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### REGULATION OF ASSESSMENT OF THE RISK MANAGEMENT SYSTEM BY EXTERNAL AUDIT IN THE CONTEXT OF FOSTERING MORE EFFICIENT RISK MANAGEMENT - A REVIEW OF THE BANKING SECTOR OF BiH

### РЕГУЛАЦИЈА ОЦЈЕЊИВАЊА СИСТЕМА УПРАВЉАЊА РИЗИЦИМА ОД СТРАНЕ ЕКСТЕРНЕ РЕВИЗИЈЕ У КОНТЕКСТУ ПОДСТИЦАЊА ЕФИКАСНИЈЕГ УПРАВЉАЊА РИЗИЦИМА - ПОГЛЕД НА БАНКАРСКИ СЕКТОР БИХ

**Summary:** *In this study, regulatory requirements are elaborated regarding external audit in the assessment of the risk management system and the impact of the regulation of risk management system using independent external audit is investigated in the context of encouraging effective risk management in the banking sector of Bosnia and Herzegovina. The research was conducted through a questionnaire, which included a representative sample consisting of all the banks in BiH, within which employees at control functions are included (risk management, internal audit and internal control), along with members of bank boards (Supervisory board, Audit Committee, Bank Management), and relevant external auditors conducting audits in the banks in BiH, as well as professional academic public. The results of the research show a high degree of correlation of the regulation of risk management system by independent auditors and risk management efficiency, but also identify additional mechanisms which encourage more efficient risk management in banks and, consequently, reveal new research areas.*

**Keywords:** *The bank regulations, auditing, auditing regulation, efficient risk management, banks*

**JEL classification:** *M40, M48, G20, G28, G32*

**Резиме:** *У овом раду елoборирају се регулаторни захтјеви у погледу обавеза екстерне ревизије у оцјењивању система управљања ризицима у банкама, те истражује утицај регулације оцјењивања система управљања ризицима од стране независне екстерне ревизије у контексту подстицања ефикаснијег управљања ризицима у банкарском сектору Босне и Херцеговине. Истраживање је вршено помоћу анкетног упитника којим је обухваћен репрезентативан узорак којег чине све банке на подручју БиХ, а у оквиру њих су заступљени запослени из реда контролних функција (управљање ризицима, интерна ревизија и унутрашње контроле), затим чланови одбора банке (надзорног одбора, одбора за ревизију, управе банке), али и релевантни екстерни ревизори који врше ревизије банака БиХ, те стручна академска јавност. Резултати истраживања показују висок степен корелације између регулације оцјењивања система управљања ризицима од стране независне ревизије и ефикасности управљања ризицима, али и идентификују и додатне механизме којим се подстиче ефикасније управљање ризицима у банкама, те посљедишно отварају нова подручја истраживања.*

**Кључне ријечи:** *регулатива банкарског сектора, ревизија, регулатива ревизије, ефикасно управљање ризицима, банке*

**JEL класификација:** *M40, M48, G20, G28, G32*

## 1. INTRODUCTION

The dynamic development of the banking sector initiates new risks and, expectedly increasingly centers around the issue of preserving its security and stability. A good risk management system, which continuously, efficiently and effectively implements, develops and establishes standards for the management of existing and upcoming risks is a pillar of stability of the banking sector, and a precondition for its sustainable business. Given the importance of the banking sector for a country's economy, the necessary need to strengthen and maintain its stability, but also the need to harmonise the risk management standards with

European directives, the regulation of banking BiH sector<sup>1</sup>, particularly in the context of risk management, is constantly updated. The relevant banking agencies of the entities, as the banking system controllers and supervisors, constantly review and update the banking regulations and harmonise them with European directives. This has resulted in a higher banking sector discipline. In this regard, the latest changes in the banking regulatory framework in BiH extend the competencies of external auditors, and in addition to the regular audit of financial statements and the revision of information systems they also introduce the obligation of so-called extended reports of external auditors for the needs of regulatory bodies, where special emphasis is awarded to the assessment of risk management system in banks.

The first part of the paper emphasises the importance of the risk management system, as well as novelties in the legal and sub-legal framework in the context of regulation of assessment of the risk management system by external auditors.

The second part of the paper points to the competences and obligations expected of external audit that assesses the risk management system in banks and reports to the supervisor about it.

The third part of the paper elaborates on the results of empirical research of the BiH banking sector, whereas the research is aimed at reviewing the opinions of respondents on the regulation of the effectiveness of the risk management system, i.e. examining to which extent the bank regulation regarding requirements as to assessing the efficiency of risk management system by external auditors encourages the efficiency of risk management system in banks, the degree of significance of determinants based on which external auditors assess the adequacy of risk management, as well as the significance of the determinants which are conditioned by the risk management system and point to quality, security and stability of business, which are not minimally prescribed by regulators, and new measures used to encourage more efficient risk management in banks.

The fourth part of the paper indicates the findings of empirical research, possible measures and new areas of research in the function of improving risk management efficiency, and in the context of an external audit competence that estimates the risk management system in banks (Vujičić-Stefanović 2019).

The goal of this paper is to indicate the possibility of improving the risk management system in terms of more efficient risk management, through the capacity of risk management system regulation, but also the role of independent external audit which assesses the risk management system in banks and reports to the regulators. Basic scientific contribution is the identification of additional measures which are used through the role of external audit to improve the risk management system in banks.

The social objective of the research is that it gives a pragmatic contribution to external auditors who evaluate the risk management system and thereby encourage its more efficient governance, including institutions that create business regulations of the banking sector<sup>2</sup>.

## 2. RISK MANAGEMENT IN BANKS

In order for a bank to create preconditions for a stable and sustainable business, it is necessary to establish a comprehensive and reliable risk management system, which ensures that the risk profile is consistent with its pre-defined tendency towards risk. The biggest challenge for banks is to anticipate the level of risk they are willing to take, and to achieve a

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<sup>2</sup> It relates to legal and sub-legal regulations of entity agencies for banking of BiH (Banking Agency of Republika Srpska and Banking Agency of the Federation of Bosnia and Herzegovina) in the portion prescribed by requests from the risk management system and the competencies of external Auditors in Banks

planned profit level. The minimum requirements regarding the overtaking and management of bank risks are defined by legislative banking operations. Furthermore, the risk level which the bank is ready to take, as its risk profile, is determined by the bank itself. In order to achieve as much profit as possible, banks sometimes take risks which can endanger sustainable and stable business. By strengthening the role and importance of bank risk management systems, the issue of measures that can ensure efficient risk management is foremost. In this regard, competent bodies for control and supervision of banks continuously improve the relevant framework for banking business with the aim of creating preconditions for a safe and stable banking system and strengthening the discipline of the banking sector.

Bearing in mind the needs of beneficiaries of financial reports (investors, shareholders, but also regulators and supervisors of the banking system) on the one hand, and on the other hand, the competence and power of an external audit, which with its opinion on the revision of financial statements, increases the credibility of financial statements, the subject and the goal of audit constantly improves and becomes more complex.

Deficiencies in earlier frames which have defined the system of overtaking and risk management are timely recognized by regulatory bodies, which has been reflected in the latest laws on banks and sub-legal regulations. External audit competencies have been extended, which, in addition to the regular audit of financial reports, are also directed to create special reports for the needs of the regulatory system supervisor, in which the focus is on the assessment of the effectiveness of the control functions established in a bank. The new regulatory framework is a sophisticated institutional framework which, with respect to the interdependent standards of audit and harmonizing with the regulations of European directives, complements the competencies of external audit. In relation to this, through the role of external check, verification and, finally, risk management system assessment in the bank, the role of external audit is to contribute to the improvement of business in banks and to affect a more efficient risk management.

### **3. EXTERNAL AUDIT COMPETENCIES IN THE CONTEXT OF RISK MANAGEMENT SYSTEM ASSESSMENT IN BANKS**

The banking sector legislative extends the authority of external audit in the context of the request for the production of an extended audit report for the banking agency's needs. This report includes a report on the revision of financial statements, as well as additional data and information that the banking agency needs in order to conduct the supervisory function. The extended audit report for a banking agency's needs should contain (Službeni glasnik Republike Srpske 2017a; 2018a; Službene novine Federacije BiH 2017a): 1) special assessment on the compliance of the rules on risk management, 2) special assessment on the effectiveness of performing the operations of a bank's control functions, 3) opinion on the quality of bank operations, 4) special assessment of conformity with the requirements for prevention of money laundering and financing of terrorist activities, 5) special assessment of organization and management of information system in terms of support and accuracy of reports, 6) special assessment of accuracy, regularity and completeness of the reports that the bank delivers to the agency in accordance with delegated legislation, 7) a list of deficiencies determined by the audit of financial reports and audit for the agency's needs, 8) the findings regarding the fulfillment of recommendations of auditors from previous years, and 9) completed report forms that the bank delivers to the agency in accordance with the delegated legislation, along with the opinion on objectivity and credibility of the data in those reports.

The external auditor provides an assessment of the adequacy of risk management in the context of compiling an extended report for the banking agency's needs, based on the

following determinants (Službeni glasnik Republike Srpske 2017a; 2018a; Službene novine Federacije BiH 2017a):

1. Strategy, policy and procedures relating to risk management,
2. Established processes and procedures for risk management,
3. Fulfilling of the organisational requirements related to risk management,
4. Adequacy of identifying, measuring, limiting and mitigation, monitoring and control, as well as reporting on risks,
5. Adequacy and effectiveness of internal control systems for risk management,
6. Testing of resistance to the bank stress,
7. Plans for actions in unforeseen i.e. emergency situations in the bank's business.

In contrast to the requirements of the Federation of BiH Banking Agency (Službene novine Federacije BiH 2017a), the delegated legislation of the entity in the Republic of Srpska, within minimum requirements for evaluating the adequacy of the risk management, demand assessment of stress resistance and plans for actions in unforeseen i.e. emergency situations in the bank's business.

The external auditor gives an assessment of the efficiency of conducting the bank's control functions, on the basis of the following principles (Službeni glasnik Republike Srpske 2017a; 2018a):

1. Whether the Bank has established permanent and efficient control functions in accordance with the law on delegated legislation of the banking agency,
2. Whether the Bank has established the function of internal audit as a separate organisational part, functionally and organisationally independent of activities that are revised and independent from other organizational parts,
3. Whether the bank has established a control function, thus avoiding conflict of interest,
4. Whether the internal acts on control functions are adequate, and whether they are adopted by the competent bodies of the bank,
5. Whether the bank has ensured a sufficient number of employees having appropriate qualifications and experience, in accordance to its size, line and scope of business, for conducting work on control functions,
6. Whether the annual work plans (including operational plans) of the control functions are applicable and whether they have been made in accordance with the delegated legislation and
7. Whether control functions compile prescribed reports and whether they perform jobs in accordance with the law and the delegated legislation of the banking agency.

Although the local entity regulation<sup>3</sup> defines the minimum requirements which the banks need to comply with regarding the risk management system, and obliges banks to follow an independent assessment of the risk management system by an independent external audit with the purpose of supporting the supervisory role of the banking agency, through a detailed analysis of relevant regulations, there are possibilities identified for further advancement of the regulatory framework with the objective of encouraging more efficient risk management in banks.

<sup>3</sup> It relates to legal and sub-legal regulations of entity agencies for banking of BiH (Banking Agency of Republika Srpska and Banking Agency of the Federation of Bosnia and Herzegovina) in the portion prescribed by requests from the risk management system and the competencies of external Auditors in Banks

### 3. EMPIRICAL RESEARCH RESULTS

Considering the fact that the new regulatory framework has improved to a great extent the requirements for risk management, requirements regarding the standard risk management standards, including an external audit obligation to perform additional audit and create an additional report on audit for the needs of the entity agencies as supervisory bodies, an issue remains of whether the new regulatory framework will sufficiently ensure the improvement of the effectiveness of the risk management system in banks, and whether it is going to sufficiently improve the monitoring function (supervision function) of the entity agencies (Vujičić-Stefanović 2019).

Relevant research<sup>4</sup> is aimed at new findings on whether the new regulatory framework for banks in BiH, in the part regarding additional requirements of external audit, will sufficiently improve the effectiveness of the risk management system in banks (Vujičić-Stefanović 2019), and upon investigation of additional possibilities for external audit contribute to a more efficient risk management.

In this regard, relevant research covers all banks in the territory of Bosnia and Herzegovina, and within them employees of the risk management and internal audit department, as independent control functions, relevant external auditors, or auditors who review financial reports of banks in BiH, relevant BiH institutions that have interest or influence in the area that is subject to research, but also professional and academic public, including depositors of the bank, i.e. respondents who had experience in the field of audit services (internal or external), employees from the top management department of banks and committees overseeing bank operations, as well as auditors' professions.

The research covered a total of 92 respondents, with the questionnaire answered by 57 respondents, or 62% of the total number (Vujičić-Stefanović 2019).

#### 3.1. The impact of regulations on the risk management system assessment on the effectiveness of the risk management

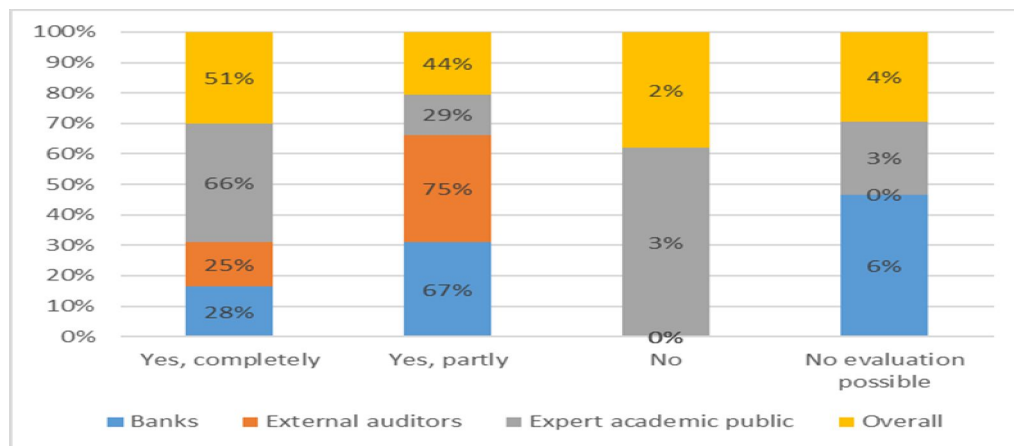
Considering the new requirements of the BiH regulatory framework, it is evident that these extend the competencies of external audit. Despite the theoretical and conceptual essence of audit of financial reports based on the requirements of the international audit standards, the new regulatory framework prescribes additional competencies of external audit, which obliges external auditors to evaluate risk management system in banks, and to report to the regulatory and supervisory body for the banking sector.

In this regard, respondents' opinions have been examined as to whether the regulation in banks, through assessing the effectiveness of the risk management system by external auditors, which includes the obligation to inform entity banking agencies, encourages efficient risk management in banks in BiH. Research results are displayed in chart no. 1.

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<sup>4</sup> The results of the survey were retrieved from the Master's Thesis by Vujičić-Stefanović in 2019

Chart 1: Impact of regulation assessment of the effectiveness of the risk management system (by external auditors) on the effectiveness of bank risk management



Source: Vujičić-Stefanović 2019

A total of 95% of respondents holds the opinion that regulations on the evaluation of the effectiveness of the banks' risk management system, by external auditors, affects the effectiveness of the bank's risk management system.

Among these, 51% of respondents gave the response "Yes completely" and 44% of them answered "partly". Observed at the level of individual segments, the answer having complete influence was mostly agreed upon by members of expert and academic public (66%), while external auditors and banks dominantly hold the view that regulations have only a partial impact on the efficiency of risk management (external auditors 75%), and banks (67%).

The banks dominantly hold the view (67%) that the specified regulatory request will have a partial impact on increasing the effectiveness of risk management, while 28% of banks consider that they will be affected completely, and 6% could not assess the specified impact.

External auditors also dominantly believe that the effect will be partial (75%), and the remaining auditors (25%) believe that it will fully influence the increasing efficiency of risk management.

Expert and academic public, as in all responses, attributes high importance to regulatory requirements, and 66% of them are committed to full influence, 28% of them believe that the impact will be partial, and only 3% hold the opinion that there will be no influence or they did not express an opinion (3%).

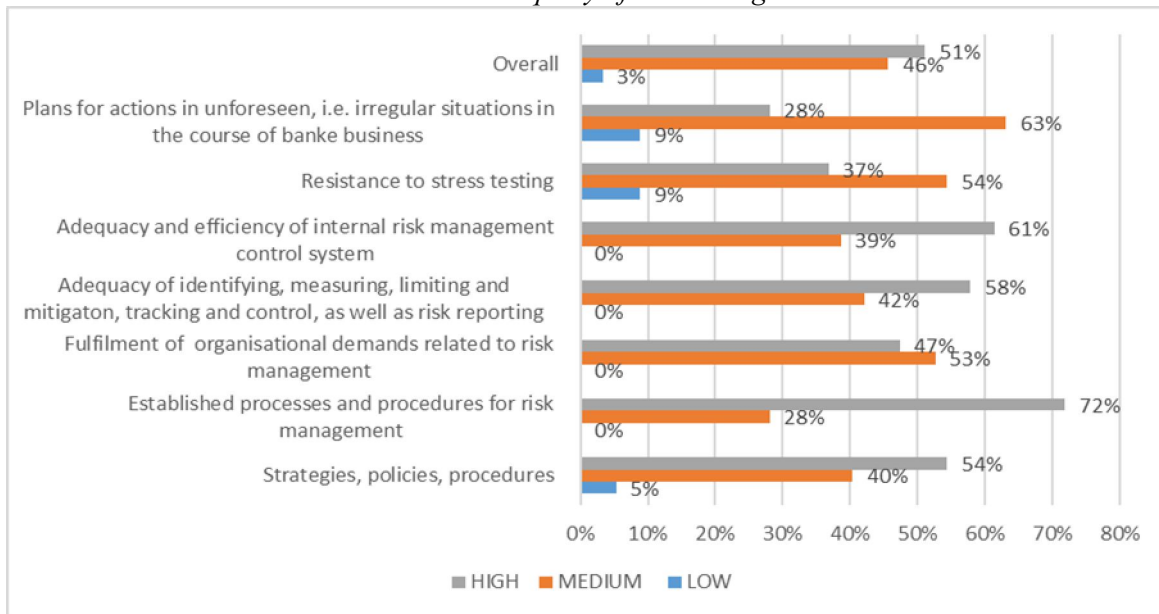
Altogether, the total regulatory requirements are assigned great significance, hence 51% of respondents hold the opinion that the above regulation will fully affect the improvement of efficiency of the risk management system, 44% of them believe that it will partially affect it, 4% of them cannot provide a judgement and only 2% believe that there will be no impact.

### 3.2. The significance of the determinants that external auditors use in evaluating the adequacy of the risk management system

Chart no. 2 outlines the positions of respondents relating to the assessment of significance of determinants that external auditors perceive when they evaluate the adequacy of risk management.

By observing individually seven listed determinants, the respondents dominantly assessed the proposed determinants by estimates of high and medium importance 97% (of which 51% determinants are highly assessed and 46% as having medium significance).

Chart 2: The assessed significance of the determinants that external auditors perceive when they evaluate the adequacy of risk management



Source: Vujičić-Stefanović 2019

By observing individually seven listed determinants, the respondents dominantly assessed the proposed determinants by estimates of high and medium importance. Respondents assessed the highest determinant of "established processes and procedures for risk management" as having the high importance (72%), then plans for actions in unforeseen situations (63%), and adequacy and effectiveness of the system of internal controls for risk management (61%), adequacy of identification, measurement, limitation and mitigation, monitoring, control and risk reporting (58%).

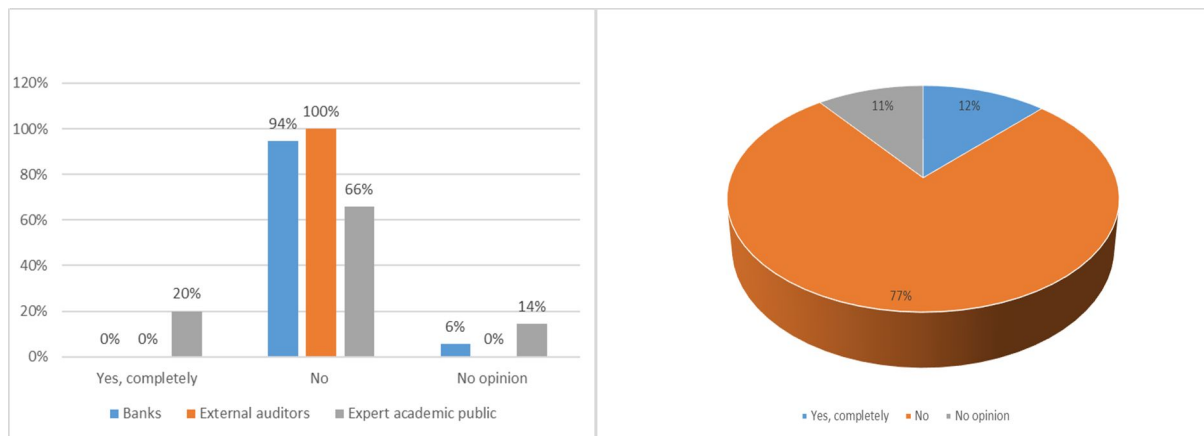
In general, respondents assessed almost all determinants as having high (51%) or medium importance (46%), and only 3% as having low importance.

### 3.3. Sufficiency of determinants used by external auditors in assessment of the adequacy of the risk management system

Research results related to respondents' attitudes towards whether the defined determinants (seven determinants) assessed by auditors while assessing the adequacy of risk management are sufficient for a thorough assessment of the risk management system or whether it is necessary to look at quantitative determinants.

Largest number of respondents (77%) considers that qualitative determinants are not sufficient to assess the adequacy of risk management, whereby external auditors are committed exclusively to this option (100%). Bankers, although a subject of the evaluation as well, also have the dominant attitude (even 94%) that qualitative determinants are not sufficient to assess the adequacy of the risk management system in banks.

*Chart 3 and 3a: Attitudes towards whether the defined determinants (seven determinants) assessed by auditors while assessing the adequacy of risk management are sufficient for a thorough assessment*



Source: Vujičić-Stefanović 2019

External auditors, as experts performing the assessment of risk management system and delivering the estimates to entity agencies, fully support (100%) the opinion that defined qualitative determinants referring to defined and set strategies, policies, procedures, processes for recovery plans, etc. should be combined with quantitative parameters in such a way as to observe the relation of bank business indicators with respect to minimally prescribed limit value. The banks hold the above opinion with 94%, while the remaining 6% have not expressed an opinion. Expert and academic public dominantly hold the opinion (66%), the same as external auditors and banks, that it is necessary to combine quantitative and qualitative determinants, while 20% of this group of respondents are of the opinion that determinants are appropriate and 14% have not expressed an opinion.

Altogether, it is also the dominant opinion that the above determinants should be combined with quantitative parameters (77%), whereas 12% of respondents are of the opinion that the existing determinants are appropriate, i.e. that it is not necessary to impose quantitative measures, and all 11% of respondents have not expressed an opinion.

The explanations of the opinions of respondents who are of the opinion that the existing determinants are not sufficient and that they need to be combined with quantitative ones, are based on the following arguments:

- The seven determinants should be supplemented with quantitative parameters, i.e. relation of the bank business indicators with regard to minimally prescribed limit values should be observed.
- Quantitative parameters reflect a concrete situation at the moment and denote the conceptual and fundamental adequacy of the aforementioned. The value of the adequacy of risk management based on general and modeled assumptions and established processes (e.g. stress testing) without concrete measures of the results of that process would be a partial assessment. Quantitative parameters would further confirm whether the requirements for the bank risk management system are well/poorly set.
- The bank may have all of the above, and still have bad indicators for risk management. It is certainly less important, if the bank has no procedure, and has a good risk management system (small default rates, significant coverage of reservations, collateral...).
- The specified determinants cannot, without the assessment of quantitative parameters, independently and fully contribute to an adequate assessment of risk management.



- Defining additional quantitative parameters is important so that the bank can timely take preventive measures in order not to be obliged to undertake early measures of intervention.
- Unique quantitative parameters, defined by the regulator, can represent the measure to identify when certain measures are needed, in terms of "trigger" measures. Defining the specified parameters by each bank individually disables comparability and equal criteria for all banks.

Explaining the opinions of respondents, who are of the opinion that existing determinants are sufficient, and that they do not need to be combined with quantitative, sets their positions on the following arguments:

- Regulation<sup>5</sup> defines that the bank in its policies and procedures is obliged to determine quantitative limits and to adhere to them, and that an external auditor controls the risk management system and estimates through seven principles, i.e. determinants specified in the decision defining the requirements of external audits.

However, considering the above explanation, it should be taken into account that the bank independently defines those limits, which does not provide comparison when it comes to different banks.

### 3.4. Quantitative parameters in the assessment of risk management system

Chart 4 depicts research results relating to respondents' attitudes as to which quantitative determinants should be considered when assessing the adequacy of risk management alongside with defined qualitative parameters. There are indicators prescribed by local regulations<sup>6</sup> which have defined minimal values (capital adequacy, indicator of liquidity coverage and financial lever rate), but also other indicators that reflect the adequacy of risk management, the values of which are not prescribed as minimal (the rate of non-quality loans, as well as the rate of coverage of risky and total loans as to their respective correction of values, i.e. the rate of risky loans coverage and total loans to their corresponding credit-loss reserves).

This examination included only respondents who responded to the previous question that they believe that the regulation<sup>7</sup> for assessment of the adequacy of the risk management system should be advanced.

According to the results of the survey, all listed quantitative parameters are extremely important elements of risk management assessment (88 – 98% of respondents per certain determinants).

When it comes to certain determinants, the indicator of capital adequacy (98%) is foremost, along with the indicator of liquidity coverage (94%), the values of which are defined by minimum risk management requirements, but also other indicators of non-quality loan rates (96%), the rate of coverage of risky loans by credit loss reservations (92%), the rate of coverage of total loans by loan loss reservations (94%), the amount of the risky loan

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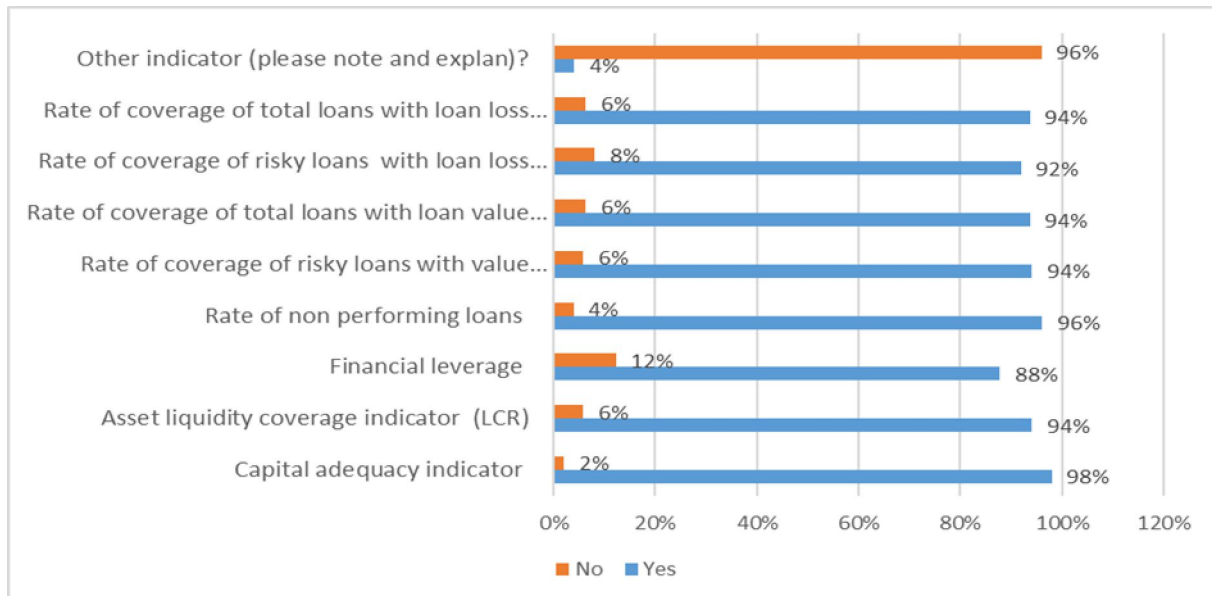
<sup>5</sup> It relates to legal and sub-legal regulations of entity agencies for banking of BiH (Banking Agency of Republika Srpska and Banking Agency of the Federation of Bosnia and Herzegovina) in the portion prescribed by requests from the risk management system and the competencies of external Auditors in Banks

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coverage and the rate of coverage of total loans by value corrections of risky loans (94%). Respondents from the group of external auditors pointed to the need to examine the acquired property in the process of collecting claims, its quality or numbness, the amount that was recorded on the off-balance sheet, as well as the charge of claims recorded in the off-balance sheet.

*Chart 4: Quantitative determinants as elements of assessment of risk management efficiency*



Source: Vujičić-Stefanović 2019

Fewer respondents (only 4%), responded that they consider that other parameters should be taken into account as well, which reflect the quality of management and management of banks, i.e. its risks, and refers to: remissions, the charge of claims recorded on the outside balance, retrieved, i.e. acquired property and its cashfulness.

Certain respondents, who had previously held the opinion that regulations are fully appropriate and that there is no need for any changes or complements, explain their opinion dominantly by the fact that the minimum requirements regarding the regulation defining the risk management (Službeni glasnik Republike Srpske 2017b; Službene novine Federacije BiH 2017a) system demands that the bank is obliged to determine quantitative limits and to adhere to them, and the external auditor is obliged to conduct control through the seven principles specified in the entity agency's decision on performing external audit.

However, despite the consideration of the stated explanation, it is important to draw attention to the fact that banks have been given the possibility to determine on their own certain quantitative criteria which measure the risk of exposure, while the public expects the system to be fully unified and transparent.

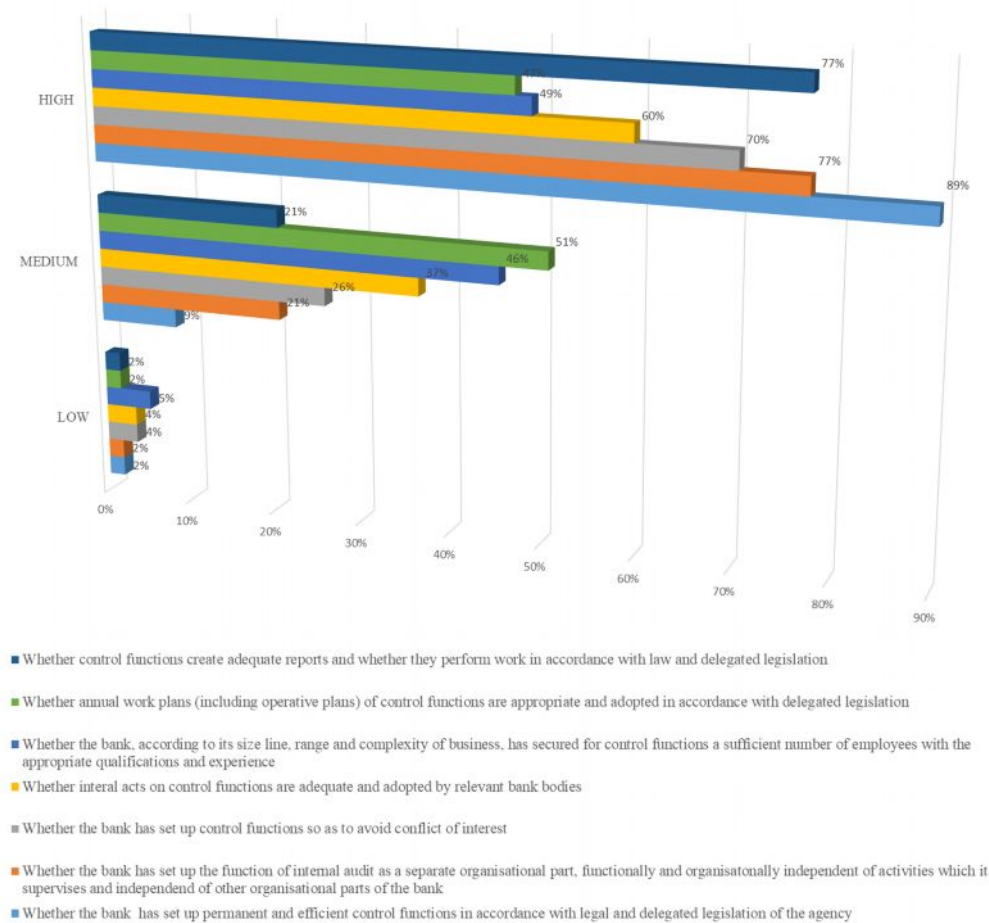
A certain gap which needs to be overcome with the goal of advancement and more efficient approach in risk management has been denoted by respondents' attitudes by which they clearly and significantly signify that for the assessment of the adequacy of risk management in banks it is necessary to also consider quantitative parameters, specifically the ones defined within minimal demands for risk management, as well as other quantitative parameters which denote the quality of bank management and its risk, whose reference values have not been prescribed.

### 3.5. Significance of principles used by external auditors when they assess the efficiency of control functions

Results in Chart 5 sum up research results related to the respondents' evaluations of the level of significance of the principles observed by external auditors when they evaluate the efficiency of the control functions (risk management functions, internal controls functions, and internal audit functions).

According to the research, a total of 67% of respondents believe that the principles<sup>8</sup> based on which external auditors assess the effectiveness of the control functions have a high degree of significance, especially whether the bank has established permanent and efficient control functions in accordance with legal regulations and delegated legislation of the agency (89%).

Chart 5: The level of significance of the principle on the basis of which external auditors evaluate the effectiveness of the control function



Source: Vujičić-Stefanović 2019

<sup>8</sup> Principles based on which external auditors assess the efficiency of control functions according to delegated legislation: 1. whether the bank has set up permanent and efficient control functions in accordance with law and delegated legislation; 2. whether the bank has set up the function of internal audit as a separate organisational part, functionally and organisationally independent of activities which it supervises and independent of other organisational parts of the bank; 3. whether the bank has set up control functions so as to avoid conflict of interest; 4. whether internal acts on control functions are adequate and adopted by relevant bodies of the bank; 5. whether the bank has secured a sufficient number of employees having appropriate qualifications and experience, according to its size, line, range and complexity of business; 6. whether annual work plans (including operative plans) of the control functions are appropriate and adopted in accordance with delegated legislation; 7. whether control functions create adequate reports and whether they perform their work in accordance with law and delegated legislation.

It is evident that the respondents have evaluated as having high or middle level of significance all the proposed principles that external auditors perceive when evaluating the effectiveness of the control functions.

Eighty-nine per cent of respondents have highly evaluated the principle of "whether the bank has established permanent and efficient control functions in accordance with the law on banks". Also highly evaluated principles are "whether the control functions compile adequate reports, and whether they perform jobs in accordance with the law and delegated legislation of the agency" (77%), and "whether the bank has established the function of an internal audit special organizational part, functionally and organizational independent of activities that are revised and independent from other organizational parts of the bank "(77%).

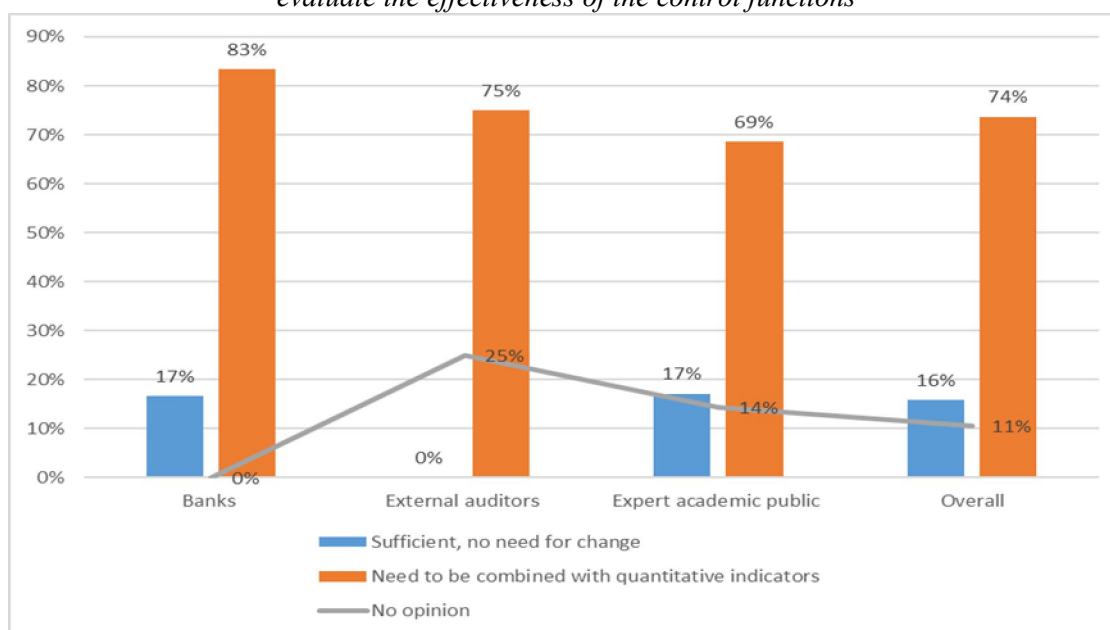
Chart 6 shows the results of the research on whether the principles based on which external auditors perform the assessment of the effectiveness of the control functions are, from their viewpoint, sufficient or it is necessary to complement them with quantitative parameters as a measurement of exposure to risk. The results were observed across groups, but also overall at the level of all respondents.

The largest number of respondents (74%) believe that the principles based on which external auditors perform the assessment of the effectiveness of the control functions are not sufficient, i.e. that the assessment of the effectiveness of the control functions should be based on quantitative parameters as measurable units as well.

All respondents dominantly responded that the assessment of the effectiveness of the control functions should be based on quantitative parameters as measurable units, specifically banks 83%, external auditors 75%, expert and academic public 69%, and all of them together 74%.

A minor part of the respondents (16%), who are of the opinion that quantitative parameters should not be introduced nor emphasized in the assessment of the effectiveness, base their attitudes on the explanation that introducing quantitative indicators and expanding their range would make sense if they were sufficiently optimized, i.e. clear, not depending only on the performance of the control function (e.g. number of open reports and time frame of recommendations realization do not depend on the control function, but on management and risk policy of those responsible for its realization).

*Chart 6 Assessment of sufficient qualitative principles based on which external auditors evaluate the effectiveness of the control functions*



Source: Vujičić-Stefanović 2019

An efficient measure would certainly be explicit emphasis on responsibility for achieving or not achieving the required qualitative or quantitative determinants, and that would greatly contribute to the effectiveness of risk management. Because if the risk function (or other control function, for example, internal revision or internal control) identifies certain warning signals and indicates them, it means that they are effective, but if the management or board that adopts the above information should provide it and not realize it immediately, this means that the control functions are effective, but within the bank there is no effective decision-making based on control function attitudes.

Chart 7 provides a review of the respondents' attitudes relating to the assessed degree of significance of possible quantitative parameters in the function of the risk management assessment.

For each segment, several indicators have been suggested as a basis for measuring the effectiveness of risk management, specifically:

*Table 1 Possible quantitative parameters in the function of evaluating the effectiveness of the risk management function*

➤ Risk management segment
○ Number, amount and % of newly approved risk loans,
○ Number, amount and % of failed warranties,
○ Number, amount and % of existing placements that have migrated from PL <sup>9</sup> status to NPL <sup>10</sup> ,
○ Amount and % of risky loans charged,
○ The NPL rate,
○ NPL coverage with value updates,
○ The trend of risk placement rate (NPL),
○ The trend of the NPL coverage rate with the correction of value,
○ The number of operational risk events, amount of gross and net losses, trend of movement,
○ The ratio of value of the bank's indicators in relation to the limit values of the prescribed indicators (capital adequacy, LCR, the terms of assets and passants, financial lever).
➤ Internal audit findings segment
○ Total number of internal audit findings,
○ Number of internal audit findings with a medium and high risk assessment,
○ Average period of realization of internal audit recommendations.
➤ External audit findings segment
○ Number and significance of the external auditor's recommendations mentioned in a letter to the leadership,
○ Average time of realization of recommendations from the letter to the leadership.
➤ Internal audit findings segment
○ Whether internal controls correspond to the identified risks of the bank,
○ Number of internal control findings, the significance of findings, the period of realization of recommendations.
➤ Segment of the causes of irregularities identified by external auditors, while not identified by the control functions.

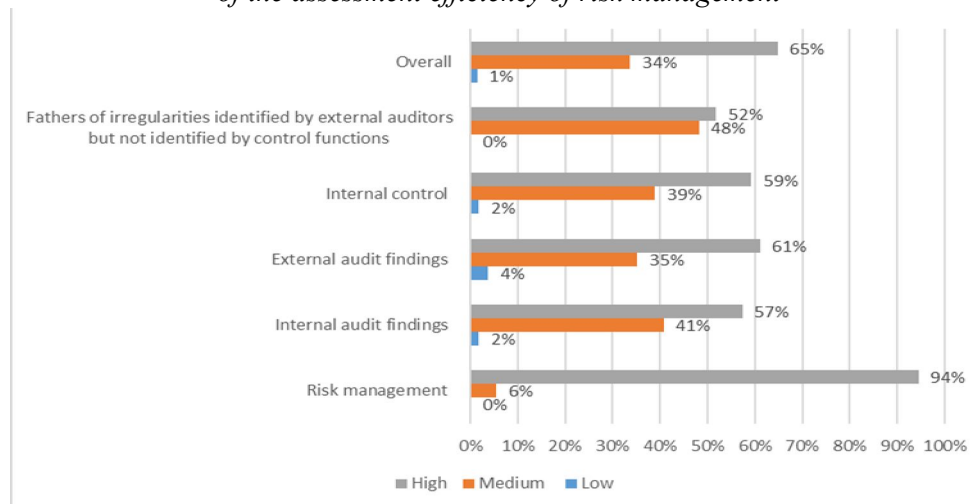
Source: Vujičić-Stefanović 2019

*Considered as an aggregate, all mentioned possible quantitative parameters in the function of the assessment of effectiveness of risk management were dominantly evaluated by respondents as having a high degree of significance (65%), medium degree (34%), and low degree of significance, by only 1% of them. Observed individually, in segments, all parameters were dominantly evaluated as having high significance, with over 50%.*

<sup>9</sup> PL- performing loan

<sup>10</sup> NPL- non performing loan

Chart 7: Assessment of the degree of significance of possible quantitative parameters in the function of the assessment efficiency of risk management



Source: Vujičić-Stefanović 2019

The specified results indicate the significance of the aforementioned possible quantitative indicators when the effectiveness of risk management is assessed.

#### 4. CONCLUSIONS AND DIRECTIONS OF FURTHER RESEARCH

Given the results of empirical research in the BiH area, we can elaborate on the research findings:

- Respondents are dominantly of the attitude (95%) that the regulation of the effectiveness of the banks' risk management system, by external auditors, affects the effectiveness of the banks' risk management system.
- Determinants (Vujičić-Stefanović 2019) for the assessment of the adequacy of the risk management system defined by delegated legislation, from the aspect of the respondents' opinions are very important, which is shown by the percentage of 97%.
- At the same time, the largest number of respondents (77%) believe that qualitative determinants are not sufficient to assess the adequacy of risk management. They are of the opinion that quantitative parameters represent the true unique level of risk of the bank, and that they should be observed together with qualitative determinants, because the bank can have all the principles established provided that exposure on the very limit value has been prescribed below the optimal value, if the regulator has not defined the limit value for a specific risk.
- In the segment of quantitative parameters of the effectiveness of the risk management system, it is necessary to observe the indicators prescribed by the local regulations, which have defined minimal values (capital adequacy, indicator of liquidity coverage and the rate of relevant financial levers), but equally important other indicators that reflect the adequacy of risk management, and whose reference values are not prescribed as minimal (the rate of non-quality loans, as well as the rate of coverage of risky and total loans as to their corresponding value corrections, i.e. the rate of coverage of risky loans and total loans as to their respective loan loss reserves).
- According to the results of the survey, all the listed quantitative parameters are extremely important elements of risk management assessment (88 – 98% of respondents per certain determinants).
- The results show that most respondents (67%) hold the opinion that the principles (Službeni glasnik Republike Srpske 2017a; 2018a; Službene novine Federacije BiH

2017a) based on which external auditors assess the effectiveness of the control functions have a high degree of significance, and primarily whether the bank has established permanent and effective control functions in accordance with the legal regulations and delegated legislation of the agency, as well as "whether the control functions compile adequate reports and whether they perform jobs in accordance with the legal regulations and delegated legislation of the Agency", and "whether the bank has established the function of the internal audit as a separate organisational part, functionally and organisationally independent of activities that it supervises and independently from other organisational parts of the bank. "

- Also, the principles based on which external auditors perform the assessment of the effectiveness of the control functions, are not sufficient – it is necessary to complement them with quantitative parameters.
- Observed as an aggregate, all the proposed possible quantitative indicators<sup>11</sup> in the function of the assessment of risk management were dominantly evaluated by respondents as having a high degree of significance (65%), a middle level (34%), and low level of significance (only 1%). Observed individually, in segments, all parameters are evaluated as having high importance, with over 50% respondents. The specified results indicate the significance of the above possible quantitative indicators (proposed by the author) when it assesses the effectiveness of risk management and the need for the parameters to be defined using the relevant framework, including the prescribing of their reference values.

Based on the conclusion that the regulation of assessment of the risk management system by independent audit encourages a more efficient risk management, and that in the existing regulation framework there is some room for further improvement in the function of encouraging more efficient risk management, future research directions should be directed to the following:

Bearing in mind that a total of 95% of respondents take the attitude that the banks' risk management system efficiency regulation by external auditors affects the effectiveness of the bank's risk management system, further research is required to identify the possibility for improvement of regulatory framework which auditors are obliged to abide by while evaluating the effectiveness of the risk management system.

Given the highly rated significance of quantitative parameters of the assessment system of the risk management, which are prescribed by regulations (capital adequacy, liquidity coverage and the financial lever rate), but also other indicators that reflect the adequacy of risk management, and whose reference rates are not prescribed as minimal (the rate of non-quality loans, as well as the rate of coverage of risky and total credits with the corresponding correction of values, i.e. the rate of risk loans coverage and total loans as to their corresponding loan loss reserves), further research should be directed to the research of the necessary minimum/maximum allowed values of quantitative parameters, as reference units, and incorporating them into national regulations.

As the majority of respondents are aware that the effectiveness of the control functions should be measured through certain quantitative indicators as well, in further research attention should be directed to identifying quantitative parameters as measures of efficiency of control functions (the functions of internal audit, risk management functions, business compliance functions).

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<sup>11</sup> It relates to legal and sub-legal regulations of entity agencies for banking of BiH (Banking Agency of Republika Srpska and Banking Agency of the Federation of Bosnia and Herzegovina) in the portion prescribed by requests from the risk management system and the competencies of external Auditors in Banks

Respecting the fact that, observed as an aggregate, all the proposed possible quantitative indicators in the function of the assessment of effectiveness of risk management were dominantly evaluated as having a high degree of significance by respondents (65%), and medium level (34%), whereby individually observed in segments, the parameters were assessed by an estimated high importance with over 50%, in the following period, further research should be directed to define the reference values of the indicators, based on the best management practice of risk management, and review the possibilities to incorporate the above into national regulations.

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 Paper based on research from magister thesis "The Role of External Audit in Increasing the Efficiency of Risk Management Systems in Banks" defended at Faculty of Economics Banja Luka  
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