Prethodno saopštenje

Škola biznisa
Broj 2/2011
UDC 005.334:336.76

Slaviša Đukanović*
Slobodanka Jovin**

RISK MANAGEMENT IN BANKING WITH REGARD TO THE OPERATIONAL RISKS

Abstract: *Banking risks are divided into liquidity risk, loan risk, operational risk, market risk, risk of exposure, risk of investment and risk of country and any of these risks requires an adequate analytical approach and successful managing. The listed risks should be identified, measured and managed and for those purposes banks have highly sophisticated statistical and mathematical models.*
In this paper, special emphasis will be put on the importance and difficulties of managing operational risks in both international and domestic banks. By the new Law on banks and following provisions of this Law, National bank of Serbia has provided a significant progress in comparison to the previous regulative, especially with regard to operational risk. The implementation is being performed in EU, while Serbia is still in preparatory phase.

Key words: *risk management, operational risk, Basel II*

UPRAVLJANJE RIZICIMA U BANKAMA SA OBZIROM NA OPERATIVNE RIZIKE

Sažetak: *Bankarski rizici se dele na: rizik likvidnosti, kreditni rizik, operativni rizik, tržišni rizik, rizik od izloženosti, rizik ulaganja i rizik zemlje. Bilo koji od ovih rizika zahteva adekvatan analitički pristup i uspešno upravljanje. Navedene rizike treba identifikovati, meriti ali njima treba i upravljati. U te svrhe banke koriste visokosofisticirane statističke i matematičke modele. U ovom radu poseban akcenat će biti stavljen na značaj i teškoće upravljanja operativnim rizicima u međunarodnim i domaćim bankama. Po novom Zakonu o bankama i odredbama ovog zakona, Narodna banka Srbije je obezbedila značajan napredak u odnosu na prethodnu regulativu, posebno u odnosu na operativne rizike. Implementacija se već sprovodi u Evropskoj uniji dok je Srbija još uvek u pripremnoj fazi.*

Ključne reči: *upravljanje rizicima, operativni rizici, Bazel II*

* Dr Slaviša Đukanović, Visoka poslovna škola strukovnih studija, Novi Sad, slavisad63@gmail.com
** Mr Slobodanka Jovin, Visoka poslovna škola strukovnih studija, Novi Sad, boba_jovin@yahoo.com

INTRODUCTION

Taking into consideration that banking has been involved into the process of rapid changes, the increase of the financial market turbulence has caused strengthening of banking risks. Thus, in new conditions, there are some complicated tasks that are put in front of the bank managers, especially in the field of creating the operative concept of the short-term business policy with the goal of ensuring the control of total risks. As a discipline, managing the risk is of new ages and has been developed from the activity of insurance because classical ways of insurance couldn't risk problems in all situations. Realization of profitability in the conditions of increased competition, as well as of the increased risk, becomes a new challenge for banking management.

With the increase of the range of services that are offered by banks, profits are being grown but also there is a higher exposure to risks. In its business, banks are exposed to loan risks, market risks, risks of liquidity, operational and other kinds of risks. Each of those risks requires an analytical approach and success in managing.

Timely identification of all kinds of risks and appropriate protection measures have become extremely significant factor of success in business in more and more complicated conditions of economy.

RISK MANAGEMENT IN BANKING

The goal of risk management in banking is optimization of the relationship between risk and yield. In that sense, in the focus of banking risks is loan and market risks management to be found. There is the risk of solvency to be crucially dependent on them in the meaning of definitive risk of the bank. Interest and currency risks are the components of market risk with which is possible, for modern bank, to manage over the financial market under condition of having a good position of solvency and credibility on that ground. Also, operational risks can't be neglected too, such are risks of human factor, computing and other technological factors, legal factors etc.

Bank is one of few institutions that in the same time overtakes double-sided business risk. From one side, risk manifests in keeping the deposit of economy and population, and, on the other side, risk occurs during the placement of collected assets into the loans, securities and other placements.

Because of those reason, risk management today means one of the most creative works on the global financial market. That creativity can be expressed in amount of avoided loss respectively of realized additional income of an enterprise. Hereafter, all risks that banks are the most often exposed to will be explained.

The risk of liquidity means capability of the bank to perform its obligations in time. It represents the risk of negative effects on financial result and capital of the bank

because of inability of the bank to meet its accrued obligations. The risk of liquidity appears in connection with net outflow of deposit, absence of expected inflow of funds, conditional obligations activating and loan requests of the clients that are significant for the bank. Liquidity has a lot of aspects but mostly it is grounded on having liquid assets by bank, cash flows and its capability to lend some assets on the market. Therefore, cases of an extreme illiquidity of the bank are mostly the result of overtaking other risks such as credit risk or the country risk. The most often reason for this risk appearance is in maturity assets transformation. Mostly, banks create short-term sources of assets in the form of deposit while give loans with longer term that means they finance illiquid loan placements through liquid sources, that creates the base for the risk of liquidity.

The banks have to take care on the degree of maturity assets transformation as well as on the height of the risk of liquidity that is to be formed on that ground, through the classification of the funding source and placement, grounded on maturity segments.

The height of liquid assets that the bank has to have is changeable category. The bank is obligated to determine procedures for dealing in such circumstances that can lead to the critically low level of its liquidity. Those procedures are to determine jurisdictions and responsibilities, communication with regulatory bodies, the most significant clients of the bank and with publicity, as well as the way of obtaining the missing liquid assets[1].

The credit risk is the most often risk that banks are exposed to because the credit activity is primary for most banks. The credit risk is a risk of appearance of negative effects on the finance result and capital of the bank, because of the debtor's possibility of failure to perform his/her obligations towards the bank. Under that expression of credit risk we consider the possibility that the loan shall not be returned in the maturity time, including interests. Ignorance of obligations by the client has a consequence in losing all claims. In the case that several crucial clients of the bank do no serve their obligations, orderly and timely, it may retract the bank in the zone of deep illiquidity.

The bank is obligated to identify the credit risk, to measure it and to estimate is ground on the credit liability of the debtors according to his order in performing his duties he has got towards the bank and according to the quality of the bank's claims security instruments.

The loan risk is to be identified, measured, estimated and followed in accordance with decisions regulating balance sheet assets and off-balance sheet items of the bank respectively adequacy of its capital.

While analyzing the credit capability of the future debtor, sources of information may be internal and external ones. The internal sources of information are placed in the bank and are available in any moment while the external sources of information are placed

[1] See more detail in Đukić, Bjelica, Ristić (2003: 188)

at other persons' places, such as consulting agencies, statistical and audit houses and enterprises itself.

Worse loans have negative influence on asset and liability management because they lead to the freezing of assets from the reason of short-term non-payable claims turning into the long-term assets. It has negative effects to the liquidity of the bank in whole as well as on its loan rating. If bad loans lead to the cancellation of claims, it shall cause decreasing of reserves and, at the end, to decreasing of the bank capital.

Interest risk is considered as a risk of appearance of negative effects to the financial result and the bank capital as a consequence of interest rates' changes and the bank is exposed to this risk according to the items that are recorded in banking book.

The bank's exposure to this sort of risk appears from the fact that majority of balance sheet positions generate incomes and expenditures that are to be in the balance with the interest rates. On the other side, the interest risk partly is origin from an incomplete synchronization of changes of interest rates on the side of assets and liabilities of the banks, where banks very often grant loans with longer terms in comparison with the terms of the sources of assets. Therefore, increasing of market interest rates have much faster influence on an adjustment of interest that must be paid by banks on the sources of funds than on the interest rates on loans.

Financial institutions that have a huge range of mortgages loans are very sensitive on the risk of interest rates, partly because of approximately long terms of maturity of these loans. When this risk is in charge, one of very important goals is profit protection from influences of fluctuating interest rates. Last decades are considered as period of changeable interest rates because of what the bankers have tried to find ways to protect their portfolios of assets, liabilities and profit from potential losses. A lot of banks use strategies of managing with assets and liabilities according to instructions of the Assets - Liability Committee (ALCO). This Committee decides on strategies that should be applied with regard to the risk of interest rates and participates in short-term and long-term planning, makes decisions on strategies in the sense of needs of liquidity of the institutions as well as other problems in managing.

Foreign exchange or currency risk represents the risk for the bank to make losses in business caused by changes in exchange rates and this risk is particularly significant for international and multinational banks because they are exposed to changes of exchange rates of several currencies. An indicator of foreign exchange risk is a relationship between total open bank's foreign exchange position and bank's capital, calculated in accordance with the decision that regulates adequacy of the bank's capital. The bank's exposure to this sort of risk implies an existence net short- or long- open position in given currency. The bank has a short position when its foreign exchange obligations are bigger in comparison with foreign exchange assets, and it has a long foreign exchange position when its foreign exchange assets bigger than foreign exchange liability.

Factors for appearance of the foreign exchange rate risk may be time exposure, balance sheet exposure and economic exposure to the risk of the foreign exchange rate. The relationship between assets and liabilities is something that is considered to be kept by the bank in the way of having its total net open foreign exchange position (including an absolute value of net open position in gold) at the end of every working day not bigger than 20% of its capital[2].

Risks of the bank's exposure include risks of the bank's exposure to one person or to the group of connected persons and risks of the bank's exposure to the person connected with the bank. As a big exposure of the bank towards one person or to the group of connected person is considered the exposure of at least 10% of the bank's capital. The sum of all big exposures of the bank (that includes an exposure of the bank towards the person connected with the bank) can't be bigger than 400% of the bank's capital. The bank's exposure towards one person or towards the group of the persons must no go over 25% of the bank's capital[3].

The bank's risks of investments include the risk of bank's investments in other legal person and fixed assets. The bank's investment in one person who is not a person working in financial sector, must not go over 10% of its capital: under this investment there is to be considered an investment that makes bank to acquire a stake or shares of the person who is not in the financial sector.

Total bank's investments in the persons that are not in the banking sector and investments in fixed assets must not go over 60% of the bank's capital, unless if we speak about an acquisition of the shares, made in the purpose of their further selling in period of time of 6 months from the day of their acquisition.

Country risks – unlike of the risk that is a consequence of characteristic of the users of loans, an international lending involves so called country risk, connected to economic, social and political surrounding of the loan user's country. The country risk involves:

- political and economical risk;
- the risk of transfer.

Operational risk is defined as a risk from the loss that appears from inadequate or unsuccessful internal processes, people and systems or external events. The operational risk can be influenced by human or technical factors, practices and information technologies. The turning point in changing attitudes towards operational risks is applying of Basel II that already requests from the banks to allocate certain coverage from the capital for operational risk. In the next chapter, there will be the operational risk shown in detail as well as methods of its calculation.

[2] Decision on Risk Management No. 112 (2008: 6)

[3] Decision on Risk Management No. 112 (2008: 8)

CHARACTERISTICS OF OPERATIONAL RISK

Operational risk belongs to the group of non-financial risks that appear from the business process, because of the people's mistakes, system failures, unsuitable procedures, lack of the control function and because of external events. Those risks' management in the bank is very complicated work and it implies phases that consider an identification of the risk, measuring an extent of the exposure to those risks, reporting, monitoring and control function[4].

Operational risks directly influence the financial loss weather by mistake, fraud or missing the chance to react in time to the certain business activity.

The staff that goes over its authorization or performs banking works incorrectly and at high risk, compromise the bank's interests by its operational risks. According to the Basel Agreement, operational risks include legal risks too (exposure to fines and damages that are results of supervisory authorities) but exclude a business risk and the risk of reputation.

The next figure shows sorts and causes of operational risks:

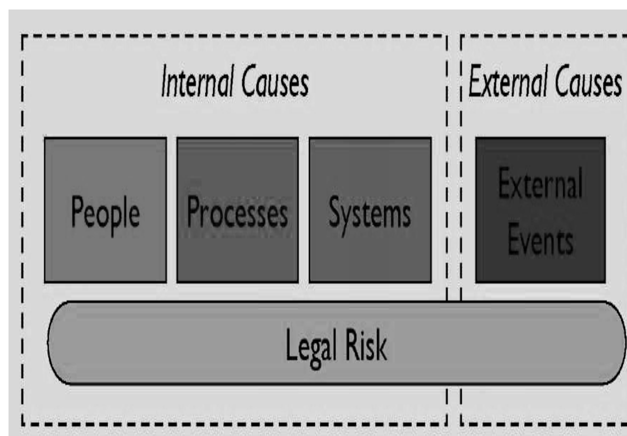

Figure 1. Sorts and causes of operational risks

Source: Ittner (2005)

According to this Figure, there is to be noticed that causes of operational risk can be internal and external ones. Some of practical examples of operational risks are:

In the frame of internal frauds can be noticed deliberately erroneous reporting on positions, plundering of employees and similar, while in external frauds typical example

[4] Jorion (2006: 575)

is a robbery, issuance of checks with no covering and a damage occurred as a consequence of unauthorized use of somebody else's computer.

In the frame of human processes that include the clients, product and business practice, an example of operational risk can be a violation of the creditor relation, misuse of information, selling unauthorized products and similar. Damaging of material property may occur due to terrorism, earthquake, fire or flood. Failure in the system may occur due to failure of hardware and software, telecommunication problems and termination of the work. Also, errors in data entry, deficiencies in the management of safety, incomplete legal documentation, unauthorized approach to the clients' computers may cause an appearance of the operational risk in the frame of works in performing, delivering and management with processes.

Consequences of the events that have produced an operational risk are divided on those ones with financial influence and those ones with qualitative influence.

Consequences with financial influence are the following:

- Decreasing of the assets value due to fraud, theft, loan losses and similar;
- Indemnities arisen because of paying to the third persons for losses that are considered to be a part of the bank's responsibility;
- Legal costs;
- Loss or damage on the property that can occur due to directly decreasing of the value of physical property, due to accidents, natural disaster etc.

Consequences with qualitative influences are:

- Legal influence;
- Consequences for the reputation and image;
- Influence on the loan and market risk;
- Influence on the client's satisfaction etc.

Trying to minimize the operational risk may be very expensive. For example, the bank can involve better informative technology with more safety devices as well as the back up of the system that require a huge investment. So, it is necessary to do an estimation of the invested capital price very carefully with regard to decreasing of operational risk.

Very often, banks apply some certain techniques for decreasing the risk (for ex. mortgage, hedging, securitization of the property) in order to decrease an exposure to the market and loan risk, but those techniques can cause an appearance of other sorts of risks such as a legal risk that is a part of an operational risk.

Practical experiences show that measuring and estimation of the operational risk in the bank is not a simple task because it is very necessary previously to make a classification of events and to unite data related to the risks. No matter to difficulties, every operational risk should be estimated in order to avoid direct or indirect loss that occurs from inadequate or incorrect internal processes or grounded on external events.

It is to say that there is a big importance in marking and following every possibility of the operational risk appearance as well as in predicting costs in order to prevent bigger losses in the bank's business. The Basel Committee for Banks Supervision realizes that the concrete approach to the operational risk management, chosen by some bank, shall depend on a number of factors, including the bank's size, its technical features as well as the nature and complexity of its activities. The operational risk estimation is different in comparison to market and loan risks. Managing operational risks of banks has much more similarity with managing industrial enterprises risks in comparison with managing loan and market risks.

Analyses of the causes, preventions, systems of early warning and measurements in emergency cases are much more important than measurements of diversification and hedging. All these measurements consider significant assets, not only in the form of capital but also in the form of staff, technology and system.

A big difference in managing loan and market risks on one side and operational risks on the other side is a combination of different risks: diversification can decrease the risk in cases of loan and market risks. But, a combination of more portfolios doesn't change but increases potential losses.

Quantifying of the operational risk is a big challenge in performing the policy of the risk management. The capital amount calculation is required and it is performed according to one of following methods[5]:

1. The Basic Indicator Approach – BIA
2. Standardized Approach (SA) and
3. Advanced Measurement Approaches- AMA)

Those approaches allow the banks to choose the best approach of calculation for daily business and finance portfolio that the bank has got.

At our market, the role of regulator and supervisor over banks for the Basel II is performed by Narodna Banka Srbije (National Bank of Serbia). NBS is the one who allows chosen approach of calculation in all banks.

[5] Basel Committee on Banking Supervision, Pillar 2 (2003)

The required capital's values vary depending on the fact if the bank is from some country that belongs to the EU countries, total amount of the bank's capital, and if the bank does its business only on domestic market or on the foreign one too.

The Basic Indicator Approach is the most easiest to be applied and it determines a bigger level of capital because of operational losses covering, while the higher approach is the most hardest one to be applied in banks, but it has a possibility to determine a smaller level of capital. The Basic Indicator Approach counts the cost of operational risk as a percentage of gross revenue.

The three-year average of total incomes (GI) is to be multiplied by a fixed coefficient alpha that is 15%. This method is the least accurate so it is not recommended for using in big international banks.

Standardized Approach is similar to the Basic Indicator Approach but the difference is in the fact that every business activity of the bank has a certain percentage for capital calculation that shall cover operational losses. For the capital calculation, there is an annual gross income or assets to be used. NBS is about to determine business activities and a percentage for each business activity (according to Basel II – it is 12% and 18%, depend on activity).

According to this approach, the operational risk is to be measured by dividing the total activity of the bank to 8 business segments and then gross operational income of every business segment is to be multiplied by beta factor prescribed for every business segment.

Beta fixed percentage, given by the Committee and is related to the level of required capital for the gross income for each of eight lines of business[6].

Total coverage of capital is to be calculated as a simple sum of the coverage of capital in each business line.

Advanced Measurement Approaches require many preconditions that will not be fulfilled for a while by bigger number of banks. The approach is based on internal data of banks on losses caused by operational risks. For the usage of this method, the bank has to ask and get the regulator's consent.

The bank is relied on help of the crucial indicators of success and crucial indicators of the risk.

The indicator of success for operational risk measures if chosen operational goal is successfully realized, while the indicator of risk determines the reason for operational goal may not to be realized. Since this concept gradually encourages banks to collect

[6] See more detail in Basel Committee on Banking Supervision, Operational Risk, Bank for International Settlements (2001: 7)

data on internal losses based on operational risks, it is to be considered that this is a crucial step on developing path that leads banks towards more sophisticated concepts.

Within the Advanced Measurement Approach, calculation of the remuneration of capital for operational risk is determined using following procedures [7]:

- Activity of the bank are grouped in bigger number of business lines and wide set of operational losses types is defined and applied through business lines
- In the frame of every combination of the business line type and operational loss, the supervisor determines an exposure indicator (EI) that is a replacement for the size of exposure to the operational risk of every business line.
- Except of the exposure indicator for every combination of the business line type and loss, based on its data on internal losses, banks determine a parameter that represents probability of loss event (PE) as well as the parameter that represents the loss given event (LGE). The product EI*PE*LGE* is used for calculating an expected loss (EL) for every combination of the business line/loss type.
- The supervisor determines the factor (gamma) for every combination of the business line/loss type that turns expected loss into the remuneration of capital. Total remuneration of capital for certain bank is simple sum of all resulting products.

The Committee suggests a standardization of all indicators for types of business lines and losses while every bank would form own data on the indicator of complexity.

Prescribed by the regulators, the indicators of complexity would show a comparability in banks, facilitate the control and improve transparency.

LEGISLATION

Bank's unfair competition from the far-east countries and the debt crisis from the last century's 80-s forced the leading world financial institutions to reach for the measures of international regulative and adoption of international standards in banking.

The First Basel Agreement formally entered into force in 1988 and it started to be applied in 1992. Primary, it was directed to the loan risk since the granting loans is one of the main activities of banks. Bearing in mind that yearly experience has showed

[7] Basel Committee on Banking Supervision, Operational Risk, Bank for International Settlements (2001: 8)

that the bank loans' users generally don't respect their overtaken obligations in whole, banks have, on their own initiative, undertaken some measures for decreasing the risk, such as keeping long-term relations with the clients, controls and monitoring, involving stronger instruments of security etc.. Those initiatives have become international rules on banking business.

However, there happened several significant critics. Basel I didn't regulate the issue of market risks i.e. potential losses that may happen because of change in interest rate, exchange rates and the goods' price. The fault also is in customer rating that doesn't influence calculations of required bank capital level respectively necessary capital for coverage of the risk is not bigger by the clients that have lower rating in comparison to those ones with higher rating. Apart of that, Basel I doesn't contain rules for accurate disclosure of performances of business towards the market and the interest groups and, because of that, it doesn't support the market discipline. Also, it doesn't offer any directions for banks supervisory mark, especially when their practice of risk management is in charge.

Because of that reason, in 1993., Basel Agreement (Basel II) started to be conceived. Basel Agreement II provides that every bank estimate own needs for capital, based on its exposure to risks. At the other side, supervisory and executive bodies are obligated to follow and report on every change of procedure in bank's risk estimation and adequacy of capital. This considers the reporting system development as well as intensified public informing on the bank's financial condition.

The final goal is improving of risk management followed by min.capital requirements of the bank, based on internal estimation of every bank.

Basel II recognizes a different exposure to the risk at different banks and allows applying of different methods in order to perform an estimation of their exposure to the risk. Every bank is required to develop its internal procedures of risks management and every bank should determine own needs for capital, grounded on calculation of the risk exposure which may be audited by bodies of supervisory authorities. Apart of that, it promotes greater and greater participation of publicity in the review of financial state of every bank, what makes possibility of bigger market discipline usage towards those banks estimated to overtake to big risk[8]. New rules are grounded on three pillars:

Pillar 1: Minimal requirements for the capital - the capital serves for coverage loan, market and operational risk. By minimal requirements for the capital, capital adequacy calculating is defined and it represents relation between own capital and the height of risk that the bank is exposed to respectively a weighted assets. As a new thing, here is to appear the operational risk, defined as a risk of loss that is a consequence of lack of strict bank management. This pillar directly replaces Basel I and attracted the biggest

[8] Đukanović (2009: 197)

attention because banks are obligated now to hold more capital for high-risky than for low-risky clients.

Pillar 2: Monitoring and testing process - respecting of prescribed rules is to be monitored and corrective actions are to be taken in the case of sudden appearance of problems. With the new Law on Banks, Decision on Risk Management and Decision on Adequacy of Capital, NBS has made a step towards the Basel II Second Pillar implementation but the current situation can be called just a preparation for this pillar implementation.

Pillar 3: Market discipline - the market discipline is realized by applying a well organized reporting in the bank grounded on reliable financial information in purpose of decreasing the risk. It is to underline an importance of disclosure of the risk in financial reports. Through the law on Banks and its following decisions, NBS has showed its willingness to implement the third pillar of Basel II in Serbia.

Improved and more flexible methods of loan, market and operational risk measuring, together with the new approach of supervision and transparency of banks business, should contribute to the development of the financial sector stability. With that, the level of the capital needed for coverage the risk of every individual bank should show in more realistic picture a degree of risk that every bank is exposed to. Basel Agreement II should be applied consistently. The first pillar application considers the application of the second and the third one too because they are mutually connected. In this way, bigger attention is to be paid on risk management and their minimizing. Standards of the Basel II represent a supplement of the Basel I followed by certain changes. Except of the loan risk and the market risk, there is more and more important operational risk to be involved. In estimating the risk, a significant position is given to external loan agencies, in the purpose of classification all clients from the bank portfolio, that at the end, influences the level of capital needed. Apart of that, banks are provided to find (by themselves) forms for measuring the risk in their business and in accordance with those results, to allocate the capital needed.

A harmonization with new Basel Agreement on Capital- Basel II is considered as a serious task for NBS having under its jurisdiction involving and application of the new Basel Agreement in our country. NBS, as a central monetary institution, is authorized for regulation of the obligation on risk management in Serbian banks. Preparations for that harmonization process started by bringing a new Law on Banks in 2005, as well as by bringing following decisions (Decision on Bank's Capital Adequacy, Decision on Classification of Balance Sheet Assets and Off-Balance Sheet Items of the Bank, Decision on Risk Management.

It is to underline that Basel II is not a group of universally applied rules but is just a frame. In accordance with that, NBS brings its own rules, based on the frame of Basel

II, that shall be of binding character for banking sector in our country: that means an appropriate harmonization of domestic legislation shall be necessary to be done.

According to the Law on Banks, the bank identifies, measures and estimates all risks that is exposed to in its business and it manages with those risks. The bank is obligated to organize a special organization unit that shall deal with risk management. This matter is regulated by Decision on Risk Management. Apart of that, to this matter are related to some other bylaws too, such as Decision on Classification of Balance Sheet Assets and Off-Balance Sheet Items of the Bank[9].

In its business, the bank is exposed to the following risks:

1. the risk of liquidity,
2. the loan risk,
3. the interest rate, foreign exchange risk and other market risks,
4. the risk of bank exposure to one person or group of connected persons,
5. the risk of bank's investment to other legal persons and in basic assets ,
6. risks that are related to the country of origin of the person towards whom the bank is exposed to,
7. the operational risk, including the legal risk, as well as the risk of unsuitable management of information and other technologies that are significant for the bank's business.

A new regulation encourages banks in Serbia to estimate the risk of their customers using the system of rating. A minimum of capital that should be reserved shall not depend just on the size but also on the risk of the loan. This will make that granting loans to the risky clients becomes more expensive. It will be a problem for worse enterprises and banks will have to make a wider their range of products and prices that are offered on the banking market if they want to keep and to attract the new clients. Decreasing of needed level of capital will affect mostly the banks that place assets to the population, small and medium enterprises and it will affect at least those banks that place to big corporations.

Smaller banks should not be in the start in worse position than bigger ones when influences of Basel II are in charge.

Related to this, there is the operational risk recognition as well as an obligation of forming special sections for the risk management. In risk management, the bank is obligated to indentify existing and potential sources of operational risk that can occur

[9] Decision on Risk Management, No. 112 (2008: 1)

in introduction of new products, systems or activities. Except of that, the bank is obligated to form data base on all losses risen on the base of operational risk as well as to determine a methodology for an those losses internal recording. In this, we have to underline some measures overtaken by the bank in the purpose of increased operational risk management.

In this moment, the directive doesn't regulate any obligations of capital costs calculation for exposure to operational risks, but there is only defined obligation for reporting NBS by banks on terms of operational risks bigger than 1% of the bank's capital. An application of capital models shall start in 2011. All banks are suggested to gradually involve different methods in accordance with their technical possibilities and practice, pointing that an advanced way of capital appropriations measuring doesn't allow coming back to the simpler way with no previous regulator's confirmation.

CONCLUSION

Nowadays, characterized by changes and uncertainty, a new business philosophy is needed as well as a new approach to business risks' estimation before entering into certain financial undertakings. New techniques for financing have decreased an exposure to the loan and markets risks that is shown in new quality of banking services but, at the same time, it has pointed to an increased presence of new risks, different from those ones known by the practice of traditional banking.

The new internationally harmonized frame for measuring capital and banks capital adequacy, in relation to the exposure to risks - Basel Agreement II, except of the loan and market ones, has included operational risks.

Operational risks represent a sort of problems that can't be ignored in any way. In many banks, this problem may be much more expressed than the market risk so, very often it takes the second place by its importance, immediately after the loan risk.

All three Basel II pillar's implementation in Serbia is very necessary and NBS is on a good path to, through the new Law on Banks and following decisions, ensure required conditions for complete application of Basel II. Bearing in mind that most of banks in Serbia are foreign-owned, that fact will make easier an implementation of the Basel II because those banks bring with them a significant experience in the Basel II application.

Everything goes in a favor of this that banks need to move away from defensive or reactive view of risk, according to which banks measure the risk in order to satisfy regulatory requirements and in order to avoid losses: they should be turned to offensive, proactive attitude according to which risks should be managed actively at the level of the bank in the purpose of more effective usage of capital and high profits' realization.

REFERENCES

[1] Basel Committee on Banking Supervision, (2001) *Operational Risk*, Basel, Bank for International Settlements (BIS)

[2] Basel Committee on Banking Supervision, Pillar 2, (2003) *Supervisory Review Process,* Basel

[3] Basel Committee on Banking Supervision, (2003) *Sound practices for the management and supervision of operational risk*, Basel, Bank for International Settlements (BIS)

[4] Crouhy, M., Galai, D., Mark, R., (2006) *The Essentials of Risk Management*, New York, McGraw-Hill

[5] Ćirović, M., (2001) *Bankarstvo,* Beograd, Bridge Company

[6] Decision on Risk Management, (2008) Službeni glasnik RS, No. 112

[7] Đukanović, S., (2009) *Upravljanje finansijskim rizicima – Praktikum,* Novi Sad, Visoka poslovna škola strukovnih studija

[8] Đukić, Đ., Bjelica, V., Ristić, Ž., (2003) *Bankarstvo*, Beograd, Ekonomski fakultet

[9] Fontnouvelle, P., and others, (2009) *Using Loss Data to Quantify Operational Risk,* Federal Reserve, Bank of Boston

[10] Ittner, A., (2005) *Operational Risk – Aspects of a (not so) new risk category in banking business*, Moscow, Tacis workshop

[11] Ivanović, P., (2009) *Upravljanje rizicima u bankama*, Beograd, Beogradska bankarska akademija

[12] Jorion, P., (2006) *Financial Risk Manager Handbook,* Third edition, Hoboken, New Jersey, John Wiley & Sons

[13] Kovačević Lj., Vunjak, N., (2006) *Bankarski menadžment*, Subotica, Ekonomski fakultet,

[14] *Law on Banks of the Republic of Serbia,* (2005) Službeni glasnik RS, No. 107

[15] Matić, V., (2008) *Operativni rizici*, Institut za poslovna istraživanja, Beograd, MBA

[16] National bank of Serbia, (2009) *Report on the state of the financial system of the Republic of Serbia,* Belgrade

[17] Šoškić, D., Živković, B., (2007) *Finansijska tržišta i institucije,* Beograd, Ekonomski fakultet

[18] Udruženje banaka Srbije, Radna grupa za upravljanje rizicima, (2006) *Metodologija za evidentiranje i praćenje operativnog rizika u banci,* Beograd

Primljeno: 30.12.2010.
Odobreno: 03.04.2011.