
**THE IMPACT OF RISK MANAGEMENT COMMITTEES ON FIRM PERFORMANCE IN
THE SOUTHERN EUROPEAN COUNTRIES**

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Abstract

This study aims to test whether risk management committees (RMC) have an impact on firm performance. The sample used includes 1150 firm-year observations from the European southern countries (Greece, Italy, Portugal, Spain) between 2005 and 2020.

Using regression models, the main contribution of the current study is that the relationship between performance and the existence of a risk management committee is not linear. The results suggest that the implementation of the SRMC on the financial sector has a negative effect on firm performance, while the CRMC is not significant. For the non-financial firms, the SRMC is not significant, while the CRMC has a positive significant impact on firm performance. Comparing the impact of both RMC lead to the conclusion that on financial firms there is not a significant difference between forming either of the committees, the same is not true for the non-financial companies where CRMCs present a superior impact on firm performance.

Keywords: Risk management; Separate risk management committee; Combined risk management committee; Firm performance; Enterprise risk management

Resumo

Este estudo tem como objetivo testar se os comitês de gestão de risco (RMC) têm impacto no desempenho da empresa. A amostra utilizada inclui 1150 observações por ano de empresa dos países do sul da Europa (Grécia, Itália, Portugal, Espanha) entre 2005 e 2020.

Utilizando modelos de regressão, a principal contribuição deste estudo é que a relação entre o desempenho e a existência de um comitê de gestão de risco não é linear. Os resultados sugerem que a implementação do SRMC no setor financeiro tem um efeito negativo no desempenho da empresa, enquanto o CRMC não é significativo. Para as empresas não financeiras, o SRMC não é significativo, enquanto o CRMC tem um impacto positivo significativo no desempenho da empresa. A comparação do impacto de ambos os RMCs permitem concluir que nas empresas financeiras não existe diferença significativa entre a formação de qualquer um dos comitês, o mesmo não acontece para as empresas não financeiras onde os CRMCs apresentam um impacto superior no desempenho das empresas.

Palavras-chave: Gestão de risco; Comitê de gestão de risco separado; Comitê de gestão de risco combinado; Desempenho da empresa; Gestão de riscos corporativos

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Glossary

RMC – Risk management committee

CRMC – Combined RMC

SRMC – Separate RMC

ERM – Enterprise risk management

COSO - Committee of sponsoring organizations

CMVM – (*Comissão do mercado de valores mobiliários*) – Portuguese securities market commission

ROA – Return on assets

ROE – Return on equity

ROI – Return on investment

EBITDA – Earnings before interests, taxes, depreciations, and amortizations

1. Introduction

Risk management is a critical component of corporate governance that has been shown to impact firm performance (e.g., Mohammed & Knapkova, 2016; Mayer et al., 2019; Abu & Ibrahim, 2022). Furthermore, research has revealed that firms with more efficient risk management capabilities achieve better financial performance than firms that do not have an efficient risk management framework in place (e.g., Gordon et al., 2009; Elahi, 2013). An effective risk management committee (RMC) provides guidance to the firm regarding the monitorization and control of its risks and is responsible for establishing and maintaining the risk management framework intended to identify potential risks to the business (Yatim, 2010; Gontarek, 2016; Jia & Bradbury, 2021).

Nevertheless, few studies have examined the impact of the RMC on firm performance and there is not much research on the effectiveness of different management committee structures (combined or separate) across distinct countries. Moreover, the results that are valid for other countries' data may not be transferable to European southern countries, due to differences in regulation and organizational culture. In fact, the legislation in southern Europe is less strict (Oliveira et al., 2018), leading to an inferior corporate governance quality (Lazarides & Drimpetas, 2011), and the economical context has a significant portion of family-owned firms (Enriques & Volpin, 2007), which tend to avoid risk management practices (Florio & Leoni, 2017). In addition, the four selected countries in the current study (Greece, Italy, Portugal, and Spain) were among the most affected by the recent financial crises, resulting in a more unpredictable and complex environment.

Regarding the different management committee structures, combined RMC (CRMC) is a concept used to define the absorption of the risk management activities by another committee. However, the literature reveals concerns regarding the efficient management of risks by CRMCs (e.g., Zaman et al., 2011; Field et al., 2013), due to time (to execute both roles) and expertise constrains (Aebi et al., 2012; Abdullah & Said, 2019). In Europe, Drogalas & Siopi (2017) and Drogalas et al. (2017), using Greek companies, found a positive association between value creation and the audit committee absorbing the risk management activities. Similarly, Jia & Bradbury (2021) found a positive impact of the CRMC on firm performance in Australia.

On the other hand, separate RMC (SRMC) is a concept used to define a committee exclusively dedicated to the risk management activities. In Europe, Malik et al. (2020) found

that SRMC improve the positive effect of enterprise risk management (ERM) on firm performance. Similarly, Ghazieh & Chebana (2021) and Jia & Bradbury (2021) also found the SRMC to have a (significant) positive effect on firm performance in European and Australian companies, respectively. In addition, Jia & Bradbury (2021) reached the conclusion that SRMCs have a higher positive impact on firm performance than CRMCs.

This dissertation adds to this literature and intends to understand the impact of forming specific risk management committees (CRMC vs SRMC) on firm performance. In more detail, we want to comprehend if establishing an RMC, separate or combined, leads to a higher level of firm performance in the companies that have established said committee in southern Europe. We, therefore, aim to fill the gap in the literature, by assessing the impact of implementing an RMC on firm performance using four European southern countries (Greece, Italy, Portugal, and Spain). To do that, we will take a set of companies, from the main market index of each country, for the period between 2005 and 2020, and analyse whether the firm performance reflects any impact of implementing the committee.

With the risk management committees gaining attention in various countries, as it has been found to play an important role in firm performance (Florio & Leoni, 2017; Ghazieh & Chebana, 2021), this dissertation is particularly important to take conclusions from what can be expected from the implementation of an RMC in European southern countries. The subject becomes even more relevant considering the uncertain and complex environment provoked by COVID-19 and the Russo-Ukrainian War, which translates into more risks for the companies and may very likely lead to the implementation of RMCs, just like it happened after the global financial crisis (Bhimani, 2009; Soin & Collier, 2013).

Ghazieh & Chebana (2021) have already approached this topic in the European context, but the authors used the three European economic powers (France, Germany, and United Kingdom) as their sample, and disregarded the impact of the CRMC. Our study will go further by analysing the impact of separate and combined RMC on performance, as well as separating the sample into companies that established an SRMC and those that established a CRMC to better comprehend the internal impact of implementing each of the committees, without comparing to the other committee on a first approach. Then, the impact of both committees will be analysed and compared to understand which one is a better fit for European southern countries.

Our results lead to the conclusion that the CRMC has a significant positive impact

on firm performance for non-financial firms, but not significant for financial firms. On the contrary, the SRMC has a significant negative impact on firm performance on financial companies, but not significant on non-financial companies. When comparing the impacts of both committees, for financial companies, there is not a significant difference in forming either committee, but, on non-financial companies, the CRMC shows a superior positive impact on firm performance.

The structure of this dissertation is as follows. In section 2, it will be present a literature review. The literature review will start with the comprehension of the risk management impacts. Then, the board committees' concept will be introduced, followed by the RMC definition and the difference between separate and combined RMC. The literature review will end with a section dedicated to the context of the European southern countries regarding corporate governance and risk management. Section 3 is where the hypotheses to be evaluated will be presented. Section 4 exposes the methodology that will be used to evaluate the hypotheses, followed by Section 5, that will show the results of the estimations, including robustness tests. Finally, Section 6 will be for conclusions.

2. Literature review

2.1. Risk management

The recent global financial crises have resulted in a more dynamic and unpredictable economic environment with a larger and more complex variety of risks (Ghazieh & Chebana, 2021; Abu & Ibrahim, 2022). Consequently, firms' investment in risk management has exponentially grown in recent years, with regulators reinforcing risk management best practices guidelines, and academics increasingly focusing on the implementation and impact of risk management systems (Mikes & Kaplan, 2013; Jia & Bradbury, 2020; Malik et al., 2020).

The Committee of sponsoring organizations (COSO) has defined ERM as the process employed by the board of directors across the business regarding risk identification, management, and oversight (COSO, 2004). ERM has gain relevance over the last decades (Lechner & Gatzert, 2018), playing a significant role in supporting the effective management of the firm and its risks (Mayer et al., 2019; Anton & Nucu, 2020; Chairani & Siregar, 2021), as well as handling environmental complexity and ensuring long term sustainability (Abu & Ibrahim, 2022). In addition, Subramaniam et al. (2009) and Perez-Cornejo et al. (2019) highlight the positive effect of ERM on corporate reputation.

Nevertheless, the adoption of a risk management system may not be sufficient to ensure a higher performance as each company must assess the context surrounding their business before implementing structures that may not fit their needs (Mikes & Kaplan, 2013). According to Gordon et al. (2009), the relationship between ERM and company performance depends on an adequate fit with five variables (environmental uncertainty, industry competition, firm size, firm complexity, and monitoring by the board of directors). Elahi (2013) also finds that the risk management framework needs to be adapted to the companies' situations so that it can lead to competitive advantages.

Literature on risk management points to a positive link between ERM and firm performance (e.g., Gordon et al., 2009; Mohammed & Knapkova, 2016; Florio & Leoni, 2017; Abu & Ibrahim, 2022). However, for some, the implementation of a risk management system does not influence the performance of the firm (e.g., Pagach & Warr, 2010; Lukianchuk, 2015), with a number of studies finding a negative association between both concepts (e.g., Lin et al., 2012; Kallamu, 2015). Similarly, Anton (2018), for the financial crisis period in Romania, found the relationship between ERM and firm performance not to be significant.

In Europe, empirical research on the relationship between risk management and firm performance is relatively limited. Florio & Leoni (2017) and Lechner & Gatzert (2018) found a positive association between risk management and firm value in Italy and Germany, respectively. With 260 observations from UK listed firms, Malik et al. (2020) provided evidence of the importance of ERM for increasing firm performance, being this relationship improved when a board level risk committee is present. Ghazieh & Chebana (2021) also obtained equivalent results for the first three European economic powers (France, Germany, and United Kingdom), the authors state that adopting risk management mechanisms, especially the RMC, positively impacts value creation. On the other hand, González et al. (2020) found that ERM does not significantly affect the performance of Spanish companies.

2.2. Board committees

The increased inherent risk in the economic environment and the recent crises have raised awareness regarding corporate governance and the role of the board of directors in safeguarding against unexpected risks (Conyon et al., 2011; Kallamu, 2015). Subramaniam et al. (2009) commented on the growing responsibility of the board of directors and highlighted the need to establish committees that will support the board executing its duties, deeming these committees “essential” (p.319) for improving the efficiency of the board.

The agency theory is the dominant theoretical basis used in previous studies to explain the formation of committees at the board level (e.g, Subramaniam et al., 2009; Halim et al., 2017; Ramin et al., 2021). This theory implies that independent board committees increase transparency, decrease communication asymmetries, reduce fraudulent behaviours, enhance compliance with disclosure requirements as well as strengthen the efficiency of the areas the committee will act upon. In addition, the constitution of board level committees has been recognized to reduce frictions between shareholders and managers (Hillman & Dalziel, 2003; Kallamu, 2015).

Chatterjee & Bose (2007) and Subramaniam et al. (2009) also mention the signalling theory to justify the adoption of specific committees. This theory explains that a committee may be constituted to demonstrate that the firm is devoted to properly manage and improve a certain area, i.e., the committee may be implemented expecting reputational gains, filling more of a figurative role (Hines & Peters, 2015).

2.3. Risk management committee

The RMC is a committee set by the board of directors responsible for monitoring and implementing the risk management, defining the risk appetite, evaluating the efficiency of the adopted policies, and assuring the firm compliance with the defined risk management framework (Kallamu, 2015; Halim et al., 2017; Jia & Bradbury, 2021). The RMC directly impacts the decision-making process (Bensaid et al., 2021), supports the board of directors in the execution of risk-related responsibilities (Yatim, 2010) and ensures that the risk framework is aligned with the firm's strategy (Gontarek, 2016).

This committee promotes the reduction of tensions between shareholders and managers (Hillman & Dalziel, 2003; Kallamu, 2015), and can increase the confidence of investors on the risk information disclosed by the board (Abdullah & Abdul-Shukor, 2017), as well as improve the quality of the financial reporting (Al-Hadi et al., 2016; Bhuiyan et al., 2020b). The RMC is likely to lead to competitive advantages (Perez-Cornejo et al., 2019), is associated with reputational gains (Subramaniam et al., 2009; Jia & Bradbury, 2021) and reduces information asymmetries (Bhuiyan et al., 2020a).

Various attributes of the RMC, such as size, number of meetings, independence, and expertise (Bensaid, et al., 2021), tend to influence its effectiveness to properly manage risks. In particular, the independence of the RMC members improves their likelihood to “detect personal gain actions by management and reduce the agency costs” (Bensaid et al., 2021, p. 390), which in turn leads to a better firm performance (Yeh et al., 2011). Zaman et al. (2011) reported that the number of meetings of the committee is positively correlated with decision-making efficiency. Moreover, the number of functions the members of the RMC have on different board committees (i.e., RMC overlapping) presents a positive association with the quality of information and a negative correlation with audit fees (Coles et al., 2020), and the expertise of the members (i.e., qualifications and experience) is positively associated with firm performance (Aldhamari et al., 2020) and value creation (Al-Hadi et al., 2016). In addition, the RMC being separated from or combined with other committee also influences its impact on the firm performance (Zaman et al., 2011; Jia & Bradbury, 2021).

2.3.1. Separate RMC and Combined RMC

RMCs can be implemented in two distinct forms. When other committee, usually the audit committee, besides its primary obligations also absorbs the risk management functions, a combined RMC is created. On the other hand, a separate RMC is constituted when a

committee exclusively dedicated to risk management is formed.

The literature shows doubts regarding the efficiency in risk management of CRMC, pointing to the need for a SRMC (e.g., Zaman et al., 2011). Subramaniam et al. (2009), Aebi et al. (2012) and Field et al. (2013) reveal concerns regarding the time (to perform the activities of both roles) and expertise constrains of the CRMC, especially in more complex risk environments. Brown et al. (2009) and Bhuiyan et al. (2020a) argue that combined committees are more focused on risks related to their other activities, as those are closer to their responsibilities, rather than on a broader risk management agenda, and, therefore, execute inferior risk management practices. Yatim (2009), Ishak (2013) and Abdullah & Said (2019) add that CRMCs typically lack the necessary skills to efficiently oversee the risk management functions.

Nonetheless, Drogalas & Siopi (2017) and Drogalas et al. (2017), both using Greek companies as their sample, found that combining the risk management activities to the audit committee resulted in successful risk management and value creation for the firms. Their studies are in line with Perez-Cornejo et al. (2019), that proved that audit committees improve the quality of ERM in Spanish companies. Jia & Bradbury (2021) also found CRMCs to have a positive impact on firm performance in Australia, however they discovered the impact of SRMCs to be superior.

Prior literature indicates that SRMCs are more effective than the CRMCs in monitoring and managing risks (e.g., Kirkpatrick, 2009; Mongiardino & Plath, 2010; Aebi et al., 2012). Field et al. (2013), Al-Hadi et al. (2016) and Halim et al. (2017) claim that SRMCs have the necessary expertise and time to improve risk management practices, and thus, increase the performance of the business. Kallamu (2015), on the other hand, found that the existence of the risk management committee has a negative impact on firm performance in Malaysian companies. In Europe, Florio & Leoni (2017), Malik et al. (2020) and Ghazieh & Chebana (2021) reached the conclusion that implementing a SRMC increases firm performance and creates value.

2.4. Southern European context

European southern countries (Greece, Italy, Portugal, and Spain) are characterized by a majority of small and medium companies in respect to the minority of listed companies. In addition, most companies have controlling shareholders, typically families (Enriques & Volpin, 2007). Family business tend to be more traditional than other types of organizations

in terms of governance structures, usually managed by a board of directors composed of family members. Cortés & Botero (2016) highlight that family business owners cannot simply set aside their position due to economical and emotional bonds with the firm, and, therefore, they are prone to be more invested in efficiently managing the firm, an idea in line with the stewardship theory¹.

González et al. (2013) finds that in Spanish family firms the boards of directors with family members are more risk adverse. In addition, Florio & Leoni (2017) claims that, in Italy, controlling shareholders are more present in the supervision of the firms and have a tendency to avoid ERM procedures. However, family business would greatly benefit from the adoption of independent governance structures to help managing the organization (Cortés & Botero, 2016). García-Sánchez (2009) argues that firms should form specialized committees to advise the board, the author proved that having directors responsible for several areas reduces firm performance, due to time constraints, i.e., directors involved in various functions will lack the ability to execute their activities efficiently as they do not have the time to execute all their responsibilities. Therefore, it is important to understand how these companies can strengthen their corporate governance practices to improve the performance of their business.

In Portugal, Major & Marques (2009) found that companies that implement CMVM (Portuguese Securities Market Commission) recommendations on risk management are more profitable. However, the number of companies that implement such recommendations is not very high. These recommendations are directed to the listed companies and only those need to expose if they comply or not with them, and, if not, explain the reasons behind their decision not to comply. Oliveira et al. (2018) states that the legal environment in Portugal and in Spain is very weak, which results in an inferior quality of the corporate governance practices. Similarly, Lazarides & Drimpetas (2011) argue that the corporate governance in Greece is inferior to international best practices, highlighting the incorrect focus on power balance rather than on firm performance or market value. Nevertheless, there is a continuous effort to improve the corporate governance across European countries aiming to address the challenges caused by dominant shareholders (Enriques & Volpin, 2007), efforts that have significantly increased after the recent crises.

¹ This theory assumes that managers will prioritize the organization well-being above their selfish behaviours (Menyah, 2013).

The crises have severely affected the European southern countries, resulting in profound recessions, high public debts, and severe levels on unemployment (Rodrigues et al., 2017; Florio & Leoni, 2017), which resulted in a more unpredictable and complex environment for the companies (Ghazieh & Chebana, 2021). ERM has, therefore, increased in European southern countries, with risk management committees appearing on the board of more and more companies (annex 1 allows to see the evolution of RMC for the sample of this study).

3. Hypotheses development

The impact of risk management on firm performance is a topic that shows different results in the literature, especially when it comes to risk management committees and the form companies implement them (combined or separate). Research points to CRMCs being less capable of fulfill their obligations and effectively manage the risks of the firm. Nevertheless, prior studies suggest that implementing a CRMC is positively associated with firm performance, even though the risk management may not be optimal in this type of RMC. With that in mind, we expect CRMC to improve the performance of the firms. Hence, we devise the first hypothesis as follows:

H1: Combined risk management committees have a positive impact on firm performance

Regarding SRMCs, the above literature review is in line with the idea that a company that has such a type of committee is more likely to conduct superior risk management practices and, therefore, to have a better performance. In this context, we expect a positive association between SRMC and the performance of the firm, with our second hypothesis formulated as follows:

H2: Separate risk management committees have a positive impact on firm performance

Lastly, we expect both committees to have different impacts on firm performance. Prior literature indicates that SRMCs have a greater impact than CRMCs on the performance of the firms (e.g., Jia & Bradbury, 2021), due to the expected better capabilities and resources of the former to oversee risk management. We also expect the SRMC to perform better than the CRMC and so the third hypothesis states:

H3: Separate risk management committees have a greater impact than combined risk management committees on firm performance

Regarding the committees, it is likely that their impact will be different in financial and non-financial companies. In Europe, banks are required to have a SRMC, which may constrain its efficiency in performing its functions, as well as prevent the adoption of CRMC in the financial sector. Nevertheless, it is still expected that the impact of the SRMCs continues to be positive on financial and non-financial companies and superior to the impact of the CRMCs, which we also expect to be positive in both cases. For that reason, we developed a set of sub-hypotheses to overcome the mentioned situation and allow a more realistic vision of each sector:

H1a: Combined risk management committees have a positive impact on firm performance in financial companies

H1b: Combined risk management committees have a positive impact on firm performance in non-financial companies

H2a: Separate risk management committees have a positive impact on firm performance in financial companies

H2b: Separate risk management committees have a positive impact on firm performance in non-financial companies

H3a: Separate risk management committees have a greater impact than combined risk management committees on firm performance in financial companies

H3b: Separate risk management committees have a greater impact than combined risk management committees on firm performance in non-financial companies

4. Methodology

4.1. Model

Studying the impact of constituting a RMC can lead to inconclusive and statistically irrelevant results, as this relation is not straightforward, and performance depends on other factors. To overcome this situation, the model will rely on variables that, according to the literature, are closely related to firm performance. The model adopted in this paper was inspired in models used in previous studies regarding the relationship of RMC with firm performance (Jia & Bradbury, 2021; Ghazieh & Chebana, 2021).

Based on the different assumptions and the variables of the research, we estimate the following regression models by OLS to test the hypotheses:

$$(1) \quad FP_{it} = \alpha_0 + \beta_1 CRMC_{it} + \sum_{m=2}^n \beta_m Control\ Variables_m + \sum_{i=0}^j Year_i + \sum_{k=1}^l Country_k + \varepsilon_{it}$$

$$(2) \quad FP_{it} = \alpha_0 + \beta_1 SRMC_{it} + \sum_{m=2}^n \beta_m Control\ Variables_m + \sum_{i=0}^j Year_i + \sum_{k=1}^l Country_k + \varepsilon_{it}$$

$$(3) \quad FP_{it} = \alpha_0 + \beta_1 RMC_{it} + \beta_2 CCC_{it} + \beta_3 CCC_{it} \times RMC_{it} + \sum_{m=4}^n \beta_m Control\ Variables_m + \sum_{i=0}^j Year_i + \sum_{k=1}^l Country_k + \varepsilon_{it}$$

Where FP is financial performance; RMC is risk management committee; $CRMC$ ($SRMC$) is combined (separate) RMC; CCC is constituted a combined committee; $Year$ is a set of dummy variables relative to the period and $Country$ is a set of dummies related to the country of the company. We omitted one dummy per group to avoid perfect multicollinearity.

Model (1) aims to study the impact of constituting a CRMC. For this reason, only the firms that formed an CRMC will be considered in the first model to understand the impact on firm performance of forming a combined risk management committee.

The second model intends to evaluate the impact of establishing a SRMC on firm performance. Hence, only the firms that have implemented an SRMC during the study period will be considered in model (2).

Lastly, model (3) will analyse the impact of constituting both types of RMC using the entire sample. The objective of model (3) is to validate the results achieved in models (1) and (2) and allow to comprehend the effects of forming both types of RMC, enabling the comparison of the impact of both committees on firm performance.

Our sub-hypotheses will be tested through the division of our sample into sub-samples. The financial companies and the non-financial companies will be separated into two groups and each model will be performed for both groups.

4.2. Variables

4.2.1. Firm performance

Firm performance can be calculated based on several ratios. According to Nguyen et al. (2021), the most common ratios used to represent firm performance are return on assets (ROA), return on equity (ROE), and return on investment (ROI). ROA will be used to measure firm performance, following Ghazieh & Chebana (2021) and Jia & Bradbury (2021). ROA, in this study, is measured by $EBITDA^2/Total\ Assets$. This way, we avoid in comparisons potential biases arising from different capital structures or age.

4.2.2. RMC existence

To measure the presence of a risk management committee, we devised the variable RMC, a dichotomous variable that takes the value of one if the company disclose the existence of a separate or combined RMC and zero otherwise. The variable SRMC, a dummy variable, is coded as one if the companies have a separate risk management committee, and zero in the years they do not; and the variable CRMC, also a dummy variable, is coded as one if the companies have a combined risk management committee, and zero in the years they do not.

In addition, the variable CCC is also a dummy variable that represents the companies that constituted a CRMC. This variable takes the value 1 for the companies that during the study period have formed a CRMC and zero if they formed an SRMC.

4.2.3. Control variables

In our model, we control for a number of variables that may have an impact on firm

²The use of EBITDA aims to maintain the metric concentrated on operational earnings without focusing on depreciation, financing, and tax differences between companies.

performance. Following the ample literature on firm performance (Cheng et al., 2015; Lazăr, 2016; Loughran & McDonald, 2020; Jan et al., 2021; Goh et al., 2022), we control for leverage; sales growth; firm size; the existence of a report on social, environment and responsibility; and firm complexity.

The variables were defined as follows:

DEBT: measured by Total Liabilities/Total Assets

SGR: measured by $(Sales_t - Sales_{t-1})/Sales_{t-1}$

SIZE: measured as the natural logarithm of market capitalization

RSER: dummy variable coded as one if the companies disclose a report on social, environment and responsibility, and zero otherwise

BSEG: number of business segments

GSEG: number of geographical segments

5. Data collection

5.1. Sample selection

To study the impact of the implementation of an RMC on firm performance in the European context, we have chosen the European southern countries: Greece, Italy, Portugal, and Spain. These countries were chosen because they were four of the most affected European countries by the recent global crises, and therefore allow to analyse the effects of the RMC under more adverse conditions.

Our study covers sixteen years, from 2005 to 2020. This period was selected due to the several crises and financial scandals that impacted Europe, such as the global financial crisis of 2008 and the European sovereign crisis, with the period pre-crisis (2005) and post-crisis (2012) to seize the consequences of both crises. This period also encompasses some of the effects of the covid-19 crisis, with the inclusion of the year 2020.

The sample includes 117 listed firms, obtained from the main market index of each country (Greece – ASE, Italy – IT40, Portugal – PSI-20, Spain – IBEX 35). A total of 1769 firm-year observations were identified during the study period. After eliminating firm observations with missing data, the sample consisted of 1692 firm-years. In the second stage of sample selection, firms that during the study period did not constitute an RMC, since they already had one or they did not constitute one at all during the entire period, were excluded, so the sample was reduced to 1150 firm-years. Lastly, as European banks are influenced by regulatory oversight, which may alter the effects of the RMC due to regulatory pressure, the sample was divided in two: financial companies – 173 firm-years, and non-financial companies – 977 firm-years.

The primary source of data were the annual reports of the companies, obtained from the websites of the firms that constitute our sample, from which the information was extracted manually. Regarding the firms' accounting data, we used the Eikon database to retrieve such information. All the continuous variables were winsorised at the 1st and 99th percentiles to mitigate the influence of outlying observations and potential coding errors.

5.2. Descriptive statistics

The main variables' descriptive statistics are presented in Table 1. The average return on assets (ROA) for the financial companies is 0.013 and 0.112 for the non-financial companies. The higher average return on assets in non-financial companies is consistent with expectations due to the higher negative impact that both the global financial crisis and the European sovereign debt crisis had on the financial sector, especially in the Southern European countries.

For the variable SRMC, the result shows an average of 66 per cent for the financial companies, in terms of firm-year observations, but for the non-financial companies, it shows only 16 per cent. As expected, the percentage of firm-year observations with separate RMCs is higher in financial companies due to the regulations and characteristics specific of this sector. The variable CRMC reveals a different distribution with a result of 20 per cent for the financial companies and 56 per cent for the non-financial companies, the latter showing a larger percentage.

The averages for leverage (DEBT) and sales growth (SGR) are higher for the non-financial companies ($0.254 < 0.339$ and $0.051 < 0.062$, respectively), while the average size (SIZE) is larger in financial companies ($15.338 > 14.814$). In terms of sales growth, the median for the financial companies is even negative (-0.014), very much due to the crisis that strongly affected the financial sector.

On average, financial companies were more concerned with the publication of a report on social, environment and responsibility (RSER), with 61 per cent of the firm-year observations of financial companies having published a report but only 51 per cent for non-financial companies. The average number of business segments (BSEG) and geographical segments (GSEG) is 5 and 2, respectively, for the financial sector, and 4 and 3, respectively, for the non-financial sector. Financial companies have, on average, more business segments (also exhibiting a wider range – from a minimum of 1 to a maximum of 10), while non-financial companies are, on average, present in more geographical locations (and presenting a wider range – from a minimum of 1 to a maximum of 8).

Table 1. Descriptive statistics based on 1150 firm-year observations

	Mean	Median	Std. Dev.	Min.	Max.
Financial Companies (N=173)					
ROA	0.013	0.014	0.020	-0.089	0.047
SRMC	0.66	1.00	0.475	0	1
CRMC	0.20	0.00	0.403	0	1
DEBT	0.254	0.230	0.165	0.031	0.702
SGR	0.051	-0.014	0.236	-0.437	1.041
SIZE	15.338	15.338	1.072	12.569	18.138
RSER	0.61	1.00	0.489	0	1
BSEG	5.28	5.00	1.927	1	10
GSEG	2.41	2.00	1.017	1	4
Non-financial Companies (N=977)					
ROA	0.112	0.10	0.067	-0.089	0.317
SRMC	0.16	0.00	0.369	0	1
CRMC	0.56	1.00	0.497	0	1
DEBT	0.339	0.337	0.162	0.002	0.709
SGR	0.062	0.049	0.208	-0.438	1.041
SIZE	14.814	14.942	1.735	11.025	18.153
RSER	0.51	1.00	0.500	0	1
BSEG	3.89	4.00	1.667	1	9
GSEG	3.42	3.00	1.613	1	8
Notes: ROA: return on assets; SRMC: separate RMC; CRMC: combined RMC; DEBT: leverage; SGR: sales growth; SIZE: size; RSER: report on social, environment and responsibility; BSEG: business segment; GSEG: geographical segment; Std. Dev.: standard deviation					

Regarding the differences between the firm performance before and after constituting a risk management committee, as well as the difference in firm performance between constituting a CRMC or an SRMC, the mean ROA per group is summarized in Table 2. To comprehend if the analysis of the means is relevant, the same were compared and their equality was analysed³.

Table 2. Test of equality of means for return on assets

	Mean	Std. Dev.	Mann-Whitney U test		
			Group of comparison	Z	Sig. (2-tailed)
Financial Companies (N=173)					
BRMC	0.0257241	0.01122210	SRMC	5.488	0.000
CRMC	0.0258615	0.00972563	BRMC	0.231	0.817
SRMC	0.0059930	0.02004798	CRMC	-6.658	0.000
Non-financial Companies (N=977)					
BRMC	0.1134665	0.07057298	SRMC	2.291	0.022
CRMC	0.1162192	0.06941434	BRMC	0.317	0.751
SRMC	0.0965949	0.05064215	CRMC	-2.932	0.003

Notes: BRMC: before constitution of an RMC; CRMC: combined RMC; SRMC: separate RMC; Std. Dev.: standard deviation.

It was also performed a t-test, since the sample is sufficiently large, to check the difference of means between the diverse groups. The test produced the same results.

The results are practically the same for financial and non-financial companies, so a global analysis will be conducted bellow regarding these values, without focusing too much on the values of each one. Firms that adopt a CRMC do not present a significant impact on firm performance, compared to before forming the CRMC ($p\text{-value} > 0.05$), which

³ The test to be executed depends on the data following a normal distribution (results in Annex 2). The t-test is more suited when the normality hypothesis is observed and the Mann-Whitney U test when the normality hypothesis is rejected. The normality hypothesis was rejected.

contradicts our first hypothesis (H1). The difference between the period before constituting any kind of committee and the period after adopting an SRMC is significant, indicating that there is a statistically significant impact on forming an SRMC. However, the effect of constituting an SRMC on firm performance appears to be negative, which is the opposite of our hypothesis 2. In addition, the difference between constituting a CRMC and an SRMC is also statistically significant, which means that both types of RMC have different impacts on firm performance, this difference is in line with our hypothesis 3, but the results seem to show that impact to be the opposite of our hypothesis since CRMC appear to have a superior impact on firm performance.

5.3. Correlation analysis

5.3.1. Financial companies

Table 3 displays the correlations for the variables of our study regarding the financial companies. We note that the SRMC has a negative relationship with ROA, which is contrary to hypothesis 2. On the other hand, CRMC presents a positive correlation with ROA, supporting our first hypothesis. Overall, the correlation matrix suggests minimal potential for multicollinearity, as only 2 correlations are above 0.5.

Table 3. Financial companies' correlation matrix

	ROA	SRMC	CRMC	DEBT	SGR	SIZE	RSER	BSEG
ROA	1							
SRMC	-0.478**	1						
CRMC	0.336**	-0.700**	1					
DEBT	-0.200**	-0.192*	0.268**	1				
SGR	0.244**	-0.241**	0.030	-0.004	1			
SIZE	0.352**	-0.189**	0.092	0.109	0.133	1		
RSER	-0.025	0.129	-0.043	-0.299**	-0.041	-0.177**	1	
BSEG	-0.197**	0.256**	-0.215**	0.272**	-0.134	0.239**	-0.132	1
GSEG	-0.023	0.063	-0.303**	0.133	0.028	0.429**	-0.100	0.547**

Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively

5.3.2. Non-financial companies

Table 4 reports the correlations for the variables of our study regarding the non-financial companies. We note that SRMC, such as before, shows a negative significant relationship with ROA, which is contrary to our second hypothesis. On the other hand, CRMC has a positive correlation with ROA, like before as well. Overall, the correlation matrix suggests minimal potential for multicollinearity, as all correlations are below 0.5. In both tables, most of the chosen variables present a significant correlation with ROA, validating the choice of these variables for our models.

Table 4. Non-financial companies' correlation matrix

	ROA	SRMC	CRMC	DEBT	SGR	SIZE	RSER	BSEG
ROA	1							
SRMC	-0.103**	1						
CRMC	0.066*	-0.493**	1					
DEBT	-0.188**	0.126**	-0.066*	1				
SGR	0.160**	-0.078*	-0.073*	0.020	1			
SIZE	0.294**	0.215*	-0.050	0.003	0.025	1		
RSER	-0.039	0.164**	0.091**	0.108**	-0.081*	0.254**	1	
BSEG	-0.033	0.030	0.010	-0.176**	-0.009	0.210**	0.078*	1
GSEG	-0.015	0.014	0.005	-0.139**	-0.022	0.301**	-0.023	0.086**

Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively

6. Results

6.1. Regression results

In this section, the results from the application of models (1)-(3) to the work sample will be presented. The analysis of the results appears below of all the tables.

Table 5 summarizes the results from the models applied to the financial companies with ROA as the dependent variable, model (1) analyses the effect of forming a CRMC, model (2) the impact of constituting an SRMC. These models were calculated using fixed year (Year FE) and fixed country (Country FE) effects.

Table 5. Results from the models applied to the financial companies

Variable	Exp. Sign	Model			
		(1)		(2)	
		Coef.	t-stat	Coef.	t-stat
Constant		-0.137	-3.522***	-0.148	-3.803***
SRMC	+			-0.009	-1.854*
CRMC	+	-0.002	-0.469		
DEBT		-0.030	-2.315**	0.013	1.273
SGR		0.010	1.701*	-0.003	-0.308
SIZE		0.009	3.741***	0.013	4.276***
RSER		0.004	1.283	0.003	1.002
BSEG		0.001	1.352	-0.002	-1.682
GSEG		0.005	2.202**	-0.016	-4.082***
Country FE			Yes		Yes
Year FE			Yes		Yes
N			47		126
R²			0.846		0.665
F-stat			6.009***		8.357***

Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively

Table 6 summarizes the results from the models applied to the non-financial companies with ROA as the dependent variable. As before, model (1) analyses the effect of forming

a CRMC, model (2) the impact of constituting an SRMC. These models were also calculated using fixed year (Year FE) and fixed country (Country FE) effects.

Table 6. Results from the models applied to the non-financial companies

Variable	Exp. Sign	Model			
		(1)		(2)	
		Coef.	t-stat	Coef.	t-stat
Constant		0.127	2.131**	-0.163	-6.763***
SRMC	+			-0.009	-1.089
CRMC	+	0.020	3.681***		
DEBT		-0.081	-3.103***	-0.071	-5.087***
SGR		-0.015	-0.812	0.035	3.324***
SIZE		0.001	0.326	0.024	14.668***
RSER		-0.003	-0.400	-0.017	-3.363***
BSEG		-0.001	-0.269	-0.008	-6.036***
GSEG		-0.002	-0.621	-0.002	-1.592
Country FE			Yes		Yes
Year FE			Yes		Yes
N			786		191
R²			0.322		0.494
F-stat			14.410***		6.150***

Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively

Lastly, table 7 summarizes the results from model (3) applied to the financial and the non-financial companies with ROA as the dependent variable. This model allows to determine if there is a significant difference between forming a CRMC or an SRMC. This model was also calculated using fixed year (Year FE) and fixed country (Country FE) effects.

Table 7. Results from model (3) for financial and non-financial companies

Variable	Exp. Sign	Model (3)			
		Financial		Non-financial	
		Coef.	t-stat	Coef.	t-stat
Constant		-0.025	-1.195	-0.177	-6.898***
RMC	+	-0.007	-1.624	-0.001	-0.161
CCC	-	0.031	1.901*	0.004	0.518
CCC x RMC	-	-0.003	-0.173	0.026	2.921***
DEBT		-0.049	-4.257***	-0.066	-5.405***
SGR		0.012	2.210**	0.028	2.947***
SIZE		0.004	2.418**	0.021	14.251***
RSER		0.000	0.120	-0.015	-3.696***
BSEG		0.000	0.026	-0.006	-5.326***
GSEG		-0.001	-0.290	-0.002	-1.182
Country FE			Yes		Yes
Year FE			Yes		Yes
N			173		977
R²			0.545		0.306
F-stat			6.727***		15.516***

Note: ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively

Our results regarding the formation of a CRMC, in the non-financial companies, are aligned with the literature (e.g., Drogalas et al., 2017; Drogalas & Siopi, 2017; Jia & Bradbury, 2021). The results of model (1) suggest that combined risk management committees improve firm performance ($\beta=0.02$, $t=3.681$), thus supporting hypothesis (H1b).

On the other hand, the results for the financial companies show that CRMCs do not have a significant impact on ROA ($\beta=-0.002$, $t=-0.469$) and so H1a is rejected. An explanation for this may be the fact that, as regulations in the financial sector push to the adoption of an SRMC, various companies use CRMC as an intermediate step before adopting the

separate committee, which may lead companies not to invest to optimize the combined committee as it is intended to be a temporary measure and, therefore, the actual effect of implementing and maintaining a CRMC could be masked by the results of the companies that use CRMCs temporarily.

Regarding the formation of an SRMC, our results show that it has a significant negative effect on the financial sector ($\beta=-0.009$, $t=-1.854$) and a not significant impact on non-financial companies ($\beta=-0.009$, $t=-1.089$), when only the firms that adopted an SRMC are considered – model (2). These results differ from the literature (e.g., Florio & Leoni, 2017; Malik et al., 2020; Ghazieh & Chebana, 2021), and lead us to reject our hypotheses H2a and H2b. The negative association in the financial sector and the not significant association in the non-financial sector could be justified by the inadequate expertise needed by the members of the SRMC to perform their role effectively (Hutchinson & Ngoc, 2012; Kallamu, 2015; Malik et al., 2021), which, therefore, would lead the costs associated with the committee to surpass the benefits it could bring to the organization. A possible explanation for the previous phenomenon could be the SRMC being formed to fill more of a symbolic role rather than to be properly used (Hines & Peters, 2015), this is in line with the signalling theory. Elamer & Benyazid (2018) also propose two different justifications, according to them the risk committee can confine the firm from taking excessive risk, even when beneficial, leading to a negative effect on firm performance. The other justification revolves around the fact that creating an SRMC can lead to problems related with communication and information asymmetry, as well as conflicts, resulting in the deterioration of the effectiveness of the risk management.

Model (3) allows the comparison of the impact of both types of RMC. The results show that, in financial companies, there is not a significant difference between forming a CRMC versus an SRMC ($\beta=-0.003$, $t=-0.173$). Forming a RMC, in general, also did not present a significant impact in financial companies. This leads us to reject our H3a hypothesis, as our results show that forming either a CRMC or an SRMC does not have different impacts on firm performance. An explanation for these results would be the fact that financial companies are composed mainly by banks, that are required to have SRMCs, so the number of companies with CRMCs in this sample is very low, what does not allow to observe the actual impact of the CRMC and accurately determine if both types of RMC have different impacts on firm performance.

Regarding the non-financial companies, our results show that there is a significant positive impact of forming a CRMC versus an SRMC ($\beta=0.026$, $t=2.921$). Forming a CRMC leads to a better performance. The results lead us to reject our H3b hypothesis, since the CRMC presents a superior impact on firm performance than SRMC. The explanations to these results are in line with what was said above regarding the inefficiency of the SRMC. First, SRMCs may be formed to pass the image that the firm is committed to risk management or that it is complying with international best practices, while, in fact, the SRMC may be neglected inside the company. Second, the SRMC may increase bureaucracy, leading to information asymmetries and communication fails that result in a lower performance. And third, SRMCs may prevent the company from investing in riskier investment leading to the loss of opportunities and, thus, a worse financial performance.

Our results regarding the SRMC and its impact on performance greatly differ from the literature. We found SRMCs to decrease firm performance in financial institutions and to not have any significant impact on non-financial institutions, opposing the findings of Malik et al. (2020) and Ghazieh & Chebana (2021), both performed also in European countries. The different results could be caused by the distinct economic environment and weaker legislation regarding the countries in our study, as we chose to analyse countries that were greatly affected by the financial crises and where corporate governance quality is inferior.

Regarding the CRMCs, a positive significant impact, for non-financial companies, was found, which is in line with the literature. Similarly, Drogalas & Siopi (2017) and Drogalas et al. (2017) found, for Greek companies, that the CRMC has a positive significant impact on risk management practices and firm value.

The comparison of the impacts of both RMC, lead us to conclude, in non-financial companies, a superior positive effect by the CRMC on firm performance. These results oppose the literature, as Jia & Bradbury (2021), for Australian companies, has found the opposite results, with SRMCs having a greater positive impact on firm performance. The more complex and unpredictable environment felt in the countries of our analysis may be the reason behind our results. In addition, the composition of the boards in the European southern countries is very different from Australia and the rest of the world, as more family-owned companies are present and those tend to be more risk adverse which may remove the need for an SRMC as there is less risky situations to manage in these companies.

6.2. Robustness tests

6.2.1. Additional control variables

To guarantee that the impact of both RMC on firm performance is not being driven by other firm trait, additional control variables were included in the regression model. For the financial sector, a dummy variable for bank was added as a different impact is expected on bank and on the other financial companies. For the non-financial companies, it was added a dummy variable to represent state owned companies, as a lower performance is expected from these companies. The results (not tabulated) are pretty much the same as the result in tables 5 and 6, validating the results presented above.

6.2.2. Period volatility

To determine the impact of the RMC both for volatile and normal periods, the sample was divided into the pre-crises period (2005-2007), crises period⁴ (2008-2010), and the post-crises period (2011-2020). The results (not tabulated) are similar to tables 5 and 6, so the SRMC and CRMC presented the same impacts on firm performance both in volatile and normal periods.

6.2.3. Country volatility

Our third additional test aims to study the volatility at country level. To do so, we evaluated the impact of the interaction of SRMC or CRMC with the four countries and reach the conclusion (not tabulated) that none of the interactions presented a significant impact, indicating that RMC do not present any significant differences amongst countries.

⁴ The crises period encompasses the global financial crisis and the European sovereign debt crisis.

7. Conclusions

In this dissertation, we studied the impact of forming a risk management committee (combined or separate) on firm performance in European southern countries.

According to the literature review, implementing an RMC has a (significant) positive impact on firm performance. The efficient risk management leads to the creation of value for the firms and having a committee responsible for monitoring the risks should increase the efficiency of the process and ultimately improve firm performance. In addition, the SRMC should perform better than the CRMC, since the latter must deal with time (to execute both roles) and expertise constraints.

However, the results lead to the conclusion that SRMCs have a significant negative impact on firm performance for financial companies, and not significant for non-financial companies. There are three possible explanations for these results: the formation of the SRMC being merely symbolic; SRMC limits to much the risk appetite of the firm, preventing the firm from investing in risky projects independently of the benefits for the company; and, SRMC increases the bureaucracy of the firm and reduces communication, leading to information asymmetry and internal inefficiencies.

Contrary to the SRMC, the results for the CRMC are in line with the literature for the non-financial companies, with CRMCs increasing firm performance. For the financial companies, the CRMC does not present a significant impact on firm performance. A simple explanation would be the fact that the regulation regarding the financial companies is stricter and leads towards the formation of an SRMC, for that reason in the financial sector there are less companies with CRMCs and many of them use the CRMC as a temporary fix before adopting the SRMC, which means that the company will not make big investments to accommodate the formation and existence of the CRMC.

As was proven, implementing a CRMC appears to be a much better option for the listed companies in southern Europe. Nevertheless, the companies should assess the environment surrounding them and decide which of the committees better fits their needs.

The fact that this dissertation studies the impact of the SRMC and CRMC on firm performance is an increment to the literature in this area that is, by itself, scarce. Additionally, as the conclusions go against the expectations and the literature, it allows to add a new perspective to the relationship between RMC and firm performance. Thus, the main contribution is that the relationship between performance and the existence of a RMC is not linear,

showing distinct segments for financial – non-financial companies; for SRMC and CRMC.

Nevertheless, this study had some limitations, namely the size of the sample. This implies that the results cannot be generalized to all companies inside of the European southern countries. Moreover, the usage of the listed companies does not allow to understand the effect on non-listed companies, which constitute most of the firms in southern Europe.

In addition, the second limitation comes from the fact that only one proxy was used for firm performance, the return on assets, being that the same can be managed through the accounts, even though other proxies like ROE or ROI could also demonstrate such limitation. Future research in this area should complement this analysis with other proxies of firm performance, especially measures less dependent on accounting, such as Tobin's Q. Unfortunately, the availability of the data did not allow to use such measures in this study. Furthermore, other variables should also be considered, namely measures that influence the efficiency of the committees, such as level of education, gender, manager overlap⁵, age of the members, among others that might be relevant. Lastly, to complement the analysis done in this dissertation, it is important to use a broader sample and take advantage of the future financial information that companies will provide.

⁵ Manager overlap refers to the manager being present in more than one committee.

References

- Abdullah, M., & Abdul-Shukor, Z. (2017). The comparative moderating effect of risk management committee and audit committee on the association between voluntary risk management disclosure and firm performance. *Journal Pengurusan, 51*, 159-172. doi:10.17576/pengurusan-2017-51-14
- Abdullah, W. N., & Said, R. (2019). Audit and risk committee in financial crime prevention. *Journal of Financial Crime, 16*(1), 223-234. doi:10.1108/JFC-11-2017-0116
- Abu, M. M., & Ibrahim, A. U. (2022). Assessing the Impact of Risk Management Structure on Financial Firm Performance: Evidence from Nigerian Services Sector Listed Firms. *WSEAS Transactions on Business and Economics, 19*, 676-689. doi:10.37394/23207.2022.19.60
- Aebi, V., Sabato, G., & Schmid, M. (2012). Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking and Finance, 36*(12), 3213-3226.
- Aldhamari, R., Mohamad Nor, M. N., Boudiab, M., & Mas'ud, A. (2020). The impact of political connection and risk committee on corporate financial performance: Evidence from financial firms in Malaysia. *Corporate Governance, 20*(7), 1281-1305.
- Al-Hadi, A., Hasan, M. M., & Habib, A. (2016). Risk committee, firm life cycle, and market risk disclosures. *Corporate Governance: An International Review, 24*(2), 145-170.
- Anton, S. G. (2018). The impact of enterprise risk management on firm value: empirical evidence from romanian non-financial firms. *Inžinerine Ekonomika-Engineering Economics, 29*(2), 151-157. doi:10.5755/j01.ee.29.2.16426

- Anton, S. G., & Nucu, A. E. (2020). Enterprise Risk Management: A Literature Review and Agenda for Future Research. *Journal of Risk and Financial Management*, 13. doi:10.3390/jrfm13110281
- Bensaid, A., Ishak, S., & Mustapa, I. R. (2021). Risk Management Committee Attributes: A Review of the Literature and Future Directions. *Universal Journal of Accounting and Finance*, 9(3), 388-395.
- Bhimani, A. (2009, March). Risk management, corporate governance and management accounting: Emerging interdependencies. *Management Accounting Research*, 20(1), 2-5.
- Bhuiyan, M. B., Cheema, M. A., & Man, Y. (2020a). Risk committee, corporate risk-taking and firm value. *Managerial Finance*, 47(3), 285-309. doi:10.1108/MF-07-2019-0322
- Bhuiyan, M. B., Salma, U., Roudaki, J., & Tavite, S. (2020b). Financial reporting quality, audit fees and risk committees. *Asian Review of Accounting*, 28(3), 423-444.
- Brown, I., Steen, A., & Foreman, J. (2009). Risk management in corporate governance: A Review and proposal, corporate governance. *An International Review*, 17, 546-558.
- Chairani, C., & Siregar, S. V. (2021). The effect of enterprise risk management on financial performance and firm value: the role of environmental, social and governance performance. *Meditari Accountancy Research*, 29(3), 647-670. doi:10.1108/MEDAR-09-2019-0549
- Chatterjee, D., & Bose, S. K. (2007). Corporate governance, risk management and internal audit: a case study. *Management and Labour Studies*, 32(4), 515-521.
- Cheng, S., Lin, K. Z., & Wong, W. (2015). Corporate social responsibility reporting and firm performance: evidence from China. *Journal of Management and Governance*, 19(1). doi:10.1007/s10997-015-9309-1

- Coles, J. L., Daniel, N. D., & Naveen, L. (2020). Director overlap: Groupthink versus teamwork. *SSRN Electronic Journal*. doi:<https://dx.doi.org/10.2139/ssrn.3650609>
- Conyon, M., Judge, W. Q., & Useem, M. (2011). Corporate governance and the 2008–09 financial crisis. *Corporate Governance: An International Review*, 19(5), 399-404.
- Cortés, D. L., & Botero, I. C. (2016). Corporate governance in family businesses from Latin America, Spain and Portugal: A review of the literature. *Academia Revista Latinoamericana de Administración*, 29(3), 231-254. doi:10.1108/ARLA-03-2016-0064
- COSO. (2004). *Enterprise Risk Management - Integrated Framework*. New York.
- Drogalas, G., & Siopi, S. (2017). Risk management and internal audit: evidence from Greece. *Risk governance & control: financial markets & institutions*, 7(3), 104-110. doi:10.22495/rgcv7i3p10
- Drogalas, G., Eleftheriadis, I., Pazarskis, M., & Anagnostopoulou, E. (2017). Perception about effective risk management. The crucial role of internal audit and management. Evidence from Greece. *Investment Management and Financial Innovations*, 14(4). doi:10.21511/imfi.14(4).2017.01
- Elahi, E. (2013). Risk management: the next source of competitive advantage. *Foresight*, 15(2), 117-131.
- Elamer, A. A., & Benyazid, I. (2018). The impact of risk committee on financial performance of UK financial institutions. *International Journal of Accounting and Finance*, Forthcoming.
- Enriques, L., & Volpin, P. (2007). Corporate Governance Reforms in Continental Europe. *Journal of Economic Perspectives*, 21(1), 117-140.
- Field, L., Lowry, M., & Mkrtchyan, A. (2013). Are busy boards detrimental? *Journal of Financial Economics*, 109, 63-82.

- Florio, C., & Leoni, G. (2017). Enterprise risk management and firm performance: The Italian case. *The British Accounting Review*, 49(1), 56-74.
- García-Sánchez, I.-M. (2009). The effectiveness of corporate governance: board structure and business technical efficiency in Spain. *Central European Journal of Operations Research*, 18, 311-339. doi:10.1007/s10100-009-0112-4
- Ghazieh, L., & Chebana, N. (2021). The effectiveness of risk management system and firm performance in the European context. *Journal of Economics, Finance and Administrative Science*, 26(52), 182-196.
- Goh, T. S., Henry, Erika, & Albert. (2022). Sales Growth and Firm Size Impact on Firm Value with ROA as a Moderating Variable. *MIX: Jurnal Ilmiah Manajemen*, 12(1), 99-116. doi:10.22441/jurnal_mix.2022.v12i1.008
- Gontarek, W. (2016). Risk governance of financial institutions: The growing importance of risk appetite and culture. *Journal of Risk Management in Financial Institutions*, 9(2), 120-129.
- González, L. O., Santomil, P. D., & Herrera, A. T. (2020). The effect of Enterprise Risk Management on the risk and the performance of Spanish listed companies. *European Research on Management Business Economics*, 26, 111-120. doi:10.1016/j.iedeen.2020.08.002
- González, M., Guzmán, A., Pombo, C., & Trujillo, M.-A. (2013). Family firms and debt: risk aversion versus risk of losing control. *Journal of Business Research*, 66(11), 2308-2320.
- Gordon, L. A., Loeb, M. P., & Tseng, C.-Y. (2009). Enterprise risk management and firm performance: A contingency perspective. *Journal of Accounting and Public Policy*, 28, 301-327. doi:10.1016/j.jaccpubpol.2009.06.006

- Halim, E. H., Mustika, G., Sari, R. N., Anugerah, R., & Mohd-Sanusi, Z. (2017). Corporate governance practices and financial performance: The mediating effect of risk management committee at manufacturing firms. *Journal of International Studies*, 10(4), 272-289. doi:10.14254/2071-8330.2017/10-4/21
- Hillman, A. J., & Dalziel, T. (2003). Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review*, 28(3), 383-396.
- Hines, C. S., & Peters, G. F. (2015). Voluntary risk management committee formation: Determinants and short-term outcomes. *Journal of Accounting and Public Policy*, 34, 267-290.
- Hutchinson, M. R., & Ngoc, T. B. (2012). Corporate governance and risk management committee: The role of risk management and compensation committees. *2012 Financial Markets & Corporate Governance Conference*. doi:10.2139/ssrn.1979895
- Ishak, S. (2013). The formation of separate risk management committee and the effect of modified audit report. *Malaysian Management Journal*, 17, 43-58.
- Jan, N., Karn, A. L., Li, Z., & Liu, X. (2021). The Relationship between Corporate Social Responsibility Reporting and Firm Performance and the Moderating Role of Firm Life Cycle Stages: Evidence from China. *Sustainability*, 13. doi:10.3390/su131810038
- Jia, J., & Bradbury, M. E. (2020). Complying with best practice risk management committee guidance and performance. *Journal of Contemporary Accounting and Economics*, 16(3), 100-225.
- Jia, J., & Bradbury, M. E. (2021). Risk management committees and firm performance. *Australian Journal of Management*, 46(3), 369-388.

- Kallamu, B. S. (2015). Risk management committee attributes and firm performance. *International Finance and Banking*, 2(2), 1-24.
- Kirkpatrick, G. (2009). The corporate governance lessons from the financial crisis. *OECD Journal: Financial Market Trends*, 2009/1.
- Lazăr, S. (2016). Determinants of firm performance: evidence from romanian listed companies. *Review of Economics & Business Studies*, 9(1), 53-69. doi:10.1515/rebs-2016-0025
- Lazarides, T., & Drimpetas, E. (2011). Evaluating corporate governance and identifying its formulating factors: the case of Greece. *Corporate Governance*, 11(2), 136-148. doi:10.1108/14720701111121010
- Lechner, P., & Gatzert, N. (2018). Determinants and value of enterprise risk management: empirical evidence from Germany. *The European Journal of Finance*, 24(10), 867-887. doi:10.1080/1351847X.2017.1347100
- Lin, Y., Wen, M.-M., & Yu, J. (2012). Enterprise risk management: strategic antecedents, risk integration and performance. *North American Actuarial Journal*, 16(1), 1-28.
- Loughran, T., & McDonald, B. (2020). Measuring Firm Complexity [Unpublished manuscript]. Mendoza College of Business, University of Notre Dame.
- Lukianchuk, G. (2015). The Impact of Enterprise Risk Management on Firm Performance of Small and Medium Enterprises. *European Scientific Journal*, 11, 408-417.
- Major, E., & Marques, A. (2009). IFRS introduction, corporate governance and firm performance: evidence from Portugal. *Journal of Applied Management Accounting Research*, 7(2).

- Malik, M. F., Zaman, M., & Buckby, S. (2020). Enterprise risk management and firm performance: Role of the risk committee. *Journal of Contemporary Accounting and Economics*, 16(1). doi:10.1016/j.jcae.2019.100178
- Malik, M., Shafie, R., & Ismail, K. N. (2021). Do risk management committee characteristics influence the market value of firms? *Risk Management*, 23, 172-191. doi:10.1057/s41283-021-00073-8
- Mayer, N., Aubert, J., Grandry, E., & Feltus, C. (2019). An integrated conceptual model for information system security risk management supported by enterprise architecture management. *Software and Systems Modeling*, 18(3), 2285-2312. doi:10.1007/s10270-018-0661-x
- Menyah, K. (2013). Stewardship Theory. In S. Idowu, N. Capaldi, L. Zu, & A. Gupta, *Encyclopedia of Corporate Social Responsibility* (pp. 2322-2329). Berlin, Heidelberg: Springer. doi:10.1007/978-3-642-28036-8_107
- Mikes, A., & Kaplan, R. S. (2013, January). Towards a contingency theory of enterprise risk management [Working Paper]. Harvard Business School .
- Mohammed, H. K., & Knapkova, A. (2016). The impact of total risk management on company's performance. *Procedia - Social and Behavioral Sciences*, 220, 271-277. doi:10.1016/j.sbspro.2016.05.499.
- Mongiardino, A., & Plath, C. (2010). Risk governance at large banks: Have any lessons been learned? *Journal of Risk Management in Financial Institutions*, 3(2), 116-123.
- Nguyen, V. H., Nguyen, T. T., Nguyen, V. T., & Do, D. T. (2021). Internal Factors Affecting Firm Performance: A Case Study in Vietnam. *The Journal of Asian Finance, Economics and Business*, 8(5), 303-314. doi:10.13106/JAFEB.2021.VOL8.NO5.0303

- Oliveira, J., Serrasqueiro, R., & Mota, S. N. (2018). Determinants of risk reporting by Portuguese and Spanish non-finance companies. *European Business Review*, 30(3). doi:10.1108/EBR-04-2017-0076
- Pagach, D., & Warr, R. S. (2010, April). The effects of enterprise risk management on firm performance. doi:https://doi.org/10.2139/ssrn.1155218
- Perez-Cornejo, C., Quevedo-Puente, E., & Delgado-García, J. B. (2019). How to manage corporate reputation? The effect of enterprise risk management systems and audit committees on corporate reputation. *European Management Journal*, 37(4), 505-515.
- Rimin, F., Bujang, I., Chu, A. W., & Said, J. (2021). The effect of a separate risk management committee (RMC) towards firms' performances on consumer goods sector in Malaysia. *Business Process Management Journal*, 27(4), 1200-1216. doi:10.1108/BPMJ-06-2020-0265
- Rodrigues, L. L., Tejedo-Romero, F., & Craig, R. (2017). Corporate governance and intellectual capital reporting in a period of financial crisis: evidence from Portugal. *International Journal of Disclosure and Governance*, 14, 1-29. doi:10.1057/jdg.2015.20
- Soin, K., & Collier, P. (2013). Risk and risk management in management accounting and control. *Management Accounting Research*, 24(2), 82-87.
- Subramaniam, N., McManus, L., & Zhang, J. (2009). Corporate governance, firm characteristics and risk management committee formation in Australian companies. *Managerial Auditing Journal*, 24(4), 316-339.
- Yatim, P. (2009). Audit committee characteristics and risk management of Malaysian listed firms. *Malaysian Accounting Review*, 8(1), 19-36.
- Yatim, P. (2010). Board structure and the establishment of a risk management committee by Malaysian listed firms. *Journal of Management and Governance*, 14, 17-36.

- Yeh, Y.-H., Chung, H., & Liu, C.-L. (2011). Committee independence and financial institution performance during the 2007–08 credit crunch: Evidence from a multi-country study. *Corporate Governance: An International Review*, 19(5), 437-458.
- Zaman, M., Hudaib, M., & Haniffa, R. (2011). Corporate Governance Quality, Audit Fees and Non-Audit Services Fees. *Journal of Business Finance & Accounting*, 38(1-2), 165-197.

Annexes

Annex 1. Evolution of RMC in southern European listed companies

Year	BRMC	CRMC	SRMC
2005	84.75%	13.56%	1.69%
2006	72.58%	20.97%	6.45%
2007	62.86%	27.14%	10.00%
2008	50.00%	35.71%	14.29%
2009	40.85%	40.85%	18.31%
2010	29.17%	50.00%	20.83%
2011	19.44%	56.94%	23.61%
2012	16.67%	58.33%	25.00%
2013	11.11%	59.72%	29.17%
2014	9.72%	59.72%	30.56%
2015	10.96%	58.90%	30.14%
2016	6.85%	63.01%	30.14%
2017	2.70%	66.22%	31.08%
2018	2.70%	64.86%	32.43%
2019	1.35%	63.51%	35.14%
2020	0.00%	62.16%	37.84%

Notes: BRMC: before constitution of an RMC; CRMC: combined RMC; SRMC: separate RMC

Since the sample only encompasses companies that adopted an RMC, in 2020 all companies have either a CRMC or an SRMC

Annex 2. Test of normality

Shapiro-Wilk		
	Statistic	P-value
Financial Companies (N=173)		
BRMC	0.943	0.188
CRMC	0.953	0.141
SRMC	0.762	0.000
Non-financial companies (N=977)		
BRMC	0.985	0.005
CRMC	0.967	0.000
SRMC	0.967	0.001

Notes: BRMC: before constitution of an RMC; CRMC: combined RMC; SRMC: separate RMC