

Lidija Barjaktarović

Univerzitet Singidunum
lbarjaktarovic@singidunum.ac.rs

Renata Pindžo

Ministarstvo trgovine,
turizma i telekomunikacija
renata.pindzo@mtt.gov.rs

Katarina Đulić

Fakultet za Ekonomiju Finansije i
Administraciju (FEFA)
kdjulic@fef.a.edu.rs

Ana Vjetrov

Fakultet za Ekonomiju Finansije i
Administraciju (FEFA)
avjetrov@fef.a.edu.rs

Prevod
obezbedili
autori

ANALIZA PRIMENE ERM KONCEPTA U SRBIJI: UPOREDNA ANALIZA FINANSIJSKOG I REALNOG SEKTORA

Ovaj rad je deo istraživačkog projekta Unapređenje konkurentnosti Srbije u procesu pristupanja Evropskoj uniji, broj 47028, za period 2011-2016. godine koji podržava Ministarstvo za prosvetu i nauku Republike Srbije.

Rezime

Rad analizira nivo razvijenosti funkcije upravljanja rizicima, sa fokusom na ERM (*Enterprise Risk Management - Upravljanje rizikom u poslovanju preduzeća*) koncept, u kompanijama u Srbiji. Značaj rada je u proširivanju svesti, kako naučne javnosti tako i privrednih subjekata o potrebi uvođenja risk menadžment funkcije u cilju uspešnijeg rukovođenja preduzećima u realnom sektoru, a uvažavajući dobra iskustva poslovnih banaka u uspostavljanju iste. Istraživanje, sprovedeno u 2015. godini, je potvrdilo da su kompanije u Srbiji sklonije tradicionalnom pristupu upravljanju rizikom, da vlasnička struktura i veličina kompanije utiče na upoznatost sa ERM konceptom i njegovom primenom, kao i da u kompanijama u Srbiji još uvek ne postoje dobro razvijena organizaciona struktura kao ni sistem internih kontrola koji bi doprineli boljoj implementaciji samog ERM koncepta.

Ključne reči: ERM koncept, rizici, banke, kompanije, poslovno okruženje

JEL: D81, G31

IMPLEMENTATION OF THE *ERM* CONCEPT IN SERBIA: COMPARATIVE ANALYSIS - REAL SECTOR AND FINANCIAL SECTOR

Lidija Barjaktarović
Singidunum University
lbarjaktarovic@singidunum.ac.rs

Renata Pindžo
Ministry of Trade, Tourism
and Telecommunications
renata.pindzo@mtt.gov.rs

Katarina Đulić
Faculty of Economics, Finance
and Administration (FEFA)
kdjulic@fef.a.edu.rs

Ana Vjetrov
Faculty of Economics, Finance
and Administration (FEFA)
avjetrov@fef.a.edu.rs

Translation
provided by
the authors

This Research Paper was the part of the project "Advancing Serbia's Competitiveness in the Process of EU Accession", no. 47028, in the period 2011-2016, financed by the Serbian Ministry of Science and Technological Development.

Summary

The paper analyzes the level of development regarding risk management, with a special focus on ERM (Enterprise Risk Management) implementation in the Serbian companies. The aim is to raise the awareness regarding the successful risk management implementation in the companies in Serbia, using the bank sector as the benchmark and the example of good practice. The research was conveyed in 2015 and it confirmed the general trend that the companies in Serbia were more inclined to use traditional methods regarding risk management, that the ownership structure influenced the level of ERM awareness in the companies and finally that the Serbian companies lacked the supporting organizational structures and adequate systems of internal controls which would contribute to the successful ERM implementation.

Keywords: ERM concept, risk, banks, enterprises, business environment.

JEL: D81, G31

Uvod

Različiti globalni trendovi poslovanja, motivisani ostvarivanjem što većeg profita, su rezultirali potrebom za upravljanjem različitim rizicima poslovanja, bez obzira na industrijsku granu u kojoj kompanije posluju. Prepuštanje posla stručnim ljudima uticalo je na razvoj korporativnog upravljanja i razdvajanja funkcije vlasništva od funkcije upravljanja, što je dovelo do stvaranja funkcija koje direktno odgovaraju vlasnicima kapitala, kao što su upravljanje rizicima i interna revizija.

„Risk menadžment“ ili upravljanje rizikom je, u širem smislu, umetnost donošenja odluka u nepredvidivom okruženju. Upravljanje rizikom podrazumeva optimizaciju troškova rukovođenja rizikom i treba da je utemeljeno u poslovnoj filozofiji, kulturi i klimi organizacije. Ta funkcija je centralni deo strateškog menadžmenta i korporativnog upravljanja bilo kog privrednog subjekta. (Vaughan E. i Vaughan T., 1995.) Fokus dobrog upravljanja rizikom je na identifikaciji i mitigaciji (regulisanje) rizika. Ciljevi upravljanja rizikom su: (1) da privredni subjekt može da preživi gubitke i posle toga ostvari rast odnosno maksimizira profit, (2) da efikasno posluje u rizičnom okruženju, i (3) da usklađuje poslovanje sa zakonskim propisima. Upravljanje rizikom je dinamičan, neprekidan i stalno razvijajući proces koji se provlači kroz organizacionu strategiju i kroz implementaciju te strategije. (Barjaktarević L. 2013).

Organizacija COSO (*The Committee of Sponsoring Organizations*) je usvojila dokument Upravljanje rizikom preduzeća - integrisani okvir (*Enterprise Risk Management /ERM/ - Integrated Frame*) 2004. godine. Uprava ugrađuje ovaj koncept u svakodnevno poslovanje kako bi ga ocenila i unapredila. ERM koncept se definiše kao proces iniciran od strane upravnog odbora, menadžmenta i drugih zaposlenih i predstavlja sastavni deo strategije preduzeća. Cilj koncepta je identifikacija potencijalnih događaja, koji bi uticali na samo poslovanje u okviru postojećeg nivoa spremnosti kompanije za prihvatanjem određenog rizika.

U Srbiji, prema važećoj regulativi o privrednim društvima, nadležnost nadzornog odbora ili odbora direktora (u zavisnosti od pravne forme i odabranog sistema upravljanja)

je definisanje računovodstvenih politika društva i proces upravljanja rizikom (Zakon o privrednim društvima, "Sl. glasnik RS", br. 36/2011, 99/2011, 83/2014 - dr. zakon i 5/2015). U sektoru bankarstva i osiguranja relevantni zakoni o konkretnoj delatnosti i podzakonski akti (usklađeni sa Bazelom II i Solventnosti II) definišu način upravljanja rizicima.

Ovaj rad ima za cilj da prikaže nivo upoznatosti finansijskih direktora sa ERM konceptom i njegovom primenom u Republici Srbiji. Shodno tome, predmet istraživanja ovog rada je primenjenost i nivo razvijenosti ERM koncepta u Republici Srbiji.

Osnov za ovaj rad je istraživanje Jelenković i Barjaktarević (2016) na uzorku od 4.084 privredna društava koja su poslovala na dan 30.09.2015. godine u Republici Srbiji, a na osnovu dostupnih podataka na sajtovima pomenutih kompanija. U tom uzorku, 30 društava je iz bankarskog sektora (obuhvata ceo bankarski sektor), 25 je iz sektora osiguranja (obuhvata ceo sektor osiguranja), a 4.029 kompanija su iz realnog sektora i klasifikovane su kao velika preduzeća prema Zakonu o računovodstvu i reviziji, ("Sl. glasnik RS", br. 46/2006, 111/2009 i 99/2011 dr. zakon).

Uzorak obuhvata 80% velikih kompanija koje posluju u Republici Srbiji, prema ostvarenom prometu u 2014 godini.

Istraživanje je pokazalo da:

- Banke imaju najrazvijeniju funkciju za upravljanje rizikom. Funkcija je u bankama organizaciono dobro utemeljena. Organi za upravljanje rizikom u bankama su: upravni odbor, izvršni odbor, kreditni odbor, odbor za upravljanje aktivom i pasivom (ALCO) te funkcija (sektor, služba ili odeljenje) za upravljanje rizikom. Banka upravlja svim rizicima u skladu sa važećom regulativom (obuhvaćeno je do 17 rizika), sa posebnim fokusom na kapitalnim zahtevima za kreditni, tržišni i operativni rizik;
- Proces upravljanja rizicima je značajno manje razvijen kod društva za osiguranje. Zakonodavac i u ovoj industriji detaljno propisuje način upravljanja rizicima u društvima za osiguranje (posebno su izdvojeni predsednik društva za osiguranje i aktuar, a fokus je na upravljanju rizikom kroz adekvatnost kapitala i mere za

Introduction

Various global business trends, motivated by the achievement of greater profit, imposed the necessity to manage a variety of business risks, regardless of the sector within which the companies operate. The engagement of professional people in everyday business activities influenced the development of corporate governance and division of functions regarding ownership and management, which led to the creation of units within the company that directly correspond to the owners of capital, for instance the units like risk management and internal audit.

The definition of risk management in a broader sense is the ability of decision-making within unpredictable environments. Risk management includes optimization of costs regarding risk management and its origin should be sought within the business philosophy, culture and climate of the organization. This function is the central part of strategic management and corporate governance of any business entity (E. Vaughan and Vaughan T., 1995). The focus of successful risk management should be on the identification and mitigation (regulation) of risk. The objectives of risk management are: (1) for a business entity to overcome losses and after that continue with its growth and profit maximization, (2) to effectively operate within a risky environment, and (3) to comply with the legislation. Risk management is a dynamic, continuous and constantly evolving process that is a crucial part of the organizational strategy and its implementation (Barjaktarević L. 2013).

The Committee of Sponsoring Organizations - COSO adopted the document titled "Enterprise Risk Management (ERM) - Integrated Framework" in 2004. The management incorporated this concept into everyday business operations in order to assess it and improve it. The ERM concept is defined as the process initiated by the board of directors, management and other employees, and is a crucial part of the business strategy. The aim of the concept is to identify potential events that could affect the business operations within the current level of readiness of the company to accept certain risks.

In Serbia, according to the current

regulations on companies, the main task of the supervisory board or board of directors (depending on the legal form of the entity) is to define the company's accounting policies and risk management process (Law on Business Companies, "Official Gazette of RS" No. 36/2011, 99/2011, 83/2014 and 5/2015). The relevant legislation regarding the banking sector and insurance sector has already been harmonized with Basel II and Solvency II which define the implementation of risk management.

The aim of the paper is to present the level of familiarity of financial managers with the concept of ERM and its implementation in Serbia. Consequently, the focus of this paper is on its implementation and level of the ERM concept development in the Serbian companies.

The starting point for this paper is the earlier research done by Jelenković and Barjaktarević (2016) that included a sample of 4,084 companies operating in the Republic of Serbia as of 30.09.2015, based on the data available on the websites of these companies. Within the sample, 30 companies were from the banking sector (covering the whole banking sector), 25 from the insurance sector (covering the whole insurance sector) and 4,029 companies were from the real sector and were classified as large enterprises under the Law on Accounting and Auditing ("Official Gazette of RS", no. 46/2006, 111/2009 and 99/2011).

The sample included 80% of large companies operating in the Republic of Serbia, according to the turnover in 2014.

The study showed that:

- Banks have the most advanced functions for risk management. The concept itself is well established in banks. The risk management bodies in banks are: Management Board, Executive Board, Credit Committee, Asset and Liability Committee (ALCO) and units (sectors, departments or divisions) in charge of risk management. The bank manages the risks in accordance with the legislation (covering up to 17 types of risk), with a special focus on capital requirements for credit, market and operational risk;
- The risk management concept implementation is significantly less developed in the insurance companies in comparison to the banking sector. In this

obezbeđenje solventnosti). Međutim, u praksi, društva za osiguranje usmeravaju pažnju na kvantitativne indikatore, koji su bazirani na prethodnim zakonom definisanim iskustvima praćenja (kao što su: margina solventnosti, garantna rezerva, kvalitet imovine, tehnički rezultat). Društva izveštavaju uglavnom o dva osnovna rizika - riziku osiguranja i finansijskim rizicima;

- Upravljanje rizicima je najnerazvijenije u privrednim društvima u realnom sektoru i svedeno je na zakonski minimum, odnosno ono što je definisano Međunarodnim računovodstvenim standardom 7 (vrste finansijskih rizika o kojima se izveštava). Svi analizirani privredni subjekti izveštavaju da društvo vodi računa o rizicima, ali bez imenovanja nadležnih organa; takođe, društva u realnom sektoru navode da upravljaju sa 3 osnovna rizika u poslovanju (kreditnim, tržišnim i rizikom likvidnosti). Međutim, iz prezentovanih informacija u zvaničnim finansijskim izveštajima kompanija vezanim za upravljanje rizikom ne može se doći do jasnog zaključka da li preduzeće uspešno upravlja istim. Shodno tome, ovo istraživanje se razlikuje od prethodnih po sprovedenom primarnom istraživanju, odnosno intervjuisanju finansijskih direktora (u formi upitnika), uspešnih kompanija u Republici Srbiji, u cilju utvrđivanja upoznatosti sa ERM konceptom i njegovoj primeni u toku 2015. godine.

Osnovne hipoteze istraživanja su: (H1): Kompanije u Srbiji su sklonije tradicionalnom pristupu upravljanju rizikom a ne primeni savremenih koncepata upravljanja rizikom poput ERM. (H2) Vlasnička struktura kao i veličina kompanija utiče na upoznatost sa ERM konceptom i njegovom primenom. (H3): U većini kompanija u Srbiji još uvek ne postoje ni dobro razvijena organizaciona struktura ni sistem internih kontrola koji bi doprineli boljoj implementaciji samog ERM koncepta.

Rad se sastoji iz pet celina, uključujući uvod i zaključak. U drugom delu rada biće dat pregled literature. Potom će u trećem delu rada biti prezentovana metodologija istraživanja. U četvrtom delu, će biti prikazani rezultati istraživanja. Na kraju će biti data zaključna razmatranja.

Pregled literature

Kontekst neizvesnih uslova u kojima firme posluju svakodnevno nameće mnoštvo rizika koji čine sastavni deo života i rada svih ekonomskih činilaca. Barjaktarević (2013) ističe da, iako su neizvesnost i rizik integrirani deo poslovanja firmi, kao naučna oblast rizik ima kratku istoriju. Sama ideja vezana za rizik datira tek od 1921. godine. Barjaktarević (2013) definiše rizik kao situaciju u kojoj postoji mogućnost neželjenog odstupanja od očekivanog ishoda. Danas, pojam upravljanja rizicima dobija sve veći značaj, posebno u kontekstu strvaranja dodate vrednosti za vlasnike firme. Istraživanja poput onoga koji su sprovedli autori *McShane M. et al.* (2011) koje je obuhvatilo 83 kompanije, čijim akcijama se javno trguje na berzi, utvrdila su vezu između indikatora TRM (*Total Risk Management* - upravljanje ukupnim rizikom) i vrednosti preduzeća merenom tržišnom kapitalizacijom.

Međutim, neizvesne okolnosti nameću potrebu za savremenijim pristupom upravljanju rizikom u odnosu na tradicionalni koji podrazumeva izolovano upravljanje rizicima na nivou pojedinih odeljenja, zanemarujući činjenicu da rizici mogu biti i najčešće i jesu međusobno povezani i kao takvi mogu izazvati i veću štetu (Đorđević *et al.*, 2012). Tradicionalnom pristupu nedostaje fleksibilnost i, u savremenim okolnostima poslovanja, on postaje neefikasan. Suštinski, menja se ceo koncept po kome se na rizik gleda kao nešto što nužno treba izbegavati. Upravo pomenuto je dovelo do razvijanja jednog novog koncepta nazvanog *upravljanje rizikom preduzeća* (*Enterprise Risk Management* - ERM koncept), iniciranog od strane COSO 2004. godine u dokumentu *ERM - Integrated Framework*, koji je trenutno u fazi modifikacije u periodu od juna do septembra 2016. godine.

U samom dokumentu ERM koncept (Slika 1):

- Predstavlja proces iniciran od strane uprave, menadžmenta i drugih zaposlenih, koji ujedno predstavlja sastavni deo strategije preduzeća u cilju identifikacije potencijalnih događaja koji bi uticali na samo poslovanje;
- Obuhvata sve rizike (strateške, operativne, finansijske, državne i političke, rizike životne sredine, usklađenosti poslovanja /*compliance*

industry, too, the legislation defines the obligations of the insurance companies regarding the successful ERM concept implementation (with a special focus on the duties of the company's chairman and actuary), the focus being on managing risk through capital adequacy and solvency indicators. However, in their everyday business activities insurance companies pay a great deal of attention to quantitative indicators, such as solvency margin, level of reserves, quality of assets, technical result). The companies mainly report on the two main risks - insurance and financial risks;

- Risk management is the least developed in the companies within the real sector where the concept is reduced to the legal minimum, that is, it complies only with the International Accounting Standard 7 (especially the risks that are defined within the document). All analyzed companies take the risks into account, but without explicitly naming the bodies that are in charge for risk monitoring; also, the companies operating within the real sector noted that they manage the three main business risks (credit, market and liquidity risk). However, the officially presented information and financial statements of the companies regarding risk management do not lead to an easy conclusion about whether the companies successfully managed the risks or not. Consequently, this study differs from the previous one because it also includes the interviews of the financial directors (in the form of a questionnaire) with a view to establishing the level of familiarity with the concept of ERM and its implementation in 2015.

The hypotheses in the paper are: (H1): The companies in Serbia are more prone to use the traditional approach regarding risk management in comparison to the concepts of risk management such as ERM. (H2) The ownership structure as well as the size of the company influences the familiarity with the concept of ERM and its implementation. (H3): The majority of companies in Serbia lack the developed organizational structure and the system of internal controls that would contribute to the better implementation of the ERM concept.

The paper consists of five sections, including the introduction and conclusion. The second part presents the literature review. Subsequently, the third part of the paper elaborates on the research methodology. The fourth part features the research results. The paper is finalized with the relevant conclusion.

The literature review

The uncertain conditions and the changing business environment in which companies perform their daily operations impose a wide range of risks which are an integral part of the everyday business life of all entities. Barjaktarović (2013) pointed out that, although uncertainty and risk represent an integral part of companies' everyday operations, risk management has a relatively brief history as a scientific field. The very notion of risk dates back to 1921 (Barjaktarovic 2013). Barjaktarović (2013) defined risk as a situation in which there is a possibility of unwanted deviations from the expected outcomes. Today, the concept of risk management is gaining growing importance, especially in the context of the creation of the value added to the companies' owners. McShane M. et al (2011) conducted the research which included 83 companies, whose shares were publicly traded on the stock exchange, and they established the link between the TRM (Total Risk Management) indicators and the value of the company measured by market capitalization.

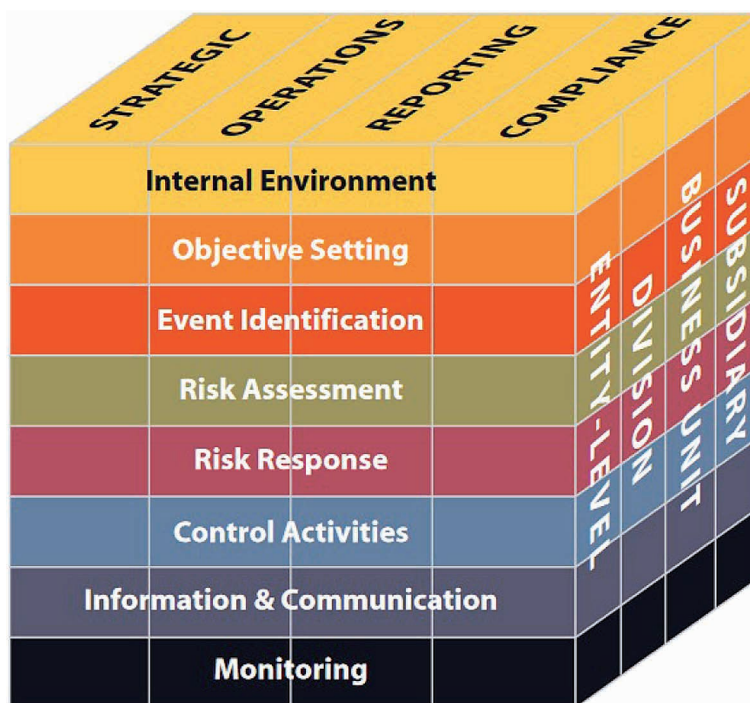
However, the uncertain business environment imposes the need for a more modern approach regarding risk management in comparison to the traditional, which implied an isolated risk management at the level of each business unit, ignoring the mutual dependence and correlation of different types of risks (Djordjevic et al, 2012). The traditional approach lacks flexibility and, in the current business conditions, it appears to be inefficient. Finally, the whole concept dealing with the risk as something that must be avoided became insufficient. Consequently, this led to the development of a new concept called the Enterprise Risk Management - ERM concept, initiated by the COSO 2004 document "ERM - Integrated Framework", which is still undergoing some modifications.

risk/ i reputacione) koje dokument sagledava u isto vreme sa koordiniranim i strateškim okvirom (Dash et al. 2010);

Svrha primene samog koncepta je postizanje sledećih ciljeva: strateških i operativnih, ciljeva pouzdanog i sigurnog izveštavanja i poslovanja u skladu sa zakonom;

Sam koncept obuhvata tri dimenzije: proces upravljanja rizikom, interno okruženje i organizacioni nivo. Prva dimenzija, proces upravljanja rizicima, obuhvata osam komponenti: interno okruženje, postavljanje ciljeva, identifikacija događaja, procena rizika, reakcija na rizik, kontrolne aktivnosti, informacije i komunikacija i nadzor. Dimenzija interno okruženje se odnosi prevashodno na visinu rizika koje je preduzeće spremno da snosi, postavljanje ciljeva ističe važnost usklađenosti ciljeva kompanije sa samom strategijom kao i nivoom rizika koji je kompanija spremna da prihvati. Ističe se bitnost procene rizika, ali i odgovora na rizik u smislu prihvatanja, izbegavanja, smanjenja kao i njegove podele. U okviru druge dimenzije ističe se i važnost kontrolnih aktivnosti, bitnost razmene informacija kao i značaj dobrog nadzora primene samog koncepta. Na kraju, treća dimenzija u okviru ERM koncepta obuhvata nivo organizacione jedinice (filijale, poslovne jedinice, divizije ili nivo čitavog preduzeća) koja učestvuje u samom procesu implementacije koncepta.

Slika 1 ERM koncept



Izvor: Sajt COSO, Enterprise Risk Management-Integrated Framework (2004),
dostupno na http://www.coso.org/documents/COSO_ERM_ExecutiveSummary.pdf

Lundqvist (2014) u svom istraživanju koje je obuhvatalo 676 kompanija čijim se akcijama trguje na berzi (173 kompanija u Danskoj, 123 u Finskoj, 147 u Norveškoj i 233 u Švedskoj) je ukazao na neophodnost realizacije svih komponenti kako bi kompanija uspešno primenila ERM koncept u svakodnevnom poslovanju. U radu se ističe i važnost organizacione strukture i naglašava se da svako u kompaniji snosi odgovornost za upravljanje rizicima. Izvršni direktor snosi krajnju odgovornost. U okviru izvršnog odbora (IO), drugi direktori podržavaju primenu samog koncepta, dok relativno novo zanimanje menadžer za upravljanje rizikom (*Chief Risk Officer*), finansijski direktor (*Chief Finance Officer*) i Odbor za internu reviziju imaju ključnu ulogu u primeni koncepta. Ostali zaposleni imaju zadatak da primenjuju koncept

Within this document the ERM concept (Figure 1):

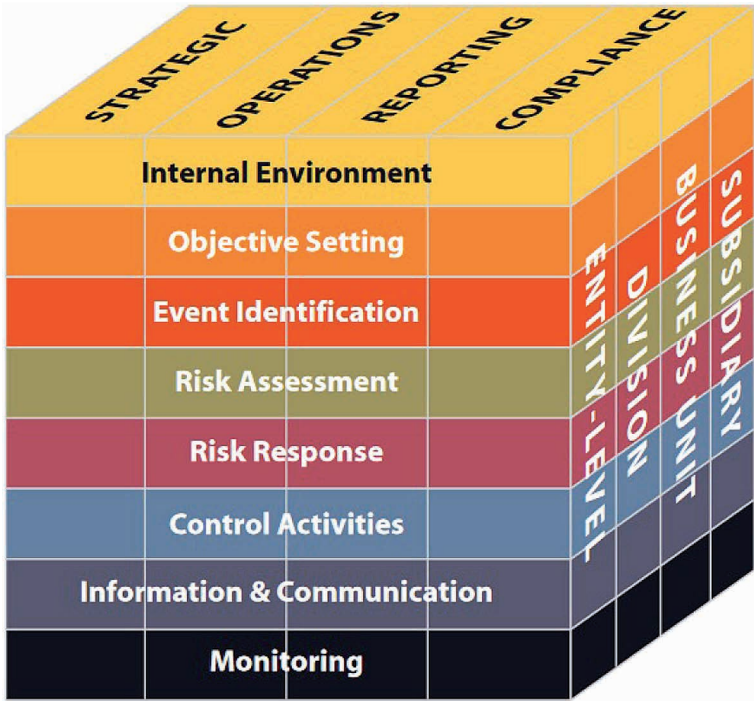
- Represents the process initiated by the owners, board of directors, management and other employees, representing an important part of the strategy with the aim to identify potential events that could affect business operations;
- Covers all the risks (strategic, operational, financial, political, environmental, compliance and reputational risks) in accordance with the coordinated strategic framework (Dash et al, 2010);

The purpose of ERM implementation is to achieve the strategic and operational goals, to accomplish reliable and accountable financial reporting and performance of the companies in accordance with the legislation;

The concept includes three dimensions: the process of risk management, the internal environment and the organizational level. The first dimension, i.e. the risk management process, includes eight components itself: internal environment, objective setting, event identification, risk assessment, risk response, control activities, information and communication and monitoring. The dimension of the internal environment primarily deals with the amount of risk that the company is ready to bear; setting the objectives emphasizes the importance of the company's compliance with the strategy and the level of risk that it is willing to accept. The document underlines the importance of risk assessment, and response to the risk in terms of its avoidance, acceptance, reduction and sharing. The second dimension emphasizes the importance of control-related activities, the importance of information exchange and the

importance of good supervision of the concept implementation. Finally, the third dimension of the ERM concept introduces the importance of the organizational level (entity level, division, business unit or subsidiary) at which the concept is implemented.

Figure 1. ERM Concept



Source: COSO website, Enterprise Risk Management-Integrated Framework (2004), available at http://www.coso.org/documents/COSO_ERM_ExecutiveSummary.pdf

Lundqvist (2014), in the study that included 676 companies whose shares were traded on the stock exchange (173 companies in Denmark, 123 in Finland, 147 in Norway and 233 in Sweden) pointed out the necessity of implementing all the components for the successful ERM implementation in everyday business. The paper highlighted the importance of organizational structure and emphasized the responsibility of every employee for successful risk management. The Executive Director has the ultimate responsibility for the ERM implementation. Within the Executive Board, other directors support the implementation of the whole concept, while the relatively new positions of CRO (Chief Risk Officer), CFO (Chief Financial Officer) and the Committee for Internal Audit have the key role in implementing the concept. Other employees have the responsibility for implementing the

po dobijenim uputstvima, dok upravni odbor (UO) mora kontrolisati primenu koncepta u skladu sa postavljenom strategijom i zadatim ciljevima. Posebno se ističe važnost interne kontrole kao sastavnog dela samog koncepta.

Rezultati istraživanja *Baxter et al.* (2013), sprovedenog na 60 finansijskih institucija koje imaju *Standard & Poor* rejtinge u periodu od 2006. do 2008. godine, ukazuju da kompanije koje primenjuju ERM koncept imaju kompleksniju organizacionu strukturu, efikasniju primenu korporativnog upravljanja kao i veću dostupnost finansijskim sredstvima. Isto je povezano i sa nalazima *Hoitash et al.* (2009) koji navode da je bolja interna kontrola koja prati COSO standarde povezana sa doslednijom primenom principa korporativnog upravljanja. Taj rezultat još jednom ukazuje na značaj veze između organizacione strukture i upravljanja rizicima. *Barjaktarević et al.* (2014) pokazuju da uspešna primena ERM koncepta doprinosi povećanju vrednosti kompanije. Ipak, prethodna istraživanja su pokazala da najava kompanije o imenovanju novog menadžera za upravljanje rizikom (CRO) ne povećava tržišnu vrednost kompanije (*Beasley et al.* 2008).

Na kraju, autori *Pagach et al.* (2011) su istakli da faktori koji utiču na uspešnost implementacije ERM koncepta su veličina, vlasništvo, volatilnost novčanih tokova kao i delatnost preduzeća (uzorak od 138 kompanija u periodu od 1992. do 2005. godine). Osnovni nalazi ukazuju da su veće kompanije, kao i kompanije u stranom vlasništvu, te preduzeća volatilnijih novčanih tokova i kompanije koje posluju u finansijskom sektoru, bile uspešnije u implementaciji koncepta u odnosu na druga preduzeća. Pomenuti nalazi su bili polazni osnov za formiranje hipoteza rada.

Metodologija

Autori su za potrebe istraživanja napravili upitnik koji ima 45 pitanja i koji se sastoji iz četiri dela: (i) pitanja koja se tiču budžetiranja i troška kapitala; (ii) pitanja vezana za strukturu kapitala i testiranje *pecking order* teorije u praksi sprksih kompanija; (iii) pitanja koja utvrđuju politiku isplate dividendi i (iv) funkciju

upravljanja rizikom. U radu će se analizirati IV deo upitnika - 10 pitanja koja se odnose na tematiku upravljanja rizikom. Upitnik takođe sadrži i deo sa pitanjima vezanim za delatnost, veličinu, vlasničku strukturu itd. Model koji je pomogao u sastavljanju upitnika je istraživanja koje su sproveli *Graham i Harvey* 2001. godine (od 15 pitanja), na uzorku od 4.400 kompanija i 392 direktora.

Od ispitanika (CFO) je traženo da ocene poznavanje ERM koncepta, uticaj organizacione strukture kompanije na implementaciju samog koncepta, kao i učestalost rizika sa kojima se susreću u svakodnevnom poslovanju od 1 do 5 (1 "nikad" i 5 "uvek"). Nacrt upitnika je poslat na komentare finansijskim analitičarima/konsultantima pre samog slanja ispitanicima. Upitnici su poslani CFO putem maila, a autori rada su u slučaju nekih nejasnoća imali pravo da pozovu ispitanika telefonom, kako bi otklonili svaku nejasnoću.

Upitnik je popunilo 65 CFO kompanija od ukupno 392 kojima je poslat upitnik. Osnovni kriterijum za formiranje uzorka je bio raznolikost poslovanja, odnosno cilj je bio da se pokrije što veći broj delatnosti, kako bi se došlo do relevantnih zaključaka. Stoga, autori su nastojali da uzorak obuhvati preduzeća različite veličine, tipa vlasništva, delatnosti, kako bi imali realniju sliku i utvrdili eventualne razlike u primeni koncepta koje su uslovljenje karakteristikama preduzeća. U samom uzorku u pogledu veličine kompanija, 34% predstavljaju mikro preduzeća, 20% mala, 20% srednja i 26% velika. Ako se analizira vlasništvo, 40% kompanija je u stranom vlasništvu, a 60% u domaćem. Kompanije u uzorku su raspoređene po delatnostima na sledeći način: 25% kompanija spada u prerađivački sektor, 20% u finansijski, 20% u sektor maloprodaje i prodaje na veliko, 15% je u sektoru turizma, 5% su telekomunikacije, IT sektor čini 5% a konsalting 10% uzorka.

Rezultati su analizirani u programu SPSS.

Rezultati

Grafikom br. 1 su prikazani odgovori direktora na pitanje vezano za upoznatost sa ERM konceptom.

concept according to the given instructions, while the Board of Directors is obliged to control the implementation of the concept in accordance with the defined strategy and goals. Furthermore, the role of internal control is emphasized as another integral part of the concept.

The survey conducted by Baxter et al (2013), which included 60 financial institutions with a Standard & Poor's rating in the period from 2006 to 2008, showed that the companies which had been applying the concept of ERM had a complex organizational structure, a more successful implementation of corporate governance principles and the greater accessibility to financial resources. Similarly, the findings of Hoitash et al (2009) showed that the better internal controls complying with the COSO standards led to the better implementation of the corporate governance principles. The result once again showed the importance of the link between organizational structure and risk management.

Barjaktarović et al (2014) pointed out that the successful implementation of the ERM concept contributes to increasing the company's value. However, the previous research showed that the company's announcement of the appointment of a new Risk Management Officer (CRO) did not increase the market value of the company (Beasley et al 2008). Finally, Pagach et al (2011) stressed that the factors which influenced the success of the implementation of the ERM concept included the size, ownership, volatility of cash flows and sector (the sample of 138 companies from 1992 to 2005). The main findings indicated that large companies, as well as companies with foreign capital, companies with more volatile cash flows and companies operating within the financial sector, were more successful in implementing the concept in comparison to other companies. The already mentioned findings were the starting point for defining the hypotheses of this paper.

Methodology

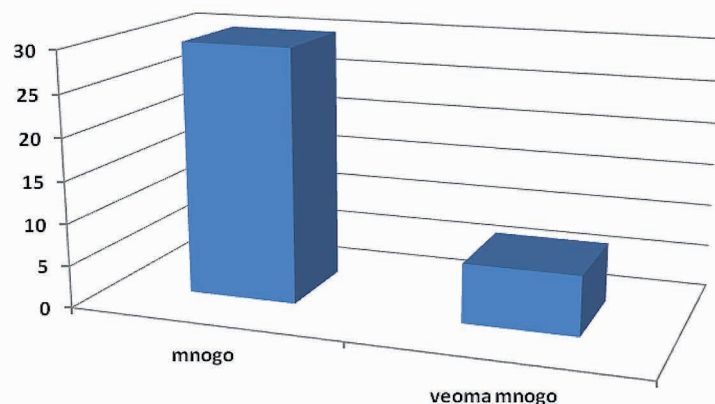
The authors have created the questionnaire (based on Graham and Harvey survey in 2001)

comprised of four sections (45 questions): capital budgeting techniques and cost of capital, capital structure and pecking order theory, dividend policy and enterprise risk management concept (ERM concept).

This paper will analyze the forth part of the questionnaire - i.e. the 10 questions related to the topic of risk management. The respondents (CFO) were asked to estimate their familiarity with the ERM concept, the impact of the company's organizational structure on the implementation of the concept, as well as the frequency of risk they encounter in their everyday operations 1-5 (1 "never" and 5 "always"). The draft questionnaire was sent for comments to financial analysts/consultants before being sent to the respondents. The questionnaires were sent to the CFOs via e-mail, and the authors of the paper had the opportunity to call the respondents by telephone, in order to avoid any potential ambiguities.

The questionnaire was completed by 65 CFOs out of the total of 392 originally sent questionnaires. The main criterion for forming the sample was the versatility of operations, the aim being to cover as many industries as possible, in order to reach the relevant conclusions. Thus, the authors tended to include as many companies as possible varying in size, ownership and field of activity, in order to get the realistic picture and detect any potential differences in the concept implementation conditioned by the company's characteristics. Within the sample, the companies range from micro to large companies (micro 34%, small 20%, medium 20%, and large 26%). Furthermore, the analysis of ownership shows that 40% of the companies within the sample are foreign-owned firms and 60% are domestic ones. In the end, 25% of firms in our sample are manufacturers. The non-manufacturing firms are equally distributed across the following industries: financial (20%), retail and wholesale (20%), tourism (15%), telecommunication (5%), IT sector (5%) and consulting companies (10%). We have analyzed the responses according to the companies' characteristics (size, ownership, industry). The period of analysis is 2015. The results were analyzed in SPSS.

Grafik br. 1. Procenat odgovora direktora (CFOs) vezano za upoznatost sa ERM konceptom



Izvori: Rezultati istraživanja koje su sprovedi autori rada

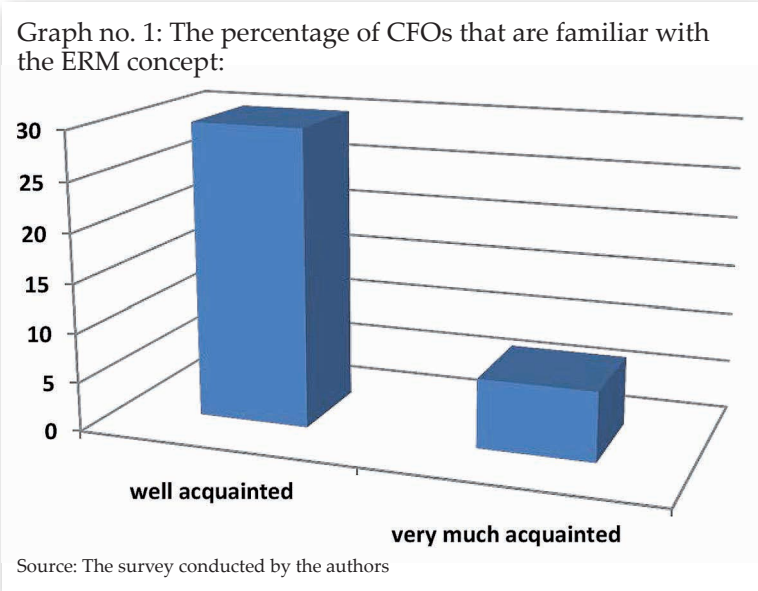
Mali procenat ispitanika je odgovorio da je upoznat sa *ERM* konceptom (svega 37% ispitanika). Pomenuti rezultat ukazuje na činjenice: (1) da je *ERM* pristup upravljanju rizicima još uvek koncept koji je u nedovoljnoj primeni u Srbiji; i (2) da je čitav koncept ranog identifikovanja, reagovanja kao i upotrebe savremenih metoda kvantifikacije rizika nedovoljno prisutan u kompanijama u Srbiji. Ispitanici su naveli da najviše pažnje posvećuju finansijskom i reputacionom riziku, ali sem svesti o njihovom značaju za poslovanje kompanije i poslovne rezultate evidentno je odsustvo komponenti upravljanja rizicima. Tako na primer nedostaje podrška i integracija strategije upravljanja rizicima s poslovnim procesima unutar društva, nema izgradnje adekvatnog sistema internih kontrola i optimizacija postojećeg sistema upravljanja rizicima, nema adekvatnog nadzora kao ni procene, merenja i konsolidacije rizika na nivou cele organizacije. Kao što je već dokazano u istraživanju koje je sproveo *Lundqvist* (2014), realizacija svih komponenti upravljanja rizikom je preduslov uspešne implementacije *ERM* koncepta. Ako se analiziraju odgovori vezani za implementaciju metoda upravljanju rizikom većina ispitanika preferira metode izbegavanja i smanjenja rizika (65% i 73%), u odnosu na metode zadržavanja rizika i njegovog prenosa (10% odnosno 21% preferira pomenute metode). Takođe, samo 10% ispitanika je navelo da koristi matrice rizika pomoću koje se identifikovani rizici kvantifikuju i konsoliduju u registar rizika. Pomenuti rezultati ukazuju da finansijski

direktori u Srbiji preferiraju tradicionalniji i neformalan pristup upravljanja rizikom u odnosu na savremene metode koje ukazuju da preuzimanje rizika može doneti unapređenje poslovanja preduzeća. Upravo pomenuti rezultati potvrđuju prvu hipotezu našeg rada koja glasi da su kompanije u Srbiji sklonije tradicionalnom pristupu upravljanju rizikom a ne primeni savremenih konceptata upravljanja rizikom poput *ERM* podržanih odgovarajućim softverskim alatima.

Ako se analiziraju sektori, rezultati su pokazali da su kompanije u finansijskom sektoru, IT kompanije i kompanije koje posluju u prerađivačkom sektoru, u većoj meri upoznate sa *ERM* konceptom u odnosu na kompanije koje posluju u drugim delatnostima. Rezultati dalje pokazuju da su u primeni ovog koncepta uspešnije finansijske institucije, pre svega banke. To se moglo očekivati pošto one imaju zakonsku obavezu prilagođavanja svoje organizacione strukture kako bi se unapredio proces upravljanja rizicima, vršila njihova adekvatna kvantifikacija i uveo neophodni sistem internih kontrola. Pomenutom je, dakle, doprinela i primena Bazela II u zemlji, ali i iskustva banaka tokom finansijske krize. Takođe, stres testovi su se pokazali kao dobro rešenje prevencije. Matić (2016) ističe da je stres test važan alat kojim se analizira sposobnost finansijske institucije da obavlja svoju delatnost u uslovima simulirane situacije stresnog događaja ili krizne situacije i doprinosi uspešnijem upravljanju rizicima. U našem istraživanju, rezultati su pokazali da u okviru finansijskog sektora, primena koncepta *ERM* se uglavnom odnosi na banke, a ne na osiguravajuće kompanije (samo 10% ispitanika koji su zaposleni u osiguravajućem sektoru se pozitivno izjasnilo o primeni *ERM* koncepta). Pomenuti nalazi su potvrdili zaključke prethodnog istraživanja sprovedenog od strane Barjaktarević et al. (2014). Takođe, veličina kompanija utiče na upoznatost i primenu *ERM* koncepta, kao i struktura vlasništva, što je prikazano na sledećim grafikonima.

The Results

The results of the research conducted by the authors are presented on the following graph illustrating the familiarity with the ERM concept.



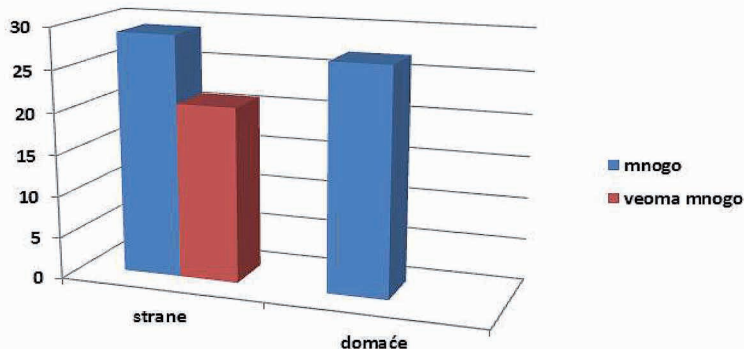
The small percentage of respondents answered that they are familiar with the ERM concept (only 37% of respondents). The above-mentioned result indicates the following facts: (1) that the ERM is a concept with poor actual implementation within the companies in Serbia; and (2) that the whole concept of early identification, response and use of modern methods for quantifying risk is not well developed within the Serbian companies. The respondents indicated that they pay most attention to the financial and reputational risk, but apart from the awareness regarding their importance the actual implementation of risk management and its quantification are lacking. For example, there is an evident lack of correlation and coordination between risk management strategies and their connection to the organizational level, there is a weak and poorly developed system of internal control and an inefficient current risk management system, there is no adequate supervision or assessment, quantification and consolidation of risks at the company level. Furthermore, as already mentioned in a survey conducted by Lundqvist (2014), the realization of all the components of risk management is a prerequisite for the successful implementation of the ERM concept.

When we analyze the responses related to the implementation of the risk management methods, most of the respondents prefer the method of risk avoidance and reduction (65% and 73%, respectively), in comparison to the methods of risk retention and risk transfer (10% and 21%, respectively). Furthermore, only 10% of the respondents reported using a risk matrix by which the identified risks are quantified and consolidated into a risk register. The results indicate that CFOs in Serbia prefer a more traditional and informal approach to risk management as opposed to the modern methods, which rely on the concept that risk-taking may bring improvement to the companies' business results. Consequently, the results confirm the first hypothesis of the paper, stating that the companies in

Serbia are more prone to using the traditional techniques regarding risk management and not inclined to use the concepts of risk management such as the ERM supported by the appropriate software tools.

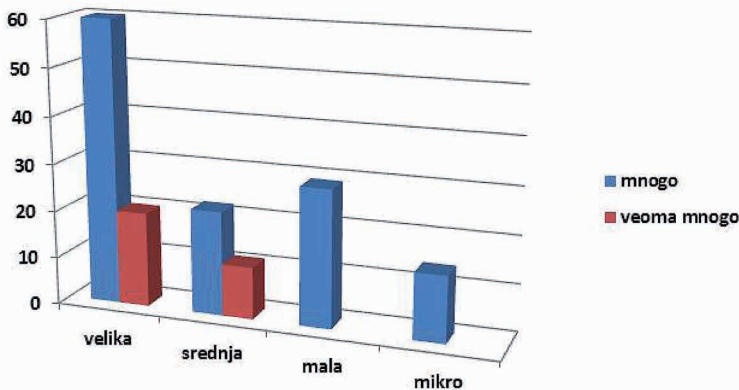
If we do the sector analysis, the results show that companies in the financial sector, IT companies and companies operating in the manufacturing sector, are more familiar with the ERM concept in comparison to the companies operating in other industries. The results further show that the application of this concept is done most successfully by financial institutions, especially banks. The results were expected, due to the fact that banks have the legal obligation to adapt their organizational structure in order to improve the risk management process, to calculate their capital adequacy ratio and to introduce the mandatory system of internal controls. The implementation of Basel II in the country contributed to the whole process as well, but also the experience of banks during the financial crisis. In addition, the stress tests have proved to be a good solution in terms of prevention. Matic (2016) pointed out that the stress test is an important tool for analyzing the ability of financial institutions to carry out their business activities in simulated

Grafik br. 2. Procenat odgovora direktora (CFOs) vezano za upoznatost sa ERM konceptom - podela prema strukturi vlasništva



Izvori: Rezultati istraživanja koje su sproveli autori rada

Grafik br. 3. Procenat odgovora direktora (CFOs) vezano za upoznatost sa ERM konceptom - podela prema veličini preduzeća



Izvori: Rezultati istraživanja koje su sproveli autori rada

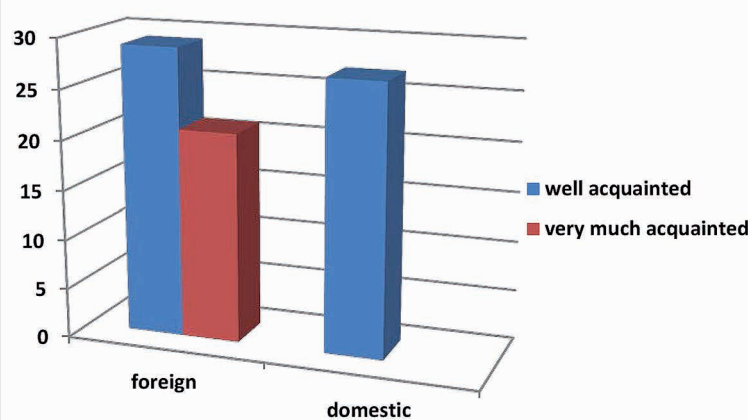
Rezultati pokazuju da je najveći procenat stranih kao i velikih preduzeća (50% i 80%) od 65 analiziranih kompanija upoznato sa ERM konceptom (Grafici br. 2 i 3). Takođe, interesantno je da je veliki procenat finansijskih direktora u stranim kompanijama odgovorilo da primenjuju metod prenosa rizika (preko 60%), pored metoda izbegavanja i smanjenja rizika (60% i 80%). Takođe, potrebno je napomenuti da je najveći broj finansijskih direktora (80%) od

ukupnog uzorka odgovorilo da primenjuju metod prenosa rizika, a u manjoj meri metod izbegavanja i smanjenja rizika (60% i 70%). Takođe i u stranim kompanijama, kao i kompanijama koje posluju u finansijskom sektoru je prisutnija primena matrica rizika zarad njegove kvantifikacije i prisutniji su rigorozniji zahtevi za pisanjem Izveštaja o izloženosti kompanije rizicima. Upravo pomenuto ukazuje na činjenicu da su ćerke kompanije velikih multinacionalnih lanaca uspešnije u primeni savremenih koncepata upravo zbog mogućnosti preuzimanja dobre prakse od svojih matičnih kompanija sa određenim prilagođavanjem Srbiji kao poslovnom okruženju. Transfer znanja, tehnologije se pokazalo kao dobar podsticaj unapređenja poslovanja ćerki kompanija u Srbiji, koji može biti podsticaj i domaćim kompanijama (u vlasništvu domaćih privatnih lica) da u konkurentskoj utakmici za tržišnim učešćem unaprede i osavremene sopstveno poslovanje. Predstavljeni rezultati

se podudaraju i sa rezultatima istraživanja koje su sproveli autori Pagach et al. (2011), a koji se odnose na karakteristike kompanije (kompanije u stranom vlasništvu, kao i veličina kompanije), koje utiču na uspešnost primene ERM koncepta i ujedno potvrđuju našu drugu hipotezu koja glasi da vlasnička struktura kompanija i veličina utiču na upoznatost sa ERM konceptom i njegovu primenu.

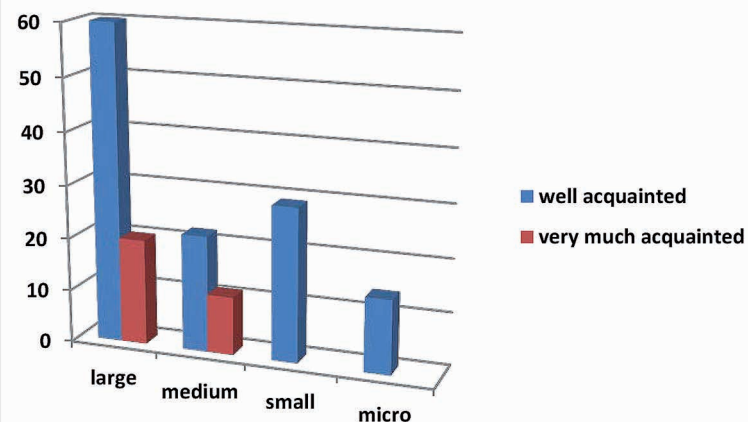
stress events or emergency situations, thus contributing to successful risk management. In our study, the results showed that within the financial sector, the application of the ERM concept is mainly related to banks, but not to insurance companies (only 10% of the respondents who are employed in the insurance sector made a positive statement regarding the implementation of the ERM concept). The above-mentioned findings have confirmed the conclusions of the previous research conveyed by Barjaktarević et al (2014). Also, the size of the company affects the awareness and implementation of the ERM concept, as well as the ownership structure, as shown on the following graphs.

Graph no. 2. The percentage of responses of CFOs regarding their familiarity with the ERM concept - according to the ownership structure



Source: The survey conducted by the authors

Graph no. 3 The percentage of responses of CFOs regarding their familiarity with the ERM concept - according to the size



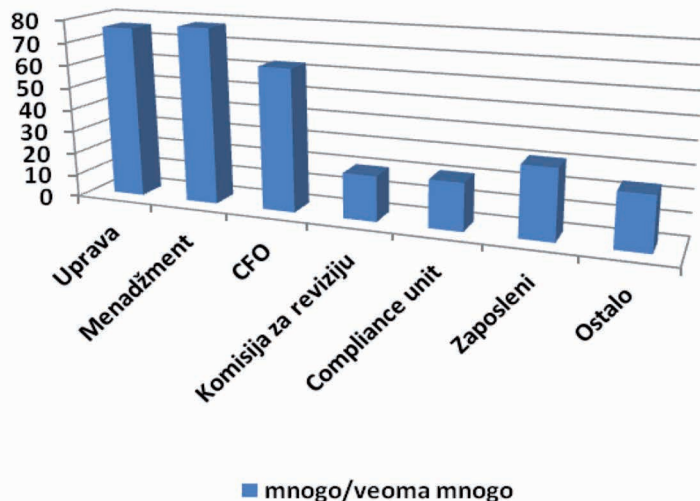
Source: The survey conducted by the authors

The results show that the highest percentages of foreign as well as large enterprises (50% and 80%, respectively) of the 65 analyzed companies are familiar with the ERM concept (Graphs no. 2 and no. 3). Interestingly enough, a large percentage of financial managers in foreign companies prefer implementing the method of risk transfer (over 60%), besides the methods of avoidance and risk reduction (60% and 80%). Also, it should be emphasized that the majority of CFOs (80%) of the total sample said that they had applied the risk transfer method, in comparison to the methods of avoidance and risk reduction (60% and 70%). Foreign companies and companies operating in the financial sector are more inclined to use a risk

matrix in order to quantify the risks and have the more rigorous obligation to report on the company's exposure to risks. The latter suggests that the daughter companies of large multinational chains are more effective in the application of modern concepts due to the fact that they are able to copy good practice from their parent companies with slight adjustments to the Serbian business environment.

The transfer of knowledge and technology appears to be a good incentive for improving everyday operating activities of the subsidiaries in Serbia, and can also encourage the domestic companies (owned by domestic private persons) to improve and modernize their own business in a competitive market environment. The results presented are consistent with the results of the research conducted by Pagach et al (2011), which referred to the characteristics of companies (ownership and size of the company), stating that they may influence the implementation of the ERM concept. At the same time, they confirm our second hypothesis which states that the ownership structure and the size

Grafik br. 4. Procenat odgovora direktora (CFOs) vezano za organizaciona tela i funkcije unutar kompanije koje doprinose boljoj implementaciji samog koncepta



Izvori: Rezultati istraživanja koje su sproveli autori rada

Rezultati su pokazali da direktori smatraju da su najbitniji faktori za uspešno sprovođenje *ERM* koncepta uprava i menadžment kompanije (70% i 77% / Grafik br. 4). Uz to, rezultati istraživanja su donekle u skladu sa onim što je istaknuto u dokumentu "Upravljanje rizikom preduzeća, integrisani okvir" (ističe se odgovornost menadžmenta, pogotovo izvršnog direktora u postupku implementacije *ERM* koncepta; uloga uprave se ne ogleda u samoj implementaciji *ERM*-a, već u kontroli usklađenosti samog upravljanja rizicima sa zadatim ciljevima). Takođe i kompanije u Srbiji percipiraju značaj finansijskog direktora, međutim uloga menadžera za upravljanje rizikom je još uvek novi koncept. Posebna odeljenja poput *compliance unit* (koje se bavi usklađenošću poslovanja kompanije sa regulativom i štiti od reputacionog rizika) ili Odbor za internu reviziju nemaju ključnu ulogu u primeni *ERM*-a. Pomenuto je preduslov za uspešnu implementaciju koncepta, odnosno implementacija principa korporativnog upravljanja sa svim njegovim mehanizmima internih kontrola je u pozitivnoj korelaciji sa uspešnim prihvatanjem savremenijih koncepata upravljanja rizikom. Kontinuirana edukacija, kao i korporatizacija preduzeća u zemlji, posebno javnih preduzeća su nužnost koja se sama po sebi nameće u narednom periodu. Stoga, potvrđena je i treća hipoteza rada koja

kaže da u Srbiji ne postoje dobro razvijena organizaciona struktura kompanija kao ni sistem internih kontrola koji bi doprineli boljoj implementaciji samog koncepta *ERM*-a.

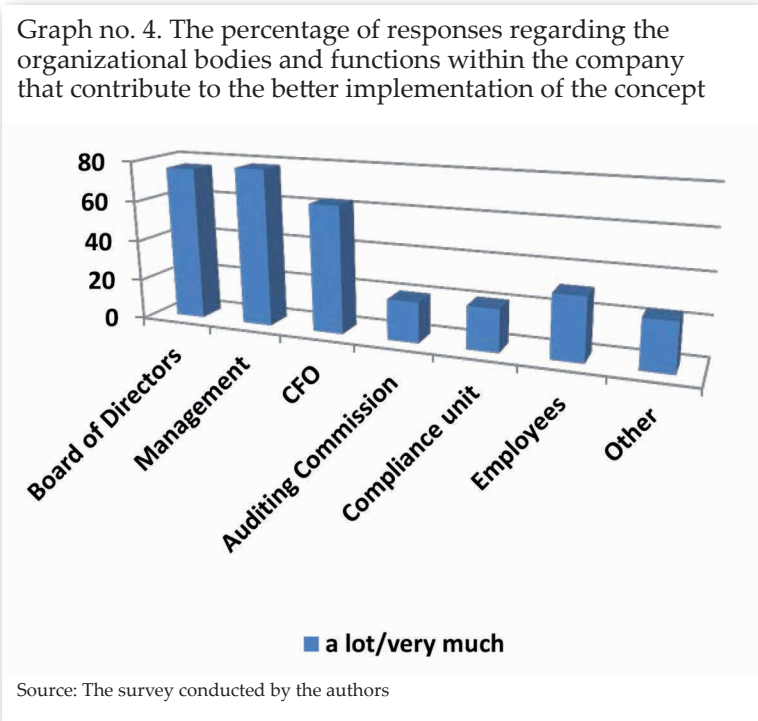
Zaključak

Rezultati sprovedenog istraživanja su pokazali da: (1) Kompanije u Srbiji su sklonije tradicionalnom pristupu upravljanju rizikom a ne primeni savremenih koncepata upravljanja rizikom poput *ERM*, što potvrđuje H1. (2) Vlasnička struktura kao i veličina kompanija utiče na upoznatost sa *ERM* konceptom i njegovom

primenom, zaključak koji potvrđuje i drugu hipotezu (H2) u radu. (3) U kompanijama u Srbiji još uvek ne postoje dobro razvijena organizaciona struktura kao ni sistem internih kontrola koji bi doprineli boljoj implementaciji samog *ERM* koncepta, što ujedno dokazuje i H3 postavljenu hipotezu.

Generalni zaključak je da je *ERM* koncept kod kompanija u nefinansijskom sektoru nerazvijen. Takođe, potvrđuju se zaključci ranijih istraživanja koji se odnose na činjenicu da su banke uspešnije u primeni *ERM* koncepta u odnosu na osiguravajuće kuće u okviru delatnosti finansija. Generalno gledano, preduzeća u Srbiji, koja su prepoznala značaj funkcije upravljanja rizicima, opredelila su se da angažuju stručnjake iz bankarskog sektora (sektor rizika, sektor za upravljanje sredstvima i sektor za rad sa pravnim licima) kako bi što uspešnije uspostavile upravljačku funkciju za rizike (npr. Atlasnik grupa, Victoria Grupa, Telenor, VIP, itd.). Shodno tome, neophodno je dalje obrazovanje kadrova na strani privrednih subjekata kako bi se unapredilo upravljanje rizicima, i njegovo postavljanje kao neophodnog i nezaobilaznog internog mehanizama u okviru uspešnog korporativnog upravljanja. Takođe je neophodno izdvajanje značajnih sredstava za IT podršku, i upornost svih relevantnih stejkholdera (banke, privrednici, država, itd.) kako bi koncept *ERM* postao sastavni deo

of the company influence the level of familiarity with the ERM concept.



The results show that the directors consider that the most important factors for a successful implementation of the ERM concept are the Board of Directors and the Management of the company (70% and 77%, respectively). Additionally, the study results are somewhat in accordance with the findings emphasized in the document "Enterprise Risk Management - Integrated Framework" (it underlines the responsibility of the management, especially the role of the Executive Director in the implementation of the ERM concept; however, the role of the Board is not crucial for the ERM implementation, but for the control of its compliance with the set goals). Also, the companies in Serbia emphasized the importance of the CRO, although this job position is still a new concept. Special units such as the Compliance unit (which deals with the compliance of everyday operating activities with the regulations, thus protecting the company from reputational risk) or the Committee for Internal Auditing do not have a key role in the ERM implementation. The latter may appear as a prerequisite for the successful implementation of the concept, and the implementation of the principles of corporate governance with all its internal control

mechanisms is positively correlated with the successful acceptance of modern concepts of risk management. Continuous education, as well as the corporatization of the companies in the country, especially public companies, is a necessity in the future. Consequently, we confirmed the third hypothesis, stating that in Serbia there is neither a well-developed organizational structure of the company or a system of internal controls that would contribute to the better implementation of the ERM concept.

Conclusion

The results of the research showed that: (1) the companies in Serbia are more prone to using the traditional approach to risk management in comparison to the risk management concepts such as the ERM, which confirms H1. (2) The ownership structure, as well as the size of the company, influences the level of familiarity with the ERM concept and its implementation, which is the conclusion that confirms the second hypothesis (H2) in the paper. (3) The companies in Serbia still do not have either a well-developed organizational structure or a system of internal controls that would contribute to the better implementation of the ERM concept, which also confirms H3 of the paper. The general conclusion is that the implementation of the ERM concept within the companies in the non-financial sector is still poorly developed. This conclusion correlates with the findings of the previous studies stating that banks are more successful in the implementation of the ERM concept in comparison to insurance companies within the financial sector. In general, the companies in Serbia which have recognized the importance of risk management concept hired the experts from the banking sector (risk sector, cash management sector and corporate sector) which successfully contributed to the better implementation of the ERM concept (Atlantik group, Victoria Group, Telenor, VIP, etc.).

svakodnevnog poslovanja kompanija i da opcija izbegavanja rizika ne predstavlja jedino rešenje

u procesu upravljanja rizicima, već se mogu implementirati i neki drugi savremeni koncepti.

Literatura / References

1. Barjaktarović L. (2013), Upravljanje rizikom, 4. dopunjeno izdanje, Univerzitet Singidunum, Beograd.
2. Barjaktarović L., Vićentijević K., Vjetrov A. (2014) Analiza upravljanja rizicima na primeru kompanije Henkel, FINIZ 2014, Univerzitet Singidunum, Beograd, str. 13-15
3. Baxter R., Bedard J., Hoitash R., Yezegel A. (2013) Enterprise Risk Management Program Quality: Determinants, Value Relevance and the Financial Crisis, *Contemporary Accounting Research*, Vol. 30 No. 4, 1264-1295
4. Beasley M., Branson B., Hancock B. (2010), Developing key risk indicators to strengthen enterprise risk management, COSO, dostupno na http://www.coso.org/documents/COSOKRIPaperFull-FINALforWebPostingDec110_000.pdf
5. Beasley M., Branson B., Hancock B. (2010) *COSO's 2010 Report on ERM*, dostupno na <http://www.coso.org/documents/COSOSurveyReportFULL-Web-R6FINALforWEBPOSTING111710.pdf>
6. Beasley M., Pagach D., Warr R. (2008), Information conveyed in hiring announcements of senior executives overseeing enterprise-wide risk management processes, *Journal of Accounting, Auditing and Finance* 23: 311-332.
7. Dash W., Olson D. (2010), Enterprise risk management: a DEA VaR approach in vendor selection, *International Journal of Production Research*, Vol. 48, 4919-4932.
8. Đorđević M., Krstić J. (2012). Interna kontrola i upravljanje rizikom preduzeća od tradicionalnog do revidiranog COSO modela. *Ekonomске teme*, 151-166.
9. Hoitash U., Hoitash R., Bedard J. C. (2009), Corporate governance and internal control over financial reporting: A comparison of regulator regimes, *The Accounting Review* 84, 839-867

Consequently, the emphasis should be on training the personnel within the companies in order to improve risk management, setting it as an important precondition for the successful corporate governance. Furthermore, the allocation of significant financial resources for IT support should be another goal, along with the general involvement of all relevant stakeholders

(banks, companies, government, etc.) so that the ERM concept could become an integral part of the companies' everyday activities and the option of risk avoidance is no longer the only solution in the risk management process, leaving more space for the implementation of modern concepts as well.

10. Jelenković Z., Barjaktarović L. (2016) Upravljanja rizicima u uslovima globalizacije: studija slučaja R. Srbije, Management, Fakultet organizacionih nauka Beograd (u fazi objave)
11. Lundqvist S. (2014), "An Exploratory Study of Enterprise Risk Management: Pillars of ERM", *Journal of Accounting, Auditing & Finance*, Vol. 29 (3) pp. 393-429.
12. Matić V. (2016), "Test na stresne događaje - stres test", *Bankarstvo* 2016, vol. 45, br. 1, pp. 133-135.
13. McShane M., Anil Nair A., Rustambekov E. (2011), "Does Enterprise Risk Management Increase Firm Value?", *Journal of Accounting, Auditing & Finance*, 26 (4) pp. 641-658.
14. Međunarodna finansijska korporacija /IFC/ (2011) Korporativno upravljanje - Priručnik, Beograd
15. Međunarodni računovodstveni standardi (IAS), www.mfin.gov.rs/pages/article.php?id=10262 (posebno važan za istraživanje MSFI 7)
16. Pagach D., Warr R. (2011), "The characteristics of firms that hire chief risk officers", *The Journal of Risk and Insurance*, Vol. 78, No. 1, pp. 185-211.
17. Sajt COSO, *Enterprise Risk Management-Integrated Framework* (2004), dostupno na http://www.coso.org/documents/COSO_ERM_ExecutiveSummary.pdf
18. Vaughan, E., Vaughan, T., „Osnovi osiguranja - Upravljanje rizicima“, MATE (John Wiley&Sons, Inc.), Zagreb, 1995
19. Van Horne J. , Wachowicz J. (2007). Osnovi finansijskog menadžmenta. Datastatus. Beograd.
20. Zakon o privrednim društvima (2011) Zakon o privrednim društvima, "Sl. glasnik RS", br. 36/2011, 99/2011, 83/2014 - dr. zakon i 5/2015
21. Zakon o računovodstvu i reviziji (2011) "Sl. glasnik RS", br. 46/2006, 111/2009 i 99/2011