col.(n*-1), rd.3 col.2,7=rd.1col.2,7+ rd.2 col.2,7	3	1.328.136.623	723.752.924	727.454.194	753.878.916	1.144.958.710	2.716.115.789
Total balance sheet obligations (Annex 1b, rd.Total, col.2÷7)	4	551.141.535	246.492.871	218.721.837	375.513.315	349.147.461	1.741.017.019
Total engagements given outside the balance sheet (Annex 1d, rd.Total, col.2÷7)	5	179.287.521	0	0	0	-179.287.521	0
Necessary liquidity rd.6=rd.4+rd.5	6	730.429.056	246.492.871	218.721.837	375.513.315	169.859.940	1.741.017.019
Exceeding liquidity (reported for the next column) rd.7=rd.3 - rd.6, dacă rd. 7>0	7	597.707.567	477.260.053	508.732.357	378.365.601	X	X
Liquidity Indicator rd.8=rd3/rd.6[1]	**8**	**1,82**	**2,94**	**3,33**	**2,01**	**6,74**	**1,56**
Total balance sheet obligations Annex 1b. Total, col. 2-7), without the art. 20 and 20^1 adjustment	9	1.109.874.957	434.359.834	304.692.544	454.123.368	352.228.758	2.655.279.461

[*] n is taking values from 3 to 6

[1] If rd.4 (rd.5, in some cases) col.x[2]<0 and rd.8 col.x □0, to rd.11(rd.12, in some cases) col.x, 0 is the resulting value.
Îf rd.4 (rd.5, in some cases) col.x =0 and rd.8 col.x=0, la rd. 11(rd.12, in some cases) col.x, 1 is the resulting value.
Îf rd.4 (rd.5, in some cases) col.x >0 and rd.8 col.x<=0, la rd. 11(rd.12, in some cases) col.x, 1 is the resulting value.
Îf rd.4 (rd.5, in some cases) col.x=0 and rd.8 col.x<0, la rd. 11(rd.12, in some cases) col.x, 1 is the resulting value.
Îf rd.4 (rd.5, in some cases) col.x<0 and rd.8 col.x<0, rd. 11(rd.12, in some cases) col.x=rd.8 col.x / rd.4 (rd.5, in some cases) col.x.

[2]Col.x stands for an y of the columns from 2 to 6

Source: Estimated by the author according to the MKB Romexterra Bank SA reports.

Conclusions: From the analysis performed upon MKB Romexterra Bank, I concluded that this banking institution's liquidity had a high level in 2007, further undergoing a decrease at the beginning of 2009.

The global liquidity of a banking institution depends on its structural combination of assets and liabilities, and the maturity of its assets compared to that of its financing resources is an important determinant of its liquidity risk vulnerability.

From the performed calculations for the 2007 and 2009 years, it resulted that the liquidity indicator of MKB Romexterra Bank has been estimated according to the existing regulations and it exceeds the minimum level of 1 (Annex 1, Annex 2).

For values equal to 1 or less than 1, the bank does get to its resources' maturity when it places them, thus indicating a proper correlation of the bank's assets and liabilities in terms of maturity. This situation excludes liquidity risk.

On 08/31/2007, the above 12 months maturity bands registered a critical situation of the liquidity indicator as it decreased to the minimum threshold. During 2007, for the one month to six months maturity bands, the banking institution faced an inability of placing its assets on the market, further leading to the existence of large liquidity surplus.

For subunit values, the bank changes its short-term liabilities into long-term assets. This situation exposes the bank to liquidity risk, but it gives back the advantage of increasing its net interest margin, especially for an increasing curve of the interest rates (long term interest rates are higher than short term ones).

For values above 1, the bank changes its long-term liabilities into short term assets. In this situation there is no liquidity risk, but this implies the disadvantage of reducing the net interest margin, for the most common case of an upward interest rate curve. This disadvantage may be eliminated for periods with a decreasing interest rate curve (short-term interest rates are higher than long term ones).

Regarding the ratio between effective liquidity and necessary liquidity, it may be concluded that ensuring liquidity is a top management problem.

For *the evolution of liquidity in the Romanian banking system* the performed analysis and the National Bank reports proved that the liquidity surplus of the Romanian banking system decreased during 2007, even if we had an upward evolution of the credit market and a reduced liquidity of the international financial markets. The liquidity position of Romanian credit institutions remained normally, and the connectivity degree of the interbank market was growing. Systemic risk was relatively low and bilateral interbank exposures were generally reduced as compared to the own funds and liquid assets of creditor banks. Assets' financing from external resources of other financial institutions was increased, but was kept below the vulnerability level registered by other countries in the region. None of the credit institutions interviewed by the National Bank for the March 2008 liquidity survey was forced to activate its emergency plan as a result of the turmoil in the international financial markets. The performance of credit institutions for correlating the maturity bands of liabilities and assets stated adequate, but the global liquidity of the Romanian banking system continued its downward trend while banking intermediation increased. The liquidity indicator of the whole banking system, calculated by regulations[26], exceeded its minimum level of 1, but the difference between effective liquidity and necessary liquidity decreased in relative terms.

The analysis of liquidity requires bank management not only to continuously assess their liquidity situation, but also to examine the way the funding requirements may evolve in different situations, including some adverse conditions.

For liquidity monitoring, the Basle Committee focused its attention on how banks manage their overall liquidity. Technological and financial progress gave banks some new ways of financing their business and administering liquidity. Because of the fact that the standard practices for bank liquidity management have changed since the September 1992 publication of “Liquidity analysis and management framework” study, the Basel Committee issued a new study. It sets out the main principles for efficient liquidity management.

The shape and complexity of the liquidity management process depends on the size and complexity of the bank and of the nature and complexity of its activities. Although the study focuses on large banks, these principles have a wide applicability to all banks.

Good information management systems, the analysis of net funding requirements in various alternative scenarios, the diversification of financing resources and the provision plan are the important elements of a strong liquidity management in a small bank or a bank that is active on fewer markets than the large and complex banks.

The internationalization of banking activities, an increasingly strong competition between credit institutions and product diversification are factors that expose the institution to various specific risks. Furthermore, the protection against risks has become a first-rank concern of credit institutions around the world, through effective methods and strategies for risk management. Romanian credit institutions have been forced to adopt the Basel II requirements starting from January 1st 2008, in order to determine the minimum capital requirements to cover the credit, market and operational risks. Regarding credit risk quantification, most Romanian credit institutions will use the standard approach and one only- the approach based on internal rating models.

[26] As a ratio between the effective liquidity and the necessary liquidity of each maturity band, according NBR Norm no.1/2001 regarding banks’ liquidity, with subsequent modifications

The recommendations on banking supervision established by the Basel Committee are based on two fundamental principles:

- Every foreign banking institution should be included in the banking supervision area;
- Appropriate supervising practices (minimum capital requirements, monitoring banking risks, etc.).

Due to the permanent changes of the global financial sector in terms of content and scope, the volatility of financial markets over the past decade, the development of financial innovation, and because of the economic turmoil that generated financial crises (like the ones from Asia in 1997 and Eastern Europe in 1998), the increasingly complex risks faced by banks nowadays, it was concluded that the 1988 Basel Agreement no longer provided the effective means to ensure that the capital requirements corresponded to the true risk profile of the bank. In other words, the tool was no longer sufficiently sensitive to the banking risks.

As a response to the criticisms brought to the 1988 Basel Agreement, the Committee adopted a new scheme for capital adequacy, in June 2004 by Basel II (the official name is "International Convergence of Capital Measurement and Capital Standards: a Revised Framework"). The content of the new agreement is based on three pillars, having the same importance degree, namely:

Pillar 1 **:** minimum capital requirements.;

Pillar 2 : supervisory review process;

Pillar 3 : transparency and the obligation of banks to disclose meaningful information to all stakeholders.

So, it brought to the attention of international banks and not only, the quantification and the ways of preventing the most important types of risks faced by these institutions, namely: the credit risk, the market risk, the operational risk.

The new agreement recommends the implementation of a more complex and more accurate approach for assessing banking risks (credit, market and operational), targeting the same main objective of the 1988 Basel Agreement - to promote the safety and strength of the banking system and to enhance banks' competitiveness.

The development and adoption of Basel II Framework in 2004 changed the optics upon risk quantification and banking supervision activities considerably. It brought new things compared to Basel I Accord. Basically, it evolved a transition from the "control" of risks towards an efficient risk management activity, both for individuals or groups. Its motivation resides, on one hand, in establishing the minimum capital requirements imposed by Basel II Accord, and, on the other hand, in protecting against possible "blockages" and / or financial crises generated either by the aggregate market or by the economic situation of that credit institution. The approaching perspectives of the bank risk management had to include: credit risk (1988), market risk (1996) and operational risk (2004).

This chapter further presents the standards and practices of Basel II Committee on Banking Supervision, focusing on the New Capital Framework, which is structured on the three pillars.

The relationship between profits and liquidity

The ideal situation (profit maximization) of a banking institution in terms of profitability would be to attract 1 week resources (interbank deposits) and to place them into long term loans for years. The level of interest rates for investments would be a lot higher than the one for short term resources, which would give a substantial margin between the active and passive interest, and thus a maximized profit.

Even though the performance of loan clients would be excellent and there wouldn't be any unpaid credits, the necessary liquidity cannot be permanently ensured up to the investments' maturity because of various endogenous or exogenous factors of that financial institution's system. The interest rates' fluctuations on such long periods may even lead to losses, although the initial profit forecasts were extremely optimistic.

In terms of liquidity, its maximization would lead to the attraction of resources at any price and at longer maturities, and their further placement in low maturity liquid assets. In this way the GAP indices would register great positive values on all maturity bands, highlighting the permanent existence of mature assets, which completely cover the financial needs of due resources that would reach maturity and might leave that financial institution's system.

Analyzing this approach in terms of profitability, it reveals some major gaps that may lead to interruptions of the institution's activity; the profit represents the very essence of any banking activity.

Both extremes of an isolated approach to liquidity or profit maximization cannot lead to the healthy development of a bank, as it resembles the mathematical principle according to which a local maximum does not guarantee the achieving of a global maximum in the system.

An optimum profit-liquidity is difficult to be achieved. Moreover, the permanent maintenance of an institution in this dual-optimal area is extremely difficult[27].

It is demonstrated that the strategy and the methods of bank liquidity management are an important objective of bank management in order to maintain a bank's presence on the banking market.

[27] http://facultate.regielive.ro/proiecte/economie/strategii bancare în domeniul lichidității.

Most banking activities depend directly or indirectly of the bank's ability to offer customers liquidities, as banks are vulnerable to any liquidity problems of their own specific institutional nature or to the ones affecting the market in general.

Liquidity management is of particular importance for a bank's liquidity strategy, which refers to the adequate composition of bank assets and liabilities, liquidity management of different currencies, the relative confidence in certain financial instruments as well as the existence of a backup strategy dealing with potential temporary or long term liquidity problems.

In order to ensure the viability of a banking institution, bank management should monitor the performance of banks, as well as their profitability and liquidity risk. Bank profitability and bank liquidity are closely interdependent, because a banking institution's profitability depends of the bank's ability to create liquidities and to place them on the market.

Chapter V

INSTITUTIONAL CRISIS IN BANKS AND BANK BANKRUPTCY

Under the incidence of the above presented risks, either acting individually or combined, credit institutions may go bankrupt.

This chapter presents the financial reorganization and bankruptcy procedures for credit institutions, reviewing the first banks that faced bankruptcy and the determinants that brought them on the edge of bankruptcy.

Of course that the problems faced by the Romanian banking system after 1989 don't refer to periods of excessive restructuring and failures of banks only. There also were some objective problems, beyond the control of banks, which they were forced to face. Firstly, the hyperinflation of 1993-1994 and 1997-1998 forced banks to outbid real estate investments (mainly offices), in order to preserve their equity. The worsening financial situation picture was completed by a terrible tax accounting system, which heavily taxed inflated profits and losses, contributing to the continuous decapitalisation of Romanian banks having lei capitals. There also was a lack of firmness on behalf of the central bank, which permitted the substantial accumulation of bad loans without acting appropriately.

Apparently, the transition period gave the banking system a huge growth for non-performing loans, little financial intermediation operations, poor quality and low volume of asset, low liquidity and even insolvency. But things are not entirely like that. There have been some positive changes associated to the transition period, and they are worth mentioning:

- The transition towards a market economy has created multiple opportunities for the banking system, especially with respect to the recovery and efficient allocation of financial resources, according to their economic performance and profitability criteria;
- Banks have responded to the market forces by strengthening the overall trend of evolving towards a modern economy, that's connected to international financial circuits by yearly increasing its portfolio of products and services and reflecting the consumers' needs and preferences;
- Competition for promoting the efficiency of the banking system increased yearly, contributing to the achievement of a functional economy status for Romania;
- Banks have implemented healthy banking practices- present up to day, merely because of these implementations. Inter-bank competition and regulatory actions of the National Bank of Romania have helped banking development towards healthier practices, by combining the profit maximization criterion with the banking prudence;

- The human resources hired by the banking work sector increased in the transition period. The banking sector proved to be one of the most dynamic sectors of the Romanian economy in terms of employment growth, thereby contributing to the increase of the bank earnings on behalf of the wages taxes and contributions. Basically, this industry was among the few without tax evasion, so the taxes on wages from this sector were certain revenues for the state budget.

Once Romania entered the European Union, a new stage began for the evolution of the Romanian banking system. European integration is equivalent to Romania’s reform development, following up the existing model of European countries.

While racing for a better market share, Romanian credit institutions have continued to expand their territorial activities, even if the 2008 crisis outbreak slowed down this expansion. Since the effects of the economic crisis begins to be felt in Europe, Romania’s banking system started to be exposed to direct or indirect reactions of the international economic crisis.

A decreasing dynamics of staff employment and staff dismissals were registered in 2008, but the number of employees of the system was not significantly affected. The situation changed in 2009, and the economic crisis was felt stronger in the Romanian banking system. Credit market has undergone great changes; some banks have tried to limit their reimbursing losses as much as possible by applying prudential policies. Other banks have reduced their costs by diminishing their activity and closing down non profitable agencies. MKB Romexterra Bank SA is a good example because in early November 2009 they announced the closure of 40 banking units of the total 70 existing in Romania at the time.

Therefore banks should adopt a prudential policy in terms of crisis, thus maintaining their market share and surviving the crisis with minimal losses.

Regarding the financial crisis and its impact upon the banking world, I have described the social economic and political situation and the factors that triggered the crisis.

Credit crisis erupted in the U.S. in August 2007 and it led to the bankruptcy of some of the largest banks in the world and its effects are felt up to the day on the European financial markets. After Lehman Brothers’ bankruptcy, Merrill Lynch’s acquisition by Bank of America and the nationalization of American International Group (AIG), the U.S. government adopted the “Law of economic stabilization", meant to save the U.S. financial system from collapse.

Lehman Brothers, a 1880 established banking institution that survived the War of Secession and the two World Wars, asked the authorities for protection over the bankruptcy law in September 2008 because of its heavy mortgage losses. After weeks of speculations, its fate was sealed, as Bank of America and Barclay British Bank withdrew their takeover bids. On September 15th, Lehman Brothers declared bankruptcy.

The effects of this crisis have been felt at a worldwide scale; the world is facing the most serious financial crisis after World War II.

Stock Exchanges from all continents were falling one after another, and central banks were pumping hundreds of billions of dollars to avoid bankruptcy of the banking system.

Moscow Stock Exchange was closed on September 18th after it went down two days on a row. Federal authorities stopped transactions and joined for a crisis meeting.

The great Halifax Bank of Scotland British group agreed to be bought by the rival Lloyds bank. Halifax Group had great problems under real estate credit crisis, while Lloyds seemed to deal much better.

Tokyo Stock Exchange registered serious losses, but gold and US treasury bills went up because they were considered to be safe investments.

The governments of several European countries had to bailout the banking system through 1500 billion euros funds guarantees. These measures were taken after several European banks faced severe liquidity problems.

The international economic crisis has produced large economic fluctuations on Romania's economic market, by affecting the stock market and the exchange market. The stock market collapsed on October 8^{th}, so the Bucharest Stock Exchange stayed closed all day, shortly followed by the Sibiu one. The effects were felt upon the exchange market as well as the leu currency fell close to the 4 lei/euro threshold, needing the strengthening intervention of the central bank.

The governor of the National Bank assured Romania's banking system to be stable; he explained that all foreign banks that held shares on the Romanian market would not be able to get their money back under any circumstances.

The impact of the global financial crisis upon the Romanian financial system was concluded to have been relatively low by the members of the National Committee for Financial Stability (NCFS) who examined the impact of international crisis upon institutions, markets and financial infrastructure, and upon the real economy of Romania.

According to the NCFS representatives, the financial crisis in Romania had begun in September 2008, taking into account the evolution of market prices and the indicator of mandatory public supplies, which fell, proving bank loan blocking for controlling shareholders who wanted to redeem minority shareholders.

Regarding the current stock market situation, considered to be a barometer of what would follow in the real economy, stock indicators show revival signs, hoping that this trend would be maintained until the end of 2009.

CONCLUSIONS

Considering Romania's new status as a full-rights member of the European Union, and the present international financial crisis context, the National Bank of Romania and other Romanian authorities have coordinated and integrated the national policies within the European framework.

The 2007 evolution of the international economic environment was marked by events that negatively affected the banks and capital markets, culminating with the subprime mortgage crisis in the United States.

This crisis occurred because of an excessive liquidity, a low rate of return on funds, a misplacement of funds in high-return and high-risk financial instruments and an inadequate insurance coverage of risks.

Out of the global economic crisis among European countries, the Romanian banking system has been exposed to the direct or indirect reactions to the crisis. So the Romanian credit institutions no longer have a major role in loaning corporations, but still remain the main loan source for the population. Banks reoriented for small and medium enterprises and the companies operating in trade and services area.

Regulation no. 11/ 2008 of the National Bank of Romania referring to crediting the population has created conditions for the transition from quantitative loans towards qualitative loans. There is no more looking for giving loans by any means because banks have started to consider the quality of loans and not their number.

The bank management got scared of what had happened worldwide and of the repercussions of the world financial crisis, so they have become even more demanding than the recommendations stipulated by the National Bank. In this economic and financial context of decreasing developed banking products, I still believe that one of the products that is likely to develop further on is the ***card***.

We may conclude that:

- The development of domestic credits would increasingly depend on the internal raising resources ability of banks. The lending process should continue prudently because the risks of the lending activity may increase from one period to another in these uncertain economic conditions.

- Banks need to discover new lending opportunities that would work under crisis, helping to overcome this dilemma. I may recommend the following lending opportunities: small and medium enterprises and companies that had been externally financed, highly solvable population and companies that run infrastructure projects.

In order to ensure the viability of a banking institution, bank management should monitor the performance of banks, bank profitability and liquidity risk. There is a close interdependence between profitability and bank liquidity, between the bank's ability to create liquidity and its ability to place liquidities on the market, according to its profitability.

The following recommendations are necessary for limiting the impact of financial crisis on the Romanian economy and hence on the banking system:

- Constant prudential and administrative measures of the National Bank of Romania in order to restrain low performance loans given to the private sector and to sustain national currency loans and not the foreign currency ones.

- The high level of minimum reserves allows the gradual adjustment of banking system liquidity related to the changing market conditions.

- To maintain a low level of the ratio between outstanding claims and equity.

- To set the guaranteed deposit limit in order to encourage deposits from both individuals and legal persons and to avoid panic installation that would only lead to massive withdrawals of the deposited amounts.

- Credit provisioning should target the restructuring or rescheduling of low performance loans (currently, customers cannot get help with restructuring or rescheduling without affecting the profitability and solvency of their bank). Keeping the current level of credit provisioning affects the liquidity, the profitability and the prudential indicators of the bank.

- An effective crisis measure is to reduce the monetary policy interest rates and to contribute to investment increase.

Romania needs to adjust its macroeconomic policies to the international financial crisis environment. Romanian economy's vulnerability to the international financial turmoil points out the necessary adaptation of our economic policies to the rising challenges. Such a change of the macroeconomic policy package would gradually reduce the current account deficit because the external imbalance is the main source of our economic vulnerability in front of liquidity restrictions and international financial market deterioration.

I may state that a strong, stable and viable economy automatically leads to the existence of a strong and efficient banking system.

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