



Managers' Support – A Key Driver behind Enterprise Risk Management Maturity¹

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Abstract: Severe consequences of the global financial crisis resulted in re-thinking the risk management processes and approaches, highlighting the need for a comprehensive risk management framework. Consequently, more and more companies are moving away from the Traditional “silo-based” Risk Management (TRM) to a more holistic approach known as Enterprise Risk Management (ERM). This paper presents results of both exploratory and empirical research. First, we develop ERM Index that measures maturity of ERM process within the company. Then, we present empirical results on the level of maturity and determinants of risk management system development in listed Croatian companies. Research indicates low levels of ERM development: even 38 per cent of analysed companies have no elements of ERM system, from which 22 per cent do not manage corporate risks at all. Except the company's size supported by the economies of scale argument, managers' support is the most important determinant of ERM system maturity in Croatian companies.

Keywords: Enterprise Risk Management, ERM index, determinants of ERM, Croatian listed companies

JEL Classification: G320, G340

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Introduction

In dynamic global business environment, more and more organizations are realizing that status quo risk management will likely lead to failure and significant missed opportunities (CIMA and CGMA, 2015). Enterprise Risk Management or just ERM is considered to be an important element of an effective corporate governance system and a strong competitive advantage that determines the survival and success of the company in an uncertain global environment (Meulbroek, 2002). ERM includes an assessment of the total exposure to all corporate risks that directly or indirectly may affect a business's strategy execution, including the ultimate impact on the company's value. It encompasses activities and strategies which enable the company to identify, measure, reduce or exploit, as well as to control and monitor the exposure to various types of corporate risks – strategic, financial, operational, reporting as well as compliance risks (COSO, 2004). The primary aim of ERM is to increase the likelihood that strategic objectives are realised and shareholders' value is preserved and enhanced (Nocco and Stulz, 2006). By adopting a systematic and integrated approach to corporate risk management, ERM should improve corporate sustainability and lower firm's overall risk of a failure, making positions for other stakeholders more secure and valuable. Consequently, an increasing number of companies are moving on from Traditional "silo-based" Risk Management (TRM), where risks are managed in isolation by business unit managers with little or no oversight or communication of how particular risk management decisions affect other corporate risks and corporate strategy, toward ERM, which seeks to strategically consider the interactive effects of different risk events with the goal of balancing between dual nature of risk – offer effective protection from threats and seize the opportunities.

This research is both exploratory and empirical in nature. It contributes to the literature in few ways. First, we develop ERM Index that measures maturity of ERM process within the company. Then, we present empirical results on the level of maturity and determinants of risk management system development in listed Croatian companies. Finally, we explore what determines ERM development within the company. By using multiple ordinal regressions, we put ERM maturity into relation with several variables related to external and internal environment, and to company's characteristics. We argue that size, growth options, existence of Audit Committee, presence of the "Big Four" auditing companies, greater institutional ownership, managers' attention and support to the risk management process as well as frequent discussion on risk management issues, could determine the maturity of risk management process. Research results indicate low levels of ERM development in listed Croatian companies. Even 38 per cent of analysed companies have no elements of ERM system, from which 22 per cent do not manage corporate risks at all. Multivariate regression analysis revealed that company's size and managers' support are deter-

minants of ERM system maturity in Croatian companies. This paper improves and continues the analysis shown in Miloš Sprčić, Kožul and Pecina (2015), where classic risk management theory was used as the rationale behind hypotheses development. Only size of the company was relevant for ERM maturity affecting positively ERM development, while leverage, managerial utility, growth options, and risk management substitutes were not significant. This study explores other possible determinants of ERM development and maturity in Croatian listed companies, which are based on relevant ERM research.

Review of the Literature

Many authors explored effects of hedging as a risk management technique and found hedging stabilizes expected earnings and cash flows by reducing the probability of financial distress and agency cost of debt (Stulz, 1984; Smith and Stulz, 1985; Bessembinder, 1991; Dolde, 1995; Mian, 1996; Minton and Schrand, 1999; Haushalter, 2000; Haushalter, Heron and Lie, 2002), increases the growth potential of the company (Smith and Stulz, 1985; Haushalter, 2000; Nance, Smith and Smithson, 1993; Geczy, Minton and Schrand, 1997; Miloš Sprčić and Šević, 2012) and consequently increases the company's value. Contrary to rich empirical evidence on the effects of hedging, empirical evidence on what determines the ERM implementation and how it affects company's performance and value is relatively scarce (Bromiley, McShane, Nair and Rustambekov, 2015). The results of research on ERM effect on the financial performance of companies are mixed. Researches done by Gordon, Loeb and Tseng (2009) and Bertinetti, Cavezzali and Gardenal (2013) on financial and non-financial companies show positive effect of ERM implementation to the company's market value measured by Tobin's Q, so as the research of insurance companies by Hoyt and Liebenberg (2011). On the other side, research of Pagach and Warr (2010) done on financial and non-financial companies and of McShane, Nair and Rustambekov (2011) conducted on insurance companies found no evidence of ERM's effect on performance and market value.

In respect to determinants of ERM implementation, previous empirical studies (Dolde, 1995; Mian, 1996; Geczy, Minton and Schrand, 1997) have found that firms with more assets are more likely to hedge. These studies contend that the positive correlation between size and hedging can be attributed to significant economies of scale in information and transaction costs of hedging. The same explanation can be offered for the level of development of ERM. It can be claimed that larger companies have larger exposures to different types of corporate risks, and that these risks are, to a certain extent, mutually correlated, so the benefits of managing risks in an integrated way are expected to be larger. Beasley, Clune and Hermanson (2005) revealed

that the stage of ERM implementation is positively related to the presence of a Chief Risk Officer (CRO), board independence, CEO and CFO evident support for ERM, the presence of a Big Four auditor, as well as to companies in the banking, education and insurance industry. Liebenberg and Hoyt (2003) and Pagach and Warr (2011) find financial leverage is positively associated with ERM implementation, but Hoyt and Liebenberg (2011) find, using a broader set of indicators, ERM has a negative relation to leverage. Because of the inconsistency of the results, the effect of leverage as a determinant of ERM should be further employed. Pagach and Warr (2011) also find that firms which earnings are more volatile, and which have greater institutional ownership are more likely to adopt ERM. In addition, when the CEO has incentives to take risk, the firm is also more likely to hire a CRO.

We believe the results of ERM studies are inconclusive because scholars did not use the same, or at least similar, measure of ERM. ERM is a young discipline so research related to ERM determinants, its effectiveness, design and effect on the company's performance and value is still in its infancy (Bromiley, McShane, Nair and Rustambekov, 2015). As comprehensive ERM theory still does not exist, ERM system is implemented in many ways that can significantly differ from company to company. There is still no consensus about what the principal characteristics of ERM system are, what has led to significantly different measurement methods, while none of them is complete. In this study we try to determine, by embracing results of existing ERM literature, the integral components of ERM. We believe the biggest challenge of prospective ERM research and ERM development is to establish a reliable ERM measure. Hence, the creation of ERM Index could contribute to the literature by providing a proxy for ERM maturity within the company.

There are five ways of measuring ERM used in existing literature. First empirical ERM studies were done by using CRO hiring announcements (Pagach and Warr, 2010; Liebenberg and Hoyt, 2003; Pagach and Warr, 2011). However, since the CRO position is popular, firms could just have the position without having ERM in place. Therefore we believe this is a poor proxy of ERM. Even if a firm has a CRO, it is not the only element of ERM implementation. The existence of a risk management department is an important element of developed ERM but it does not mean the department has the support of CEO and board to encourage the production and dissemination of risk information, nor that it has the resources, leadership, and support to mitigate the principal risks identified (Mikes and Kaplan, 2014). The second way to identify ERM firms is to search for evidence of ERM (through databases; such as Lexis Nexis and Dow Jones) by entering key words, such as "Chief Risk Officer", "enterprise risk management" and "risk committee" (Bertinetti, Cavezzali and Gardenal, 2013; Hoyt and Liebenberg, 2011; Eckles, Hoyt and Miller, 2014). ERM binary variable (0 = no ERM; 1 = ERM). Main criticism of measuring ERM in both ways is that the single 0-1 dummy variable of ERM adoption is too simple measure of a com-

plex process as it does not capture how ERM is actually implemented (Mikes and Kaplan, 2014). Thirdly, ERM ratings provided by Standard & Poor's can be used as a proxy for degree of ERM adoption and quality (McShane, Nair and Rustambekov, 2011; Baxter, Bedard, Hoitash and Yezegel, 2013). However, these ratings are available only for financial services firms - insurance firms and banks - so results of these studies cannot be directly compared to results of studies which analyse non-financial companies. The fourth option is to survey firms by asking them to score level of their ERM implementation. Beasley, Clune and Hermanson (2005) measured the degree of ERM implementation with a simple scale ranging from "no plans exist to implement ERM" (grade 1) to "complete ERM is in place" (grade 5). However, asking firms to score the level of their ERM program can potentially lead to biased results since managers might tend to overstate the level of ERM programs that they are in charge of. Finally, there has been an attempt by Gordon, Loeb and Tseng (2009) to construct an ERM index based on firm's ability to achieve the four objectives stated in the COSO ERM framework (COSO, 2004). However, their ERM index stands for *effectiveness* of ERM program rather than ERM implementation and maturity itself. However, we follow the approach of Gordon, Loeb and Tseng, (2009) and try to create a more complex measure of ERM implementation and maturity.

Methods

Data Collection

Empirical research focused on a population of 149 Croatian non-financial companies listed on the Zagreb Stock Exchange. We argue financial and non-financial companies should not be analysed together as most of financial companies are also market makers for risk management instruments; hence their motivation and strategies in managing risks may be different compared to non-financial firms. Additionally, financial industry is highly regulated, especially in the context of risk management. Namely, financial companies, like banks, insurance companies, mutual funds and others, are required to manage risks in an integrated manner. On the contrary, non-financial companies do not have any direct external incentive, in terms of laws or regulations, to improve risk management systems. Due to the arguments mentioned above, we wanted to explore only the situation in listed non-financial companies.

Managers of 61 companies answered to the questionnaire creating a response rate of 41 per cent, what is considered as satisfactory for statistical generalisation. However, the inability to compare the survey results to the data of non-responding companies should be treated as a limitation of this research. Data were collected from two sources: annual reports and notes to the financial statements and through the survey. Survey questionnaire was mailed in February 2015 to the firm's chief risk

officer (CRO) or, more often, to the financial director, controller or chief executive officer (CEO). Survey data were analysed by using univariate and multivariate analysis. Correlation analysis was conducted by calculating Pearson's correlation coefficient as a measure of linear correlation since the variables in the model are of interval/ratio nature (Bryman and Cramer, 1997). Ordinal logistic regression was applied as it is a form of multiple logistic regression used when the dependent variable is ordinal and the independents are of any type. Next to that it enables the researcher to overcome many of the restrictive assumptions of OLS regression. E.g. unlike OLS regression, logistic regression does not assume linearity of relationship between the independent and the dependent variables, does not require normally distributed variables, does not assume homoscedasticity nor normal distribution of error terms, does not require that the independents be interval or unbounded, and in general has less stringent requirements.

Research Hypotheses

Based on the presented literature survey several hypotheses have been proposed in this paper.

Hypothesis 1: *Larger firms are more likely to have mature ERM systems due to larger exposures to risks and economies of scale related to costs of ERM implementation.* Hypothesis is supported by findings of Liebenberg and Hoyt (2003), Beasley, Clune and Hermanson (2005), Hoyt and Liebenberg (2011), and Pagach and Warr (2011).

Hypothesis 2: *The presence of the Audit Committee, as the independent body responsible for risk oversight, has positive impact on the maturity of the ERM systems.* The Audit Committee is the proxy for the Board independence, supported by Beasley, Clune and Hermanson (2005) and is more convenient measure in Croatian business environment.

Hypothesis 3: *The presence of a Big Four auditor has positive impact on the maturity of the ERM systems.* This hypothesis is supported by Beasley, Clune and Hermanson (2005).

Hypothesis 4: *Companies that have greater institutional ownership are more likely to adopt ERM and have more developed ERM systems.* This hypothesis is supported by Pagach and Warr (2011).

Hypothesis 5: *In companies where top managers have face-to-face discussions with lower level managers about risk management, ERM system is more mature and developed.*

Hypothesis 6: *In companies where top manages pay frequent and regular attention to risk management issues, ERM system is more developed.* Beasley, Clune and Hermanson (2005) found CEO and CFO evident support for ERM positively affects the stage of ERM implementation i.e. its maturity.

Model and Variables

By conducting a thorough ERM literature review (Meulbroek, 2002; Beasley, Clune and Hermanson, 2005; Nocco and Stulz, 2006; COSO, 2004; Mikes and Kaplan, 2014; Lundqvist, 2014) we determined characteristics of a mature ERM systems. The more of them risk management of a company has the more developed their ERM system is. We used a complex ERM measure that enabled us to assess the level of ERM development in analysed companies. A dependent variable has been designed in the form of an ordinal measure of an ERM index that can take the value from 0 to 14, depending on the number of ERM characteristics listed below that are present within the company.

- Is there a *Chief Risk Officer* in your company, responsible for risk management?
- Is there a *special department* in your company dedicated to risk management?
- Does your company have a written statement of the firm's *risk appetite*?
- Are there official *risk management policy and procedures* in your company?
- Do you apply *COSO Integrated Framework* for ERM in your company?
- Do you apply *ISO 31000 risk management standard* in your company?
- Is risk managed with an *integrated analysis and management* of all identified corporate risks (e.g. financial, strategic, operational, compliance and reporting risks)?
- Do you *determine correlations and portfolio risks effects* of combined risks?
- Do you determine *quantitative impacts* risks may have on key performance indicators?
- Do you organize *workshops* in your company where managers discuss exposures to different types of risks and risk management
- Does your company create a *risk map* indicating position of risks the company is exposed to, considering probability of occurrence and significance of identified risk to the business activity?
- Do you have a *risk response plan* for all significant events?
- Do you submit *formal report* on risk and risk management to the management board at least annually?
- Do you monitor *key risk indicators* aimed at emerging risks (not past performance)?

Ordinal logistic regression was estimated to distinguish among the possible determinants for the level of ERM development in Croatian companies. Logistic model used is

$$ERMinx = \beta_1 SZ + \beta_2 ACo + \beta_3 Big4 + \beta_4 InOw + \beta_5 MnAt + \beta_6 MnDis + \varepsilon(R), \quad (1)$$

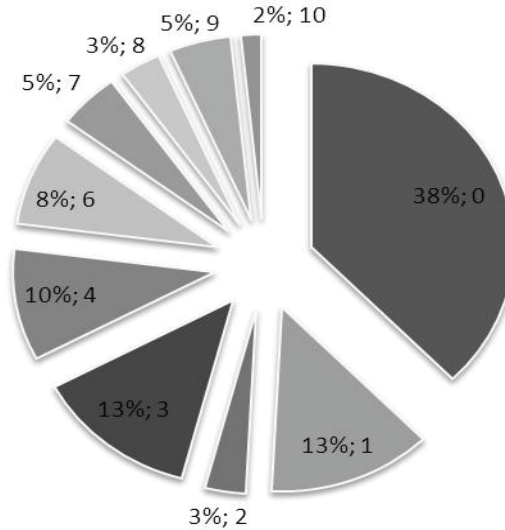
where *SZ* stands for size of the company, *ACo* for the presence of Audit Committee, *Big4* for the presence of Big Four auditor, *InOw* for institutional ownership of the company, *MnAt* for attention to risk management issue and *MnDis* stands for face-to-face discussions of top and lower management in the company.

We measure company size (*SZ*) with natural logarithm of total assets to correct for the effect of different magnitudes of variables and to reduce the effect of skewness in the distribution (Pagach and Warr, 2011). All other data were collected through the survey questionnaire. Presence of the Audit Committee (*ACo*) and Big Four Auditors (*Big4*) were measured as a binary variable that equals “1” if companies answered “yes” and “0” if the answer was negative. Institutional ownership (*InOw*) was measured as the percentage of firm’s stocks owned by institutional investors. We predicted greater institutional ownership affects positively ERM system development (Pagach and Warr, 2011). Frequency of discussions on risk management issues with top managers (*MnDis*) was measured on the scale from 1 to 7 where “1” indicated that top managers have face-to-face discussions with lower level managers about risk management only in case of deviations from plans or ‘when something is wrong’. The grade 7 related to companies where, whether there are deviations from plans or not, top managers have face-to-face discussions with lower level managers about risk management (e.g. give feedback to risk reports, demand additional information). Top managers’ attention to the risk management process (*MnAt*) was measured on the scale from 1 to 7 where “1” indicated only occasional attention of top management to risk management issues, while the grade 7 described companies where top management pays frequent and regular attention to risk management.

Research Results

Figure 1 shows the structure of ERM Index according to its value on the scale from 1 to 14. It presents the first indication of the low level of development of ERM systems in listed Croatian companies. Even 38 per cent of analysed companies have no elements of ERM system, from which 22 per cent do not manage corporate risks at all. The argument of underdeveloped ERM systems is confirmed with the result that only 2 per cent, meaning one analysed company, have the value of the Index 10. This is the highest value obtained in analysed companies. The value of ERM Index is in the range from 1 to 4 for 39 per cent companies, while only 23 per cent have more matured ERM systems where the value of the Index is from 6 to 10. In 77 per cent of analysed listed companies risk management system is underdeveloped as the value of ERM Index is below 5.

Figure 1: Percentage of Croatian companies with different ERM Index values



Source: Research data

Prior to multivariate logistic regression, correlation analysis was conducted by using Pearson's rho as a coefficient of correlation in order to determine relationship between dependent and independent variables in the regression model (table 1). Results of correlation analysis show that ERM level of maturity is positively connected to the size of the company, frequency of managerial discussion and intensity of managers' attention, but negatively related to the presence of the Audit committee and Big 4 Auditors. These negative correlations between the index of ERM maturity and existence of Audit committee and Big 4 Auditors are contrary to what we have predicted in the second and third hypotheses.

Table 1. Correlation matrix

| | | ERM index | Size | Institutional investor ownership | Frequency of managerial discussion | Intensity of managers' attention | Presence of Audit committee | Presence of Big4 Auditors |
|------------------------------------|---------------------|-----------|---------|----------------------------------|------------------------------------|----------------------------------|-----------------------------|---------------------------|
| ERM index | Pearson Correlation | 1 | .451** | -.076 | .406** | .644** | -.317* | -.456** |
| | Sig. (2-tailed) | | .000 | .562 | .007 | .000 | .014 | .000 |
| | N | 61 | 61 | 61 | 43 | 61 | 59 | 59 |
| Size | Pearson Correlation | .451** | 1 | .003 | .144 | .428** | -.456** | -.551** |
| | Sig. (2-tailed) | .000 | | .983 | .356 | .001 | .000 | .000 |
| | N | 61 | 61 | 61 | 43 | 61 | 59 | 59 |
| Institutional investor ownership | Pearson Correlation | -.076 | .003 | 1 | .237 | -.020 | .076 | .045 |
| | Sig. (2-tailed) | .562 | .983 | | .126 | .881 | .567 | .732 |
| | N | 61 | 61 | 61 | 43 | 61 | 59 | 59 |
| Frequency of managerial discussion | Pearson Correlation | .406** | .144 | .237 | 1 | .651** | -.111 | -.122 |
| | Sig. (2-tailed) | .007 | .356 | .126 | | .000 | .484 | .441 |
| | N | 43 | 43 | 43 | 43 | 43 | 42 | 42 |
| Intensity of managers' attention | Pearson Correlation | .644** | .428** | -.020 | .651** | 1 | -.400** | -.280* |
| | Sig. (2-tailed) | .000 | .001 | .881 | .000 | | .002 | .032 |
| | N | 61 | 61 | 61 | 43 | 61 | 59 | 59 |
| Presence of Audit committee | Pearson Correlation | -.317* | -.456** | .076 | -.111 | -.400** | 1 | .164 |
| | Sig. (2-tailed) | .014 | .000 | .567 | .484 | .002 | | .219 |
| | N | 59 | 59 | 59 | 42 | 59 | 59 | 58 |
| Presence of Big4 Auditors | Pearson Correlation | -.456** | -.551** | .045 | -.122 | -.280* | .164 | 1 |
| | Sig. (2-tailed) | .000 | .000 | .732 | .441 | .032 | .219 | |
| | N | 59 | 59 | 59 | 42 | 59 | 58 | 59 |

**, Correlation is significant at the 0.01 level (2-tailed), *, Correlation is significant at the 0.05 level (2-tailed).

Source: Research data

However, when we conducted multivariate regression analysis, the model has revealed that the level of ERM development is only related to the size of the company and managers' regular and continuous attention (table 2). Under the p value < 0.05 , managers' attention and size are the only statistically significant variables in the ordinal regression model. Both variables have positive impact on the value of ERM index, implying that larger companies and companies where managers pay regular attention to the risk management process and issues have more developed ERM systems. Other tested variables - the presence of the Audit Committee, Big 4 Auditors, institutional ownership and frequency of discussions on risk management issues - were not proven as significant in the multivariate regression model, hence our research does not support the findings of Beasley, Clune and Hermanson (2005) and Pagach and Warr (2011). Based on the multivariate analysis, we conclude that these variables do not affect the level of ERM maturity and development in Croatian listed companies.

Table 2: Results of multivariate regression analysis

| | | Estimate | Std. Error | Wald | df | Sig. |
|-----------|-------------------------------|----------------|------------|--------|----|--------|
| Threshold | [ERMcharacter = 0] | 7.619 | 4.174 | 3.332 | 1 | .068 |
| | [ERMcharacter = 1] | 8.811 | 4.231 | 4.337 | 1 | .037 |
| | [ERMcharacter = 2] | 9.043 | 4.239 | 4.550 | 1 | .033 |
| | [ERMcharacter = 3] | 9.876 | 4.263 | 5.365 | 1 | .021 |
| | [ERMcharacter = 4] | 10.722 | 4.283 | 6.267 | 1 | .012 |
| | [ERMcharacter = 6] | 11.639 | 4.308 | 7.301 | 1 | .007 |
| | [ERMcharacter = 7] | 12.360 | 4.333 | 8.137 | 1 | .004 |
| | [ERMcharacter = 8] | 13.037 | 4.364 | 8.925 | 1 | .003 |
| | [ERMcharacter = 9] | 14.237 | 4.454 | 10.218 | 1 | .001 |
| Location | Managers attention | .680 | .237 | 8.218 | 1 | .004** |
| | Discussions with top managers | .030 | .210 | .021 | 1 | .886 |
| | Size | .302 | .224 | 1.816 | 1 | .038** |
| | OwnInstInvestors | -.005 | .012 | .207 | 1 | .649 |
| | [Audit Comm=1] | -.070 | .680 | .011 | 1 | .918 |
| | [Audit Comm=0] | 0 ^a | | | 0 | |
| | [Big Four=1] | .823 | .658 | 1.564 | 1 | .211 |
| | [Big Four=0] | 0 ^a | | | 0 | |

Link function: Logit; ** $p < .05$

Source: Research data

Discussion of Results

Values of ERM Index indicated that the ERM systems in listed Croatian companies are underdeveloped and immature. Even 38 per cent of analysed companies have no elements of ERM system, from which 22 per cent do not manage corporate risks at

all. This finding is quite unexpected and surprising since the research was conducted on the listed companies. One would expect managers in listed companies are more responsible toward their shareholders and other stakeholders in respect to risks to which companies are exposed. The highest level of ERM Index obtained in analysed companies is 10 what could be seen as the developed ERM system, but it must be emphasised that this finding relates to only one company out of 61.

Regression analysis has indicated important and interesting findings. The explored ERM determinants have weak predictive power in explaining ERM maturity in Croatian companies. Multivariate regression shows the level of risk management system maturity is dependent only on the size of the company and managerial support, what gives support to our first and last hypotheses. The first result is consistent with the findings of Liebenberg and Hoyt (2003), Beasley, Clune and Hermanson (2005), Hoyt and Liebenberg (2011) and Pagach and Warr (2011) and it supports the scale economies argument that larger firms have more developed risk management system due to the high expenses of its implementation and due to larger risk exposures.

However, more attention should be given to the managerial attention as a driver behind the maturity and development of ERM systems. The “tone at the top” relates to the managers’ support to ERM which sets the corporate culture where integrated risk management matters. Our results are suggesting that the more managers pay attention and give support to the risk management system, the more developed it gets within the company. This is in line with Beasley, Clune and Hermanson (2005) who found CEO and CFO evident support for ERM positively affects the stage of ERM implementation i.e. its maturity. Hence, this research could provide an impetus for top managers in Croatian companies to be more supportive to risk management activities and integration of ERM in strategic planning, decision making and strategy execution. Financial crisis has taught us that risk management deserves permanent attention of managers at all levels of organization, with an emphasis to the top management (OECD, 2009).

Conclusion

This paper presents results of both exploratory and empirical research. ERM Index was developed to measure the maturity of ERM process within the company. This index can be used in prospective ERM studies, regardless to the characteristics of the analysed companies. Empirical research presented in this paper was conducted with an aim to explore the level of maturity and determinants of risk management system development in listed Croatian companies. Research indicates low levels of ERM development: even 38 per cent of analysed companies have no elements of ERM system, from which 22 per cent do not manage corporate risks at all. Except the company’s size, supported by the economies of scale argument, managers’ support is the most important determinant of ERM system maturity in Croatian companies. Other

tested variables, the presence of the Audit Committee, Big 4 Auditors, institutional ownership and frequency of discussions on risk management issues, were not proven as influential to the level of ERM maturity and development within the company.

Findings of this research clearly impose that, in the vast majority of analysed Croatian listed companies, risk management system is underdeveloped. Obviously, managers are not intrinsically motivated to improve them, at least not yet, hence incentives should be external. In that context, Supervisory Boards are playing an important role. Research conducted among 1378 top managers of USA, Europe, Asia, Middle East and Australia (CIMA & CGMA, 2015) revealed that in 60% of surveyed companies, members of Supervisory Board expect top managers to implement and execute ERM system in their companies. Further, due to higher expectations of regulators and other stakeholders, in 70% of surveyed companies, ownership of risks was clearly distributed among managers and therefore direct responsibility is placed on top management for ERM system implementation success.

This research should be a boost to managers in Croatian companies to better understand the importance of integrated risk management, to be aware of the key business and financial risks the company is exposed to and to clearly allocate the responsibility for risks within the company. OECD study (OECD, 2009) revealed that, in many cases, information about risk exposures did not reach the top managers and members of the board, hence major corporate risks were not included in the decision making process. Managers should learn from the Crisis and should not allow repetition of such situations in the future. The aim of the risk management process is to continually question and revise the assumptions upon which company's future actions and strategic plans are based. If ERM is to show all the benefits described in ERM literature, it should be a part of the strategic decision making. This is enabled only if top managers are aware of these benefits and if they really understand how ERM works within the company. Then they will provide the support to the implementation and development of ERM system as a strategic tool.

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