

# Risk Management Committee, Auditor Choice and Audit Fees

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**Abstract:** We find that risk management committees and BIG4 audit firms contribute to audit fees. We use observations of 895 companies registered in Indonesia for 2014–2018, and to answer our hypothesis we used ordinary least squares analysis. The results show that BIG4 weakens the relationship between RMC and audit fees. Our study proves that higher demand for audit coverage will occur if there is a risk management committee within the company. As a result, audit fees increase. RMC may demand high-quality external guarantees, but the presence of BIG4 as a moderating variable reduces the relationship between the two variables. We assume that this can happen because auditors can work more efficiently if the company has an RMC, auditor(s) could indirectly reduce the risk because it is partially results from the performance of the RMC. In addition, we also use the robustness test to handle the endogeneity problem with consistent results as OLS. These findings provide evidence for policy makers about the relationship between audit fees and risk management committees.

**Keywords:** risk management committee; Big 4; audit fee



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## 1. Introduction

Prior studies document that the presence of risk management committee (RMC) as corporate governance members plays a role in fees paid by the company for audit services (Larasati et al. 2019). The cost of audit investigations has long been an important thing from the auditing literature because it is important to understand the price of audit services for suppliers and users of audit services and market regulators. (Che-Ahmad and Houghton 1996). This study expands the literature by examining the limitations of Larasati et al. (2019) by examining the effect of auditor interaction and company characteristics in the relationship between RMC and audit fees, the novelty of this study from the previous one is to emphasize the interaction caused by Big 4 with RMC and audit fees. Abdullah and Said (2019) show that the RMC has an effective role in the control, detection, and interference of risk, particularly in terms of monetary risk. However, various risks such as financial, operational, reputation, regulatory, and information risk are organizations have to face (Burlando 1990; KPMG 2001). Only a few analysis studies have shown proof of the connection between the RMC and audit results (Ahmed and Che-Ahmad 2016).

Recently, there has been a rise in risk management awareness because of several company scandals and numerous surprising business failures and risk management is one of the biggest determinants on the performance of a loan portfolio (Ssekiziyivu et al. 2017; Walker et al. 2002). For some sectors, the formation of RMC is still voluntary. However, there has been an awareness of the company's risk, which has resulted in the need for a special risk-focused board committee, namely the RMC. RMC establishes board-level support for risk appetite and strategy, develops "ownership" of risk management oversight by the board, and reviews corporate risk reports. The RMC is described as a sub-committee of the board of administrators providing education on enterprise risk management at the

board level (KPMG 2001). Previous research has also shown in the control, detection, and prevention of risk, especially in terms of economic risk, RMC plays an important role (Abdullah et al. 2017). Interestingly, there's positive evidence regarding the relationship between RMC and audit fees (Ali et al. 2017; Hines et al. 2015). Badertscher et al. (2014) also found that RMC would be coupled to audit prices by rating auditor's production costs due to the auditors' assessment of inherent risk control. In addition, high expectations for the risk management committees' performance created senior executives additional concern in risk surveillance practices. To overcome this problem, company board members began to develop new structures inside the organization to help the company's risk monitoring method (Beasley 1996).

Audit pricing has received many lots of interest from researchers worldwide; Simunic (1980) defines audit pricing theory as the basis for determining audit fees. There are two types of viewpoints, namely the demand side and the supply side. The first is a demand-side audit pricing perspective with a positive relationship between corporate governance quality and audit fees. For example, Bell et al. (2015) and Redor (2017) find that governance demands high-quality audits to protect their reputational capital and respond to the risk of misstatement; hence tend to incur higher audit fees. The second is a supply-side perspective which shows a negative relationship between corporate governance quality and audit fees. Audit costs can be reduced because a better control and governance environment, then reduce the auditor's assessment of control risk and the level of audit procedures (Wahab et al. 2011; Harymawan et al. 2020).

Clients to demand high-quality audits when they desire to signal the credibility of financial statements (Chen et al. 2015; Christensen et al. 2016; Lennox 2005). The Big 4 effect or the concept that Big 4 audit firms provide better than non-Big 4 firms has been determined in several research of public firms (DeFond and Zhang 2014). Big4 auditors are also more threat averse than smaller audit companies and may confront customer strain better due to the fact they have greater bargaining power (Sori et al. 2006). Furthermore, Big4 audit companies are more intensely involved regarding litigation threats and are much more likely to be conservative, approximately reporting to preserve their reputation (Dopuch and Simunic 1980; Palmrose 1986; Francis and Krishnan 1999; Khurana and Raman 2004). As higher quality is likely to be priced, we also expect to observe an increase in audit fees.

From many studies mentioned above, there are gaps between studies that affect audit fees. For example, the existence of the risk management committee will attempt to reduce error and demand a more comprehensive audit service, then increase the audit fee. Audit firm size, on the other hand potentially leads to increased fees through factor such as brand awareness and bargaining power with clients. Therefore, the first objective of this study is to firstly obtain empirical evidence on whether risk management committee relates with audit fees. The second objective is to obtain empirical evidence whether the Big 4 audit firms influence the relationship between RCM and audit fees.

This study used a sample of 892 observations from different companies indexed on the Indonesia Stock Exchange from 2014 to 2018 and used ordinary least squares analysis to prove our hypothesis. There are several reasons Indonesia is an appropriate setting for risk studies, especially RMC. First, Indonesia is one of the developing countries that is believed to become a major player in the global economy. Latest surveys by the World Economic Forum (WEF) indicate that more than 70% of business leaders agreed that Indonesia's future supply chain is more globalized than today, toppling giant countries such as US, the UK, India, Germany, etc. (WEF 2020). This result means that a more complex supply chain will be implemented in Indonesia, and the existence of a qualified RMC will be more needed in the future. Secondly, according to Indonesia's regulation, a non-financial firm does not need to establish a risk management committee, despite the fact that it is stated that all listed firms are required to have a risk management function (IFC 2018). Commonly, risk management in Indonesian-listed firms is entrusted under audit committee responsibility (IFC 2018), resulting in an ineffective risk management function if left to an

undedicated committee. Third, risk management practitioners in Indonesia do not have their own professional bodies that focus on their empowerment, unlike other committees such as audit committees or internal audit functions. Thus, based on these three reasons, it can be concluded that the future of Indonesia's risk management committee may be bright, although, today, it is more of an "adopted child," compared to other governance bodies in firms.

This study documents several essential results. First, in line with our hypothesis, the existence of RMC within a firm will enhance the risk assurance request, which is portrayed by higher assurance fees from auditors, compared to other firms. Secondly, we also document that as the Big 4 public accounting firms provide a better audit quality, compared to non-Big 4, it is reasonable that they charged higher fees. Thirdly, we also document that higher audit fees for firms that have RMC will be lowered if they are audited by the Big 4. This result is due to their beneficial relationship between RMC and Big 4, in which each addresses the needs of the other. Our Heckman two-stage regression also show robust results.

We make several contributions, both in theoretical and practical perspectives. First, study that focuses on RMC is limited compared to other governance mechanism (e.g., audit committee, internal audit, external audit), especially in Indonesia. This study is hopefully can be pioneer in archival risk management studies using Indonesia setting. Secondly, we expand prior literature that documents the relationship between RMC and audit fees to be dominated by the characteristics of a firm's governance mechanism. Both of [Larasati et al. \(2019\)](#) and [Rahayu et al. \(2021\)](#) studies found that independent audit committee and commissioners influence the relationship between RMC and audit fees. Our study is taken auditor size as interaction variable to test whether auditor characteristics is also has influence on the relationship mentioned before. Third, our results are also expected to contribute to practitioners by informing them that although having RMC could lead to higher audit fees, if they are paired with qualified auditors (Big 4), it will create a beneficial cooperation. When a demand of high assurance level from RMC existence are provided with sufficient supply assurance level by Big 4 auditors, cost of auditing can be minimized. Lastly, we also recommend for the regulators to mandate listed firms to have a dedicated risk management committee as it provides demand for a better level of assurance level, which ultimately enhances the good corporate governance practices in Indonesia.

The remainder of this paper has the following structure: Section 2 describes the development of the hypothesis; Section 3 describes the sample and variables used in the study; Section 4 presents the results, and Section 5 presents the research's conclusions.

## 2. Hypothesis Development

### 2.1. Risk Management and Audit Fees

The determination of audit pricing is a consequence of the auditor's evaluation of the customer control environment, in addition to meeting client demands with better audit quality and leading to an increase in audit costs ([Jizi and Nehme 2018](#)). The demand for higher audit quality than external auditors is something experienced boards usually do; this encourages auditors to charge higher fees ([Mitra et al. 2019](#)). The role of the risk management committee is to provide a broader scope to identify risk in the company ([Aebi et al. 2012](#)). The independent risk management committee will independently carry out its roles and responsibilities for risk management ([Buckby et al. 2015](#)). While carrying out its supervisory function. Identifying, assessing, and responding to all future and current risks that appear to threaten the organization's very existence are RMC's framework to oversees companies risks ([Moore and Brauneis 2008](#); [Schlich and Prybylski 2009](#)). The risk management committee can reasonably relate to audit fees by pricing the auditor's operating costs due to the auditor's assessment of inherent and organizational risks ([Badertscher et al. 2014](#)).

Based on the concept of agency theory ([Jensen and Meckling 1976](#)), RMC functions as a government mechanism to control company risk and communicate with stakeholders

(Nahar et al. 2016). RMC also oversees the enterprise risk management framework through a process for identifying, assessing, and responding to all future and current risks that appear to threaten the enterprise (Schlich and Prybylski 2009). In addition, establishing a risk management committee brings commitment and awareness to the board of directors about the importance of an internal control system (Cummins et al. 2009).

Stronger boards demand higher audit effort and are associated with higher audit fees (Carcello et al. 2002). Clear segregation of duties and proper communication channels are the responsibility of the various committees for risk management to ensure that the committee concerned takes responsibility and considers reports and recommendations to other relevant committees (Deloitte 2014). Knechel and Willekens (2006) suggest that when the firm's level of control is subject to the strength of the combined internal demands of various stakeholders, this will lead to a net increase in external assurance. Although RMC does not buy audit services directly, RMC can recommend better services as a form of risk response to risk control tasks and can increase demand for external assurance.

However, from another perspective, we recognize that there are reasonable counter-arguments for the expected relationship between corporate governance and audit fees. From the auditor's point of view, a stronger governance control environment can be expected to reduce the auditor's assessment of control risk and reduce audit procedures, thereby reducing costs (Carcello et al. 2002). In addition, Cohen and Hanno (2000) provide evidence in experimental settings that auditors may consider factors such as the strength of corporate governance when they make audit planning decisions. From this perspective, we can infer that it is possible for a negative relationship between the characteristics of the board examined and costs to occur.

Based on the description above, the hypothesis can be formulated as follows:

**Hypothesis 1 (H1).** *Risk management committee is related to audit fees.*

## 2.2. Big 4 Audit Firms and Audit Fees

Numerous studies have examined, both in substance and perception whether the Big 4 audit firms offer higher quality audits than non-major firms. For public companies, there is enough empirical evidence of the Big 4 effect (DeFond and Zhang 2014). However, in the private client sector, the empirical evidence is mixed and limited (Langli and Svanström 2014; Vanstraelen and Schelleman 2017).

Theoretical predictions support the idea that larger audit firms should provide higher audit quality than smaller audit firms (DeAngelo 1981; Dopuch and Simunic 1980). Bell et al. (2015) and Redor (2017) found that audit fees tend to be higher in response to the risk of misstatement and/or requests for high-quality audits by governance to protect reputable capital. A high audit price indicates a good audit quality due to additional audit hours and a more thorough investigation by audit expert staff, which results in higher audit fees (Khan and Subhan 2019). As pointed out by Li et al. (2020), there are several reasons why an audit firm's brand awareness has the potential leads to increased audit fees through the following channels: First, greater brand awareness helps accounting firms develop greater markets and bargaining power when negotiating audit fees with clients. For example, the Big 4 have better incentive and quality control systems and have more experts in auditing, accounting, tax, and evaluation (Francis 2011; Knechel et al. 2013). Therefore, the expected audit quality will be adequate. Second, regulatory penalties after audit failures bring more losses to accounting firms with greater brand awareness. Therefore, to compensate for losses due to audit failure risk, accounting firms with greater brand awareness should charge higher audit fees. (Gong et al. 2016). DeFond et al. (2000) saw the positive relationship between the Big 4 and audit fees in Australia and Hong Kong. The increase in audit fees with big accounting firms also occurred in China (Gong et al. 2016). It is also supported by Comprix and Huang (2015) that the Big 4 audit firms demand more fees in the US. From the explanation and the results of previous research, we aim to investigate the relationship between the Big 4 and audit fees with Indonesia used as the setting.

Based on the above analysis, we propose a second hypothesis, which is formulated as follows:

**Hypothesis 2 (H2).** *Big 4 audit firms are positively related to audit fees.*

### 2.3. Risk Management Committee, Big 4 Audit Firms, and Audit Fees

The Risk Management Committee (RMC) is responsible for monitoring a wider range of risks (Larasati et al. 2019). This statement is also supported by Aebi et al. (2012), which states that firms that form committees for risk control processes tend to be more effective in implementing internal control. RMC plays a role in monitoring the activities of the company and provides a broader scope for identifying risks within the company. RMC may not have any authority to purchase audit services. However, since they are responsible for monitoring risk, they can recommend more comprehensive services to external auditors as a risk response to their responsibility to avoid the risks of misrepresentation, litigation, and other risks.

The services provided by the auditor will certainly be directly proportional to the costs incurred by the company, be it from the firm size to inherent risk for each company. The auditor's assessment of the client's control environment and meeting the client's demands for better audit quality and leading to increased audit fees are key factors in determining audit pricing (Jizi and Nehme 2018). A company with an RMC aims to have minimal risk, one of which is the risk of audit errors, within the company. The risk of audit errors itself can occur because the company has a high-risk business or auditors' failure to carry out their audit duties. Bills et al. (2018) show that large accounting firms have more experience, workforce, international reach, corporate governance best practices, training, referrals, social networking, legitimacy, audit methodology, and head office coordination. However, according to the classic definition put forward by DeAngelo (1981), audit quality depends on "the ability of the auditor to detect violations in the client's accounting system" (auditor competence) and 'the possibility the auditor reports the breach' (audit independence). This becomes interesting seeing RMC's desire to have minimal risk, and Big 4 auditors as the largest public accounting firm can facilitate these problems with their competence, experience, and independence.

From several previous studies on Big 4 audit firms with audit fees, we can observe an interesting relationship between the three variables; Big 4 audit firms can facilitate RMC's desire to reduce risk with competence, experience, expertise, networking, and independence. As the Big 4 have this capability, the workload will be low as well. Li et al. (2020) asserted that the global KAP seeks to improve the efficiency of KAP audits by increasing the competence of auditors. An accounting firm with greater audit efficiency completes the same project at a lower cost or performs a higher quality audit for the same audit fee, resulting in lower audit risk. Accounting firms with greater audit competence can benefit from this by offering lower audit fees when competing with clients. Shan et al. (2019) also show that Big 4 audit firms will consider the risk of the company, i.e., whether the auditors believe the company has a lower risk; in our study, the presence of RMC will reduce the risk of the audit and will reduce audit fees. Based on the above analysis, we propose a third hypothesis, which is formulated as follows:

**Hypothesis 3 (H3).** *Big 4 audit firms weaken the relationship between risk management committee and audit fees.*

## 3. Research Design

### 3.1. Sample and Source of Data

Our sample consists of companies listed on the Indonesia Stock Exchange (IDX) period covers 2014–2018. The information is collected through the company's annual report. We apply sample selection criteria to achieve the final sample. First, we excluded all companies that did not disclose audit fees in the annual report. Second, we exclude all missing

controls variables. After applying these criteria, the final sample contained 892 constant year observations. Finally, we winsorized all continuous variables at the 1st and 99th percentiles to reduce undesirable externalities.

### 3.2. Operational Definition and Variable Measurement

The risk management committee (RMC) and Big 4 audit firms (Big 4) were the main variables in this study. We measured RMC using a dummy variable, coded 1 if companies disclose the existence of risk management committee, and 0 if otherwise (Abdullah et al. 2017; Larasati et al. 2019; Yatim 2010). Following Lennox (2005), we employed Big 4 as the moderating variable reflecting the Big 4 audit firms, which is coded as 1, if the company is audited by a Big 4 auditor, and 0 if otherwise. Our dependent variable was audit fees (AFEE), and we measured audit fees using the natural logarithm of audit fees that companies pay their external auditors (Hay et al. 2008; Hines et al. 2015; Keane et al. 2012). We excluded non-audit fees such as consulting, legal, advisory fee in calculating the audit fees.

We used several control variables based on previous literature (Duellman et al. 2015; Karim et al. 2016; Larasati et al. 2019). The control variables were the independent board of directors (DIBOD), independent board of commissioners (DIBOC), political connection (PCON), total employees (EMP), return on assets (ROA), firm size (FSIZE), leverage (LEV), and the ratio of receivables and inventory to total assets (INVREC). All variants used in this article are summarized in Table 1, Variable definition in Table 2, and sample distribution in Table 3

**Table 1.** Derivation of samples.

Description	Source
Firms-Year Observations	3467
Missing Data for Audit Fees	(2228)
Missing Data for Control (s)	(347)
Firm-Year Observations for Final Sample	892

This data is missing due to the fact that companies are not required by law to disclose audit fees in their annual reports.

**Table 2.** Variable definition.

Variable	Definition	Source
Dependent		
LNFEES	Natural logarithm of audit fees	Annual Report
Independent		
RMC	Dummy variable, coded 1 if companies disclose the existence of stand-alone RMC, and 0 if otherwise	Annual Report
BIG 4	Dummy variable, coded 1 if a company is audited by Big 4 auditor (EY, KPMG, PwC, Deloitte) and 0 if otherwise	Annual Report
PROB_RMC	Percentage of companies that have RMC in each firm industry	-
Controls:		
OPINION	Dummy variable, coded 1 if a companies issued modified opinion on year financial report and 0 if otherwise	Annual Report
DIBOD	Dummy variable, coded 1 if the proportion of independent directors divided by total directors is more than the median, and 0 if otherwise	Annual Report
DIBOC	Dummy variable, coded 1 if the proportion of independent commissioner divided by total commissioner is more than the median, and 0 if otherwise.	Annual Report
PCON	Dummy variable, coded 1 if the commissioners and directors of companies were currently or formerly members of ministers, parliament (DPR), heads of state, or those who had close ties with top politicians and/or parties and 0 if otherwise.	Annual Report

Table 2. Cont.

Variable	Definition	Source
EMP	Natural logarithm of the total number of employee	ORBIS
ROA	Earnings after tax divided by total assets	ORBIS
FSIZE	Natural logarithm of the company's total asset	ORBIS
LEV	Total liabilities divided by totalAssets	ORBIS
INVREC	Total account receivable and inventory divided by total assets	ORBIS

Table 3. Sample distribution.

Industries Based on SIC Code	Firms with RMC	Firms without RMC	Total
Agriculture, Forestry, and Fishing (0)	14	3	17
Mining and Construction (1)	103	59	164
Manufacturing (2)	232	24	257
Manufacturing (3)	122	21	143
Transportation, Communications, and Utilities (4)	85	33	118
Wholesale and Retail Trade (5)	65	2	67
Finance, Insurance and Real Estate (6)	67	4	71
Services (7)	4	5	49
Services (8)	8	1	9
Total	740	152	892

This table displays the sample distribution of companies that have RMC and non-RMC of 895 companies listed on the IDX in 2015–2018.

### 3.3. Methodology

Ordinary least squares regression is used to test our hypothesis with fixed effects of industry years and the combined standard error (Petersen 2009). We used STATA 14.0 to analyze our data. To test our hypothesis, we used two different research models. We used the first search model (1) to test Hypothesis 1 and 2, while our third hypothesis was tested using the second research model (2). Based on our arguments in Hypotheses 1 and 2, we expect the RMC and Big 4 to be positively correlated with audit fees.

$$\begin{aligned} \text{LNFE}E_{i,t} = & \beta_0 + \beta_1 \text{RMC}_{i,t} + \beta_2 \text{BIG4}_{i,t} + \beta_3 \text{OPINION}_{i,t} + \beta_4 \text{DIBOD}_{i,t} + \\ & \beta_5 \text{DIBOC}_{i,t} + \beta_6 \text{PCON}_{i,t} + \beta_7 \text{EMP}_{i,t} + \beta_8 \text{ROA}_{i,t} + \beta_9 \text{FSIZE}_{i,t} + \beta_{10} \text{LEV}_{i,t} + \\ & \beta_{11} \text{INVREC}_{i,t} + \beta_{12} \text{YEAR}_{i,t} + \beta_{13} \text{INDUSTRY}_{i,t} + \epsilon_{i,t} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{LNFE}E_{i,t} = & \beta_0 + \beta_1 \text{RMC}_{i,t} + \beta_2 \text{BIG4}_{i,t} + \beta_3 \text{RMC\_BIG4}_{i,t} + \beta_4 \text{OPINION}_{i,t} + \\ & \beta_5 \text{DIBOD}_{i,t} + \beta_6 \text{DIBOC}_{i,t} + \beta_7 \text{PCON}_{i,t} + \beta_8 \text{EMP}_{i,t} + \beta_9 \text{ROA}_{i,t} + \beta_{10} \text{FSIZE}_{i,t} + \\ & \beta_{11} \text{LEV}_{i,t} + \beta_{12} \text{INVREC}_{i,t} + \beta_{13} \text{YEAR}_{i,t} + \beta_{14} \text{INDUSTRY}_{i,t} + \epsilon_{i,t} \end{aligned} \quad (2)$$

## 4. Result and Discussion

Table 4 presents descriptive statistics. The mean of RMC is 0.230, which means that 23% of firms have RMC in their company. Firms audited by Big 4 audit firms are 45.5%. OPINION has an average of 0.019, and the average DIBOD is 0.503, which indicates that 50.3% of firms have a total proportion of independent directors divided by total directors, while the average of DIBOC is 0.896; overall, 75% firms in Indonesia have political background on board level. The firms have a total asset of IDR 27,270 billion and a leverage of 131.4% on average. The INVREC has an average value of 29.4%. Company profitability, as measured by ROA, ranges from −60.12 to 27.125. The average number of employees vary from 10 to 38997.

**Table 4.** Descriptive statistics.

	Mean	Median	Minimum	Maximum
LNFEFEE	20.504	20.438	17.910	23.519
RMC	0.230	0.000	0.000	1.000
BIG 4	0.455	0	0	1.000
OPINION	0.019	0	0	1.000
DIBOD	0.503	1.000	0.000	1.000
DIBOC	0.896	1.000	0.000	1.000
PCON	0.750	1.000	0.000	1.000
EMPLOY	3736.850	1141.000	10.000	38,997.984
ROA	4.888	3.650	−60.120	70.920
FSIZE	22.252	22.126	18.461	27.125
LEV	1.314	0.864	−2.084	9.384
INVREC	0.294	0.241	0.000	4.516

This table shows descriptive statistics for all the variables used in this study. The sample used in this study amounted to 895 companies listed on the IDX in 2014–2018. All variables are winsorized at 1% and 99% levels.

Pearson correlation was used to measure the strength of the relationship between two variables. An asterisk (\*) on each parameter indicates the level of significant. Table 5 shows that LNAFEE has a positive relationship with the risk management committee (RMC) and the Big 4, with a significance level of 1%. In addition, DIBOD, DIBOC, PCON, EMP, ROA, FSIZE, and INVREC show a significant relationship. This indicates that the existence of RMC and Big 4 will affect the amount of audit fees (LNAFEE).

**Table 5.** Pearson correlation.

Panel A: From variables LNFEFEE to DIBOC						
	[1]	[2]	[3]	[4]	[5]	[6]
[1] LNFEFEE	1.000					
[2] RMC	0.346 ***	1.000				
[3] BIG 4	0.589 ***	0.286 ***	1			
[4] OPINION	−0.008	−0.037	−0.101 ***	1		
[5] DIBOD	0.126 ***	0.018	0.001	0.032	1.000	
[6] DIBOC	0.100 ***	0.004	−0.055 *	−0.043	0.142 ***	1.000
[7] PCON	0.230 ***	0.099 ***	0.116 ***	−0.095 ***	−0.019	−0.075 ***
[8] EMP	0.587 ***	0.338 ***	0.419 ***	0.127 ***	0.190 ***	0.020
[9] ROA	0.141 ***	−0.046	0.216 ***	−0.072 **	−0.039	0.016
[10] FSIZE	0.718 ***	0.470 ***	0.450 ***	−0.030	0.125 ***	−0.045
[11] LEV	0.028	0.056 *	−0.039	−0.056 *	−0.011	−0.072 **
[12] INVREC	−0.182 ***	−0.210 ***	−0.063 *	−0.083 **	−0.011	0.102 ***

  

Panel B: From Variables DIBOC to INVREC						
	[7]	[8]	[9]	[10]	[11]	[12]
[7] PCON	1					
[8] EMP	0.171 ***	1				
[9] ROA	0.033	0.173 ***	1.000			
[10] FSIZE	0.249 ***	0.683 ***	0.048 *	1.000		
[11] LEV	−0.006	0.059 *	−0.155 ***	0.108 ***	1.000	
[12] INVREC	−0.079 **	0.050	0.196 ***	−0.262 ***	0.015	1.000

This table displays the Pearson correlation of all variables used in this study. The sample uses firms on the IDX listed for the years 2014–2018. All continuous variables are winsorized at 1% and 99% levels. Significance is at \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

#### 4.1. Risk Management Committee, Independent Commissioner, and Audit Fees

Table 6 shows the results for models 1 and 2. Column 2 shows the regression of our first model. The results show that RMC has a positive and significant relationship with audit fees, while the Big 4 variable also has a positive and significant relationship with audit fees. The coefficient at RMC 0.189 ( $t = 2.03$ ) is significant at 10%. This means that having an



independent risk management committee is related to higher audit costs. These results confirm our first hypothesis and previous results (Larasati et al. 2019; Rahayu et al. 2021). This can occur due to the company's internal control, in this case, RMC, which imposes external audit requirements (Hay et al. 2006). The results of the second hypothesis in this study are also in line with our predictions and the study by Choi et al. (2008). The relationship between the Big 4 and audit fees is also positive and significant, with a coefficient of 0.771 ( $t = 12.13$ ) for the Big 4, with a significance of 1%. These results indicate that the companies audited by the Big 4 firms have higher audit fees than those audited by non-Big 4 firms.

**Table 6.** Risk management committee, Big 4, and audit fees.

	(1)	(2)	(3)
	LNFEET	LNFEET	LNFEET
RMC		0.189 ** (2.03)	0.490 *** (2.90)
BIG 4		0.771 *** (12.13)	0.844 *** (13.51)
RMC_BIG 4			−0.454 ** (−2.38)
OPINION	0.435 (1.28)	0.687 ** (2.10)	0.682 ** (2.13)
DIBOD	−0.009 (−0.13)	−0.058 (−0.91)	−0.066 (−1.06)
DIBOC	−0.219 ** (−2.34)	−0.136 (−1.63)	−0.138 * (−1.64)
PCON	0.175 ** (2.35)	0.126 * (1.86)	0.105 (1.57)
EMP	0.131 *** (3.96)	0.108 *** (3.46)	0.109 *** (3.55)
ROA	0.011 *** (3.60)	0.004 (1.31)	0.004 (1.33)
FSIZE	0.420 *** (12.73)	0.327 *** (10.31)	0.322 *** (10.09)
LEV	−0.014 (−0.73)	0.004 (0.20)	−0.001 (−0.01)
INVREC	−0.276 * (−1.92)	−0.179 (−1.36)	−0.183 (−1.30)
_cons	10.827 *** (17.73)	12.643 *** (21.65)	12.686 *** (21.36)
Adjusted R <sup>2</sup>	0.523	0.607	0.612
N	892	892	892

This table reports the regression result of the study's main analysis. The first column is our regression model without any interested variables, the second column for our first regression model, and the third column is to test the interaction effect between RMC and Big 4. This test was performed after winsorizing the data for 1 percent and 99 percent;  $t$  statistics in parentheses \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Column 3 shows our second regression model. The results show that the Big 4 variable impairs the relationship between RMC and LNFEET. The coefficient on RMC\_Big 4 is  $-0.454$  ( $t = -2.38$ ), with a significance of 1%. The results are in line with our third hypothesis. RMC may require a high-quality external assurance, but when companies are audited by Big 4 audit firms, we doubt an external audit analysis by the Big 4 would result because the Big 4 firms provide a better level of communication with the auditors (including RMC) so that they offer lower audit fees. The results of a similar study are comparable, with the audit firm seeing fewer risks. If the company has good risk management, the effort and costs will be lower (Shan et al. 2019). All control variables show a significant association with audit fees except for DIBOD, LEV, and INVREC. In addition, we also document an increase of adjusted R<sup>2</sup> after adding our interested variables.

To further test the consistency of interaction results, we decided to split our sample into two subsamples. The first subsample contained only observations that were audited by the Big 4, while the second included those who were not audited by Big 4 As shown in Table 7, we documented insignificant results on the Big 4 subsample (coeff. = 0.043,  $t = 0.39$ ). On the other hand, the non-Big 4 subsample shows a positive and significant relationship between RMC and LNFE (coeff. = 0.455,  $t = 2.85$ ). This result confirms that the presence of a Big 4 public accounting firm is able to address RMC's demand for an additional level of assurance for ensuring minimum financial risk, and at the same time, Big 4 firms also benefited as the firm's risk was more or less already handled by RMC. Thus, as a result, both the demand side (RMC) and the supply side (Big 4), required smaller audit fees.

**Table 7.** Risk management committee and audit fee in split-sample analysis.

	Big 4 Sample	Non-Big 4 Sample
	LNFE	LNFE
RMC	0.047 (0.43)	0.463 *** (2.87)
OPINION	2.176 *** (8.90)	0.530 * (1.77)
DIBOD	−0.187 ** (−2.13)	0.007 (0.08)
DIBOC	−0.319 *** (−2.81)	0.038 (0.31)
PCON	0.049 (0.50)	0.129 (1.40)
EMP	0.064 (1.44)	0.137 *** (3.29)
ROA	0.014 *** (5.00)	−0.015 *** (−3.17)
FSIZE	0.360 *** (6.97)	0.315 *** (7.69)
LEV	0.051 (1.83)	−0.033 (−1.37)
INVREC	−0.408 * (−1.86)	0.010 (0.06)
_cons	13.361 *** (13.34)	12.503 *** (17.18)
Adjusted R <sup>2</sup>	0.456	0.493
N	407	485

This table reports the regression analysis between RMC and LNFE using two subsamples. The first subsample only contained observations that were audited by Big 4 (407 firm–year), while the second subsample included observations that were audited by non-Big 4 (485 firm–year). This test was performed after winsorizing the data for 1 percent and 99 percent;  $t$  statistics in parentheses \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

#### 4.2. Endogeneity Issue

The potential problem of endogeneity in this study is the relationship between the RMC as an independent variable and the dependent and control variables. The unobserved characteristic of the firm that has RMC may be the source of the increase in audit fees paid to external auditors. Therefore, the results of this study may suffer from the problem of self-selection bias (Heckman 1979). Unobserved variables are known as variables that are not included in the main regression model but may have a relationship with the dependent variable. If this were the case, the results of this study would be subject to subjective selection bias. Similar to previous studies, we used Heckman's two-stage model to address this issue (Harymawan et al. 2021).

A two-stage Heckman regression analysis was used to overcome this problem to reduce undesirable relationships between corporate governance variables. First, we use the variable PROB\_RMC as an instrumental variable, measured by the percentage of a company with a risk management committee in one industry and one year. Therefore, the

tendency to have a risk management committee in the company structure in an industry will encourage management to implement the same feature in the company structure; this variable is believed not to be directly correlated with audit fees paid by the company. This rationale is also in accordance with social mirror theory, which states that an individual is unconsciously mirroring how other people act and behave. Although it is originally developed regarding human behavior (Baldwin 1899; Dilthey and Rickman 1976; Mead 1934), numerous firms also implement a similar method, including most successful ones such as McDonald, Visa, Walmart, and Microsoft (Nani 2016). Our Heckman two-stage regression analysis is provided in Table 8.

**Table 8.** Heckman two-stage regression analysis.

	First-Stage	Second-Stage	
	RMC	LNAFEE	LNAFEE
PROB_RMC	4.223 *** (3.25)		
RMC		0.189 * (2.03)	0.490 *** (2.90)
BIG 4		0.771 *** (12.15)	0.844 *** (13.50)
RMC_BIG 4			−0.458 ** (−2.40)
MILLS		−0.116 (−0.10)	−0.005 (−0.03)
OPINION	−0.568 (−0.97)	0.693 ** (2.08)	0.684 ** (2.10)
DIBOD	0.050 (0.39)	−0.058 (−0.92)	−0.066 (−1.07)
DIBOC	0.019 (0.11)	−0.137 (−1.64)	−0.138 (−1.65)
PCON	0.318 * (1.76)	0.122 (1.61)	0.103 (1.37)
EMP	0.147 *** (2.51)	0.106 *** (3.01)	0.108 *** (3.08)
ROA	−0.003 (−0.44)	0.004 (1.32)	0.004 (1.34)
FSIZE	0.258 *** (3.74)	0.324 *** (6.93)	0.321 *** (6.92)
LEV	0.002 (0.05)	0.004 (0.19)	0.000 (0.01)
INVREC	−1.204 *** (−2.86)	−0.163 (−0.78)	−0.177 (−0.85)
_cons	−8.766 ***	(9.82)	(9.88)
Year FE	Yes	Yes	Yes
Industry FE	No	Yes	Yes
Pseudo R <sup>2</sup>	0.249		
Adjusted R <sup>2</sup>		0.597	0.600
N	892	892	892

This table reports the Heckman two-stage regression analysis for both equations in this study. This test employed PROB\_RMC as instrumental variables. MILLS is inverse mills ratio where it represents as joined relationship power of instrumental variables (PROB\_RMC). This test was performed after winsorizing the data for 1 percent and 99 percent; t statistics in parentheses \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Our Heckman two-stage regression analysis shows that PROB\_RMC has a significant positive relationship at 1 percent level with RMC (coeff. = 4.306,  $t = 3.31$ ). This result implies that the presence of RMC in a company within the same industry drives firms to have RMC in their company structure, as expected. In the second stage of regression, we find significant positive relationship between RMC with LNAFEE (coeff. = 0.189,  $t = 2.03$ ) and negative relation between RMC\_Big 4 with LNAFEE (coeff. = −0.454,  $t = −2.38$ ). With re-

gard to MILLS, it shows insignificant result on LNAFEE to each regression (coeff. =  $-0.222$ ,  $t = -0.14$  and coeff. =  $-0.14$ ,  $t = -0.09$ ). This result confirms that our model results in the main analysis did not fully indicate an endogeneity issue, specifically on the issue of unobserved variables, and the results are consistent with MILLS variables in the RMC and RMC\_Big 4 models showing results that are not statistically significant.

## 5. Conclusions

This paper aimed to examine the relationship between RMC and audit fees. Based on a demand-oriented view of auditing, we hypothesized a positive relationship between RMC and audit fees. We also aimed to investigate the relationship between Big 4 and the audit fees incurred by the company and, to complete our research, we also considered the outcome of Big 4 audit firms auditing a company with RMC against the audit fees incurred by the company. We argued that the influence of the companies audited by Big 4 audit firms weakens the relationship between RMC and audit fees through developing our hypotheses.

Confirming our expectations, the results of this study support all hypotheses. We found a sample of registered companies in Indonesia from 2014 to 2018 whose audit fees were higher when the company had an RMC, which is also supported by the research of [Larasati et al. \(2019\)](#). We also found that those audit fees are higher in companies audited by Big 4 audit firms; this study is in line with [Choi et al. \(2008\)](#), [Huang et al. \(2015\)](#), and [Gong et al. \(2016\)](#); interestingly, the audit fee is lower when the company has RMC and is audited by Big 4 audit firms.

Most noteworthy from the results of the above studies is that when Big 4 becomes the moderating variable, it actually weakens the positive relationship between RMC and audit fees, even though the results of other hypotheses show that Big 4 and audit fees have a positive relationship. We assume that this can occur because auditors can work more efficiently if the company has an RMC. RMC plays a role in monitoring the activities of the company and provides a broader scope for identifying risks within the company; moreover, a company with an RMC desires minimum risk, one of which is the risk of audit errors, within the company. Therefore, the auditor can indirectly reduce the risk because it partially results from the performance of the RMC. In addition, the audit time can also be more effectively used by auditors to carry out their work. The findings are robust for addressing the endogeneity problem, alternative regression methods, and the use of additional tests.

This study also has several limitations. First, our RMC and Big 4 data and audit fees originate from annual reports, and there is no regulation in Indonesia to disclose or not to disclose any information that affects management actions for the respective company. Second, we did not test the non-audit fee variable because very few were disclosed, and we believe that the data would not be compared with each other. Third, given the unique institutional aspects of the Indonesian economy and market, it is unclear how our findings can be generalized to a more market-oriented economy. The last point could be the basis for future research. We suggest that future research uses a larger sample size and, where possible, uses data in countries of different economic levels to improve the quality of existing RMC research.

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