

The Effectiveness of Risk Management Committee Attributes and Real Earnings Management: Empirical Evidence from Malaysia

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Abstract

The increasing pattern of business failures especially among large firms in recent years partly contributes to rising awareness of the importance of Risk Management Committee (RMC) in corporate boardrooms. Research in accounting and corporate reporting continue to examine the role of RMC in addressing Real Earnings Management (REM). However, empirical studies on the role of RMC's attributes in the reporting quality and performance of publicly owned companies are still underdeveloped. This study employs Feasible Generalized Least Square (FGLS) regression to investigate the effects of RMC on REM practice in Malaysian public listed companies. Using a sample of 438 firm-year observations from 2016 to 2018, the research findings reveal that RMC size, diligence, and members' qualifications have negative effects on REM. Furthermore, the results show that RMC independence has no effect on REM. This study contributes to the body of knowledge on RMC which are essential for improving the financial reporting quality and earnings management.

Keywords: Risk Management Committee, Real Earnings Management, Corporate Reporting, Malaysian Public Listed Companies.

1.0 introduction

Earnings management is a difficult task that needs time and expertise to discover since they are deliberately designed and performed. It is morally and ethically important for firms to overcome and reduce earnings manipulation in the interest of the stakeholders. Accounting and financial manipulations could be decreased as long as firms are fitfully to allocate resources to enhance internal controls and governance mechanisms. These efforts which lead to increase stakeholders' confidence in the firms' management. Prior studies suggest that firms tend to employ experienced forensic accountants to minimize the case of frauds and financial manipulations (e.g., Abdullahi & Mansor, 2015; Baskaran, Nedunselian, Mahadi & Rasid, 2020).

Earnings management has been broadly investigated either as index of financial reporting quality (Al-Jaifi, 2017; Baskaran et al., 2020). Previous studies have generally divided earnings management into Accrual Earnings Management (AEM) and Real Earnings Management (REM) (e.g., Abdul Rahman & Mansor, 2019; Gunny, 2010; Roychowdhury, 2006; Hamza & Kortas, 2019). However, the former indicates earnings manipulation by accounting evaluation and methodologies that have no actual effect on cash flows, REM means earnings manipulation through the firm's operational activities which have direct impact on cash flows. firms which are categorized under high-risk tend to have weak governance

practices and thus, more probable to involve in earnings management (Neffati & Imène, 2011) leading to fraudulent practices (Onumah, Amidu, & Donkor, 2016; Kasipillai & Mahenthiran, 2013). Recent corporate scandals have addressed various determinants of earnings management including but not limited to low financial reporting quality, weak corporate governance and lack of disclosures (e.g., Abdullah, Ismail, & Nachum, 2016; Lemke & Vladu, 2015; Musallam, 2018). Although research into the impact of governance monitoring on financial reporting quality is quite extensive, there is little empirical evidence regarding the influence of RMC on REM, particularly in emerging capital markets where good governance monitoring is more closely linked to controlling shareholders.

Research attention on the effect of RMC on REM has been focused mostly in developed nations, especially the United Kingdom and the United States with mixed results (e.g., Alhadab, 2018; Chi et al., 2011; Sitanggang et al., 2019). Unlike the institutional environment in these advanced nations, those of the developing economies are often various with poor governance mechanisms which result have more prevalent REM than developed economies including Europe and Japan. According to Zweig (2019), studies in the Malaysian companies indicated that the impact of corporate governance mechanisms on REM practices has been broadly investigated and REM is common (e.g., Abdul Latif et al., 2016; Ali et al., 2018; Kalgo et al., 2019; Rahmat, et al., 2020). On

the other hand, the reported findings have been indecisive (Al-rassas et al., 2016; Mohammad & Wasiuzzaman, 2019). The results lead to the conclusion that the governance control in Malaysia is currently insufficient to minimize REM and this could be attributed to the utilize of symbolic governance systems to respond with the corporate governance regulations (Abdul Latiff & Taib, 2011; Abdullah, 2006).

Today, businesses begin to address and consider Risk Management Practices (RMP) as a means to reduce financial scandals and malpractices. However, RMC is still not widely practiced in Malaysia, and its adoption remains low, particularly among publicly listed companies (Sanusi, Nia, Roosle, Sari, & Harjitok, 2017). Yasin (2017) concludes that RMC is at an early stage and not more than 30% of the companies listed on the Kuala Lumpur Stock Exchange (KLSE) have implemented the practice. The newly amended Malaysian Code of Corporate Governance (MCCG 2021) has heightened the necessity of having strong internal control and risk management functions to effectively monitor companies' risk management framework, policies and execution as advised by the Securities Commission of Malaysia (SCM). Among others, Moore & Brauneis (2008), Elamer (2018), Subramaniam, Nava & Zhang (2009), Bhuiyan, Salma, Roudaki & Tavite (2020), Abdullah & Said (2019), Madu & Hassan (2021) provide empirical evidence that establishing an RMC, independent from the board of directors, allows companies to execute their jobs better, hence improving corporate performance and reducing the likelihood of earnings manipulation. In addition, Abubakar, Mansor & Mohamad (2021) recommend that firms should attempt to reduce earnings manipulation and increase reporting quality by focusing on improving the governance systems, especially through the role of RMC.

In line with the Malaysian government's initiatives to promote transparency and accountability in the capital market and improve the financial reporting quality, this study examines whether RMC's attributes have direct impact on REM and thus, companies' long-term viability. The attributes of RMC are independence, qualification, size, and diligence. The findings add to the existing body of knowledge of REM and assist policymakers in strengthening corporate governance, particularly on the value REM in preventing earnings manipulations and improving financial reporting quality.

The remainder of this paper is organized as follows. The literature review and proposed hypotheses are discussed in Section 2 while the research methodology and data collection are detailed in

Section 3. The findings of the study are presented in Section 4 and section 5 provides the conclusion and suggestions for future research.

2.0 Literature Review and Hypotheses Development

2.1 Attributes of Risk Management Committee

The theory of corporate risk management claims that the main objective of risk-management monitoring is to protect firms from potentially costly circumstances that might create financial distress (Stefanescu & Dumitriu, 2015). In other words, risk management supervision was initially developed to reduce the potential costs of dealing with financial difficulties while enhancing competitive advantages (Alles, Srikant & Friedland, 2005). Agency theory indicates that a separate RMC increases board of directors' oversight and dissuade managers from participating in unethical behavior. According to the resources dependence theory, RMC as a board sub-committee, contributes additional capabilities to assist in avoiding potential difficulties and improving the quality of reported earnings (Hillman & Dalziel, 2003). Thus, poor risk management could negatively affect firms' value and result in reducing shareholders' wealth. Along the same line, an effective risk management system assists firms to achieve business goals and objectives, enhance financial reporting quality and also safeguard firms' reputation (Subramaniam, McManus & Zhang, 2009).

Recent works in this area suggest that the implementation of RMC has direct effect on firm performance (e.g., Ugwu, Ikechukwu, Gabriel & Cyril, 2021; Boudiab & Ishak, 2020; Rimin, Imbarnd, Alice & Said, 2021). According to the empirical findings, RMC attributes, such as the existence of RMC itself, the financial skill of its members, the size of RMC, and the participation of independent members contribute to high-quality financial reporting and company financial success. In other words, the RMC attributes could lessen information irregularities between corporations and the stakeholders. To date, empirical research findings pertaining to the impact of RMC attributes on REM are still few and inconclusive.

2.2 RMC Size and Real Earnings Management

The establishment of RMC at specific companies may be associated with the size of the companies' board of directors. A large board is more likely to engage highly qualified and experienced board members to monitor the companies and justify the

costs associated with large boards (Upadhyay, Bhargava & Faircloth, 2014; Abubakar, Adoet, Mohamed, & Mustapha, 2018). Thus, larger boards of directors are associated with better firm performance than small boards and according to agency theory, an increase in the size of RMC would also lead to a concomitant increase in available skills and knowledge. As a consequence, investments in RMC are parallel with the strategic goals of companies and assist in reducing the negative and ethical risks which could reduce firm performance (Aebi, Sabato & Schmid, 2012; Yatim, 2010).

Elamer & Benyazid (2018) provide evidence of a negative effects of the RMC's existence, size, independence, and frequency of meetings on companies' financial performance. According to Abdullah, Ismail & Norshamshina (2015), the size of RMC is insignificant in affecting hedging activities disclosures. The result was achieved based on financial reports of 300 largest firms listed on the Main Board of Bursa Malaysia in 2013. These researchers also argue that an effective RMC would enhance the quality of corporate risk policies and procedures by constraining the ability of management to engage in excessive risk-taking behavior. Such risky behavior may result in reduced financial performance and in addition, RMCs could also improve the communication process between stakeholders and management regarding risk management, thereby reducing agency costs. Therefore, large size of RMC is expected to improve the reporting quality by reducing REM in companies. Therefore, the following hypothesis is posited:

H1: The size of RMC has a significant negative effect on REM.

2.3 RMC Diligence and Real Earnings Management

According to resource dependence theory, frequent board meetings bring in external resources, such as directors' expertise and knowledge and result in efficient decision-making (Zaman, Hudaib & Haniffa, 2011). Aside from this theory, the agency theory claims that the gap and conflicts between principals and agents (type I) may be bridged by increasing the number of RMC meetings conducted throughout the year. The more meetings an RMC organizes throughout the year, the better the communication between the parties involved in risk supervision. The RMC's key agenda item is to have regular meetings that will allow board members to engage and share useful ideas for improving operational efficiency. Regular meetings and checks and balances ensure that no critical issue

goes unnoticed (Fajembola, Abdul Rahman & Rohani, 2018) and increased number of RMC meetings are intended to signify improved governance (Hines & Peters, 2015).

A limited number of empirical studies have examined the relationship between the number of RMC meetings and REM. For instance, Amah & Ekwe (2021) investigate the impact of corporate governance and financial reporting quality by using ten pharmaceutical firms for a period between 2006 to 2019. The result also supports the conclusion that the number of RMC meeting has a positive impact on financial reporting quality. On the contrary, Elamer & Ben Yazid (2018) report a significant negative effect of RMC meetings on financial performance while Abdullah, Ismail & Norshamshina (2015) conclude that RMC meetings has no significant effect on the hedging activities information disclosure in Malaysia.

In line with the above, the current study argues that more frequent RMC meetings would lead to increased discussions of risk management issues, resulting in a reduced probability of REM. Besides, more frequent RMC meetings may help in streamlining the communication of risk management issues. Accordingly, the following hypothesis is posited.

H2: The number of RMC meetings has a significant negative effect on REM.

2.4 RMC Independence and Real Earnings Management

Corporate governance regulations throughout the world generally mandate companies to form their RMCs with independent directors forming the majority of RMC members. These independent members are supposed to withstand any pressure from management and possess the relevant information in decision making which would reduce corporate risk and improve performance (Yeh, Chung & Liu, 2011). This expectation is in line with the claim of agency theory that independent directors can monitor and limit managerial personal benefits and thus, reduce the agency costs. Independent executive directors are in-charge of overseeing the behavior of managers who engage in risk-taking activities. However, if boards are not independent from management, they would be restricted in terms of investigating and questioning top management's decisions.

Studies have also argued that non-executive directors tend to demand better governance than executive directors since the former are more concerned about their status in the board than the latter and consequently, companies with a larger number of non-executive directors are less likely to

commit frauds (Uzun, Szewczyk & Varma, 2004). Therefore, the majority of research works assume that independent board members present an effective monitoring and controlling mechanism such as disclosing the potential risks a company may face (Ahmad, Abdullah, Jamel & Omar, 2015). A few studies have established the link between RMC attributes and REM found that independent committees improve and enhance the quality and efficiency of financial reports (e.g., Abdulmalik, 2015 and Alkilani, Hussin & Salim, 2019). This argument is based on the idea that the independent members of the lead to the enhancement of operational efficiency and monitoring quality, and thus contribute to reduction of information asymmetry.

In Malaysia, Rimin et al., (2021) examined the effect of establishing a separate RMC on the performance of consumer goods industry listed on the KLSE using data from 2010 to 2018. The findings indicate that RMCs with a majority of non-executive independent members have a significant positive impact on business performance. Likewise, in Nigeria, a RMC and independent directors contribute to reduce management's motivation to manipulate reported results (Sani, Rohaida & Al-dhamari, 2018). In contrast, Malik, Rohami & Ku Ismail (2021) examine the influence of the RMC's attributes on the performance of non-financial listed companies in Malaysia (using data for 2015 and 2017) show that RMC independence has a negative impact on performance. Furthermore, RMC's independence is anticipated to withstand any pressure and receive the essential information from management for making decisions and consequently help to reduce risks, resulting in improved firm performance and enhanced board member competence. Thus, the following hypothesis is posited.

H3: The independence of RMC members has a significant negative effect on REM.

2.5 RMC Qualification and Real Earnings Management

In addition to the RMC attributes outlined above, a director's qualifications are also important to ensure that the RMC and its subcommittees function efficiently. According to the resource dependence theory, directors with more expertise and abilities can reduce or limit earnings management tactics (Kantudu & Samaila, 2015). According to the agency theory and RTD, RMC experience also minimizes discretionary accrual and improves earnings quality, particularly the accounting and financial expertise which have been

shown to increase the capacity and efficiency in detecting and avoiding REM (Juhmani, 2017).

According to Arifina & Tazilahb (2016), accounting, finance and business credentials contribute to the performance of board of directors by ensuring that financial matters are handled successfully and efficiently. Moreover, Dionne, Maalaoui & Triki (2013) argued that individuals with finance and accounting background should handle a company's risk management and increase the effectiveness. Furthermore, Al-Hadi, Hasan & Habib (2016) conclude that RMC members with financial and accounting expertise are expected to make judicious decisions about missing details in reporting disclosures. In addition, Abdullah et al., (2015) provide evidence that RMC experience, skills and knowledge assist in improving hedging activities.

To date, very few empirical studies have examined the relationships between RMC attributes and REM. For example, Jia (2019) studied RMCs of the top 300 ASX-listed corporations from the year 2007 to 2014 and the results demonstrate that the proportion of women with financial expertise on RMCs is more effective in minimizing the risk of financial hardship than the proportion of males on RMCs with financial experience. Furthermore, Al-Hadi et al., (2016) used 677 observations (for the year 2007 to 2011) from the Gulf Council Cooperation to determine whether the establishment of a distinct RMC and its attributes are related to market risk disclosures. According to the findings, competent and qualified members of the RMC contribute to the business's value creation by minimizing risks and taking appropriate steps in handling companies' difficulties and problems. As a result, emphasizing such expertise may positively contribute to improve corporate performance and financial reporting processes, as well as reducing information irregularity between the organization and its stakeholders. Therefore, the following hypothesis is posited:

H4: The qualification of RMC members has a significant negative effect on REM.

3.0 RESEARCH METHODOLOGY

3.1 Sample and Data Collection

The sample for this study consists of the largest 300 non-financial firms listed on Bursa Malaysia based on market capitalization and the period covered was for the years 2016 to 2018. These years were suitable to provide preliminary insights regarding the RMC's acceptance across companies. The period was intended to capture the pre-revision of the MCGG 2017 which was motivated by the need to strengthen internal control and risk management

capabilities. The data was extracted from DataStream and annual reports from the sampled firms. Table 1 presents the sample for this study.

Table 1. Sample Selection of top 300 non-financial firms from 2016 to 2018

Explanation	Total
The total sample size non-financial Malaysia firms	300
Excluded companies:	
Finance firms	(12)
Missing data at any time between 2016 and 2018	(9)
Firms that not stated whether it form separate or combined RMC	(133)
Total final sample	146
Total of observations (146 firms *3 years)	438
Firms with separate RMC	243
Firms with combined RMC	195

A total of 438 firms which had established the

RMC formed the final sample of this study. Out of these, 243 firms had established separate RMCs whilst 195 of them practiced a combined RMC. As a result of categorization, eight industry groupings appeared in this study as shown in Table 2.

Table 2 Sample by industry group

No	Industry Group	No. of observations	% of sample
1	Trading services	159	36.30
2	Industry production	75	17.12
3	Consumer production	63	14.38
4	Plantation	9	2.05
5	Properties	63	14.38
6	Technology	21	4.79
7	Construction	24	5.48
8	Energy & Fuel	24	5.48
	Total	438	100

3.2 Measurement of Research Variables

3.2.1 Dependent variables

REM measurement

According to Roychowdhury (2006), firms manage earnings through business transactions by adjusting the timing or structure of three types of business accounts. These accounts are Abnormal Cash Flow from Operations (ACFO), Abnormal Production Costs (APRC), and Abnormal Discretionary Expenses (ADIE). These three most prevalent proxies for REM are estimated based on residuals of regressions as represented by equation (1) to equation (3).

An increased value of APRC but the decrease of ADIE and ACFO suggest greater REM. Hence, we multiply the standardized residuals from the level of cash flow from operations and discretionary

expenditure by (-1) and add them to the standardized residuals of the PRC equation. Similar to previous studies (Cohen et al., 2008; Eng, Tian, Yu & Zhang, 2019), these three values are aggregated to get a single value for REM using equation (4). The estimates for the three REM metrics were calculated for each year and industry.

$$\frac{CFO_t}{Assets_{t-1}} = \beta_1 \left(\frac{1}{Assets_{t-1}} \right) + \beta_2 \left(\frac{Sales_t}{Assets_{t-1}} \right) + \beta_3 \left(\frac{\Delta Sales_t}{Assets_{t-1}} \right) + \varepsilon \quad (1)$$

$$\frac{PRC_t}{Assets_{t-1}} = \beta_1 \left(\frac{1}{Assets_{t-1}} \right) + \beta_2 \left(\frac{Sales_{it}}{Assets_{t-1}} \right) + \beta_3 \left(\frac{\Delta Sales}{Assets_{t-1}} \right) + \beta \left(\frac{\Delta Sales_{t-1}}{Assets_{t-1}} \right) + \varepsilon \quad (2)$$

$$\frac{DIE_t}{Assets_{t-1}} = \beta_1 \left(\frac{1}{Assets_{t-1}} \right) + \beta_2 \left(\frac{Sales_{t-1}}{Assets_{t-1}} \right) + \varepsilon_t \quad (3)$$

$$REM = ACFO^*-1 + APRC + ADIE^*-1 \quad (4)$$

Where:

CFO_t = cash flow from operations during period t

Assets_{t-1} = lagged total assets

Sales = annual sales of the firm

Sales_{t-1} = lagged sales

ΔSales_t = difference between sales in year t and sales in year t-1.

ΔSales_{t-1} = the difference in sales of the past year calculated as the difference between sales in year t-1 and sales in year t-2.

PRC_t = sum Cost of Goods Sold (COGS_t) and change in inventory (INV) during the year.

DIE_t = discretionary expenses during the period, a total of advertising, Selling, General and Administrative (SG&A), and Research and Development (R&D) cost during the period t.

3.2.2 Independent Variables

RMC attributes

Four attributes of RMC which are RMC Independence, RMC size, RMC diligence, and RMC qualification which form the independent variables were examined in this research. The first variable, RMC independence is measured by the proportion of independent directors to the total number of RMC members (Abdullah & Ku Ismail, 2015; Elamer, 2018; Erin; Kolawole & Noah., 2020) while the second variable, RMC size (RMCSIZE) is calculated as the total number of RMC members on the committee for a financial year (Al Matari & Mgamal, 2019; Jia, Li & Munro, 2019). As for the third variable, RMC diligence (RMCDELG), the measurement is based on the number of RMC meetings held in a particular financial year (Abdullah & Ku Ismail, 2015; Elamer, 2018) and RMC qualification

(RMCQUAL) is measured by the percentage of RMC members having expertise in auditing, accounting or financial skills (Al-Hadi et al., 2016; Abdullah & Ku Ismail, 2015).

3.2.3 Control Variables

Several variables may have direct impact on earnings management. Control variables are those elements which are not the subject of investigation but being controlled because they may influence the outcome of the study. These variables enhance the internal validity of the research. In this study, firm size, Return on Assets (ROA), leverage, board size, and the Big 4 accounting firms are included as control variables. These control factors were included in previous studies and shown to have direct impact on REM (e.g., Kamolsakulchai, 2015; Hemati & Javid, 2017). Omitting these variables from the models may produce skewed results in the relationship between RMC attributes and REM. Therefore, to remove the biases from the model, it is important to include them in the study.

3.2.4 Model Specification

The following model was used to examine the effect of RMC attributes on REM:

$$\text{REM} = \alpha_0 + \beta_1 \text{RMCSIZE}_{it} + \beta_2 \text{RMCIND}_{it} + \beta_3 \text{RMCQUAL}_{it} + \beta_4 \text{RMCDELG}_{it} + \beta_5 \text{FIRMSIZE}_{it} + \beta_6 \text{BODSIZE}_{it} + \beta_7 \text{BIG4}_{it} + \beta_8 \text{ROA}_{it} + \beta_9 \text{LEV}_{it} + \varepsilon.$$

Table 3 presents the summary of variables used in this study and their measurements.

Table 3. Summary of measurement and data sources

Variable(s)	Proxies	Measurement	sources
Real earnings management	REM	The aggregate value of the standardized ACFO (-1), standardized APRC, and standardized ADIE(-1) that measure overall REM.	Roychowdhury, (2006) and Ghaleb et al., (2021)
Risk committee size	RMCSIZE	The number of directors on the RMC	Battaglia et al., (2014) and Al-Hadi et al., (2016)
Risk committee independence	RMCIND	The proportion of independent directors to RMC members.	Erin; Kolawole & Noah, (2020)
Risk committee diligence	RMCDELG	The number of RMC meetings in a financial year was used to capture the RMC diligence	Elamer and Benyazid, (2018)
Risk committee qualification	RMCQ	The percentage of risk management members having expertise in auditing, accounting, or financial experts.	Al-Hadi et al., (2016)
Board size	BODSIZE	Number of directors on the firm board	Alareeni, (2018)
FIRMSIZ	Firm size	The natural logarithm of total assets	Al-dhamari et al.(2020)
Audit quality	BIG4	A dummy variable equal to "1" if a firm hired a Big 4 auditor and "0" otherwise	Larasati et al.(2019) and Malik and Shafie,(2021)
Return on assets	ROA	Net income divided total asset	Ghaleb et al.(2020)
Leverage	LEV	The proportion of total debt to total assets.	Hemati & Javid, (2017)

4.0 Research Findings and Discussion

4.1 Descriptive Statistics and Correlation Analysis

Table 4 shows the sample statistics for this study. The mean of the aggregate REM value is -.046 with a minimum of -.756, and a maximum value of .472. Because of the nature of measurement, the values are computed for each industry and year with the actual value of the residual (positive and negative). As shown in Table 4, companies practice both downward and upward REM. These REM figures are similar to those published in Malaysia by Abdul Rahman et al., (2016).

Table 4 Descriptive statistics of variables

Variables	N	Mean	Std. Dev.	Min	Max	Skew.	Kurt.
REM	438	-.046	.282	-.756	.472	-.742	3.777
RMCS	438	3.767	1.193	2	11	1.036	3.217
RMCD	438	3.993	1.939	1	12	.123	4.521
RMCIND	438	.705	.287	0	1	-.911	3.197
RMCQ	438	.392	.225	0	1	.001	2.659
BODSIZE	438	8.493	2.101	5	15	.574	3.008
BIG4	438	.756	.43	0	1	-1.19	2.417
FIRMZ	438	14.885	1.55	9.221	19.427	.262	3.492
ROA	438	7.023	8.816	-3.8	23.48	.881	3.628
LEV	438	21.931	16.231	0	87.04	.498	2.668

Note. REM = real earnings management, RMCS= risk committee size, RMCD= Risk committee diligence, RMCQ= Risk committee qualification, RMCIND= risk committee independence, BODSIZE= board size, BIG4= Big4 audit firms, FIRMSIZ= firm size, ROA = return on assets, LEV= Leverage.

The statistics for the explanatory variables indicate that the mean score for RMC size (RMCS) is 3.767. The smallest size of RMC is 2 while the maximum size of RMC for this sample is 11. This value reveals that the average size of RMCs among Malaysian non-financial listed companies consists of three directors with a standard deviation of 1.193 which is in line with the provisions of Bursa Malaysia.

The table also shows that the RMC diligence (RMCD) has an average value of 3.99, a minimum and maximum of 1 and 12, respectively with a standard deviation of 1.939. Furthermore, whereas RMC meets four times each year on average, some of the firms in the sample only convened once during the period under review, according to the findings. In Malaysia, however, publicly listed corporations' RMC conducted meetings no more than 12 times every year. The MCCG, on the other hand, does not stipulate how many meetings the

committee must hold. Furthermore, the average level of RMC independence (RMCIND) is 70%, with a range of zero to 100%, and a standard deviation of .287.

The mean value for RMC qualification (RMCQ) of 0.392 indicates that 39.20 percent of RMCs' members possess accounting or finance backgrounds. The minimum is zero and the maximum of 1. This implies that some companies have about 100 percent of directors with the accounting and finance qualifications. The mean board size (BODSIZ) is 8 directors with a minimum of 5 directors and a maximum is 15 directors. About 75% of the sampled firms were audited by the BIG4 audit firms.

Furthermore, the result of descriptive statistics indicates that firm size (FIRMSIZ) has an average score of 14.885 and a minimum value of 9.221, while the maximum value is 19.427. With regards to leverage (LEV), the result specifies that it has an average of 21.93, a minimum of zero, and a maximum score of 87.04. Finally, the result of the descriptive variables show that ROA has a mean of 7.023, a minimum value of -3.8, and a maximum value is 23.48. Furthermore, the values of skewness and kurtosis (-.742 and 3.777) do not exceed ± 3.00 and should be lower than ± 10.00 respectively, indicating that the data is normally distributed (Kline, 2015).

Table 5 shows the results of the correlation tests. The Pearson Correlation Matrix suggests all of the values of the correlation coefficients were below 0.8, indicating no issue of multi-collinearity. There appeared to be a substantial bivariate association between the dependent variable, "REM" and the independent variable, "RMC," showing that the existence of RMC is helpful toward avoiding REM. Besides, all variance inflation factors (VIF) for the regression analysis do not surpass 2.0. (a level of 10 indicates a significant problem). This also suggests that there is no severe issue of multicollinearity (Sekaran & Bougie, 2016).

Table 5: Correlation matrix and VIF results

Variables	REM	RMCS	RMCD	RMCIND	RMCQ	BODSIZ	BIG4	FIRMSIZ	ROA	LEV	VIF
REM	1.000										
RMCS	-0.199**	1.000								1.35	
RMCD	-0.344**	0.053	1.000							1.38	
RMCIND	-0.227**	0.302*	0.427**	1.000						1.47	
RMCQ	-0.204**	0.417*	0.188**	0.343*	1.000					1.18	
BODSIZ	-0.140**	0.334*	0.127*	0.102*	0.185*	1.000				1.31	
BIG4	-0.152**	0.001	0.141*	0.101*	0.071	0.078*	1.000			1.14	
FIRMSIZ	-0.597**	0.102*	0.282*	0.234*	0.058	0.240**	0.197*	1.000		1.36	
ROA	-0.206**	0.060	-0.036	0.037	0.083*	-0.153**	-0.046	0.227**	1.000	1.28	
LEV	-0.015	-0.064	0.062	0.026	-0.116*	0.127**	0.170*	0.313**	0.293**	1.00	1.31

4.2 Multivariate regression analysis

A number of diagnostic tests were conducted to choose the optimal regression model for this study. Firstly, the Breusch and Pagan Lagrange Multiplier Test (LM) for random effect was performed to choose between the random effect and the pooled OLS regressions. The null hypothesis was found to be false (p -value = 0.000), and the random effect model outperformed the pooled OLS model (Breusch & Pagan, 1980; Gujarati & Porter, 2009). The Hausman specification test was performed in the second step to assess if a random or fixed effects model should be utilized (Hausman, 1978). Based on the findings, the random-effects model was chosen. Other tests were run to see whether there was any autocorrelation or heteroscedasticity issues in the data.

The Feasible Generalized Least Squares (FGLS) model at the firm and year levels was chosen since this model corrects the autocorrelation and heteroscedasticity concerns were previously identified (Bouaziz et al., 2020; Qasem et al., 2020; Wooldridge, 2010). To adjust for outliers, the winsorize technique was applied with extreme values at the top and bottom at the 5th and 95th percentiles. The findings were consistent with earlier works (Al-Gamrh et al., 2018; Mao & Renneboog, 2015).

4.3 Discussion of Empirical Results

Table 6 presents the output of the regression analysis. The result supports the first hypothesis (H1) which predicts that RMC size (RMCS) reduces REM. The coefficient of RMCS is -.028, which is significant at the 5% level ($p = .025$), meaning that a large size of RMC effectively reduces REM. The conclusion is consistent with the agency theory. Thus, an increase in the size of RMC leads to concomitant increase in available skills and knowledge. As a consequence, the resources of the companies effectively support the strategic goals and reduce the unethical risks, and result in improvement of reporting quality. Consequently, having the right size of RMC is critical to the monitoring role and performance of RMCs and the companies. The finding, however, contradicts the conclusions of two other studies which found a substantial positive relationship between RMC size and business value (Hines & Peters, 2015; Kallamu & Saat, 2015).

Table 6 Cross-sectional Time-Series FGLS regression

REM	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
RMCS	-.028	.012	-2.25	.025	-.052	-.004	**
RMCD	-.024	.005	-4.36	.000	-.034	-.013	***
RMCIND	.013	.01	1.33	.185	-.006	.032	
RMCQ	-.02	.012	-1.68	.093	-.043	.003	*
BODSIZE	.001	.005	0.21	.83	-.008	.01	
BIG4	-.02	.022	-0.90	.366	-.063	.023	
FIRMZ	-.121	.007	-18.25	.000	-.134	-.108	***
ROA	-1.497	.157	-9.56	.000	-1.804	-1.19	***
LEV	.002	.001	2.80	.005	.001	.003	***
Constant	1.998	.097	20.55	.000	1.808	2.189	***
		Industry/ Year	Included				
Number of obs		438					
Wald Chi2		580.562					
Prob > chi2		0.000***					

***p<.01, **p<.05, *p<.1

In terms of the second hypothesis (H2) which examines the effect of the number of meetings of RMC on REM, the results show that the diligence of RMC (RMCD) members have a negative relationship with REM at the 1% level ($p = .000$). The RMCD coefficient is $-.024$, which means that the higher the frequency of RMC meeting, the lower would be REM. Accordingly, H2 is supported. The result is consistent with Amah & Ekwe, (2021) who conclude that the number of RMC meetings positively influence the quality of financial reporting.

However, the third hypothesis which examines the effect of RMC independence on REM shows a positive but insignificant effect ($p = .185$) with the coefficient of RMCIND of $.013$. The positive direction implies that the quality of financial report is not linked to having a high proportion of independent RMC members. The finding contradicts the position of the RDT and the agency theory. The rationales for this might be related to the independent member's lack of experience and knowledge about the risk that exists in but not related to the firm. The positive relationship can also be explained by the independent executive director's insufficient oversight, which stems from a lack of professional knowledge and experience as a rigorous monitoring function (Tao & Hutchinson, 2013). The result supports the conclusion by Elamer & Benyazid, 2018; Boudiab, 2020; Malik et al., 2021) who also report that RMCIND members do not improve firm performance. Thus, the third hypothesis is not supported.

Hypothesis 4 posits that RMC members' qualification has a negative impact on REM and the result confirms this prediction at the 10% significance level ($p = .093$) with the coefficient of $-.02$. This implies that the having members of the RMC with accounting, auditing, and financial background help to improve the quality of financial reporting by reducing REM. The conclusion is in line with the RDT-based hypothesis which

proposes that increasing the experience and skills of directors reduce earnings management practices (Kantudu & Samaila, 2015) also, Al-Hadi et al., (2016). They also conclude that competent and qualified members of RMC can contribute to firm value by mitigating uncertainties and taking responsible actions in managing problems and challenges in business.

The finding for the control variables demonstrates that BODSIZE has a positive effect on REM which implies that a large board could lead to increased REM practices. This conclusion is consistent with prior studies (e.g. Oh & Jeon, 2017; Bhuiyan et al., 2020). However, audit quality (represented by BIG4) has a negative and insignificant effect on REM, implying that companies audited by one of the BIG4 firms are less likely to engage in REM. Furthermore, ROA has a negative and significant effect on REM, suggesting that companies with high performance are less likely to engage in EM. This result is consistent with that of Ghaleb et al., (2020) who demonstrates that firms with good performance are less likely to engage in REM. Furthermore, FIRMZ is also negatively and strongly related to REM, implying that large companies are less likely to practice REM. On the other hand, LEV shows a positive and significant effect on REM, suggesting that companies with high leverage are more involved in REM which is consistent with Ghaleb et al. (2021).

4.4 Robustness checks

Additional tests are presented to support the study's main findings. The current study used FGLS regression to test the hypotheses in the primary analysis. In addition, the OLS was also performed with robust standard errors to emphasize the robustness of the main results of this study. Table 7 shows that the coefficients of variables are consistent with the findings of the main study.

Table 7 Alternative regression estimation

REM	OLS Coef.	SE	p-value	FGLS Coef.	SE	P-value
RMCS	-.028	.012	.017**	-.028	.012	.025**
RMCD	-.024	.005	.000***	-.024	.005	.000***
RMCIND	.013	.009	.14	.013	.01	.185
RMCQ	-.02	.009	.027**	-.02	.012	.093*
BODSIZE	.001	.005	.843	.001	.005	.83
BIG4	-.02	.026	.453	-.02	.022	.366
FIRMZ	-.121	.011	.000***	-.121	.007	.000***
ROA	-1.497	.172	.000***	-1.497	.157	.000***
LEV	.002	.001	.023**	.002	.001	.005***
Constant	1.998	.15	.000***	1.998	.097	.000***
***p<.01, **p<.05, *p<.1						
R-squared		0.57				
Prob > chi2		0.0000	0.0000			
Wald chi2		-	580.56			
Number of Obs		438	438			

5.0 Conclusion

This study examines the effects of RMC attributes on REM of Malaysian listed companies using data from 2016 to 2018. The data covered risk management strategies, policies, and processes of non-financial firms. The findings reveal that RMCS, RMCD, and MCQ have a significant negative effects on REM. However, the independence of RMC shows an insignificant positive result. Accordingly, it is concluded that the existence of an RMC serves as a risk-mitigation tool for firms in combatting REM and enhancing the reporting quality. In addition, the result shows that financial reporting quality reacts favorably by constraining REM of companies that did not establish separate RMCs. Thus, RMC serves as an effective monitoring mechanism in support of the agency theory.

In this regard, the findings reveal that publicly listed non-financial companies in Malaysia adhere to specific risk management recommendations to help them achieve their organizational objectives. The study also suggests that the Malaysia's regulatory authorities should investigate the performance of RMCs' independent directors. The objective is to determine other possible explanations for the positive effect on REM. Furthermore, the regulatory authorities should assess the behavior and actions of outside directors on various boards in performance-related matters, and examine the possible reasons for their lack of independence in decision making that could improve the financial reporting quality, as this will enhance the directors' roles on the board and consequently improve the effectiveness of the MCCG.

In this study, there are some limitations that affect the empirical findings. The results must not be broadly generalized because firstly, the financial and non-listed companies in Malaysia were excluded from the sample. Secondly, the study only analyzed data collected from 2016 to 2018. Furthermore, new determinants that were previously explored in relation to corporate governance and earnings management could be further examined to enhance the understanding of this discipline. One possible avenue for future research is to test other corporate governance attributes such as separate RMC, RMC gender, RMC overlap, RMC age, and RMC training on REM. Furthermore, a new study may include family ownership concentration (FMOC) as a moderator variable in the research design.

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