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## Article

# Do ownership structures affect the establishment of a risk management committee? Evidence from an emerging market

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## ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

# Do ownership structures affect the establishment of a risk management committee? Evidence from an emerging market

Masturah Malik<sup>1</sup>, Rohami Shafie<sup>1</sup>, Ku nor Izah Ku Ismail<sup>1</sup> and Anas Rasheed Bajary<sup>1,2\*</sup>

**Abstract:** The main aim of this paper is to examine the determinants that contribute to the establishment of a risk management committee (RMC) in a firm. Unlike previous studies, this paper investigates the types of ownership structure, comprising family, institutional, government, managerial, and foreign ownership, as the factor that leads to the establishment of an RMC. This is based on the observation of 2,173 non-financial public listed firms from 2015 until 2017 in the Malaysian business market. By using logistic regression, the results depict that government and foreign ownership are significantly and positively related to the establishment of an RMC. In contrast, the establishment of an RMC in family and managerial ownership firms shows a negatively significant effect. The results indicate that family and managerial ownership have less of an agency problem in the firm, thus requiring less monitoring as compared to other types of ownership, which require more monitoring, especially in terms of managing risks, which affirm the argument of the agency theory. As a result, this study provides empirical evidence on the determinants of the establishment of RMCs and informs regulators and policymakers about the potential requirement for RMC establishment in Malaysian non-financial publicly traded firms.

**Subjects:** Corporate Governance; Risk Management

**Keywords:** risk management committee (RMC); ownership structure; agency theory; risk management; risks; corporate governance

### 1. Introduction

Due to the challenging business world, risk management has become a hot topic and a key component of any firm's goal policy. The strategy for managing risks in the modern economy has so far been the most significant finding in both theoretical and empirical research. However, the question of the appropriate role that corporate boards should have in handling and managing risks is still being debated among regulators and practitioners. One of the strategies that has been implemented is emphasizing the efficacy of the risk management function in the firm (Horvey et al., 2020). The key for firms to achieve their goals and improve their outcomes, for example, financial reporting quality, is having an adequate risk management system (Ahmad et al., 2018; Subramaniam et al., 2009). Forming an additional monitoring committee, such as the Risk

Management Committee (RMC), will be one of the best ways to improve the process of managing risks in the firm in terms of detecting and taking preventive action. In addition, evidence suggests that during the 2008 financial crisis, banks with a Chief Risk Officer (CRO) and an effective RMC, were more stable (Srivastav & Hagendorff, 2016). Similar to the previous scenario, the lack of an independent CRO and RMC in the majority of banks during the crisis highlights the importance of risk governance in banks. The accuracy of the risk assessment and prompt disclosure by the RMC are also essential to a board's ability to conduct effective risk oversight. Therefore, strengthening risk governance is the most recommended course of action, especially following the 2008 world-wide economic meltdown (Addae et al., 2023).

According to Krus and Orowitz (2009), the audit committee is responsible for carrying out risk management and risk assessment grounded on the listing standards of the New York Stock Exchange (NYSE). A survey done by the North Carolina State University and the American Institute of Certified Public Accountants (AICPA), has found that almost 60% of risk oversight responsibility has been undertaken by audit committees (Organization for Economics Cooperation and Developments, 2014). However, many professionals view this with grave concern as they believe that the audit committee should not be the only committee in charge of the risk oversight function (Zaman, 2001). To obtain more in-depth information about risks, several businesses and policymakers have also advocated the use of a separate RMC (Keizer, 2010). Hence, this has led to a debate on whether an RMC, especially a separate one, should be formed by the board to manage and monitor the process of detecting and managing risks that exist in the firm.

In Malaysia, the creation of the RMC is still not mandatory because no regulation or law requires it. However, starting in 2010, banking and insurance firms have to create a stand-alone RMC in their organization. This requirement is governed by the Central Bank of Malaysia Act 2009 (Ng et al., 2013). A previous study conducted by Yatim (2009) has found that only 246 firms have formed an RMC out of the 690 public firms listed on Bursa Malaysia for the year 2003; while Malik et al. (2021) reported a total of 496 firms which had formed a separate RMC during the 2015 until 2017 period. It has been shown that many firms are still unaware of the importance of establishing a separate RMC for managing risks in their firm. The formation of an RMC is not being considered as the best strategy for all corporate firms because large firms (for example, Lehman Brothers and Wachovia), did have a stand-alone RMC responsible for monitoring risks, but they still collapsed. Therefore, this has raised the question of why a separate RMC is needed in the firms. However, Moore and Brauneis (2008) argued that having an RMC in a firm will improve the entire risk oversight function due to the increased use of resources by the board to analyze the risk appetite.

In contrast, Bates and Leclerc (2009) found that the existence of an RMC may prevent the board from accurately overseeing risks as they relate to strategies and operations. Hence, it is evident that firms may have different perspectives to forming an RMC. The underlying cause of this is that firms have varying levels of risk, particularly when these firms do not have the same ownership structure (Amran & Ahmad, 2010). Thus, it is crucial to recognize the risk appetite of firms according to their ownership structure since it may influence their performance as well as the involvement of the board in managing risks. Gadhoum and Ayadi (2003) reported that the degree of risk-taking is negatively associated with the ownership structure of the firm. Boubakri et al. (2013) posited that the level of risk in the firm depends on the ownership structure, as well as the characteristics of the board. Moreover, very few studies have investigated the relationship between ownership structure and the board, and risk management.

Risk governance has been widely studied, and has been analyzed in studies on corporate governance. A review has been undertaken of all board sub-committees, with the audit committee, compensation committee, nomination committee and other committees, dominating the review. As these studies have focused on all board sub-committees, the RMC has therefore, not received adequate attention. This is considered a specialist committee and according to Malik and Shafie (2021), the board's ability to tackle complex issues is enhanced by its use of the RMC. Although

studies addressing single board committees, such as the technology committee and the audit committee are available, studies that have focused solely on-board RMC are rare (Ibrahim et al., 2022; Larasati et al., 2019; Malik & Shafie, 2021). From the above, as the RMC literature is normally integrated within risk governance, this study bridges the research gap by investigating the attributes of the establishment of an RMC from the perspective of ownership structure. This factor or determinant has not yet been studied by previous researchers, especially in a developing country, like Malaysia. Therefore, the specific objectives are to:

- (1) Investigate whether or not ownership structure, namely family, institutional, managerial, government-linked and foreign ownerships, affect the establishment or creation of an RMC in the firm.
- (2) Ascertain the type of RMC, whether combined or stand-alone, based on the ownership structure.

Despite the distinctions in the two nations' economic landscapes, the implications of different governance measures on corporate structure identified in the United Kingdom (UK) may not be applicable to Malaysia. This is because the discrepancies among some of our study's findings and findings from research conducted in other nations add to the debate on corporate governance, and show that governance structures intended to improve corporate performance should not be adopted in a blind manner but rather should take into account the particular business environment that exists in the country in question. Therefore, the findings of our study have significant policy ramifications for the Malaysian Code of Corporate Governance (MCCG) and other parties interested in selecting the best governance framework to be used in a specific country. Hence, the main motivation of the current study is to explore whether or not the uniqueness of the ownership structure in Malaysia influences the establishment of an RMC. This paper goes on to explain how various types of ownership structures have resulted in different types of RMCs being established, i.e., combined or stand-alone.

Consequently, the current paper seeks to make the following contributions to the existing literature on risk governance. First, it is one of the first to include ownership structure as one of the determinants influencing the formation of an RMC, which provides a comprehensive overview of the research in this field and proposes a framework for understanding this relationship. Second, this study provides more justifications on whether or not different types of ownership structures have different perspectives on the need for additional monitoring committees, such as the RMC, which are aligned with the risk-based concept that the firm has exercised. Thirdly, we examine risk governance mechanisms that go beyond financial institutions, which are required by regulators to maintain an RMC, to other sectors that choose to maintain an RMC voluntarily. Finally, our review adds to the corporate governance literature by highlighting the significance of an RMC as a specialized board sub-committee.

The remainder of this paper is structured as follows: in Section 2, the paper overviews the study's background, followed by Section 3 on the theoretical literature review, while Section 4 discusses the empirically related literature and development of hypotheses. The research method used is reported in Section 5, and Section 6 is on the discussion of the findings. The paper concludes with an overview of its limitations and significance, as well as recommendations for further studies in section 7.

## **2. Background of the risk management committee**

Legislative changes with a strong emphasis on the risk management function, have been motivated by growing concerns with risk management approaches (Ghofar et al., 2022). As an example, the Combined Code of Conduct in the UK describes the duties of the boards of businesses listed on the London Stock Exchange, in terms of risk awareness and supervision. Similar to this, the United States of America's (USA's) Sarbanes-Oxley Act 2002 stipulates the obligations of the board of

directors (BoDs) of any organization registered with the Securities and Exchange Commission, with regards to risk management (Brown et al., 2009). As for Australian listed firms, the Corporate Governance Council of the Australian Stock Exchange (ASX) also stresses on the need to deploy adequate risk management systems. Firms listed on the Johannesburg Securities Exchange (JSE) in South Africa must also comply with regulations which require the firms to set up additional committees, such as the RMC, in order to enhance the board's capacity to manage risks (Brown et al., 2009). In general, corporate governance regulations and recommendations imply that using board sub-committees, with a focus on managing risks, may be the most effective approach to aid the boards to fulfill their supervision responsibilities (Ling et al., 2014).

At a higher level of the Malaysian regulatory system, there is no explicit regulation (e.g., in the Sarbanes-Oxley Act of the USA) that requires publicly listed firms to establish a robust corporate or enterprise risk management (ERM) system. Perhaps, the closest reference in the Malaysian regulatory framework which requires Malaysian publicly listed firms to manage risks, lies in the MCGG. Effective 2010, it became mandatory for financial firms to establish a separate RMC to help the board to manage risks (Ng et al., 2013). Non-financial firms, however, are not bound by the said regulation. In 2013, the Statement on Risk Management and Internal Control (RMIC) was published by Bursa Malaysia in order to enhance the governance practices voluntarily in terms of controlling risks. This guideline provides more explanation and discussion related to the duties of the board, management and the internal audit in managing risks. Steps for reviewing the effectiveness of the system of risk management are also included. As a result, it promotes greater transparency for businesses, regulators, and other stakeholders by requiring enterprises to disclose their risks along with how those risks are being handled.

With the adoption of the MCGG in March 2000, corporate governance started to become more significant from early 2000 onwards. Prior to 2000, there were no formal guidelines for businesses to follow, and the policies of firms on corporate governance varied. The issue of risk is only mentioned in a few areas in the MCGG 2000. For example, under Accountability and Audit, the BoDs should preserve shareholders' interests by maintaining the effectiveness of internal controls, which includes risk management (paragraph 4.14). Furthermore, the function of the BoDs in risk management is outlined in paragraph 4.17, where one of the key roles of the directors is to manage the risks and implement comprehensive risk management mechanisms. This demonstrates the significance of the BoDs in corporate governance, particularly in risk management. The Code clearly suggests that the BoDs executes its role of monitoring and minimizing risks.

Due to the volatility of the stock market and the requirement for better corporate governance measures, the Code was revised in 2007. Two key elements of corporate governance, i.e., the role of the BoDs and the Audit Committee (AC) are given more attention in this Code. The requirement for listed firms to develop internal audit functions and maintain their efficacy is one of the key modifications in the MCGG 2007. The position of the Chief of Internal Audit is explicitly defined in this amended Code. The updated Code highlights three key areas that the Chief of Internal Audit should emphasize more when evaluating and auditing internal controls, risk management, and governance procedures in the firm, in addition to outlining the role of the board in risk management. In 2012, a new updated Code was established. This Code has improved principles and makes recommendations for the structure and practices that enterprises should follow to ensure the adoption of good governance practices. The Code specifically stresses on the responsibilities of the BoDs and urges companies to be honest in their corporate disclosure procedures. Two recommendations are provided under Principle 6 - Recognize and Manage Risk. The first requirement, which is pertinent to risk management, is that the BoDs form a risk management framework. The second recommendation is that the BoDs establish an internal audit function that reports to the AC.

In April 2017, the Securities Commission (SC) of Malaysia published a revised version of the MCGG 2017 to replace the MCGG 2012 in order to guarantee that Malaysia's governance practices are continually enhanced (Securities Commission, 2017). In contrast to previous editions of the MCGG,



the MCCG 2017 emphasizes on the significance of risk management and the importance of having an adequate internal control system in place to manage risks. The Code states that internal control should make the most of current business opportunities to enhance firm performance, while risk management should concentrate on identifying business risks. This can help organizations to make strategic business decisions, while also addressing the degree of risks that they will be ready to tolerate and take the appropriate steps to achieve their objectives. There is one section in particular that is dedicated to the risk management component, i.e., “Principle C: Managing Risks to Preserve and Create Value”. This principle clearly recommends that firms should establish an effective risk management framework by establishing an RMC, in which the majority of the members must be independent directors. On 28 April 2021, the SC announced the updated MCCG 2021, with the aim of providing firms with improved best practices and additional recommendations. However, no further amendments or improvement practices are recommended relating to risk management. Hence, this is another motivation for this study, whereby it raises the question of why there is still no mandatory regulation for the establishment of an RMC, which up to now is voluntary for non-financial publicly listed firms.

Despite the guidelines in the academic literature and codes of practice, organizations have different methodologies, structures, and risk management systems. Some businesses choose to create a stand-alone RMC, while others rely on their AC to handle their risk management functions (Subramaniam et al., 2009; Yatim, 2010). Researchers and practitioners are interested in figuring out the reasons for the different choices. Using data from companies listed on the ASX, Subramaniam et al. (2009) explored firm-specific characteristics that influence a company’s decision to establish a separate RMC. They found that larger boards and independent board chairs are associated with distinct RMCs. Yatim (2010) and Ling et al. (2014), who focused on Malaysian listed companies, investigated the relationship between board characteristics and the voluntary formation of stand-alone RMCs, and confirmed that companies with larger, more independent, knowledgeable, and diligent boards are more likely to establish stand-alone RMCs. Additionally, Ghazali (2012) examined the factors impacting the creation of independent RMCs in Malaysian businesses, and found that firm size is positively associated with the creation of RMCs, with over a third of the sample firms having distinct RMCs.

In contrast, Bates and Leclerc (2009) found that the existence of RMCs may be a hindrance to the board’s ability to monitor risks effectively as it relates to strategies and operations. Hence, it can be seen that firms may have different perspectives of the formation of an RMC. This is because the level of risks in firms differs, especially when the firms do not have the same type of ownership structure (Amran & Ahmad, 2013). Consequently, it is crucial to determine the risk tolerance of firms according to their ownership structure since it may influence their performance as well as the involvement of the board in managing risks. Gadhoum and Ayadi (2003) found that there is a negative relationship between ownership structure of a firm and its level of risk-taking.

Every shareholder perceives the firm’s risk-taking behavior differently, which leads to different stages of agency problems. For instance, shareholders with diversified backgrounds are motivated to take high risks to get high returns, while managers, on the other hand, prefer to avoid taking high risks since they need to protect their position (Dahlquist & Robertson, 2001; Yusuf et al., 2023). For this reason, a proper risk management system in a firm will enable the market to differentiate risk options according to the ownership structure. To sum up, most of the RMC studies have only relied on board and AC characteristics to investigate the reasons for the establishment of RMCs. Hence, the objective of this study is to analyze the relationships between the types of ownership structure and the establishment of RMCs.

### 3. Theoretical literature review

Several theories have been employed to support the theoretical foundation for the empirical examination of risk governance. Scholars have aligned their studies using theories from several disciplines, including psychology, sociology, organizational behavior, finance and management.

The agency theory is the most widely used theory to explain risk governance. According to the agency theory, risk is prevalent due to the rent-seeking and opportunistic behavior of managers. Ibrahim et al. (2022) identified three areas in which the agency theory is relevant to risk governance research: the operationalization of risk management by the board to control the risk appetite; identification, monitoring, and management of risks by an empowered RMC; and active management and reporting of risks by an empowered CRO directly to the board.

The comprehensive review of literature by the researchers has found a number of prior studies on the attributes of the formation of an RMC. Earlier researchers have analyzed the attributes that affect the formation of RMCs, but these studies have focused more on the board structure and AC characteristics (Alzharani & Aljaaidi, 2015; Ling et al., 2014; Subramaniam et al., 2009; Tazilah & Abdul Rahman, 2014; Yatim, 2009, 2010). Research on factors that contribute to the establishment of RMCs ceased in the year 2014, and after that, no study has been conducted related to this issue. This motivates this study to investigate the other factors that can explain the establishment of RMCs, for example, from the perspective of the ownership structure, that is also a unique feature of the Malaysian business environment. Very little research is currently available on this aspect, specifically in the non-financial sector.

The theoretical foundation of this study is grounded in the agency and signaling theories. According to Jensen and Meckling (1976), agency problems may be caused by the structure of ownership, i.e., the distributional power and control in a firm. Besides that, the agency problem may increase due to the separation of ownership and control since it will increase the power of the managers in the organization. This is because managers might misuse their power to assign activities which benefit them the most instead of catering to the shareholders' best interests (Jensen & Meckling, 1976). Therefore, the type of ownership structure, such as institutional, government and foreign ownership, may lead to higher agency problems. Such firms may be most likely to establish an RMC in order to reduce agency problems. This is because having a RMC will help reduce the inappropriate behavior of the managers since it can function as a monitoring committee, subsequently leading to full disclosure of information regarding any activities that occur. This differs from family ownership and managerial ownership, whereby these types of owners face less risks in terms of agency problems as well as misbehavior of managers since they are also the owners of the firms.

As discussed above, the formation of an RMC in a firm allows the firm to have better controlling and risk oversight functions. The establishment of an RMC can improve the effectiveness of the ERM system, such as by supervising, identifying, monitoring, controlling and minimizing risks faced by the firm, which in turn, can enhance firm performance (Zemzem & Kacem, 2014). In the context of the agency theory, an RMC can be seen as a monitoring mechanism which may improve the value of the firm as well as minimize agency costs through extensive internal control and risk assessment in the firm. Besides the agency theory, the direct relationship between the determinants and the formation of an RMC can be clarified by using the signaling theory. The formation of an RMC in a firm will indirectly "signal" to the organizations or investors about the information asymmetry that exists in the firm, thereby implying that the firm has good corporate governance practices; this will result in the firm having a favorable image in the market. Since the creation of the RMC is still voluntary, many firms cannot decide which type of RMC should be established, whether stand-alone (separate) RMC or combined with another committee. The latter has been widely practiced by most non-financial firms, where the RMC is combined with the AC.

Different from previous studies done on the factors that determine the existence of the RMC, this present study seeks to examine its uniqueness in the Malaysian context in terms of the types of ownership structure as the determinants for the existence of combined and separate RMCs in firms. Malaysia has a unique ownership structure, which provides a basis for how the formation of a stand-alone RMC may be affected by the different types of ownership (Ghazali, 2012). The ownership structure plays a crucial role in reducing information asymmetry and self-interests



between the minority and controlling shareholders, and hence, it can be one of the factors to be considered when examining the existence of an RMC in a firm. The ownership structures examined in the study are family ownership, government ownership, managerial ownership, institutional ownership and foreign ownership.

#### 4. Empirical review and development of hypotheses

##### 4.1. Family ownership

In Asia, especially Malaysia, it has been demonstrated that ownership concentration is disproportionately in the control of individuals or families (Al-Jaifi et al., 2018). According to Amran and Ahmad (2010), family-controlled firms have advantages in terms of reducing the agency problem and monitoring since there is no separation of management in decision-making and control. This proposition is in tandem with Fama and Jensen (1983), who found that the involvement of family members as both managers and owners, can solve the problem of managers' exploitation of the principal, and at the same time, reduce the information asymmetry between the two parties.

Although less agency problems occur, most family-owned firm managers also experience various types of risks while managing their firms. Family businesses are frequently associated with less external as well as internal formal monitoring, but these owners make decisions in an unbiased manner, with little regard for outsiders' opinions and perspectives (Schulze et al., 2003). This is because the managers and owners rely on each other based on family ties. However, Anderson and Reeb (2003) reported that family-owned firms perform better and have higher performance compared to non-family-owned firms.

The implementation of an ERM system and risk coverage, might be negatively impacted by the level of funds invested in family firms. Beasley et al. (2005) and Brustbauer (2016) advocated this concept because they think that for an ERM system to be implemented successfully, the owners must be fully on board and aware of the benefits it offers. As a result, the authors believe that less involvement in the adoption of an ERM system is more likely when the person in charge of the business is a manager-owner rather than a professional manager. However, the presence of other significant investors, especially institutional ones, may lead to differing interests to implement an ERM system. The agency theory further explains that family-owned firms are more efficient in reducing agency problems since shares are held by individuals who have connections with other agents. Thus, this makes it possible to address agency issues without isolating management from control decisions (Amran & Ahmad, 2010).

Similarly, Kang (1988) argued that active family members can promote effective communication and monitor their managers' behavior, thus leading to lower information asymmetry. Wang (2006) also reported that well-established family firms tend to avoid inappropriate behavior to preserve their family name and reputation, and to maintain superior performance. Hashim and Devi (2008) suggested that the existence of family members can lead to improvements in the monitoring of firm operations and activities. Consistent with this view, Zahra (2005) found that family involvement would enhance risk management in the firm. When a company is owned by a family, there is less information asymmetry. Hence, family-owned firms tend not to form an RMC due to the lower level of monitoring required, especially in terms of risks. Thus, the following hypothesis is proposed:

**H1:** Family-owned firms have less incentives to establish RMCs.

##### 4.2. Institutional ownership

Institutional ownership refers to a large financial organization that specializes in deposits and manages equally on behalf of shareholders to accomplish a defined objective in terms of risk appetite and maximum returns. In order to maintain high shareholder value, institutional investors play a crucial role in eliminating agency conflict and achieving effective governance. Previous

studies have found that institutional investors are more driven to monitor management since the benefits of their efforts outweigh the costs they are willing to bear (H. H. Ahmad & Azhari, 2022; Shleifer & Vishny, 1986).

Minority shareholders have increased their efforts to protect and monitor their interests from being exploited by controlling shareholders as the number of institutional investors in the market has increased (Daily et al., 2003). Thus, effective risk management and congruent corporate governance measures are necessary to retain the trust of the investors. Added to this, the existence of these institutional investors has led to increased monitoring by management and fewer agency problems. Further, the existence of institutional investors may encourage firms to create proper risk management strategies. On the other hand, institutional investors behave professionally when they have a higher interest, increasing the requirements for management, and consequently, those of their risk system, according to Mafrolla et al. (2016). Furthermore, Paape and Speklé (2012) contended that because institutional investors are more powerful than individual investors, their presence will lead to a higher level of ERM adoption.

Institutional investors also face free-rider problems and liquidity issues (Maug, 1998) in their firms. Hence, institutional investors require a higher level of governance and corporate social performance as well as strategies in place to lessen risks. Brustbauer (2016) discovered an empirically supported connection between institutional ownership and the adoption of ERM. Lewellen and Lewellen (2022) demonstrated that agency problems can be reduced through the institutional investors due to their role in monitoring risks. Based on the argument above, institutional owners tend to set up an RMC in their firm to have a more adequate system to manage risks. Therefore, the following hypothesis is developed:

**H2:** The presence of institutional investors encourages the establishment of RMCs.

#### **4.3. Government ownership**

Government-linked companies (GLCs) play a vital role in Malaysia's economic growth as they accounted for nearly 49% of the market capitalization on Bursa Malaysia in 2009 (Zin & Sulaiman, 2011). Razak, Ahmad, and Joher (2011) found that GLCs have better firm performance compared to non-GLCs. This shows that government owners can handle agency problems which occur due to information asymmetry since their representatives on the firm board can monitor the management's activities. It has been argued that when the GLCs increase their equity, their supervision will also increase. Darussamin et al. (2018) posited that the other shareholders will become a minority when the government is in charge of the company's affairs, and a conflict of interest will arise amongst the majority and minority shareholders. Due to the competing interests of the government and other shareholders in the firm, the agency theory predicts that government-owned businesses will release more information than non-government-owned businesses. It has been anticipated that government-owned businesses will be more inclined to share information to reduce disputes (Eng & Mak, 2003; Mohd-Nasir & Abdullah, 2004).

In terms of the strong correlation between government ownership and information sharing, the resource dependence theory can be used to support this finding further. These above-mentioned representatives' oversight may be able to assist businesses in navigating external uncertainties, hence making it easier for them to access financial resources, like bank loans (Faccio, 2006). Due to that reason, the indirect effects of the presence of the chosen representatives include minimizing information asymmetry and effective monitoring. This is necessary so that they may make decisions with less reliance on the general information found in financial reports because they have access to more specialized and in-depth information. Ghazali (2020) argued that government-owned firms disclose more proactively because they are held to a higher standard of transparency. It is easier for GLCs to access the information through the various routes of funding (Eng & Mak, 2003; Razak et al., 2011). To maintain their favorable image in the capital market,

firms owned by the government must reveal more information in their annual reports. Hence, it is important for state owners to perform good monitoring of management, and the resource dependence theory can be used to support this finding further. Yazid et al. (2011) stated that GLCs are more sensitive towards the endorsement of ERM.

For that reason, GLCs are more likely to establish an RMC to get more information regarding risks while also improving their performance. Therefore, forming an RMC can be an option to enhance the firms' corporate governance, and to extensively monitor agency problems. Hence, GLCs are more focused on effective and efficient risk management since they need to show high performance. Hence, the following hypothesis is developed:

**H3:** Government ownership encourages the establishment of RMCs.

#### **4.4. Managerial ownership**

Managerial ownership means managers have a substantial percentage of shares in the business (Ramli et al., 2013). According to Jensen and Meckling (1976), managerial ownership can reduce agency problems due to high commitment and the relationship between managers and owners who prioritize the value of the firm over their self-interests. This can be seen when firms do not perform well and managers tend to increase their ownership (Fahlenbrach & Stulz, 2010). This is due to the fact that a manager who owns a significant percentage of the firm's stocks has more motivation to enhance performance and safeguard shareholders' interests. Additionally, it has been asserted that managerial ownership promotes the alignment of shareholders' and managers' interests.

Mat nor and Sulong (2007) reported that managers who own a small percentage of the firm's shares have a greater motivation to act in their personal interests rather than to maximize firm value, which leads to high agency problems. On the other hand, managers who have substantial firm equity are likely to ensure that all the strategies are aligned with the objectives of the firm as well as the interests of the owners since they are highly committed to ensuring high performance. Because of the high degree of congruence of interests, controlling shareholders' or managers' opportunistic behavior is curbed (Rehman et al., 2021). In this regard, it is asserted that shareholders' and managers' interests begin to diverge as the percentage of management ownership increases. In line with the resource dependence theory, a corporation may view minimal managerial ownership dispersion as a valuable resource. This is because corporate directors, who own a portion of the company's shares, will be motivated to maximize the crucial resource supply in line with the business' purpose and interests

It can therefore be concluded that managers who hold a substantial percentage of shares in a firm will most probably act accordingly to maximize the shareholders' wealth, and there will be fewer conflicts of interest, which in turn, will reduce agency costs. Therefore, it is anticipated that businesses with significant managerial ownership will be less likely to establish RMCs. These explanations prompt the next hypothesis:

**H4:** Managerial owners have fewer incentives to establish RMCs.

#### **4.5. Foreign ownership**

Foreign ownership mostly requires a high level of monitoring, which leads to a positive relationship with high performance. This is supported by the agency theory which entails that the appointment of foreign directors can strengthen monitoring effectiveness due to the geographical distance from their domiciled countries and lack of familiarity with the local business environment. According to Mohandi and Odeh (2010) and Aydin et al. (2007), firms with foreign owners outperform locally-owned firms because foreign owners take more managerial risks than domestic owners. Long-term foreign investors also might increase the supervision of the firm, thus leading to minimizing

the opportunistic behavior of managers. This is because long-term foreign investors will be more committed and responsible for maintaining the sustainability and goals of their firm. Foreign investors will therefore be more vigilant to ensure that management does not engage in non-value maximizing practices.

Viewed from a different perspective, foreign investors often face difficulties in acquiring information about risks compared to local investors (Chavarin, 2020). Foreign investors incur additional expenses in order to obtain the information, hence increasing the cost of the investment for them. Due to international investment, foreign investors are more likely to run businesses successfully even with insufficient knowledge. Rokhim and Susanto (2013) and Leuz et al. (2009) contended that foreign investors find it challenging to determine the real value of risks related to the enterprise, and as a result, lack the capacity to forecast the extent of expropriation.

Based on the above contention, foreign owners will be more likely to form an RMC to enhance their risk monitoring ability, and at the same time, require more information to be disclosed related to any risks that may exist in the firm. Jiang and Kim (2004) stated that foreign ownership corresponds with a high level of corporate disclosure and low information asymmetry. Foreign owners are more competent and active in managing their firms and have a reputation for high performance compared to local investors (Ferreira & Matos, 2008; Rehman et al., 2021). This is consistent with past studies that have compared foreign and government ownerships and reported that government owners are less related to risk-taking compared to foreign owners (Boubakri et al., 2013; Doidge et al., 2009; Leuz et al., 2009). Due to this reason, this study suggests that foreign-owned firms will be likely to form an RMC to enhance their risk monitoring ability. Thus, the following hypothesis is proposed:

**H5:** Foreign ownership encourages the establishment of RMCs.

## 5. Research design

### 5.1. Sample and data of the study

This study used all publicly listed firms on Bursa Malaysia from the 2015 to 2017 period. Financial firms, real estate investment trusts (REITs) and closed-end funds were omitted from the sample because they have specific rules and regulations imposed by BNM (Malik et al., 2021; Yatim, 2010). These three years were taken as base years to get the total number of firms that had formed an RMC before and after the release of the MCGG 2017 which took effect on 26 April 2017, replacing the 2012 Code by the SC of Malaysia. This 2017 Code emphasizes the formation of RMCs by publicly listed firms in Malaysia. Besides, the three consecutive years were chosen as this period is considered stable years before the general election which took place in 2018, which may have affected the data due to the change in government and the ownership structure.

The data were retrieved from two separate sources, i.e., from the annual reports and DataStream. Annual reports were downloaded from the website of Bursa Malaysia. Data on ownership characteristics and board structure were hand-collected from the annual reports under the shareholders' section and by reviewing the BoDs' profile. Other information extracted from the annual report of each firm, included type of RMC, whether stand-alone or combined with another committee, or it does not exist, type of ownership, ethnicity, as well as background of the board and committee members. By using Thomson Reuters DataStream, financial data was gathered, while the classification of the industry was taken from the Bursa Malaysia website. After the elimination of finance firms, REITs, closed-end funds and incomplete information in the annual report, the final observation comprised 2,173 firms for the 2015 to 2017 period, forming an unbalanced panel data. Table 1 highlights the summary of the firm-year observations derived from the sample selection used in the study.

**Table 1. Selection of firms for the year 2015–2017**

	2015	2016	2017	TOTAL
Total firms listed on Bursa Malaysia	801	806	791	2,398
<b>Less:</b>				
Financial, REITs and closed-end fund firms	(40)	(34)	(32)	(106)
Firms with incomplete financial data and unavailable report	(43)	(39)	(37)	(119)
<b>FINAL YEAR OBSERVATION</b>	<b>718</b>	<b>733</b>	<b>722</b>	<b>2,173</b>

## 5.2. Operational definition and variable measurements

All variables included in the study, such as the RMC, family, institutional, managerial, government-linked and foreign ownerships, as well as variables that were controlled, were measured.

### 5.2.1. Risk management committee (RMC)

The dependent variable of RMC was measured using a dummy variable. It was coded “1” if the firm has established an RMC, either in the form of a separate RMC or combined with the AC or other committees, and “0”, if there is no RMC. This measurement has been extensively used by Hines and Peter (2015), Subramaniam et al. (2009), and in Malaysia, by Tazilah and Abdul Rahman (2014), Ling et al. (2014) and Yatim (2009).

### 5.2.2. Ownership structure

- (1) Family ownership (FAM)—dummy variable coded “1” if the firm is family-owned, and “0”, otherwise. This measurement has been used to differentiate between family-owned and non-family owned firms (Amran & Che Ahmad, 2010).
- (2) Institutional ownership (INST)—was measured using sum of the percentage of the top five largest institutional investors. This measurement has been extensively used by others, such as Chen and Yu (2012), Hartzell and Starks (2003) and Ko et al. (2007). The top five institutional investors are the Social Security Organization (SOCISO), Pilgrimage Savings Board (Lembaga Tabung Haji [LTH]), National Equity Board (Permodalan Nasional Berhad [PNB]), Employees’ Provident Fund (EPF) (Kumpulan Wang Simpanan Pekerja [KWSP]), and Army Savings Board (Lembaga Tabung Angkatan Tentera [LTAT]). Previous studies have found that these top institutional investors require high accountability and transparency of disclosure from their firm (Wahab, Hoe & Verhoeven, 2007).
- (3) Government-linked ownership (GLCs)—firms controlled by Khazanah Holdings, the Ministry of Finance (MoF), Kumpulan Wang Persaraan (KWPAP), and BNM. Other organizations with ties to the federal government, like PNB, EPF, and LTH, also have power over the GLCs. A dichotomous variable was used, coded “1” if the government holds effective ownership via any of the above stakeholders (Khazanah Holdings, MoF, KWPAP, BNM, PNB, EPF, and LTH), and “0” otherwise (Menon, 2017; Najid & Abdul Rahman, 2011; Razak, Ahmad, & Joher, 2011).
- (4) “Managerial ownership” (MGRL)—determined by the proportion of executive managers’ shares (Mat nor & Sulong, 2007; Mustapha, & Che Ahmad, 2011).
- (5) Foreign ownership (FORE)—measured using the total percentage of common shares held by foreign investors in the firm. This measurement has been adopted by others, such as Dahlquist and Robertson (2001), Abdul Rahman, and Md. Reja (2015).

### 5.2.3. Control variables

Control variables were included in this study to control for the possible effects they may have on ownership structure and the formation of board committees in the firm. The variables include AC size, AC independence, AC meetings, Big Four auditors, subsidiaries and firm size. This is because prior studies (Alzharani & Aljaaidi, 2015; Hines & Peter, 2015; Ling et al., 2014; Yatim, 2009, 2010) have examined these variables and found that they are related to the establishment of RMCs. Table 2 lists all the variables used in the present study.

### 5.3. Regression model

Logistic regression model was adapted to analyze the links between ownership structure and the formation of the RMC. The RMC model was replicated and extended from previous studies to test hypotheses H1–H5 (Ling et al., 2014; Sekome & Lemma, 2014; Subramaniam et al., 2009; Tazilah & Abdul Rahman, 2014; Yatim, 2009, 2010). The model was tested by regressing five independent variables against a dependent variable. All variables are defined in Table 2. The logistic regression equation is as follows:

$$\begin{aligned} \text{RMC}_{it} = & \beta_0 + \beta_1 \text{FAM}_{it} + \beta_2 \text{INST}_{it} + \beta_3 \text{GLC}_{it} + \beta_4 \text{MGRL}_{it} + \beta_5 \text{FORE}_{it} + \beta_6 \text{ACSIZE}_{it} \\ & + \beta_7 \text{ACINDE}_{it} + \beta_8 \text{ACMEET}_{it} + \beta_9 \text{BIG4}_{it} + \beta_{10} \text{SUB}_{it} + \beta_{11} \text{FSIZE}_{it} + \text{YRDUMMIES} \\ & + \text{INDSTRY DUMMIES} + \varepsilon_{it} \end{aligned}$$

## 6. Empirical results and discussion

### 6.1. Descriptive statistics

From Panel A in Table 3, institutional ownership (INST) has a maximum value of 81.73% with an average of 2.98% and a standard deviation of 9.57%. This average value is lower compared to findings reported by Katan and Mat nor (2015) for the 2002–2013 period, and Abidin, Hashim, and Ariff (2020), with 4.88% and 6.23%, respectively. These amounts represent the total percentage shareholdings of major institutional investors in the Malaysian stock market, including EPF, Khazanah Holdings, LTAT, LTH, and PNB. The independent variable with the highest mean, managerial ownership (MGRL), has a value of 11.63% and a maximum of 82.89%. The study's descriptive analysis also shows that managerial owners own a substantial portion of shares in Malaysian companies.

As for foreign ownership (FORE), Table 3 shows that the mean value is 5.14%, which is in accordance with the mean value stated by Ghazali (2020) and lower than the 11.43% indicated by Jusoh et al. (2020), both also using a sample of Malaysian firms. These suggest that all firms in the analysis had some foreign involvement. In terms of family ownership (FAM), the result shows that 42.84% (931 firms) are family-owned firms, while 57.16% (1,242 firms) are non-family-owned firms (Table 3, Panel B). As for government-owned firms (GLCs), 38.06% (827 firms) are GLCs, while 61.94% (1,346 firms) are non-GLCs.

Almost all Malaysian businesses have at least three members in the AC, which is one of the control variables, indicating that all businesses have followed the MCCG's regulations (Securities Commission Malaysia, 2017). The average value of audit committee size (ACSIZE) is 3.261. The minimum and maximum values are three and five, respectively. Table 3 also depicts that on average, 96.7% of the members of the AC are independent non-executive directors with a standard deviation of 0.086. This implies that all firms have followed MCCG's 2007 recommendation. The minimum and maximum frequencies of AC meetings (ACMEET) are four and nine, respectively. The AC must hold a minimum number of meetings to be able to carry out its responsibilities of overseeing internal controls and ensuring the effective flow of information.

The mean value of the natural log of subsidiaries (SUB) is 1.065, at a maximum and standard deviation value of 2.579 and 0.431, respectively. The total assets of firm size (FSIZE) range from



**Table 2. Summary of variables**

Variable	Definition	Source
Dependent:		
<i>RMC</i>	Coded “1” if RMC exist in the firm, and “0” if otherwise.	Corporate information, annual report.
Independent:		
<i>FAM</i>	Dichotomous variable coded “1” if the firm is family-owned and “0” otherwise.	Analysis of shareholdings, profile director and corporate information.
<i>INST</i>	Total percentage of the top five largest institutional investors.	
<i>GLCs</i>	Dichotomous variable is used coded “1” if the government holds effective ownership by any of the above stakeholders (Khazanah, MOF, KWAP, BNM, PNB, EPF, and LTH), and “0” otherwise	
<i>MGRL</i>	Sum of percentages of shares owned by executive managers.	
<i>FORE</i>	Total percentage of common shares held by foreign investors in the firm.	
Control:		
<i>ACSIZE</i>	Total number of members serving on the AC	Audit committee report.
<i>ACINDE</i>	Dividing the number of independent audit committee over the total number of audit committee members in the firm.	
<i>ACMEET</i>	Total meeting held in a year.	
<i>BIG4</i>	Coded “1” if the firm is audited by a Big Four auditor and “0” otherwise. The Big Four audit firms comprise PricewaterhouseCoopers (PwC), Ernst & Young, KPMG, and Deloitte, and Touché.	Corporate information.
<i>SUB</i>	Natural logarithm of the number of subsidiary firms.	Notes to financial statements.
<i>FSIZE</i>	“Natural logarithm of the firm’s total assets.”	Data stream and annual report.

RM2.6 million (Log 6.415) (Multi Sports Holdings LTD) to RM142 billion (Log 11.152) (Tenaga Nasional Berhad). Finally, descriptive statistics in Panel B of Table 2 infer that in terms of audit quality (BIG4), it shows that 1,015 firms (46.71%) were audited by Big Four audit firms, while 1,158 (53.29%) firms were audited by non-Big Four audit firms. With regards to the RMC, Table 2 reveals that the total number of firms with an RMC is 783 firms (36.03%), while the number of firms without an RMC is 1,390 firms (63.97%). This indicates that the number of firms that have established an RMC is relatively low but the numbers have started to increase in the 2015 to 2017 period.

By analyzing the values of skewness and kurtosis derived from each of the variables, the findings show that the data is distributed normally since the values obtained (2.147 and 7.507) are within the range of  $\pm 3.00$  to  $\pm 10.00$ . As stated by Klein (1998), the data is deemed relatively normal because the skewness and kurtosis values are less than 3 and 10, respectively.

**Table 3. Descriptive statistics**

	Sample N= 2,173					
Variables	Min	Max	Mean	Std. dev	Skewness	Kurtosis
Panel A: Continuous variables						
INST (%)	0.000	81.730	2.989	9.578	1.723	4.667
MGRL (%)	0.000	82.280	11.634	20.171	1.681	4.567
FORE (%)	0.000	80.650	5.141	10.708	1.801	5.360
ACSIZE	3.000	5.000	3.261	0.522	1.880	5.646
ACINDE (%)	50.000	100.000	96.700	8.600	2.147	7.507
ACMEET	4.000	9.000	4.837	0.916	0.963	4.015
SUB	0.000	2.579	1.065	0.431	0.295	3.311
FSIZE	6.415	11.152	8.728	0.665	0.589	3.664
Panel B: Dichotomous Variables						
	Yes (%)		No (%)			
RMC	783 (36.03)		1,390 (63.97)		0.581	1.338
FAM	931 (42.84)		1,242 (57.16)		0.289	1.083
GLCs	827 (38.06)		1,346 (61.94)		1.509	2.432
BIG4	1,015 (46.71)		1,158 (53.29)		0.131	1.017

Notes: This table shows descriptive statistics for all the variables used in this study. The final observation of the sample used in this study amounted to 2,173 listed firms in Bursa Malaysia for the year 2015–2017.

## 6.2. Correlation analysis

Table 4 reveals the Pearson correlation matrix of the variables used in the study. The results show less severe multicollinearity. The highest correlation is between ACSIZE and audit committee independence (ACINDE) at 0.594 at the 5% significance level, indicating that a large AC is positively correlated with AC independence. The second variable with the highest correlation value of 0.485 is between GLCs and FSIZE at the 5% significance level, indicating that GLCs are positively correlated with FSIZE. Overall, the results indicate that all the correlations are less than 0.80, and hence no multicollinearity issue exists. This is consistent with Gujarati's (1995) study, which utilized 0.80 as the threshold for the existence of multicollinearity issues.

## 6.3. Regression results

Table 5 presents the outcomes on the analysis of ownership structure, which comprises family, institutional, government, managerial and foreign ownerships, on the establishment of RMCs. The model shows it is significant at the 1% level with a pseudo  $R^2$  value of 0.0815. The result signifies that the independent variables are jointly responsible for 8.15% of the changes in the RMC formation. The result of pseudo  $R^2$  in the present study is comparatively lower than the result reported by Ishak and Mohamad nor (2017), with a pseudo  $R^2$  of 14.3%, and slightly higher than that reported by Yatim (2009), with a pseudo  $R^2$  value of 7.9%. The F-ratio of the model is also significant at the 1% ( $p < 0.01$ ) level.

Table 5 displays that FAM is negatively significant to the establishment of the RMC ( $\beta = -0.734$ ,  $t = 2.75$ ), at the 1% significance level. The negative coefficient reflects that firms under family ownership are less likely to form an RMC. The plausible explanation is that family-controlled firms have benefits in terms of reducing agency problems and monitoring since there is no separation of management in decision-making and control. This result is aligned with Fama and Jensen (1983), that the participation of family members as both managers and owners can overcome the problem of managers' exploitation of the principal, and at the same time, reduce the information asymmetry between the two parties. Ghazali (2012) who conducted a study on 600 Bursa Malaysia-

**Table 4. Pearson correlation coefficient of variables (N = 2,173)**

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) RMC	1											
(2) FAM	-0.071**	1										
(3) INST	0.082**	-0.187**	1									
(4) GLCS	0.208**	-0.060**	0.514**	1								
(5) MGRL	-0.008	0.345**	-0.120**	-0.010	1							
(6) FORE	0.148**	-0.083**	0.003	0.091**	-0.085**	1						
(7) ACSIZE	0.118**	-0.073**	0.123**	0.137**	-0.070**	0.037	1					
(8) ACINDE	-0.115**	0.088**	-0.113**	-0.139**	0.059**	-0.030	0.594**	1				
(9) ACMEET	-0.049*	-0.105**	0.179**	0.051*	-0.035	0.010	0.084**	-0.012	1			
(10) BIG4	0.102**	-0.067**	0.254**	0.256**	-0.115**	0.109**	0.172**	-0.116**	0.042*	1		
(11) SUB	-0.126**	0.023	0.201**	0.153**	-0.032	0.033	0.007	0.024	0.076**	0.130**	1	
(12) FSIZE	0.016	-0.061**	0.446**	0.485**	-0.141**	0.138**	0.174**	-0.129**	0.153**	0.427**	0.461**	1

Notes: \*\*\* $p < .01$ , \*\* $p < .05$ , \* $p < .1$ .

**Table 5. Logit regression of ownership structure and RMC**

Variable	Sign prediction	RMC	
		Coefficient	t-stat
FAM	–	–0.734***	–2.75
INST	+	0.996	0.23
GLCs	+	1.274**	1.73
MGRL	–	–1.003*	–1.52
FORE	+	1.016***	2.41
ACSIZE	+	1.012**	2.11
ACINDE	+	0.425*	1.28
ACMEET	+	1.413***	6.66
BIG4	+	1.473***	3.71
SUB	+	1.207*	1.48
FSIZE	+	1.139*	1.28
Constant		0.093	6.66
Year dummy		Included	
Industry dummy		Included	
Pseudo R-squared		0.0815	
Wald chi2		219.72	
Sig.		0.000	
N		2,173	

Notes: \*\*\*p < .01, \*\*p < .05, \*p < .10.

listed firms in 2009, also reported that family-owned firms are less likely to form RMCs due to the lower agency costs incurred.

With a coefficient of 0.996 ( $t = 0.23$ ,  $p > 0.10$ ), institutional ownership is insignificant to the existence of RMCs. The finding contradicts Shleifer and Vishny (1986) that large controlling shareholders expect an efficient risk oversight system because of their significant stakes in the firm as well as the monitoring of risks and management's actions to reduce related agency costs. The contradictory outcome may be caused by the fact that institutional investors and corporate governance can exist together when managers are monitored and “appropriate” corporate governance frameworks are adopted. It may also be related to crony capitalism that has been observed in Malaysia.

GLCs are hypothesized to have a significantly positive effect on the establishment of an RMC. Table 5 depicts that there is a positively significant association between GLCs and the formation of RMCs. The coefficient is 1.274 ( $t = 1.73$ ,  $p < 0.05$ ). This suggests that GLCs are likely to form an RMC. The result supports Yazid et al. (2011) that GLCs are more sensitive toward the endorsement of ERM, and therefore, through the creation of an RMC, it will increase the adoption of ERM in the firms. This finding is also in line with a survey by Ghazali (2012), that government-linked firms will be more likely to establish an RMC.

As for MGRL, the association between managerial ownership and the formation of RMCs is negatively significant. The coefficient of –1.003 and t-value of –1.52 depict that the relationship is significant at the 10% significance level. This suggests that firms with a high proportion of managerial ownership will be less inclined to establish an RMC. This inference is consistent with Rehman et al. (2021) and validates the agency theory's claim that managerial ownership eliminates the manager-owner agency issue. The same argument has been used for family ownership,

whereby this type of owners have a lower likelihood of forming an RMC due to the low agency problem that occurs in the business.

Table 5 reveals a positively significant link between FORE and the existence of RMCs. The coefficient is 1.015 ( $t = 2.41$ ,  $p < 0.01$ ). This demonstrates that businesses with a large percentage of foreign investors are more likely to create an RMC to improve their monitoring capabilities. This is supported by Boubakri et al. (2013) that foreign ownership is positively linked to risk-taking; hence, forming RMCs will allow them to assess as well as monitor the risks that exist in their firm. This finding is also in tandem with past studies that a high level of corporate risk disclosure is required by firms with foreign investors in order for them to be more competent and active in the role of managing their firms towards better corporate governance (Ferreira & Matos, 2008; Rehman et al., 2021).

As for the control variables, the results from this study reveal that ACSIZE ( $t = 2.11$ ,  $p < 0.05$ ), ACINDE ( $t = 1.28$ ,  $p = 0.10$ ), and ACMEET ( $t = 6.66$ ,  $p < 0.01$ ) have a positive and significant effect on the existence of RMCs. The result corresponds with Yatim (2009) and Alzharani and Aljaaidi (2015), that firms with large ACs and a high proportion of independent AC members are likely to enhance the quality of internal control, thus supporting the establishment of an RMC. The formation of an RMC is also implied by the positive coefficient of ACMEET, which suggests that the AC should hold meetings more frequently. This is because the frequency of AC meetings would allow the AC to stay current on accounting and risk management concerns, and effectively address complex accounting and auditing issues.

On the effect of the Big Four auditors (BIG4), the finding depicts that the Big Four auditors positively and significantly affect the establishment of RMCs ( $t = 3.71$ ,  $p < 0.01$ ) in firms at the 1% significance level. This signifies that Big Four audited businesses have higher ERM adoption rates. The Big Four auditors are more likely to insist that firms have a strong internal control system in place, including the presence of an RMC, because they have a reputation to uphold. For SUBS, the existence of RMCs has a favorable and significant association ( $t = 1.48$ ,  $p < 0.05$ ). The positive relationship implies that having many subsidiaries would make a company's operations more complex, necessitating more oversight from an RMC that primarily focuses on detecting business risks and coming up with solutions to minimize them.

Finally, as presented in Table 5, it is shown that there is a positively significant relationship between FSIZE and the existence of RMCs ( $t = 1.28$ ,  $p < 0.10$ ). This outcome justifies that large firms are more keen to opt for the setting up an RMC. Due to the demand for a comprehensive risk management approach, larger firms are expected to develop a more rigorous and concentrated risk management system. The existence of RMCs is positively correlated with business size, which supports the findings of Yatim (2010) and Ghazali (2012).

#### 6.4. Further analysis

##### 6.4.1. Alternative measurement for risk management committee (Separate)

An alternative measurement for the dependent variable was adopted to test the consistency of the results. To examine the results more thoroughly, we ran another regression using the subsample of the primary analysis, which only focused on the firms with an RMC. This time, the dependent variable of RMC, was coded "1" if the firm has a separate RMC, and "0", if the firm has an RMC combined with the audit committee, yielding a total of 783 firms. Out of these, 496 firms had established separate RMCs whilst 287 had a combined RMC. The results reveal that family and foreign ownerships are significantly negative and positive, respectively, in affecting the formation of an RMC in their firm. Therefore, when an alternative RMC measurement was used, the fundamental findings remain the same.

**Table 6. Logit regression of the ownership structure and RMC (Separate)**

Variable	Sign prediction	RMC	
		Coefficient	t-stat
FAM	–	–1.298*	–1.48
INST	+	1.016	1.00
GLCs	+	1.027	0.13
MGRL	–	–1.001	–0.25
FORE	+	0.987*	1.28
ACSIZE	+	0.749*	1.55
ACINDE	+	0.022***	3.38
ACMEET	+	1.163**	2.07
BIG4	+	0.722**	1.83
SUB	+	0.911	0.47
FSIZE	+	1.305*	1.59
Constant		16.29	1.52
Year dummy		Included	
Industry dummy		Included	
Pseudo R-squared		0.0536	
Wald chi2		35.64	
Sig.		0.000	
N		783	

Notes: \*\*\*p < .01, \*\*p < .05, \*p < .10.

Table 6 depicts that the model has a pseudo  $R^2$  of 0.0536 and is significant at the 1% level. The result signifies that the joint effect of independent variables is responsible for 5.36% of the changes in separate RMCs. The result of pseudo  $R^2$  in this study is comparatively lower than the result reported by Yatim (2010) with pseudo  $R^2$  at the 10% significance level, and Sekome and Lemma (2014) at 8.31%. The model is significant at the 1% level ( $p < 0.01$ ). Overall, the results show that only two out of five variables report a significant relationship with separate RMCs.

As predicted, the result for FAM remains significant in the same direction, with a negative relationship with separate RMCs. In Table 6, the outcome shows a negatively significant relationship between family ownership and the establishment of a separate RMC ( $\beta = -1.298$ ,  $t = 1.48$ ) at the 10% significance level. This result implies that there is little likelihood for family-owned businesses to establish an RMC. Due to low agency issues and inappropriate behavior among the board directors, it is more probable that the person in charge of the firm will be less engaged in the creation of a risk management system. Brustbauer (2016) supported the idea that family firms have less incentives to establish a risk management strategy as compared to non-family firms. According to Paape and Speklé (2012), adopting an ERM system is less likely to be supported when the founders also oversee the firm without any conflicts of interest between owners and managers.

As for INST, GLCs, and MGRL ownerships, it is reported that there is an insignificant relationship with the formation of separate RMCs. This indicates that INST, GLCs and MGRL do not influence the establishment of stand-alone RMCs. This result refutes the agency theory, which holds that due to the existence of conflict of interest between the government and the public, the public will demand more information from the GLCs to protect their interests as taxpayers (Darussamin et al., 2018). This can be achieved through high monitoring and information disclosure by a monitoring committee, such as a stand-alone RMC. The insignificant result might be due to of the fact that the establishment of a separate RMC is still not mandatory.



For FORE, the finding in Table 6 depicts a positively significant association between foreign ownership and a separate RMC ( $\beta = 0.987$ ,  $t = 1.28$ ) at the 10% significance level, indicating that the higher percentage of foreign investors in a firm leads to an increase in the likelihood of the establishment of a stand-alone RMC by 98.7%. The result is consistent with Rehman et al. (2021) that foreign shareholders increase the efficiency of the firm by enhancing practices, in terms of risk management and corporate governance. As for control variables, ACSIZE, ACINDE, ACMEET, BIG4, and FSIZE are significantly and positively associated with the establishment of separate RMCs.

### 6.5. Robustness test

Endogeneity is a key issue in corporate governance studies. We performed our analytical regression after incorporating the lagged dependent variable in order to reduce any bias that might arise from enterprises that have already altered their risk governance strategy in anticipation of MCCG's amendments on the formation of an RMC. Our regression analysis included a dependent variable that is one year lagged because doing so eliminates unobserved differences as any missing variable has an equal impact on the dependent and the lagged dependent variables. This method is in tandem with the method used by Chavarin (2020) in overcoming the endogeneity issue within the risk management empirical findings. Table 7 depicts that the results remain the same and consistent with the results in Table 5, and therefore, robust to specifications that address the potential issue of endogeneity.

### 7. Summary and conclusion

This aim of this research is to investigate the relationship between ownership structure and the existence of RMC. The problems caused by poor corporate governance and risk management, which have an impact on firm performance, particularly in emerging nations, like Malaysia, are offered as the motivation for this study. Most importantly, the increasing number of firms that have established an RMC could add to the evidence on the role of the RMC in enhancing firm value. Using 2,173 firm-

**Table 7. Alternative regression result (DV lagged value)**

Variable	Sign prediction	RMC	
		Coefficient	t-stat
RMC <sub>t-1</sub>		0.479***	4.35
FAM	–	–0.340**	–2.15
INST	+	0.091	0.69
GLCs	+	0.017*	1.33
MGRL	–	–0.341**	–1.93
FORE	+	0.265**	1.61
ACSIZE	+	0.383**	2.17
ACINDE	+	0.456***	4.38
ACMEET	+	0.024*	1.53
BIG4	+	0.447***	4.16
SUB	+	0.013**	2.07
FSIZE	+	0.190**	1.81
Constant		9.91	4.62
Year dummy		Included	
Industry dummy		Included	
Pseudo R-squared		0.0929	
Wald chi2		383.71	
Sig.		0.000	
N		2,173	

Notes: \*\*\*p < .01, \*\*p < .05, \*p < .10.

year observations, this present study investigated the effect of ownership structure, i.e., family, institutional, government, managerial and foreign ownerships, on the existence of an RMC.

In line with the predictions of Hypothesis 1 through Hypothesis 5, this study finds that government and foreign ownerships demand a high level of recognition and management of risks, thus being more likely to form an RMC. For family and managerial ownership, this study reports that these types of owners are less likely to form an RMC in their firms since they face fewer agency problems due to the lack of separation of management in decision-making and control. According to Yatim (2010), organizations with strong insider ownership (closely held firms, for example), may not set up an RMC because managers are already highly motivated to safeguard their assets and investments. This suggests that firms with high agency problems require a high level of monitoring and tend to increase their awareness through additional committees, such as the RMC. Moreover, the study fails to report any association between INST and the establishment of RMCs.

Additional analysis was conducted by subsampling the main analysis to examine the relationship between the ownership structure and the formation of separate RMCs. However, there is no solid evidence to support the association between these variables and separate RMCs, except for FAM and FORE, which show significant relationships with separate RMCs. For family ownership, the result remains negatively significant with the separate RMC, while foreign ownership shows a positively significant link with the creation of stand-alone RMCs. The result affirms that family-owned firms are capable of monitoring their managers' performance, thus creating an avenue for effective exchange of information, and thereby, lowering information asymmetry. Therefore, this type of owners are not keen to form a separate RMC in their firm due to the low agency costs incurred. As for foreign ownership, this type of owners prefers to form an RMC, especially a separate RMC, to enhance their monitoring ability regarding risks as they demand high firm performance. We also conducted robustness test using the lagged dependent variable to account for endogeneity and the outcomes confirm the main regression results.

Consequently, by doing this study, it adds to the body of knowledge regarding the factors that influence the existence of RMCs in emerging nations, particularly in Malaysia. For instance, past researchers have documented various determinants that contribute to the establishment of RMCs, mainly corporate governance attributes, such as board characteristics, AC characteristics, and firm characteristics (Tazilah & Abdul Rahman, 2014; Yatim, 2009, 2010). The foregoing is expanded upon in this study by presenting preliminary findings on other perspectives, namely ownership structure, i.e., family, institutional, government, managerial, and foreign ownerships. This study establishes that different types of ownership concentration and different risk perceptions influence the decision to form additional monitoring committees, such as the RMC.

Through the results of this study, regulators and policymakers are provided with in-depth insights into the existence of RMCs in Malaysian non-financial publicly listed firms for the years 2015–2017. This is because Step-Up 9.3 of the MCGG 2017 on the establishment of an RMC remains one of the best practices with the lowest level of adoption, even if it has recorded significant improvement. Besides, there is no improvement or amendment made to MCGG 2021 under these circumstances. Therefore, the concerned policymakers, such as Bursa Malaysia, should further investigate why the separate RMC remains at a low level of adoption. Policymakers who are interested in learning the actually appointed criteria for establishing an RMC may find this useful. Future corporate governance improvements in Malaysia may benefit from this in the long-run.

Similar to other studies, ours has several drawbacks that influence the results. This study only introduces ownership structure as a determinant for the existence of separate and combined RMCs; thus, future studies can investigate other governance mechanisms that may influence the establishment of RMCs, such as firm age, CEO duality, CEO tenure, and so on. Other researchers may expand our current understanding of factors that contribute to the existence of a separate RMC and its effects on firm performance. Not all businesses need a specialized committee, like the RMC, to oversee and

manage risks within their organization; it is in accordance with the type of business. This report offers insightful information about listed non-financial companies that have created stand-alone RMCs. The RMCs should be fully utilized in organizations to carry out their functions, or else they may only be a liability that generates higher management costs for the business.

Our study focuses only on the archival method using secondary data, thus limiting the understanding of the nature and intricacies of the determinants that lead to the establishment of RMCs. Primary data might be employed in future studies to gain additional information from the RMC in the firms, for example through interviews or questionnaires distributed to the board members as well as the auditors and personnel officers. These strategies may give a more in-depth understanding of the existence of an RMC that would have been ignored if only secondary sources were used. Furthermore, this strategy may be supplementary to the archival data method and may provide more justifications on why corporations establish an RMC. Secondly, the data used in this study represents the period between 2015 and 2017. Future studies could employ data after 2017 to examine whether or not publicly listed firms react any differently to the recommendation of establishing a separate RMC. This is because data from 2018 onwards might reflect the recommendations made by MCGG 2017, which specifically focus on the formation of an RMC, especially a separate RMC, with a majority of independent members. The hypotheses might also be tested in other Asian nations and compared to the findings of this study to offer evidence about whether or not the functions of monitoring systems have changed in developing countries. Thus, future research should consider a longer period and also data after the changes to the recent code.

Generally, it can be concluded that ownership structure influences the decision of firms to form an additional committee for monitoring risks, like the RMC. Despite the fact that there are many ownership structures, all of them place a strong emphasis on outstanding performance and solid corporate governance. Due to the family relationship, owners who face a lower risk or lower agency problem, such as family owners, will be less likely to establish an independent RMC over other types of ownerships, where they can monitor the managers directly. In contrast, GLCs and firms with foreign ownership that need to promote a high level of performance, will be likely to establish an RMC, especially a separate RMC in their firms, since it will help them enhance performance by providing more exhaustive information regarding risks. In conclusion, this study demonstrates that the formation of an RMC does not apply to all types of firms due to their differences in ownership structure. However, by having an RMC, whose main role is to monitor and detect risks, it will increase the best practices of corporate governance among Malaysian non-financial publicly listed firms, in line with the MCGG 2017.

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