

# ERM Sophistication, Asymmetric Information and Audit Quality

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This study aims to examine the negative effects of ERM sophistication on asymmetric information and the role of internal audit function and auditor specialisation in strengthening the negative effect of ERM sophistication on asymmetric information. This study used 281 listed companies in the Indonesian Stock Exchange in 2016. The method of Moderated Regression Analysis (MRA) is used in this study. The results show that ERM sophistication has a negative and significant effect on asymmetric information, while the internal audit function and auditor specialisation cannot improve the negative effect of ERM sophistication on asymmetric information. The fact that there are still many sample companies audited by non-specialist public accounting firms and the lack of information presented by company related to their internal audit functions becomes an obstacle in assessing the effectiveness of supervision by internal audit of management activities.

**Key words:** *ERM sophistication, asymmetric information, internal audit function, auditor specialisation.*

**Type of study:** *Quantitative*

## Introduction

Separation of ownership and control in an organisation can create problems of information asymmetry between shareholders and managers who expose shareholders to agency costs. Agency costs arise when managers have an incentive to fulfil their own interests at the expense of shareholders (Jensen and Meckling, 1976). Agency costs also arise when investors can't distinguish the true economic value of the firm. Lack of transparent financial information poses a greater risk of information being charged to shareholders (Ashbaugh-

Skaife et al., 2007). This affects investors and regulators' confidence in the accuracy of the company's financial statements. This compounded by the growth of globalisation and increasing complexity in business transactions led to investors and regulators increasingly demanding additional information regarding financial data, one of which is Enterprise Risk Management (Meliani & Hermawan, 2014).

Company management is also expected not only to publish traditional financial statements, but also to report non-financial performance because it cannot represent the overall dimensions of corporate activity (Simnett, et al., 2009). This means that there is information that is not publicly disclosed. One of these non-financial reports is an ERM report. Glaum et al. (2013) state that the disclosure of the company's non-financial performance can improve accuracy of information and reduce asymmetric information. In recent years, many companies have been paying more attention to ERM sophistication and its disclosures. The company views ERM sophistication as a means to increase the likelihood of success in increasingly complex, multi-functional and challenging corporate activities (Olechowski et al., 2016). In practice, many corporate managers have implemented ERM sophistication, and reported on the risks faced by the company. This is due to the fact that risk reporting can help investors to gauge the company's risk profile and enable them to invest according to risk tolerance. Regulations on risk are designed to improve information transparency for investors and analysts in order to reduce market distortions and improve capital market efficiency (Abraham and Marston, 2012).

Miihkinen (2013) and Meliani & Hermawan (2014) found that risk disclosure may decrease the level of information asymmetry. The concept of asymmetric information has been highly developed in the literature, but there is little empirical evidence to support its existence (Sabet and Heaney, 2015). In addition, the topic of ERM sophistication has been widely studied, but few researchers provide insight into the actual implementation of ERM sophistication in practice (Lyons and Skitmore, 2004). This study contributes by providing evidence about the extent to which benefit investors can derive from ERM sophistication to reduce asymmetric information.

The Internal Audit (IA) function is considered to have a potential role in risk management and corporate governance (Christopher et al., 2007). High-quality IAs can serve as third-party monitoring of management actions each year (Prewitt et al., 2009). Effective IA function requires skill and competence (Lenz & Hahn, 2015). In addition, successful IA function also has many roles and responsibilities in the company, one of which is related to the sophistication of ERM. IA should confirm to the board about the business risks facing the company and whether the ERM sophistication managed by them has been effective.

However, studies of internal control in Indonesia is scarce. Some studies in Indonesia associate internal audit with GCG (Suyono & Hariyanto, 2012) and fraud (Puspasari & Suwardi, 2012). However, no study has examined the extent to which the quality of internal audit can help to reduce asymmetric information. Therefore, this study also provides evidence about the role of internal audit function (auditor specialisation) in strengthening the negative relationship between ERM and asymmetric information.

In addition to requiring management to minimise asymmetric information by managing risks and establishing effective internal audit function, investors also need independent and competent parties who can provide reasonable assurance on the information, one of which is audit services provided by Public Accounting Firm (Primadita & Fitriany, 2012). Almutairi, et al. (2009) state that auditing is one way to reduce asymmetric information related to agency costs. High audit quality tends to detect and avoid accounting errors rather than low audit quality, so high audit quality should be more likely to reduce asymmetric information. However, there is asymmetric information between companies and auditors in the auditing process. Employees and corporate managers have clearer information about their structure and operations. The auditor is a third party who tries to verify the information provided by management with professional scepticism, which requires the auditor to act by considering whether the information provided by management may be inaccurate and unreliable. In this case, audited financial statements are particularly important for third parties as they can provide appropriate information and enable disclosure of information. Therefore, the auditor's opinion and its quality are very important (Varici, 2013).

Ashbaugh (2007) found a positive significant correlation between the disclosure of Internal Control Deficiency (ICD) and audit quality seen from supervision and its technology. A recent study by Bowers and Khorakian (2014) also states that there is little evidence of successful implementation of ERM sophistication in developing countries, including Indonesia. This is exacerbated by the absence of regulations governing ERM disclosure for companies in Indonesia. This study provides evidence of the role of external audit quality (auditor specialisation) in strengthening the negative relationship between ERM and information asymmetry.

The main focus is the relationship between ERM sophistication, asymmetric information, and audit quality (both internal auditor and external auditor function). Several previous studies have found that auditor specialisations help to reduce asymmetric information (e.g. Hakim & Omri, 2008; Almutairi et al., 2009; Primadita & Fitriany, 2012; Cheong and Zurbrugg, 2015). However, a study conducted by Varici (2013) that tested public companies in Turkey showed results contrary to the literature according to which four large accounting firms can't provide better audit quality, thus are unable to reduce the level of asymmetric information. Studies on the role of internal audit function and external auditing in corporate risk

management to reduce asymmetric information is scarce, especially in Indonesia therefore it is an interesting and relevant subject to be examined .

## **Literature Review**

### ***Theories***

#### ***Contract Theory***

The principal-agent problem is recognised as the owner and management of the company are usually not the same person, the relationship is defined in a contract in which one or more persons (owner of the company-principal) hires another person (company management-agent) (Jensen and Meckling, 2008). Contracts are an important issue in Agency Theory and Transaction Costs. A contract is affected by transaction costs associated with the existence of Asymmetric Information which creates a contractual problem due to the fact that the information may be incomplete at various stages of the contract, e.g., ex ante or before contracting there is important information missing when executing the contract and even ex post or after the completion of the contract. Furthermore, one party may have information, but will not share it with others (Paape, 2007).

Despite the lack of important information, there are ways to resolve the issue which include: (1) providing more disclosure of information needed by the stakeholders. Information in this regard is not limited to financial information, but also pertains to information about non-financial information, including ERM sophistication (2) establishing a monitoring mechanism such as the Internal Audit Function (Adam, 1994) and external audit function (Almutairi, et al., 2009).

#### ***Signalling Theory***

Signalling theory is concerned with the asymmetric information that can occur if one party has a more complete information signal than the other . Accounting figures and other non-financial information (including ERM) reported by the management may be used as a signal, if the information reflects information regarding the attributes of unexpected company decisions (Megginson 1997).

With regards to asymmetric information and the level of ERM sophistication, Mubarok and Rohman (2013) state that signalling theory can explain how managers disclose sufficient information including information about the risks faced by the company for its owners. If the manager discloses information about the risk adequately to the owner . it is a good signal for the company. A good signal (good news) is to provide information to the owner that the company has completed ERM sophistication soundly . Conversely, if the manager does not disclose information about the risk inadequately, it results in a bad signal (bad news) for the

company. Investor reactions are reflected in the volatility of stock returns and stock trading turnover around the information released.

## ***Literature***

### ***Asymmetric Information***

Bid-ask spread may reflect the level of asymmetric information (Callahan et al., 2007). Harris (2003) states the bid-ask spread indicator is the difference between the lowest ask price (low willingness to sell) and the bid price (high willingness to buy) of a financial instrument. The bid-ask spread rate is determined by the dealer as compensation for order processing cost, transaction cost (compensation for the normal cost of doing business to fund all profit monopolies and risk premiums) and adverse selection costs (compensation for potential losses when dealing with informed traders). The greater the level of asymmetric information, the more likely that the dealer will seek to protect him or herself through an increase in spread between bid and ask prices.

In relation to Corporate Governance and Enterprise Risk Management, a good corporate governance and ERM sophistication in public companies, especially where shareholders have a high risk for loss of assets can reduce asymmetric information between shareholders and management. The principle of public disclosure, which is a corporate governance imperative, is aimed at reducing information asymmetry (Varici, 2013).

### ***ERM Sophistication Components***

Desender (2007) argues that ERM sophistication has evolved from narrow-minded insights into more holistic ones. In September 2004, the Committee of Sponsoring Organisations of The Treadway Commission (COSO) issued the Enterprise Risk Management-Integrated Framework, to provide a model framework for ERM sophistication firms (ERM). The framework defines ERM as:

"Processes undertaken by boards of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect entities, and manage risks to provide reasonable assurance about achieving the goals of the entity."

Risk can be defined as uncertainty over the amount of benefits to be received, including potential benefits and threat of loss. According to Florio & Leoni (2017), there are six components of the ERM system that can contribute to the sophistication of ERM, namely the presence of CROs, Risk Committee, ERM sophistication reports reported to the Board of Directors, as well as the frequency, level and method of risk assessment. Studying the ERM proxies separately is helpful for analysing the single-component contribution, but failing to

detect the overall effect of those components. Therefore, to capture the holistic ERM implications in which an integrated sophistication ERM system, Florio & Leoni (2017) combine six aspects in the ERM scores. Firms with high commitment will receive cost savings (Farrell & Gallagher, 2014), including agency fees for information asymmetry. According to Florio and Leoni (2017), corporate ERMs are said to be sophisticated if the company has a CRO, has a risk committee reporting to the board of directors, assessing and revealing ERM more than once a year, assessing ERM from the business unit level, and assessing and revealing ERM both quantitatively and qualitatively.

### ***Internal Audit Quality***

IIA defines an internal audit as an independent assurance and consultancy activity that aims to add value and improve organisational operations. This internal audit activity can help the organisation to achieve its objectives by applying a systematic and disciplined approach to evaluate and improve ERM sophistication, control, and governance processes. Internal audit activities are conducted by Internal Audit (IA). The IA is an auditor working within an organisation to determine whether the procedures and policies have been adhered to, if the safeguarding of the company's assets has worked properly and whether the activities of the company have been effective and efficient in determining the reliability of the resulting information (Mulyadi, 2002).

Ridley (2008) mentions that the modern IA is built on "3E" namely Effectiveness, Efficiency, and Economics. Effectiveness is seen as "doing the right thing", efficiency means "doing them well", and economics means "doing them cheaply" (Chamber, 1992). A qualified AI should be able to perform its function by applying the 3Es. To be able to achieve 3E, the IA must be supported with expertise that can support its functions such as certification, experience, competence and so forth (Prawitt, 2009).

### ***External Auditor Quality***

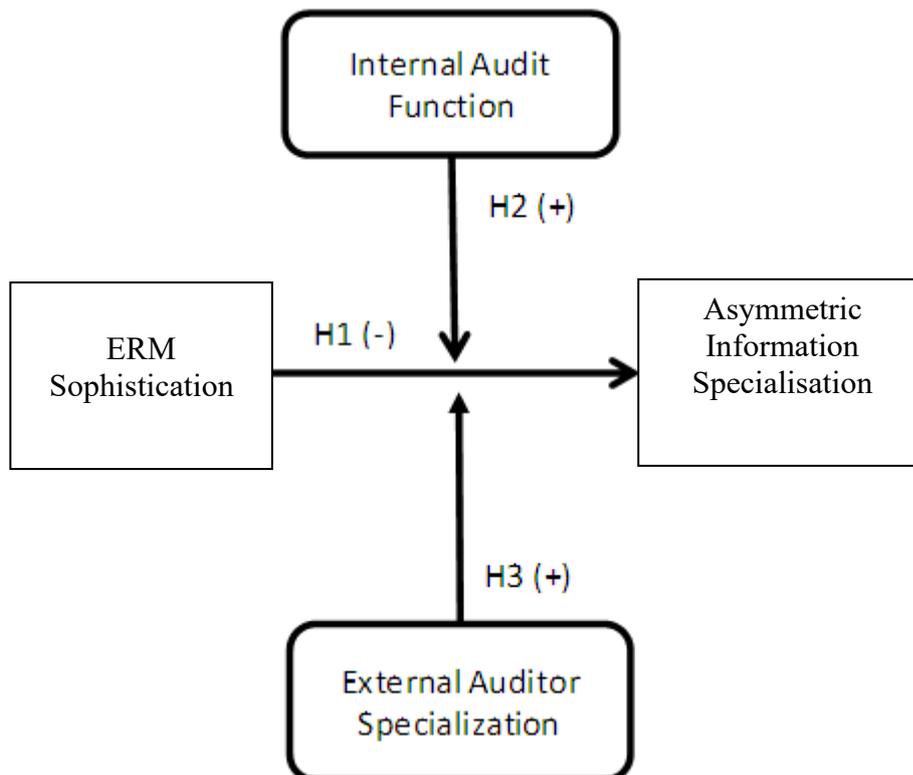
The financial structure and results of the firm's operations are particularly important for shareholders and creditors, but these parties have no possibility of obtaining direct information. The accuracy and reliability of information on corporate finance is as important as achieving it. An independent audit is required to provide confidence in the reliability of the information so as to prevent possible conflicts of interest among managers and shareholders. However, according to Kavut (2001), the expected benefits can be obtained from independent audits only if high quality audit services are provided.

***Quality of Internal Audit and External Auditor, as well as its Relationship with Asymmetric Information and ERM sophistication components***

Internal audit functions are assessed to have a potential role in risk management and corporate governance (Christopher et al., 2007; Gay & Simnett, 2007). In order for an effective internal audit to function skill and competence are required, especially the Head of Internal Audit or as later called Internal Audit Chief (Lenz & Hahn, 2015). Mihret et al. (2010) emphasise that the essential skill of the Head of Internal Audit is to be able to make good recommendations, including managing risk and corporate governance. Thus, the internal audit function can help companies to reduce information asymmetry.

An accounting firm with many clients in the same industry (specialisation in a particular industry) will better recognise the audit risks that exist in this industry (Craswell et al., 2002). Balsam et al. (2003) indicate that firms audited by specialist auditors will provide higher levels of assurance, add value to their clients, and be able to provide higher quality audit services than those audited by non-specialist auditors. The conceptual framework of this study is shown in Figure 2.1.

**Figure 2.1.** Conceptual Framework



### ***Hypothesis Development***

#### ***The effect of ERM sophistication on asymmetric information***

The existence of risk asymmetric information can cause some problems in the capital market such as high transaction costs, thin market, low liquidity, low trading profits and unprofitable investments for minority investors (Lev, 1988). In order to reduce such asymmetry, information must be disclosed which can be trusted and useful for users of financial statements.

Scott (2009) states that risk disclosure is one of the items for investors for two reasons: (1) it provides direct information about the company's risk profile, which affects the discount rate (2) risk transparency can reduce the risk of investor information because the risk of adverse selection becomes lower if the company discloses quality risk information. Voluntary risk disclosure negatively affects information asymmetry because the risks disclosed in the financial statements reflect the risks faced by the company and are highly informative for market participants. Thus high levels of risk disclosure will reduce asymmetric information (as measured by bid-ask spreads) (Campbell et al., 2014).

Miihkinen (2013) also found that the level of asymmetric information decreases with the existence of risk disclosure quality, as it is able to provide crucial information to investors thereby reducing the information asymmetry of the company's risk that impedes the company's valuation effectively. At the same time, the results of research by Florio & Leoni (2017) show that companies with advanced ERM implementation level present higher performance, both in financial performance and market evaluation. Therefore, the first hypothesis in this study states:

**H1:** ERM sophistication has a negative effect on asymmetric information

#### ***External Auditor Specialisation strengthens the negative effect of ERM sophistication and asymmetric information***

Ashbaugh-Skaife (2007) found a positive significant relationship between the disclosure of Internal Control Deficiencies (ICD), with Supervision and technology owned auditors' proxy by Big KAP 6. The quality of the external auditor has an influence on detecting and reporting risks, more likely reporting ICD. Based on these findings, it is expected that audit quality will also affect the level of risk disclosure. Similar to audit quality measured by KAP size, the external industry auditor's specialisation will also be able to put greater pressure on management to perform the risk management function well due to its expertise and knowledge to reinforce the negative impact of risk disclosure and information asymmetry.

Almutairi et al (2009) found a decrease in bid-ask spreads ( a proxy for measuring asymmetric information) in companies that audited by specialist auditors. Using specialist auditors is expected to decrease the chances of private information being encountered in companies due to increased disclosure and audit quality.

**H2:** External auditor specialisation strengthens the negative effect of ERM sophistication on asymmetric information

***Internal Audit Function as Moderator of Negative Effect of ERM sophistication and Asymmetric Information***

The Internal Audit function (IAF) is considered to have a potential role in risk management and corporate governance (Christopher et al., 2007; Gay & Simnett, 2007). Members of the organisation responsible for corporate governance may appoint the IAF as the person responsible for managing the company's risk associated with financial disclosure (Abdolmohammadi et al, 2017). One of the roles of an internal audit is to assist the company's management and board of directors to manage risk by providing an objective assurance of the effectiveness of ERM sophistication.

Skills and competence are required for the internal audit function to be effective and of high quality. High quality IAFs can provide greater transparency through monitoring (Prawitt et al., 2009), which means that a high quality IAF can enable better corporate information as more information is disclosed.

Weak internal control can also increase asymmetric information. Mulyadi (2002) states that internal audit should ensure the reliability of the information disclosed. Asymmetric information can be reduced when an increasing level of information is disclosed which is accurate (Varici, 2013). It can be concluded that high quality IAFs can ensure the adequacy of information disclosed in financial statements (including ERM sophistication). Therefore the level of information asymmetry among corporate stakeholders can be lowered. Based on the above description , the third hypothesis in this study maintains :

**H3:** IAF Quality strengthens the negative effect of ERM sophistication on asymmetric information

## Research Methodology

### Data Collection

#### Population and Sample

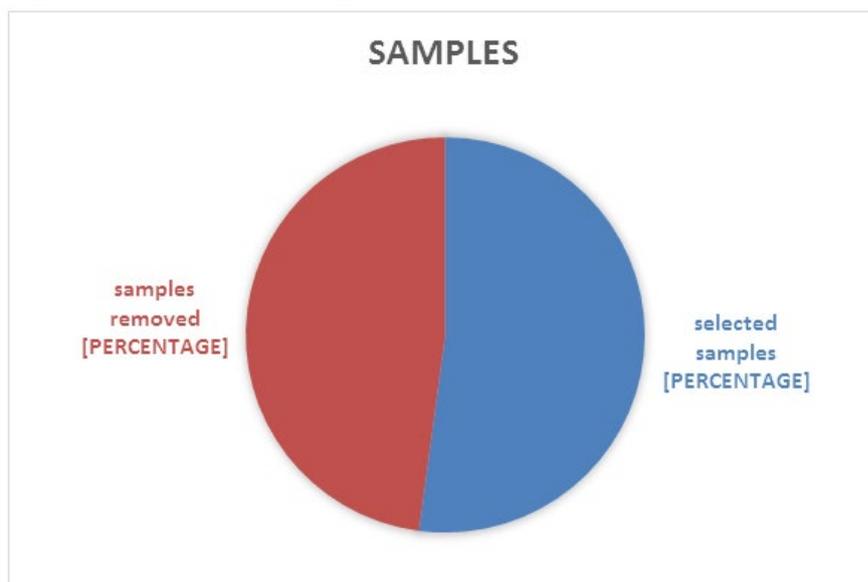
The population of this study consists of companies listed on the Indonesia Stock Exchange (IDX), on 1 January 2016 and are still registered on December 31, 2016. The study took a sample in 2016 because it was the first year after the issuance of POJK No. 56 of 2015 on the Establishment and Guidelines for the Formation of the Charter of the Internal Audit Unit. Therefore, it is interesting to see the application of the rule by companies in Indonesia. It also considers some sample selection criteria, as well as removing samples that do not meet the criteria, so the number of samples used in this study are as follows:

**Table 4.1:** Sample Selections

Criteria	Number of Companies
Number of Companies registered in IDX by 2016 (As of December 30, 2016)	539
Companies included in the banking sector and financial institutions	(89)
Companies with incomplete data	(169)
Number of Sample Companies	<b>281</b>
<b>Number of Observations (Company-Year)</b>	<b>281</b>

Description of the sample in this study can be explained by Figure 4.1 below:

**Figure 4.1.** Research Samples



According to Figure 4.1, the sample companies are 52% or 281 companies of all firms listed on the IDX in 2016, and the remaining 48% or 258 companies are excluded from the sample because they do not meet the criteria specified in this study.

### **Data Collection Method**

This study uses secondary data sources, i.e. data that are not directly obtained from the source but from media intermediaries or other parties. Secondary data was obtained from the financial statements and annual reports of companies listed on the Indonesian Stock Exchange in 2016 taken from the Indonesian Capital Market Directory (ICMD) and the official website of the Indonesia Stock Exchange (IDX) i.e. [www.idx.co.id](http://www.idx.co.id), while the stock return data originates from PPA FEUI database.

### **Research Model**

$$BTBit = \beta_0 + \beta_1RISKDISC_{it} + \beta_2SPECAUD_{it} + \beta_3IA\_SCORE_{it} + \beta_4RISKDISC_{it}*SPECAUD_{it} + \beta_5RISKDISC_{it}*IA\_SCORE_{it} + \beta_6SIZE_{it} + \beta_7AGE_{it} + \beta_8ROA_{it} + \beta_9LifeCycle_{it} + \epsilon_{it}$$

After determining the research model, the following table describes the operationalisation of each research variable summarised below:

**Table 3.1:** Variable Description

<b>Variable</b>	<b>Description</b>
MTB	Market to book value
$\beta_0$	<i>Intercept</i> any regression equation
$\beta_1, \dots, \beta_n$	Regression coefficient of independent variables
RISKDISC <sub>it</sub>	Level of ERM sophistication
SPECAUD <sub>it</sub>	Dummy variable, 1 for companies audited by a specialist auditor and 0 otherwise
IA Certification	Dummy variable, 1 if the head of the internal audit function has IA certification, and 0 otherwise
IA Background	Dummy variable, 1 if the head of the internal audit function has an accounting background, and 0 otherwise
IA Charter	Dummy variable, 1 if there is an internal audit charter, and 0 otherwise
IA Training	Dummy variable, 1 if there is training for IA, and 0 otherwise
IA_SCORE <sub>it</sub>	Total score of IA Certification, IA Background, IA Charter, dan IA Training
SIZE <sub>it</sub>	Natural logarithm of total assets
E <sub>it</sub>	<i>Error</i>

### ***Operationalisation of Vvariables***

#### ***Dependent Variable: Bid-Ask Spread***

Bid is the highest bid price of the company stock  $i$  that occurs on the day  $t$  while Ask is the highest ask price of the company stock  $i$  that happened on the day  $t$ . The amount of information asymmetry is determined by the amount of "Spread" of each company measured by the median of the daily spread during the time interval, i.e. during the study period (Leuz and Verrechia, 2000; Miihkinen, 2013).

$$SPREAD = \frac{Bid_{it} - Ask_{it}}{\left(\frac{Bid_{it} - Ask_{it}}{2}\right)}$$

#### ***Independent Variable***

##### ***Auditor Specialisation***

This study replicates the measurement of auditor specialisations from Reichelt and Wang (2009) The auditor specialisation (SPECAUD) is a dummy variable of 1 if the auditor is a specialist auditor and 0 if not. The specialist auditor is an auditor who has a client with a percentage of total assets greater than 10 (thirty) percent of the total assets of the entire enterprise in an industry. The below diagram outlines the method used to calculate the auditor's specialisation :

$$SPECAUD = \frac{\text{number of clients in the industry}}{\text{Total issuers in the industry}} \times \frac{\text{the average asset in the industry}}{\text{average assets of all issuers in the industry}}$$

##### ***Internal Audit Function***

The internal audit quality component of this study is based on the information set forth in POJK No. 56 of 2015 on the Establishment and Guidelines for the Formation of the Charter of the Internal Audit Unit. Measurements of items in PJOK are adjusted to the measurements of pre-existing studies. Prawitt (2009) measures the quality of internal audit by summing the total score of Experience, Certification, CAEAC, TimeFin, Training, and IASize. This study measures the quality of IA functions with background, charter, certification, and training variables. The quality of the audit function is measured by summing the scores of each variable, in which the background is a dummy variable with 1 if the head of the IA function is from an accounting background, and 0 otherwise; charter is a dummy variable with 1 if there is a charter or charter IA in the company and 0 otherwise; certification is a dummy

variable with 1 if the IA function head has IA certification; training is a dummy variable with 1 if there is training for IA within the company.

### ***ERM sophistication***

The measurement of ERM sophistication variables refers to Florio & Leoni's (2017) study of the existence of CRO, Risk Committee, ERM sophistication Report reported to the Board of Directors, as well as the frequency, level, and method of risk assessment. Each component then sums up the data to get an ERM sophistication score.

### ***Control Variable***

To control the relationship audit quality and asymmetric information model, this study controls firm size as measured by the logarithm of total assets owned by the firm as a firm characteristic (Simunic 1980, et. al. ).

### ***Testing Method***

The study includes a cross section research by including a multiple linear regression test to test the whole research hypothesis. The test was performed by using a classical assumption test, i.e. normality test, multicollinearity test, and heteroscedasticity test.

## **Results**

The research aims to examine the effect of corporate risk disclosure on information asymmetry with internal audit function and external auditing as a moderating variable on all companies listed in the Indonesia Stock Exchange except for banks and financial institutions in 2016. After determining the research sample and collecting the required data, further testing is completed as described in Chapter 3 in this study. The following outlines the results of the tests that have been completed.

### ***Descriptive Statistics***

Following the analysis of data collection, table 4.1. explains the description of the distribution of detailed data into several categories including minimum, maximum, average, and standard deviations from the data of each variable.

**Table 4.1:** Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
BAS	281	2,86	2,61	0,25	9,99
ERM_Score	281	1,80	1,57	0,00	6,00
AUDSPES	281	0,44	0,50	0,00	1,00
IAScore	281	2,21	1,15	0,00	4,00
Asset ( <i>million</i> )	281	8.770.000	20.300.000	13.200	262.000.000

**Notes:** Mean is the average value of the variable. Max is the maximum value of the variable. Min is the minimum value of the variable. Std. Dev is the standard deviation value of the variable. BAS is a dependent variable, i.e. bid ask spread used as a proxy for measuring information asymmetry. ERM\_Score is an independent variable that is an ERM sophistication score. AUDSPES is a moderating variable, which is the auditor specialisation used as a proxy for measuring the quality of external auditors. IAScore is the moderate variable that is the score of checklist IA. SIZE is a control variable that is the total value of company assets in billion units.

**Source:** Secondary data processing

Table 4.1. shows descriptive statistics for each research variable. Information asymmetry variable (BAS) has an average value of 2.86 with a maximum value of 9.99, a minimum value of 0.25 and a standard deviation of 2.61. This shows that the distribution of data on the BAS variable varies greatly. The ERM Sophistication variable (ERM\_Score) score shows an average value of 1.8. This means that on average each company meets ERM Sophistication in less than 2 aspects or categories. The maximum value of 6, the minimum value of 0, indicates that there are companies that do not meet the criteria of ERM Sophistication, but companies also exist which have met ERM Sophistication for all criteria.

External audit quality variables or auditor specialisations (AUDSPES) show an average value of 0.44 with a maximum value of 1, a minimum value of 0, and a standard deviation value of 0.50. This shows that the sample company is on average unaudited by a specialist auditor because the average value of the auditor specialisation is only 0.44 (showing more firms having a score of 0 than 1). The effectiveness variable of the internal audit function (IAScore) shows an average value of 2.21, with a maximum value of 4, a minimum value of 0 and a standard deviation value of 1.16. This means that the sample company has an internal audit function that is good enough because the average value exceeds 50% of the total score (2.21 out of a total score 4).

**Table 4.2:** Frequency Table of Auditor Specialisation

Industry	Companies with Auditor Specialist	%	Companies with Auditor Non specialist	%	Total	%	Auditor Specialist / industry
Agriculture	8	47%	9	53%	17	100%	Deloitte, EY, Moore Stephens, PwC
Basic Industry And Chemicals	18	35%	33	65%	51	100%	Deloitte, EY, Y Santosa & Partners
Consumer Goods Industry	12	43%	16	57%	28	100%	EY, KPMG, PwC
Infrastructure, Utilities And Transportation	10	38%	16	62%	26	100%	Deloitte, EY, PwC
Mining	14	45%	17	55%	31	100%	EY, PwC, Y Santosa & Partners
Miscellaneous Industry	16	62%	10	38%	26	100%	Deloitte, EY, PwC
Property, Real Estate And Building Construction	11	44%	14	56%	25	100%	Deloitte, EY, Moore Stephens, RSM Indonesia
Trade, Services and Investment	35	45%	42	55%	77	100%	EY, PwC, RSM Indonesia
<b>Amount</b>	124	44%	157	56%	281	100%	

Table 4.2 shows the frequency table auditor specialisation. It reveals that the number of enterprises with non-specialist auditors (as many as 157 of the 281 companies or 56% of the company's total samples) outnumber the number of companies with specialist auditors (as many as 124 of the 281 companies or 44% of the company's total sample). In addition, Table 4.2 also shows that the accounting firm Ernst & Young Indonesia is a specialist auditor in all types of industries (except the finance and insurance industry).

### Regression Model Testing Results

**Table 4.3:** Research Model Testing Results

<b>Dependent Variables: BAS</b>				
<b>Variable</b>	<b>Model 1</b>		<b>Model 2</b>	
	<b>Coef.</b>	<b>Sig.</b>	<b>Coef.</b>	<b>Sig.</b>
<i>C</i>	22.1576	0,000		
<i>ERM_Score</i>	-0.6417	0,023***	0.0565	0.884
<i>AUDSPES</i>	-0.4347	0,500		
<i>ERM*AUDSPES</i>	0.6393	0.137		
<i>IAScore</i>			0.3243	0.1870
<i>ERM*IAScore</i>			-0.1744	0,234
<i>SIZE</i>	-0.6525	0.000***	-0.0873	0,000***
Prob. F	0,0000		0,0000	
R-squared	0,1710		0,1669	
N	281		281	
<b>Descriptions:</b> The regression model was to test the effect of ERM on asymmetric disclosure of information, and to test whether the quality of the external audit and the internal audit function strengthen the influence. BAS is a dependent variable, namely the bid ask spread is used as a proxy to measure the asymmetry of information. ERM_Score an independent variable that scores ERM sophistication. AUDSPES moderates variables, more specifically the auditor specialisation that is used as a proxy to measure the quality of external auditors . IAScore moderates variables that score checklist IA. SIZE is the control variable while the total value of corporate assets is measured in units of billion.				

\* Significant at  $\alpha = 10\%$ , \*\* significant at  $\alpha = 5\%$ , \*\*\* significant at  $\alpha = 1\%$ ,

### Hypothesis 1 Testing Results

Model 1 in Table 4.2. is a regression test model to determine the effect of ERM Sophistication on the asymmetry of information and the external auditor's role in strengthening its influence. Based on Table 4.1 it can be seen that Model 1 that, overall, this model is adequate enough that its indication of the test value F are significantly below 1 percent with its R-squared value of 0.1710, which means that this model can explain the variation of the asymmetry of information for 17 companies as 10 %.

Based on Table 4.1., variable ERM Sophistication has a significance value of  $0.023 < \alpha$  (5%) and the relationship is negative, so that H1 is accepted. This means that the ERM Sophistication of the company can reduce the asymmetry of information. From the Contract Theory standpoint, a contract is affected by the transaction costs associated with the

information asymmetry that creates the problem within the contract, so that information may be incomplete at various stages of the contract. However, ERM sophistication can reduce information asymmetry owned by investors due to the increasing risk of information that is crucial for investment appraisal. Meanwhile, from the perspective of signalling theory, information about ERM sophistication which was communicated by management to the owner of the company (investor) is a good signal (good news) that the company has conducted an effective risk management. As such, investors will be more confident in the performance of management, thereby reducing information asymmetry.

The results also support the research conducted by Campbell et al., (2014) and Miihkinen (2013). Research conducted by Campbell shows that the ERM components refer to the level of risk disclosure that is significantly and negatively associated with the level of asymmetry company proxied by the bid-ask spread. This is due to the fact that risk disclosures conducted by managers of the company contain useful information for market participants because it describes any risks facing the company. Thus, the information can be taken into consideration in assessing the company's investors. Similar results are also shown in research conducted by Miihkinen (2013), that is that the ERM terms of the level of high quality risk disclosures can reduce information asymmetry in the stock market as information regarding risk disclosures can be useful for investors. This results from the fact that information about risk can influence investment decisions for an investor.

### ***Hypothesis 2 Testing Results***

The moderating role of external auditors showed a significance value of  $0.147 > \alpha$  so H2 in this study which cannot be accepted, which This means that the external auditor cannot reinforce negative correlation to risk disclosure of information asymmetry. Research conducted by Varici (2013) showed conflicting results in the literature. From the standpoint of Contract Theory, KAP specialist industry is one form of monitoring costs incurred by the owner of the company to minimise the occurrence of problems that occur. Agency challenges between the owner and manager are expected to influence high quality audit services, thereby reducing information asymmetry. However, there are concerns that the non-specialist KAP may also provide quality audit services rather than lowering KAP specialist (Varici, 2013). We can conclude that the auditor is unable to strengthen his or her specialisation on the negative influence of ERM Sophistication on information asymmetry, due to the fact that it's uncertain whether the non-specialist external auditors can reduce information asymmetry. Based on descriptive statistics provided in Table 4.2, the average value of specialisation auditing is only by 44%, which means that half of that or 56% of the study sample was audited by a non-specialist. Future studies may be able to examine the role of the non-specialist external auditor on information asymmetry.

### ***Hypothesis 3 Testing Results***

Model 2 is a model of regression testing to determine the effect of ERM Sophistication on information asymmetry and the role of internal audit function to reinforcing its impact. Based on Table 4.1, we can see that overall Model 2 is effective enough that it shows with an F test value which is significantly below 1 percent with R-squared value of 0.1669 which means that this model can explain the variation of information asymmetry company of 16, 69 percent.

When viewed through the results of regression model 2, ERM Sophistication variable coefficient (*ERM\_Score*) showed a positive and non-significant value (0,565). In addition, the direction of the coefficient is also contrary to the proposed hypothesis. This finding differs from the results found in model 1. and also from previous studies such as Campbell et al. (2014) which found a negative effect of quality Sophistication ERM on information asymmetry, which shows that this model does not support the idea that ERM Sophistication can negatively affect information asymmetry.

Similarly, moderate variable coefficients are a feature of internal audit function (*IAScore*) and the interaction between ERM Sophistication with internal audit function (*ERM\*IAScore*) which shows a significance value above 10 percent. Based on the results of this regression, this study rejects Hypothesis 2 and 3 . That is, the internal audit function has no effect on information asymmetry, nor does it strengthen the negative effect of ERM Sophistication on information asymmetry. From the contract theory viewpoint, the contract of formation of the internal audit function is a form of monitoring process of the principal against the agent. However, these results may imply that monitoring processes through internal audit functions may not necessarily work well, especially in Indonesia. Lack of information about the internal audit function characteristics disclosed by companies in the financial statements may also make the scoring results less valid, which is due to the number of companies that do not reveal the characteristics of their internal audit function in detail. Therefore, internal audit function scores do not represent the full effectiveness of the control performed by the internal audit function of the firm. This result is also incompatible with Sarens et al. (2009) who view the internal audit function as an expert provider on the principle of what occurs within the company, thereby reducing information asymmetry.

### **Conclusion**

This study aims to examine the effect of ERM Sophistication on the level of information asymmetry, and test whether the quality of external audit and internal audit function can strengthen the influence. The sample used incorporates non-financial companies and banks registered in IDX during 2016. ERM Sophistication is measured by content analysis using 6

criteria i.e. the presence of CRO, risk committee, mechanical report direct supervision of risk results to the board, the frequency of risk assessment, level of risk assessment and risk assessment methods. In order to measure information asymmetry, the bid ask spread value, the quality of the external auditor using the auditor specialist, and internal audit using internal audit function scoring is based on the company's annual report.

According to the results of the content analysis, ERM Sophistication in non-financial companies and banks are still at a low level with an average of 1.8 of the total average score 6. Regression analysis results show that ERM Sophistication does not fully affect information asymmetry, rather it influences information asymmetry in conditions where the quality of external auditors is high which is indicated through a specialist auditor in its field. However, this study cannot prove that external auditor specialisation and the effectiveness of internal audit function play a role in strengthening the effect of ERM sophistication in reducing information asymmetry. The fact that there are still many sample companies audited by non-specialist KAP and the lack of information presented by Companies related to their internal audit function becomes an obstacle in assessing the effectiveness of supervision by internal audit of management activities.

There are several limitations in this study. First, it still uses a one year period for the study period. In addition, the internal audit function score obtained from the company's annual checklist allows for an element of subjectivity when scoring, thereby reducing the validity of the measurement of the internal audit function itself. A suggestion for subsequent research is to attempt to retest the results of this study using larger data and a broader scope to confirm consistency gained from the results. For reasons of relevance, it is expected that further research can use samples using the most recent period. In addition, further research is recommended to look for other proxies for internal audit function variables that are more relevant to ERM Sophistication and information asymmetry.

## REFERENCES

- Abdolmohammadi, M., & Wright, A. (1987). An examination of the effects of experience and task complexity on audit judgments. *The Accounting Review*, 1-13.
- Abraham, S., Marston, C., & Darby, P. (2012). Risk reporting: Clarity, relevance and location. *Institute of Chartered Accountants of Scotland*.
- Allegrini, M., & Greco, G. (2013). Corporate boards, audit committees and voluntary disclosure: Evidence from Italian listed companies. *Journal of Management & Governance*, 17(1), 187-216.
- Almutairi, A. R., Dunn, K. A., & Skantz, T. (2009). Auditor tenure, auditor specialization, and information asymmetry. *Managerial Auditing Journal*, 24(7), 600-623.
- Ashbaugh-Skaife, H., Collins, D. W., & Kinney, W. R. (2007). The discovery and reporting of internal control deficiencies prior to SOX-mandated audits. *Journal of Accounting and Economics*, 44(1), 166-192.
- Balsam, S., Krishnan, J., & Yang, J. S. (2003). Auditor industry specialization and earnings quality. *Auditing: A journal of practice & Theory*, 22(2), 71-97.
- Bowers, J. dan Khorakian, A. (2014). Integrating risk management in the innovation project. *European Journal of Innovation Management*, Vol. 17 (1), pp.25-40
- Callahan CM, Lee CMC, Yohn TL. 1997. Accounting information and bid-ask spreads. *Accounting Horizons* 11(4): 50-60.
- Campbell, J.L., Chen, H., Dhaliwal, D.S., Lu, H., dan Steele, L.B. (2014). The Information Content of Mandatory Risk Factor Disclosures in Corporate Filings. *Rev Account Stud*, Vol. 19, pp. 396-455
- Chambers, A. D. (1992). Effective Internal Audits: How to plan and implement. *Financial Times*.
- Cheong, C., & Zurbruegg, R. (2015). *Analyst forecasts, firm asymmetric information and audit quality*.
- Christopher, J., Leung, P., & Sarens, G. (2007, January). An exploratory study on internal audit independence in Australia. In *AFAANZ 2007: accounting and finance association of Australia and New Zealand annual conference*. The Accounting and Finance Association of Australia and New Zealand.

- Craswell, A., Stokes, D. J., & Laughton, J. (2002). Auditor independence and fee dependence. *Journal of Accounting and Economics*, 33(2), 253-275.
- Daruri, A. D. (2017). *Sektor Manufaktur dan ERM sophistication*. <http://www.neraca.co.id/article/92907/sektor-manufaktur-dan-manajemen-risiko>
- DeAngelo, H., DeAngelo, L., dan Stulz, R.M. (2006). Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory. *Journal of Financial Economics*, Vol. 81, pp. 227-254
- Eshleman, J. D., & Guo, P. (2013). Abnormal audit fees and audit quality: The importance of considering managerial incentives in tests of earnings management. *Auditing: A Journal of Practice & Theory*, 33(1), 117-138.
- Farrell, M., & Gallagher, R. (2015). The valuation implications of enterprise risk management maturity. *Journal of Risk and Insurance*, 82(3), 625-657.
- Florio, C., & Leoni, G. (2017). Enterprise risk management and firm performance: The Italian case. *The British Accounting Review*, 49(1), 56-74.
- García, L. S., Barbadillo, E. R., & Pérez, M. O. (2012). Audit committee and internal audit and the quality of earnings: empirical evidence from Spanish companies. *Journal of Management & Governance*, 16(2), 305-331.
- Getie Mihret, D., James, K., & Mula, J. M. (2010). Antecedents and organisational performance implications of internal audit effectiveness: some propositions and research agenda. *Pacific Accounting Review*, 22(3), 224-252.
- Glaum, M., Schmidt, P., Street, D. L., & Vogel, S. (2013). Compliance with IFRS 3-and IAS 36-required disclosures across 17 European countries: company-and country-level determinants. *Accounting and business research*, 43(3), 163-204.
- Gujarati, D., & Porter, D. C. (2009). *Basic econometrics* (ed.) McGraw-Hill.
- Hakim, F., Triki, F., & Omri, A. (2008). Earnings quality and equity liquidity: evidence from Tunisia. *International Journal of Managerial and Financial Accounting*, 1(2), 147-165.
- Harris, L. (2003). *Trading and exchanges: Market microstructure for practitioners*. Oxford University Press, USA.
- Hay, D., Knechel, R., & Li, V. (2006). Non-audit Services and Auditor Independence: New Zealand Evidence. *Journal of Business Finance & Accounting*, 33(5-6), 715-734.

- Jensen, M. C. dan Meckling, W. H. (1976). Theory of The Firm: Managerial Behaviour, Agency Cost, and Ownership Structure. *Journal of Financial Economics*, Vol. 3 (4), pp. 305-360
- Kavut, L. (2001). Opinions and Attitudes of Independent Auditors and Users of Audit Services Concerning Audit Quality. *Istanbul Stock Exchange Review*, 5(20), 1-30.
- Lenz, R., & Hahn, U. (2015). A synthesis of empirical internal audit effectiveness literature pointing to new research opportunities. *Managerial Auditing Journal*, 30(1), 5-33.
- Leuz, C., & Verrecchia, R. E. (2000). The economic consequences of increased disclosure. *Journal of accounting research*, 91-124.
- Lev, B. (1988). Towards a theory of equitable and efficient accounting policy. *The Accounting Review*, 63 (1), 1–22.
- Lyons, T. dan Skitmore, M. (2004). Project risk management in the Queensland engineering construction industry: a survey. *International Journal of Project Management*, Vol. 22, pp. 51–61
- Meggison, W. L. (1997). *Corporate finance theory*. Addison-Wesley.
- Meliani, Ester G. Hermawan, Ancella A. 2014. Pengaruh tingkat pengungkapan risiko terhadap informasi asimetri dengan efektivitas dewan komisaris dan komite audit serta siklus hidup perusahaan sebagai variabel pemoderasi. *Universitas Indonesia*.
- Miihkinen, A. (2013). The usefulness of firm risk disclosures under different firm riskiness, investor-interest, and market conditions: New evidence from Finland. *Advances in Accounting*, 29(2), 312-331.
- Mina, Pizzina. (2012). *Impact of internal audit function quality and contribution on audit delays*. Calhoun: The NPS Institutional Archive DSpace Repository, <http://hdl.handle.net/10945/47547>
- Mubarok, M. A., & Rohman, A. (2013). Pengaruh Karakteristik Perusahaan Dan Mekanisme Corporate Governance Terhadap Pengungkapan Risiko Dalam Laporan Keuangan Interim (Studi Empiris Pada Perusahaan-Perusahaan Nonkeuangan Yang Terdaftar Di Bursa Efek Indonesia) (*Doctoral Dissertation, Fakultas Ekonomika Dan Bisnis*).
- Mulyadi, K. P. (2002). *Auditing*. Penerbit Salemba Empat. Jakarta.



- Olechowski, A., Oehmen, J., Seering, W., dan Ben-Daya, M. (2016). The professionalization of risk management: What role can the ISO 31000 risk management principles play?. *International Journal of Project Management*, Vol. 34, pp. 1568-1578
- Paape, L. (2007). *Corporate governance*: The impact on the role, position, and scope of services of the internal audit function.
- Pratt, J., & Stice, J. D. (1994). The effects of client characteristics on auditor litigation risk judgments, required audit evidence, and recommended audit fees. *Accounting Review*, 639-656.
- Prawitt, D. F., Smith, J. L., & Wood, D. A. (2009). Internal audit quality and earnings management. *The Accounting Review*, 84(4), 1255-1280.
- Prewitt, J. E., Weil, R., & McClure, A. Q. (2011). Crisis Leadership-An Organizational Opportunity. *Australian Journal of Business and Management Research*, 1(6), 60.
- Primadita, I. Fitriany. 2012. Pengaruh tenure audit dan auditor spesialis terhadap informasi asimetri. *Simposium Nasional Akuntansi XV*.
- Reichelt, K. J., & Wang, D. (2010). National and office-specific measures of auditor industry expertise and effects on audit quality. *Journal of Accounting Research*, 48(3), 647-686.
- Ridley, J. (2008), *Cutting Edge Internal Auditing*, John Wiley & Sons, Ltd, Chichester, England.
- Sabet, A. H. dan Heaney, R. (2015). Bid-ask spread, information asymmetry and acquisition of oiland gas assets. *Journal of International Financial Markets, Institutions & Money*, Vol. 37, pp. 77-84
- Sarens, G. and Abdolmohammadi, M.J. (2009), "Cultural dimension and professionalism and uniformity of Internal Auditing practice", Working paper, The Canadian Academic Accounting Association (CAAA) Annual Conference 2010, Vancouver, British Columbia, Canada.
- Scott, W.R., 2015. *Financial Accounting Theory*. 7th Edition. Prentice Hall.
- Simnett, R., Vanstraelen, A., & Chua, W. F. (2009). Assurance on sustainability reports: An international comparison. *The accounting review*, 84(3), 937-967.
- Simunic, D. A. (1980). The pricing of audit services: Theory and evidence. *Journal of accounting research*, 161-190.



Simunic, D. A., & Stein, M. T. (1996). Impact of litigation risk on audit pricing: A review of the economics and the evidence. *Auditing*, 15, 119.

Varici, I. (2013). The Relationship between Information Asymmetry and the Quality of Audit: An Empirical Study in Istanbul Stock Exchange. *International Business Research*, 6(10), 132.