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CORPORATE RISK MANAGEMENT PRACTICES IN BOSNIA AND HERZEGOVINA COMPANIES

Abstract

Over the last few decades, corporate risk management has become a very important element of management to financial and non-financial companies. In the modern business environment every company is exposed to corporate risk. It can be said that the way to deal with the corporate risk has become a crucial competitive advantage for enterprises in all industry sectors. Reducing the impact of corporate risks such as financial risks, operational risks, strategic and hazardous risks, companies can reduce the volatility of cash flows, thus reducing the expected costs of financial difficulties and agency costs and increase the present value of expected future cash flows. Also, by reducing the volatility of cash flows company increases the likelihood of securing sufficient quantities of its own funds for planned investments, eliminating the need to cut profitable projects or bear the transaction costs of expensive external financing.

The paper presents the results of research on the practice of corporate risk management in large non-financial companies in Bosnia and Herzegovina. Data on corporate risk management were collected using a questionnaire. The questionnaire was sent to 120 companies from Bosnia and Herzegovina, where 66 companies provided the required answers to the questions on the basis of which is ultimately formed variable risk that indicates the level of implementation of corporate risk management. Based on the study on the management of corporate risk in Bosnia and Herzegovina it can been concluded that most of the analyzed companies manage corporate risk, at least in

certain segments. The largest number of companies actively controls only part of the overall exposure to corporate risk, or are considering the implementation of the complete process of corporate risk management. However, there are still a significant number of companies do not even manage corporate risk, and with them the risk management is primarily a result of occurred events. Although most of the observed companies monitor risks, it is worth pointing out that even 32% of the companies do not elucidate the risk tolerance, and even 45% of companies did not quantify the risks.

Keywords: *corporate risk, management, Bosnia and Herzegovina*

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1. INTRODUCTION

The management of a company consists of a series of business decisions whose basic aim is increasing company value and maximizing the wealth of the owner. Making decision in today's turbulent world takes place in uncertain and risky conditions. Changes in the economy and finances have led to the emergence of various risks that in some cases, management can not affect because they are global, but also a large number of risks that can be controlled and managed to the satisfaction of company owners, management, employees and all other parties.

In the modern business environment every company is exposed to corporate risk. It can be said that the way in which the company carries the corporate risk has become a crucial competitive advantage for companies in all industrial sectors. Reducing the impact of corporate risks such as financial risks, operational risks, strategic and hazardous risks, companies can reduce the volatility of cash flows and thereby reduce the expected costs of financial difficulties and agency costs and increase the present value of expected future cash flows. Furthermore, by reducing cash flow volatility company increases the likelihood of ensuring sufficient amount of own funds for planned investments, eliminating the need to cut profitable projects or bear the transaction costs of expensive external financing.

The risk is generally defined as the deviation of actual from expected future events that may negatively or positively affect business. Company management is responsible for detecting and identifying various risks, determining their potential impact on the company and for efficient management. Regardless of which industry company comes, how you will manage these risks is often a key factor in the success or failure of the business.

There are several reasons that explain the popularity of corporate risk management over the last few decades. The most important reason lies in the increased exchange rate volatility, interest rates and commodity prices, causing uncertainty of company cash flows. Second, companies are increasingly focusing on their core business, which makes their business less diversified. As a consequence, it is possible to increase the volatility of cash flows. Third reason for the growing importance of corporate risk management is the globalization of business activities, which leads to growing competition and falling profit margins as well as an increasing number of risk management instruments.

As to the authors' knowledge level of establishing corporate risk management process has not been researched in the companies in Bosnia and Herzegovina so there was a need for research of this subject matter. This work explores the establishment of a corporate risk management process in non-financial corporations, although the question of establishing corporate risk management process is equally and in financial institutions.

2. THEORETICAL FRAMEWORK

In the financial literature there are a number of definitions of risk management. Douglas W. Hubbard (2009) defines risk management process as the identification and prioritization of risks, and then coordinate and economical application of resources to minimize, monitor and control the likely impact of unfortunate events.

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) defines risk management “as a process, affected

by an entity’s board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.”

The risk management process is in the function of increasing the value of the company. It consists of clearly defined steps that if applied in the correct order provide support for decision-making by providing better insight into the risks that the company faces and their potential consequences. Thus, the basic level of risk management includes detection and risk identification, determination of its potential impact on the company, effective management and analysis and risk monitoring.

The process of corporate risk management began to emerge in the 1990s. It has been noted that traditional approaches to risk management are no longer an effective way of identification, assessment and response to the growing level of risk across a complex enterprise. Nowadays, corporate risk management becomes the minimum standard, and can be a key factor of survival for many companies.

This shift in trends in risk management has caused that, in 1992, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) to develop Internal control integrated framework (ICIF). This approach, unlike traditional accounting controls, represents a broad control framework of five interrelated components: control environment, risk assessment, control activities, information and communication and monitoring.

Then, in 2004, COSO publishes integrated framework for managing corporate risk. At first glance, the difference between a framework published in 1992 and more recent in 2004 is not great. They added three new components, and added strategic goal among the goals. However, the essential difference is that the framework for internal control aims to address the risks associated with the three objectives of establishing control, while the frame of corporate risk management

addresses the risks by managing them through management strategies and looking at them in an integrated way.

An integrated framework for managing corporate risk is conceived in the eight components: internal environment, objective setting, risk identification, risk assessment, risk response, control activities, information and communication and monitoring. The components of corporate risk management must be considered both in relation to the four objectives (strategic, operational, reporting and compliance), and in relation to the organizational units at the level of subsidiaries, business units, divisions and business level.

For a long time it was thought that the corporate risk management has no effect on the value of the company. The arguments for this are based on the Modigliani-Miller theorem (Modigliani and Miller, 1958). Assumptions of Modigliani-Miller theorem imply that decisions to hedge corporate risk is completely irrelevant because stockholders are with diversification already protected from such risks. However it is apparent that managers are constantly involved in activities related to managing the companies' specific risk.

As the foundation of the economic justification of the risk management function, and its positive impact on the value of the company lists the existing imperfections of the capital market. Capital market imperfections, such as costs of agents and asymmetry of information, the costs of financial difficulties and costs of expensive external financing proves that the risk management function may ultimately increase the company's value and to maximize the wealth of the owner. All theories start from the basic assumption on which the risk management function is justified if corporate benefits of such actions exceed the costs incurred and if the shareholders are not able to achieve the same effect with the help of diversification of risk in the capital market. In other words, risk management should ultimately result in greater value for shareholders than that these activities are not undertaken.

Over the past decade, the idea of corporate risk management has gained considerable momentum, and a large number of companies has

implemented systems and processes to support a coordinated and integrated approach to identifying, assessing and managing risk.

A literature review of the corporate risk management may commence with the article written by Nocco and Stulz (2006) in which they are on the best way summarized the theory of corporate risk management. They define the process of corporate risk management as an approach in which all risks are viewed as a whole in a coordinated and strategic framework and argue that corporate risk management creates value, because it strengthens the ability of companies to execute strategic plans, reducing the costs. According to them, empirical research on the management of corporate risk is limited, and can be classified into three groups: describing the practice of corporate risk management, analyzing the factors that affect the establishment of a process of corporate risk management, and assess the effectiveness of the process of corporate risk management. Accordingly, this work can be classified in the first group of research ie. describing the practice of corporate risk management.

Kleffner, Lee and Mcgannon (2003) discuss the setting up of corporate risk management in Canadian companies. The results showed that 31% of respondents have established a process of corporate risk management and the reasons for establishing the risk management process include the impact of risk managers, encouragement of administration, and the TSE guidelines. The main obstacles to the establishment of corporate risk management processes are the organizational structure that discourages risk management process and overall resistance to change.

Liebenberg and Hoyt (2011) in their paper examine the extent to which companies conduct the process of corporate risk management, and what are the values arising from this. They have their attention focused on US insurers in order to control the differences that may arise from regulatory and market differences across different industries. At the same time they are modelling the determinants of the process of corporate risk management and the impact of corporate risk management at the company's value. They assessed the effect of corporate risk management on Tobin's Q ratio and found a positive

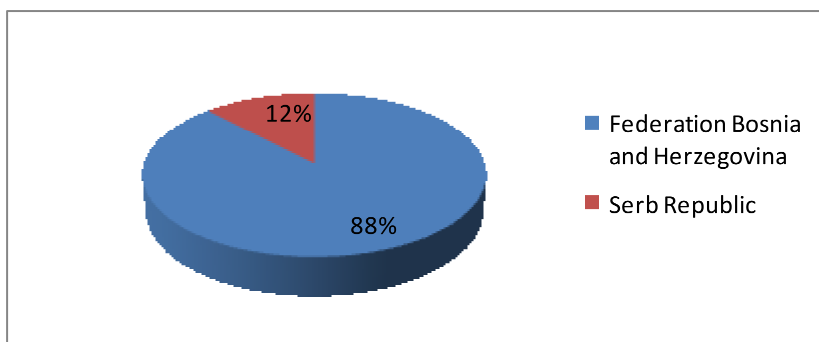
relationship between enterprise value and the process of corporate risk management.

Sprčić, Tekavčić, Šević (2008), Sučić, Milos Sprčić and Zoricic (2011) and Miloš Sprčić, Šević, (2008) investigated the practice of financial risk management in large Croatian non-financial companies, while the latter includes the comparison with Slovenian non-financial corporations. Research has shown that most of the analyzed companies use some form of interest rate, currency and price risk management. Companies primarily use simple methods of risk management such as natural hedging. The use of derivatives, forwards and swaps are by far the most widely used hedging instruments, while the Slovenian companies largely use futures. Among the most important reasons why Croatian companies do not manage risks are unsatisfactory offer of hedging instruments offered by domestic financial industry, the high cost of establishing and maintaining risk management programs and difficulties in assessing and dealing with derivative securities. Sučić, Milos Sprčić and Zoricic (2011) showed that the risk which the Croatian companies are most exposed is the risk of the price of inputs and outputs.

3. RESEARCH RESULTS

The study on development of corporate risk management process in the Bosnia and Herzegovina included only the largest Bosnian Herzegovinian companies. The sample was based up on the total revenue collected from financial statements of the companies. Data on corporate risk management were collected using a questionnaire. The questionnaire used in the study consisted of 11 questions. The questionnaire was sent to 120 companies from Bosnia and Herzegovina, where 66 companies provided the requested answers to questions. Of the 66 companies that responded to the questionnaire, 58 companies were from the Federation of Bosnia and Herzegovina, and 8 companies were from the Republic of Serbia (Figure 2).

Figure 2. Number of companies according to the entities.



Source: Authors

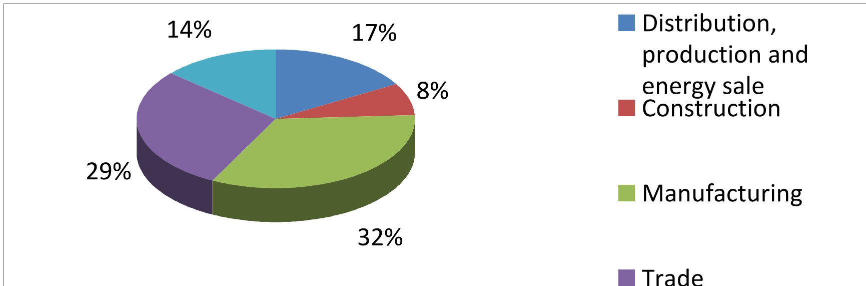
Table 1. Companies to the main activities carried out by

Activity	Number of companies	Structure
Distribution, production and energy sale	11	17
Construction	5	7
Manufactoring	22	33
Trade	19	29
Others	9	14
All	66	100

Source: author's calculations

Taken as a whole it is possible to perceive the four basic types of activities that companies perform, while other, less common activities are listed in category " Other " (Table 1). The largest number of companies belongs to the manufacturing sector with a share of 33%. The following companies engaged in trade with a 29% share, while the share of companies engaged in the distribution, production and sale of energy is 17%. The share of the construction sector amounted to 7%, or five companies. The remaining 14% of the companies fit into group "Others" (Figure 3).

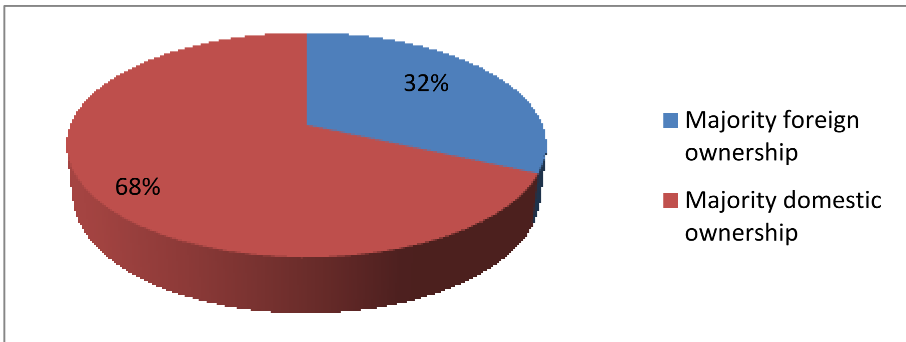
Figure 3. Enterprises to the main activities carried out by



Source: Authors

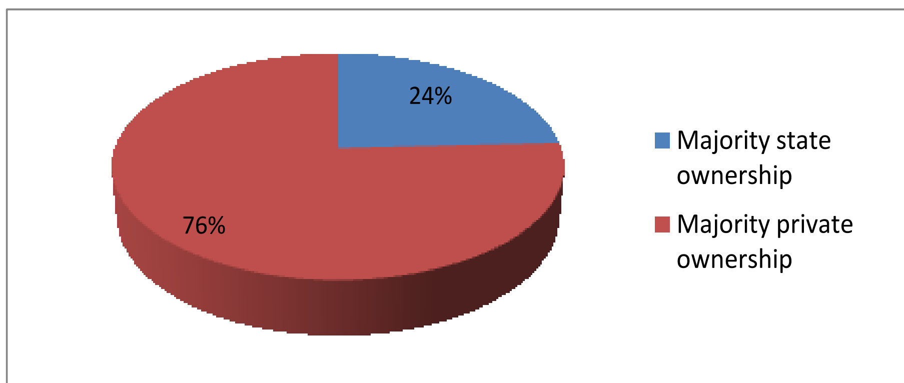
32% of the total number of the analyzed companies, is in majority foreign ownership (Figure 4). A share of more than 50% of the total, is considered under majority foreign ownership.

Figure 4. Distribution of firms by type of ownership (foreign and domestic ownership)



Source: Authors

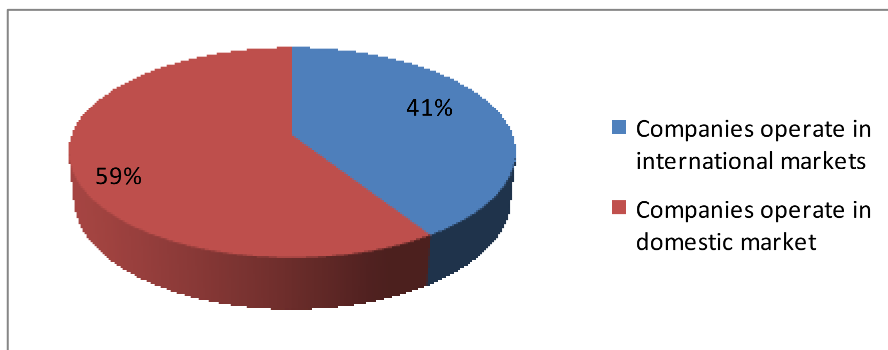
Figure 5. Distribution of companies by type of ownership (state and private property)



Source: Authors

From the observed 66 companies, 21 company or 32% is owned by the state. (Figure 5) Ownership share greater than 40% is considered as a majority share.

Figure 6. The number of companies operating in international markets



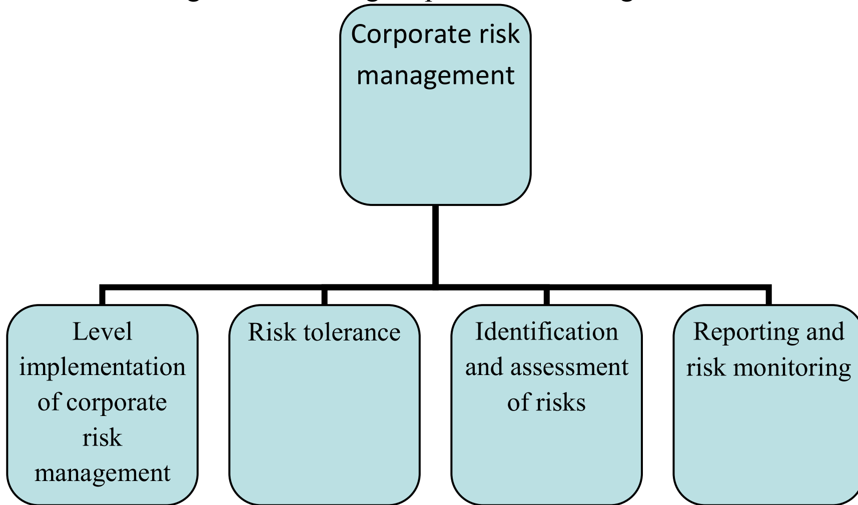
Source: made by the author

Of the total number of the analyzed companies, 41% of them operate in international markets, ie. export their goods and services, while 59% of companies operating exclusively in the domestic market. (Figure 6.) Variable corporate risk management was based on the

COSO framework that encompasses all components of corporate risk management and the level of the establishment process of corporate risk management estimates through the following indicators (Figure 1.):

1. level implementation of corporate risk management process,
2. risk tolerance,
3. identification and assessment of risks,
4. reporting and risk monitoring.

Figure 7. Defining corporate risk management



Source: Authors

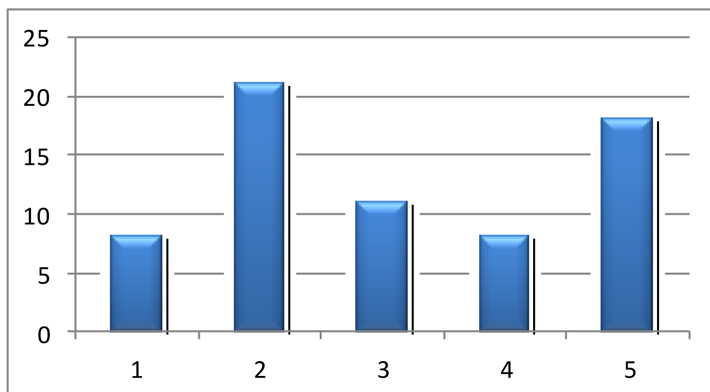
The level of implementation of the corporate risk management process is measured by the following scale:

1. risk management is primarily a result of occurred events; there are no plans to implement corporate risk management process,
2. company actively controls only segment of the total exposure to corporate risk; company is considering the implementation of the entire corporate risk management process,
3. company identifies, assesses and manages risks in certain areas; plans to implement a complete corporate risk management.
4. company identifies, evaluates and controls the strategic, operational and financial risks; company is in the process of establishing corporate risk management process,

5. company identifies, evaluates and controls the strategic, operational and financial risks; corporate risk management is part of the strategic planning cycle and control.

Figure 8, shows data on the level of implementation of the corporate risk management process in 2012. The largest number of companies (32%) actively controls only the segment of the total exposure to corporate risk, but is considering the implementation of the entire process of corporate risk management. 27% of the surveyed companies identifies, evaluates and controls the strategic, operational and financial risks and in those companies corporate risk management is a part of the strategic planning cycle and control. The share of companies that identify, assess and manage risks in certain areas is 17%, while the share of enterprises that in 2012 were in the process of establishing a complete process control corporate risk is 12%. However, still 12% of companies do not even manage corporate risk, and with them the risk management is primarily a result of incurred events.

Figure 8. The level of implementation of the process of corporate risk management



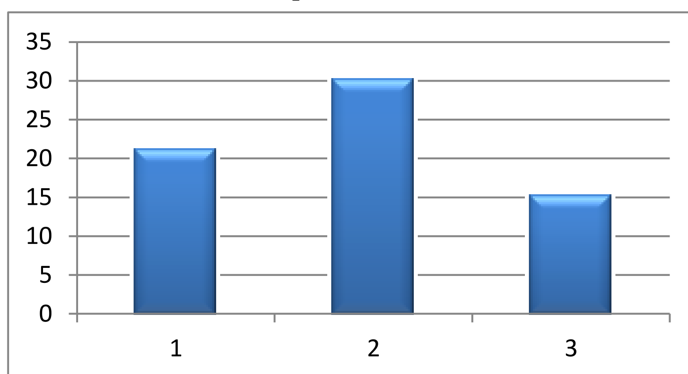
1 - risk management is primarily a result of incurred events; 2 - company actively controls only segment of the total exposure to corporate risk; company is considering the implementation of the entire process of corporate risk management, 3 - company identifies, assesses and manages risks in certain areas; 4 - the company is in the process of establishing a process of corporate risk management, 5 - company identifies, evaluates and controls the strategic, operational and financial risks.
Source: Author's calculations

Risk tolerance (explanation / quantification of risk tolerance), is measured using the following ordinal scale:

1. first risk tolerance is not well explained,
2. risk tolerance is explained with qualitative method,
3. risk tolerance is quantified.

In 2012, in almost half (45%) of surveyed companies risk tolerance is explained with qualitative method while in 23% of the company risk tolerance is quantified (Figure 9). However, in 32% of the companies risk tolerance is not explained.

Figure 9. Method of explanations / quantification of the risk tolerance of the companies in 2012



1 - companies whose risk tolerance is not explained; 2 - companies in which the risk tolerance is explained with the qualitative method; 3 - companies where the risk tolerance is quantified.
Source: Author's calculations

Identification and assessment of the risk is measured through the following indicators:
- the frequency of the risk assessment exercises -expresses the frequency of identification exercises, ie. the risk assessment at the company level:

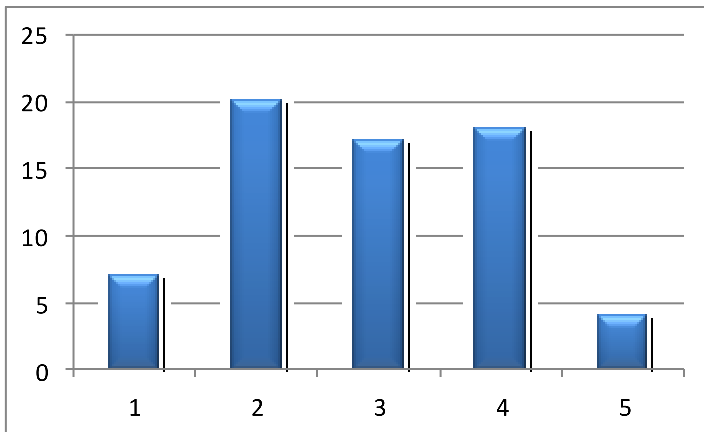
- 1 = never,
- 2 = a year,
- 3 = quarterly,
- 4 = monthly and
- 5 = per week.

- participation of lower levels of management - expresses the number of levels of management involved in the identification / risk assessment.

- rating 1 means that only the board of directors is involved,
- rating 2 means that the process includes board of directors and management at the level immediately below the board of directors, and
- rating 0 indicates that the company does not conduct periodic risk assessment.

- a quantitative estimate of risk - is the "dummy" variable which takes the value 1 if the enterprise uses one or more of the following four techniques: scenario analysis, sensitivity analysis, simulation, stress test.

Figure 10. Frequency rating of risk assessment at the company level in 2012

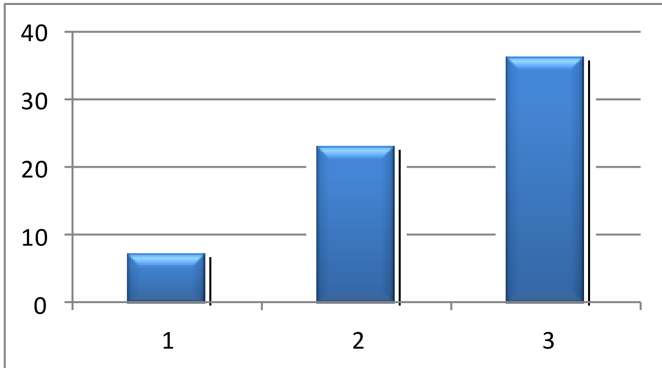


1 - companies that do not assess risks; 2 - companies that assess the risk once a year; 3 - companies that quarterly access risks; 4 - companies that assess risk monthly; 5 - companies that assess the risk weekly.
Source: author's calculations

In view of the frequency of risk assessment at the company level shown in figure 10, most of the companies assess risk on an annual (30.3%), quarterly (25.8%) and monthly (27.3%) level. A small number of companies (6%) carried out a risk assessment, even on a weekly basis while 10.6% of companies do not conduct a risk assessment. In 55% of the surveyed companies in the process of

identification / risk assessment (Figure 10) is included board of directors and management at the level immediately below the board of directors and in 35% of companies in the process of identification / risk assessment included only board of directors. Periodic risk assessment is not carried out in 10% of the companies.

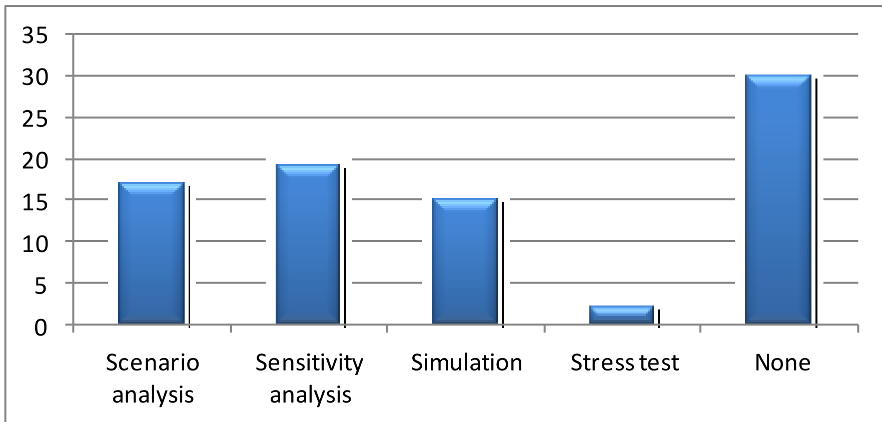
Figure 11. The number of levels of management involved in the identification / risk assessment in 2012



1 - companies that do not conduct periodic identification / risk assessment; 2 - companies in which the only board of directors is included in the identification / risk assessment; 3 - companies in which board of directors and management at the level immediately below the administration is included in identification / risk assessment.
Source: author's calculations

In terms of individual techniques of risk assessment, research has indicated that in 2012 26% of companies use scenario analysis for quantitative risk assessment (Figure 11). Furthermore, 29% of enterprises use a sensitivity analysis for the qualitative assessment of risk, while 23% of enterprises use simulation for quantitative risk assessment. Even 97% of companies do not use the test stress (stress testing) for quantitative risk assessment. On top of that, as much as 45% of companies do not use any of the following techniques (scenario analysis, simulation and stress test) for quantitative risk assessment.

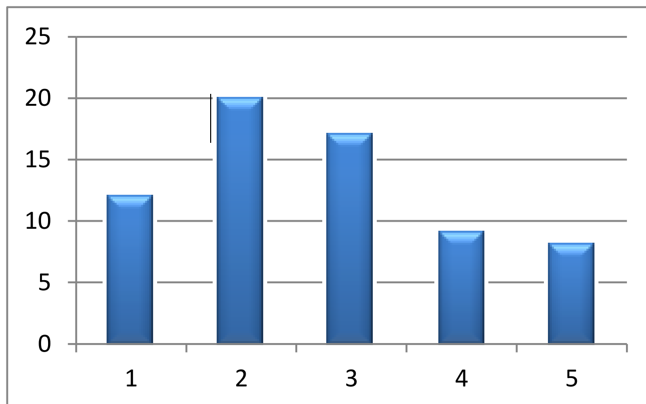
Figure 12. Quantitative risk assessment in 2012



Source: author's calculations

Figure 12 shows the frequency rating of reports about the risk of companies in 2012. Largest number of surveyed companies (30%) reports on risk on an annual basis. 26% of companies reports of risk on quarterly, 14% of companies report on the risk once a month, while 12% of companies report on risk on a weekly basis. Worth pointing out that even 18% of companies do not report on risk.

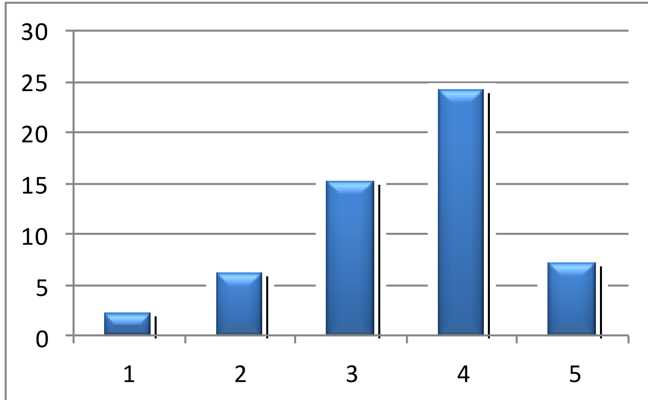
Figure 13. The rating frequency of reports about the risk in companies in 2012



1 - companies that do not report risk; 2 - companies that report on risk once a year; 3 - companies that report on risk on a quarterly basis; 4 - companies that report on risk monthly; 5 - companies that report on risk on a weekly basis.
Source: Author's calculations

Figure 13. shows the responses that companies gave to the last question in the questionnaire in 2012, which relates to the assessment of the quality of risk reports.

Figure 14. Quality score risk reports in 2012.



1 - companies whose risk reports assessed marks low; 2 - companies whose risk reports assess the grade of medium; 3 - companies that are risk reports assess the grade of good; 4 - companies that are risk reports assess the grade of very good; 5 - companies whose risk reports assess the grade of Excellent.
Source: Author's calculations

Most companies assess the quality of the report on risk assessment Very good. Best possible assessment of their risk evaluation characterized the 13% of companies, while only 4% of companies gave a bad score to quality of risk reports.

5. CONCLUSION

Information required for the empirical analysis were collected through a questionnaire to a sample of 66 large companies in Bosnia and Herzegovina. The study on the management of corporate risk in Bosnia and Herzegovina was concluded that most of the analyzed companies manage corporate risk, at least in certain segments. However, although most of the observed company monitors risks, worth pointing out that even 32% of the company does not elucidate the risk tolerance, and even 45% of companies do not quantify the risks.

Although it is evident that there is a certain level of the establishment of corporate risk management process in Bosnia and Herzegovina in the observed period, it can be concluded that the corporate risk management process is relative novelty among companies in Bosnia and Herzegovina. Of the 66 analyzed companies, one could set aside eighteen of them in which the corporate risk management process is fully implemented. Listed companies completely identify, evaluate and control the strategic, operational and financial risks, and corporate risk management is a part of their strategic planning cycle and control.

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