

IMPLEMENTATION OF BASEL II STANDARDS IN BANKING SECTOR IN SERBIA

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Abstract: Business environment in which banks in our country perform their activity is rather dynamic. Financial sector has, as in the most transitional countries, firstly started with the process of radical changes and continuous access to European business standards. In that sense, constant changes of legal regulations and bylaws that regulate this field set before the banks increasingly higher and more strict requirements in the aspect of clear definition of all business processes, constant control activities, increase of reliability level of information systems and the like. Requirements that are set before the banking sector by Basel II standards, and which primarily refer to the security of banks' business, stability of financial system, sufficient level of capital and consistency of supervision function will rapidly be implemented in our banking system, for two reasons. Firstly, in the local market there is a great number of banks with the majority foreign capital that are obliged by the legislation of their home countries to apply these standards since the beginning of 2007, and secondly, it is a fact that National Bank of Serbia has already adopted some of these standards, by its regulations and within reform activities on domestic banking system, as well as that it was obliged to continue its implementation due to the inclusion into the international financial flows and cooperations with international financial institutions.

INTRODUCTION

Basel II sets a clear principle that control bodies must perform general evaluation of the bank's need for capital. The assessment of management regarding the capital necessary needs to be considered with control bodies, which may require that a bank has greater capital than the amount of minimal requirement of 8%. The idea is that the quality of banking institution should not be assessed only by the competent control bodies, but also by the participants in the market. Monitoring of management organs and market, as a combination, increase the certainty that signs of weakness will be revealed on time, by which potential crisis is avoided [1-3].

Key characteristics of Basel II have three basic pillars:

- Requirements for minimum capital,
- Supervision process and
- Market discipline.

Standards of Basel II stress the provision of capital adequacy, and from the standpoint of individual bank, as an autonomous and specific subject, the establishment of optimal relation between total risks that the bank is exposed to, the level of capital that is available to it and realization of profit function. In that sense, risk management appears as one of the new activities in domestic market, it refers to the risks to which financial sector is exposed both in strategic and operational aspect. [4]

Such an access in which it is necessary to recognize the risks and control and manage them adequately is necessary and it is evidenced by the fact that there still exists an extremely high level of demand for all types of investments, both from the part of population sector and the sectors of economy and private entrepreneurs. Still incomplete real sector, which is largely in the process of ownership transformation, requires a constant support of financial sector in the field of credit-guarantee and foreign trade business. On the other hand, population sector, which had no possibilities for credit borrowing and improvement of the living standard shows extremely inelastic demand in relation to the capital cost and other conditions of borrowing. These circumstances can lead up to overindebtedness and instability of financial sector in the long run, and thus risk

management in our conditions appears as a necessary process for the sake of preserving the efficiency and stability of the banking system.

In order for those activities to be efficiently performed, the banks are adopting the policy of risk management as a starting act that needs to define more precisely the recognition and control of total exposure of bank to all types of risk. Main goal is to provide the establishment of optimal levels of acceptable risks, which can bring the most favourable effects to the bank in correlation with appropriate capital height. [5-9]

1. BANK RISKS MANAGEMENT

Since the changes in financial sector happen rapidly, the nature of risks also changes rapidly, so the risks become increasingly complex and big. Risk management includes identification of the risk, precise measurement of it, understanding its consequences and making the appropriate systems for risk management, control and reporting on risk before it leads the bank to a problem.

Risks are rather numerous and frequently they are mutually related so they can be observed individually or as a group of mutually related risks. Liquid, credit, market and operational risks are most significant to the bank because they significantly affect bank's result. (table 1.). The risks may act insidiously, potentially, until something triggers them. They can act with small intensity of changes, such as small changes of interest rates, securities etc, but they can also be very strong and lead to bankruptcy.

Table 1. Risk types according to the Law on Banks

Risk type	Reason of emergence and definitions of risks according to the Law on Banks	Number of risks
Liquidity risk	Inability of bank to meet its obligations to creditors	1
Credit risk	Untimely fulfillment of the obligations of debtor to the bank	1
Interest rate risk	Fluctuations of active and passive interest rates in capital market	1
Foreign currency risk	Changes in absolute values, as well as the parity of exchange rates in capital market	1
Exposure risk	Cumulative of liabilities and off-balance items of bank to some other person or group of related entities	1
Investment risk	Investment of bank's funds into other legal entities and fixed assets	2
Country risk	Refers to market-situation economic movements of the home country of the person towards whom the bank is exposed in business aspect	1
Operational risk	Mistakes in work made by employees in the bank – legal, IT or security	3
Total:		11

Source: Article 29. Law on Banks of the Republic of Serbia [10]

In order to provide efficient application of the principle of security and liquidity of banks, Law on Banks requires the separation of risk management system and prescribes the application of risk management matrix through which all banking businesses need to go through. The following table (table 2) shows the risk management system according to the Internal procedure of Raiffeisen Bank p.l.c.

2.1. SUBJECT OF THE RESEARCH

Subject of this research (dependent variable) represents the significance of application – implementation of Basel II standards in banking, then the observation and management of risks to which the banks were exposed, with a special consideration and complete observation of credit, market risks and by showing the source of operational risks. Based on the fact that Basel II standards are incorporated in regulations of the

National Bank of Serbia since the 1st July 2008, and that the integral Basel II will enter into force in 2011, this paper processes a significant segment of Basel II and that is the risk of banking operations.

More precise defining of the constructs, which determine the subject of research, relies on defining the terms of banking operation with a special emphasis on bank risk management.

Table 2. Overview of risk management system

<p>Risk management system:</p> <ul style="list-style-type: none"> - Is a part of a comprehensive process of management, which includes the identification, analysis, ranking and control of all types of business risks - Includes the standards for continuous and independent measurement of all types of risks and efficient informing of management bodies on the existence and real threat of particular risks - Provides the informing of management bodies in a timely and comprehensive way about all the risks that appear or can appear, in order to prepare counter measures to protect bank's interests in the shortest possible time
<p>Risk amangement system includes:</p> <ul style="list-style-type: none"> - Constant identification, evaluation and management of individual risks, as well as control and management of total exposure - Maintaining business risks within the determined precise and clear limits, which is the main goal of the established system - Definition, adaptation and coordination of the policy of risk amangement and development of procedures for evaluation and measurement of risks - Development of independent information system, which covers all important fields and business operations and which timely provides complete, accurate and reliable financial and other information necessary for successful management
<p>Risk management system provides the following requirements:</p> <ul style="list-style-type: none"> - Maintenance of minimal liquidity - Limitation of credit risk - Limitation of risk concentration - Provision of adequate capital level - Limitation of operational risk - Limitation of all market risks

2.2. RESEARCH PROBLEM

The paper refers to the process of risk management. Banks should apply the developed methodology and procedures that, in the aspect of risks, include the following: risk identification, control, financing and administration. The most important of all the procedures are identification and evaluation of risks. In order to accomplish that, the banks need to dispose with such human resources that possess appropriate knowledge and skills to manage all types of risk, so that they could assume higher risks, i.e. to accept the operation with higher risks. In addition, such staff need to be able to predict the possibility of risk emergence, i.e. to discover its symptoms and prevent the occurrence of risks, so that possible losses that could be caused by those risks can be reduced.

2.3. THE AIM OF THE RESEARCH

The aim of this research is to obtain an image about current situation in banking sector in Serbia regarding the issues relevant to the implementation of Basel II standards. Particular attention is paid to the significance that the banks attribute to Basel II standards, their organizational, technical and staff capacities, as well as strategic decision for implementation of Basel II standards.

2.4. RESEARCH HYPOTHESES

Starting from the given theoretical assumptions, defined subject and set objectives, we have started the empirical research with the general hypothesis:

Starting, null hypothesis:

– **H₀:** Introduction of Basel II standards in the branches of banks in Novi Sad is in the final stage, all preliminary work is done, such as training of employees, engagement of teams for the formation of plan for the introduction of Basel II standards, as well as the engagement of expert teams for development of information platform that supports Basel II standard.

Auxiliary hypotheses:

– **H₁:** professional and experienced banking workers are engaged in the implementation of Basel II standards in banks.

– **H₂:** Majority of the workers engaged in the implementation of Basel II standards has passed particular training and it is familiar with the guidelines and significance of Basel II standard.

– **H₃:** Methodology for identification and measurement of risks when implementing Basel II standard is developed.

2.5. RESEARCH METHODS

By applying Survey method, with the help of a research instrument (Questionnaire), during the studies in the field, the relevant data are collected, and after that, with the help of appropriate statistical procedures, the data are processed, presented and explained. This method appears to be quite suitable for field determination of the facts with this type of variables, especially when it comes to determining the tendencies at the level of distributions and mutual connectedness between discovered distributions of data on attitudes.

As a survey type of research, this study has a character of cross-sectional research. Here, we do not observe the behaviour of the group of respondents in some time span, but in one time point. With this procedure, we get the insight into the recording of the occurrence we are studying, and owing to random sampling, research results can be generalized.

2.6. RESEARCH SAMPLE

As a research instrument, the Questionnaire [14] is prepared, which is derived from the *CHANGES QUESTIONNAIRE OF NBS*. The questionnaire is distributed to a sample of 18 banks' branches, which operate in Novi Sad. (table 3.)

2.7. THE COURSE OF RESEARCH

– In the half of December 2010, the authors of the paper distributed the questionnaires to the employees in risk sector in the branches of banks that operate in Novi Sad.

– The employees were willing to answer the questions given during their break at work.

– Systematization of the data obtained and statistical processing of the same was given in the next chapter.

Table 3. Overview of banks included by the questionnaire

1.	Alpha Bank p.l.c. Belgrade
2.	Banca Intesa p.l.c. Belgrade
3.	Vojvođanska Bank p.l.c. Novi Sad
4.	Volksbank p.l.c. Belgrade
5.	EFG Eurobank p.l.c. Belgrade
6.	Erste Bank p.l.c. Novi Sad
7.	KBC Bank p.l.c. Belgrade
8.	Findomestic Bank p.l.c. Belgrade
9.	Meridian Bank CA group p.l.c. Novi Sad
10.	NLB Continental Bank p.l.c. Novi Sad
11.	Opportunity Bank p.l.c. Novi Sad
12.	OTP Bank p.l.c. Novi Sad
13.	Piraeus Bank p.l.c. Belgrade
14.	ProCredit Bank p.l.c. Belgrade
15.	Raiffeisenbank a.d. Beograd
16.	Societe Generale Bank Serbia p.l.c. Belgrade
17.	UniCredit Bank Serbia p.l.c. Belgrade
18.	Hypo Alpe-Adria-Bank p.l.c. Belgrade

Source: Questionnaire

3. RESEARCH RESULTS

Question 1. Are you familiar with the guidelines and significance of Basel II standards?

By analyzing the answers to the question 1, we reach the conclusion that the greatest part of respondents is familiar with guidelines and significance of Basel II standard. Namely, more than 83% of respondents gave affirmative answer to the question 1, there is not a single respondent that isn't familiar with Basel II standards, and 17% of respondents believe that they are partially familiar with the mentioned standards.

Table 4. Familiarity with the guidelines of Basel II standard?

Type of respondent	Answers offered	Frequency	%
ALL BANKS	Yes	15	83,3
	No	0	0
	partial	3	17,7
	Σ	18	100

Question 2. What does the implementation of Basel II standards mean to you?

By analyzing the answers to the question 2, we reach the conclusion that the greatest number of respondents (83%) believe that the implementation of Basel II standards brings the improvement of the process of risk management, while only 1 respondent, which is 5,6% of the sample, believes that the implementation of Basel II standards will bring more problems than benefits. There were 2 respondents did not have a clearly defined opinion, which is 11.1% of the sample of 18 banks.

Table 5. Familiarity with the significance of introducing Basel II standards

Type of respondent	Answers offered	Frequency	%
ALL BANKS	Improvement of the process of risk management	15	83,3
	More problems than benefits	1	5,6
	I do not know	2	11,1
	Σ	18	100

Question 3. Would you go through an additional training in the field of risk management according to the guidelines of Basel II standard?

By analyzing the answers to the question 3, we reach the conclusion that all the respondents who work in risk sector in the branches of banks that operate in Novi Sad has gone through the additional training in the field of risk management according to guidelines of Basel II standard.

Table 6. Training of employees in the field of risk management according to the guidelines of Basel II standard

Type of respondent	Answers offered	Frequency	%
ALL BANKS	Yes	18	100
	No	0	0
	Training wasn't organized	0	0
	Σ	18	100

Question 4. Have you formed a team for the implementation of Basel II standards?

By analyzing the answers to the question 4, we reach the conclusion that 88% of banks have formed teams for implementation of Basel II standards, while 11% haven't done it yet, but the process of forming the teams is currently in progress.

Table 7. Formation of the team for implementing Basel II standards

Type of respondent	Answers offered	Frequency	%
ALL BANKS	Yes	16	88,9
	No	2	11,1
	Σ	18	100

Question 5. Is there an information platform that supports Basel II?

By analyzing the answers to the question 5, we reach the conclusion that 94% of banks still do not have an information platform that supports the Basel II. In the sample of 18 banks from Novi Sad, there is only one bank that owns information platform, which is 5,6%.

Table 8. Information platform that supports Basel II

Type of respondent	Answers offered	Frequency	%
ALL BANKS	Yes	1	5,6
	No	17	94,4
	Σ	18	100

Question 6. Do you have developed methodology for identification and measurement of risks for your internal needs?

By the analysis of answers to the question 6, we reach the conclusion that almost all banks that were included in this survey (89%) use methodology prescribed by NBS for identification and measurement of risks. While, 11% of banks use internally developed methodology for identification and measurement of risks.

Table 9. Methodology for identification and measurement of risks

Type of respondent	Answers offered	Frequency	%
ALL BANKS	No, we do not use the methodology prescribed by NBS	16	88,9
	Yes, we use internally developed methodology	2	11,1
	Σ	18	100

Question 7. How do you rate the competence of employees who work on risk management in your bank?

By analyzing the answers to the question 7, we reach the conclusion that majority of respondents (89%) rate the competence of employees who work on risk management in their banks is satisfactory, and 11% rate it as excellent. There is not a single respondent who has rated the competence of employees who work on risk management in his bank as poor.

Table 10. Competence level of employees who work on risk management

Type of respondent	Answers offered	Frequency	%
ALL BANKS	Excellent	2	11,1
	Satisfactory	16	88,9
	Poor	0	0
	Σ	18	100

Question 8. Is the implementation of Basel II standards the priority no. 1 to the management of your bank?

By analyzing the answers to the question 8, we reach the conclusion that implementation of Basel II standards is a priority no. 1 to the management of respondents' banks. (72% of respondents). About 22% of respondents has no opinion regarding this issue, i.e. they have chosen the answer „I do not know“, while one respondent thinks that implementation of Basel II standard is not a priority no.1 to the management of the bank in which he works.

Table 11. Priority of implementing Basel II standard

Type of respondent	Answers offered	Frequency	%
ALL BANKS	Yes	13	72,2
	No	1	5,6
	I do not know	4	22,2
	Σ	18	100

Question 9. What do you see as possible advantages of the implementation of Basel II standards?

The implementation of internal models for risk management and calculation of capital requirements is, according to the opinion of most banks, the most significant advantage of the implementation of Basel II standards. About 11% of banks see greater flexibility – individual access to banks as a possible advantage. About 83% of banks consider that implementation of Basel II standard will enable the application of internal models for risk management and calculation of capital requirements, while only 6% of banks believe that the implementation of Basel II standard will contribute the reduction of capital requirements.

Table 12. Advantages of the implementation of Basel II standards

Type of respondent	Answers offered	Frequency	%
ALL BANKS	Greater flexibility – individual access to banks	2	11,1
	Implementation of internal models for risk management and calculation of capital requirements	15	83,3
	Lower capital requirements	1	5,6
	Σ	18	100

Question 10. What do you see as possible problems in relation to the implementation of Basel II standards?

By analyzing the answers to the question 10, we reach the conclusion that majority of respondents (83%) see possible problems regarding the implementation of Basel II standards in lack of staff, costs of staff training and creation of information platform.

Table 13. Possible problems in relation to the implementation of Basel II standards

Type of respondent	Answers offered	Frequency	%
ALL BANKS	Increase of capital requirements	3	16,7
	Lack of staff	9	50
	Costs of staff training and creation of information platform	6	33,3
	Σ	18	100

CONCLUSION

Having in mind the previous development of banking sector and circumstances that are profiled, we can conclude that, under the condition that political risks do not get any higher and thus hinder the foreign capital, Serbian banking is going to continue its development in the following years. It will greatly be reflected in the growth of credit activity and increase of the range of bank products, growth of efficiency and availability of financial services. By the analysis of the obtained research results, as well as se hypotheses, we reach the following conclusions.

For an easier proving, the set starting hypothesis H0 was divided into three auxiliary hypotheses, with whose confirmation we practically prove the starting hypothesis H0.

The survey was carried out in 18 banks in Novi Sad. For filling in the questionnaires, the workers in risk sector of the branches of banks that operate in Novi Sad were consulted. Precisely those workers are informed about the implementation of Basel II standard, so they were competent for filling this questionnaire in.

Namely, by analyzing the answers to the question 1, we reach the conclusion that 83% of respondents are familiar with guidelines and significance of the Basel II standard, that there are no respondents who are not familiar with Basel II standards, and 17% of respondents believe that they are partially familiar with the standards mentioned. By analyzing the answers to the question 3, we reach the conclusion that all the respondents who work in risk sectors in branches of banks that operate in Novi Sad have gone through an additional training from the field of risk management by the guidelines of Basel II standards.

More than a half of respondents believe that they will, during the implementation of Basel II standard, face the problems in improvement of information technology – development of models and databases, lack of staff and costs, both the of the creation of information systems and staff training. Therefore, the banks that are members of a bank group, as well as larger banks, attribute greater significance to the problem of improving information technology in relation to other banks. Almost all banks that are included in this survey (89%) use the methodology prescribed by NBS for identification and measurement

of risks. While, 11% of banks use internally developed methodology for identification and measurement of risks.

The present time requires new business philosophy and a new approach to solving business problems in banks and evaluation of business risks prior to entering certain business financial undertakings. In today's economy, which is increasingly connected to the global market, it comes to the increase of operational and market risks. As a result of those movements, it comes to a gradual narrowing of the profit rate for banks.

Risk management, basically, implies a few steps for each risk type. Primarily, it is necessary to understand the objective role of risk management and measurement of the success of business. The first step in risk management is identification and measurement of specific exposure to risk with the evaluation of its effects on the success of business. The following step is making decisions about the acceptable level of risk exposure, as well as the selection of the ways of conducting the protection. Then, it is necessary to divide the responsibility for various types of risk management, evaluate the efficiency of the process of risk management and ensure a professional and consistent performance of distributed tasks.

Generally speaking, it is expected that macroeconomic impacts of Basel II will generally be positive, especially for EU. The countries such as Serbia need to be well-prepared and very careful. In Serbia, the impact of Basel II will get its specificities, because Serbia is at a lower level of economic development than EU, and this implies a higher cost of capital in Serbia. It is obvious that implementation of Basel II is necessary for continuation of the process of including Serbia into European integrations, and it is worked on that implementation. Macroeconomic impact of Basel II will be strong, hopefully it will be positive for Serbia. It is up to NBS, banks and clients to prepare and adapt themselves as faster and better as possible.

Cooperation between NBS, commercial banks and auditors in the implementation of Basel II needs to be stronger and better than ever, if we want to achieve the success in implementing the provisions of Basel II. Lack of experience in rating, as well as lack of certified companies in this field is certainly a problem that requires urgent resolution. Experiences of banks that are foreign-owned can certainly be of a great advantage in overcoming these problems. Banks in Serbia should develop appropriate methods for managing risks and capital adequacy.

By introducing Basel II standards, we will have a possibility to gain benefits from two fronts: banks will be paid the funds that they invested in material and human resources, because the reports that are significant for decision-making about the amount of capital that will be set aside will finally be provided and, on the other hand, NBS as a regulator will thus have a real picture of the situation in banking sector, which will provide it the optimization in decision-making. These benefits will be achieved only with the support of appropriate staff and technology.

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