OVERCONFIDENT MANAGEMENT AND THE AUDIT FEE DEMAND-SIDE PERSPECTIVE

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ABSTRACT

The issue of managerial overconfidence in managers has been studied in relation to audit pricing. Previous studies examined the relationship between managerial overconfidence and audit fees from the supply side. This study investigates the association of managerial overconfidence and audit fees from the demand side. We found a significant negative relationship between managerial overconfidence and audit fees. This finding supports the demand side perspective of audit pricing, specifically that overconfident management demands low quality audit services and subsequently low audit fees. In addition, we also investigated the role of the audit committee in the relationship between managerial overconfidence and audit fees, and found that a negative and significant relationship between managerial overconfidence and audit fees only occurred in companies with a strong audit committee. These findings suggest that a strong audit committee is able to offset the negative effect of managerial overconfidence by increasing monitoring of the financial reporting process, and auditors responds to this by reducing the level of risk of financial reporting and subsequently the audit fee.

Contribution/Originality: This study contributes to the auditing field by providing empirical evidence on the impact of CEO characteristics (overconfidence) on audit fees from the demand side perspective. Other studies have examined the factors affecting audit fees from the supply-side perspective.

1. INTRODUCTION

Previous research in audit pricing isolates management characteristics as a determinant of audit fees. Carcello, Hermanson, and Ye (2011) suggest the need to incorporate management into the analysis due to management’s significant influence on accounting, auditing, and internal control. In line with this suggestion, recent research on the determinants of audit fees on the client side began to incorporate management attributes into their considerations, such as those of the chief executive officer (CEO) demographic characteristics (Harjoto, Laksmana, & Lee, 2015), CEO financial backgrounds (Kalelkar & Khan, 2016), gender (Huang, Huang, & Lee, 2014), personality traits (Duellman, Hurwitz, & Sun, 2015; Judd, Olsen, & Stekelberg, 2017; Mitra, Jaggii, & Al-Hayale, 2019), risk–taking behavior (Chen, Gul, Veeraraghavan, & Zolotov, 2015; Fargher, Jiang, & Yu, 2014), and managerial abilities (Gul, Khedmati, Lim, & Navissi, 2017; Krishnan, & Wang, 2014).

This research examines overconfidence. Overconfident individuals often overestimate the quality of the service that they expect (Malmendier & Tate, 2015). Overconfident managers often have high opinions regarding their own
abilities and are overly optimistic when assessing the probability of potential events (Malmendier & Tate, 2015). The bias, therefore, affects the decisions taken by management. Reportedly, overconfident management has the tendency to minimize corporate taxes (Aliani, Mhamid, & Rossi, 2016; Chyz, Gaertner, Kausar, & Watson, 2014), to practice earnings management (Hsieh, Bedard, & Johnstone, 2014), and to accept the going concern opinion from the auditor (Ji & Lee, 2015; Kim, 2016).

There are two opposing perspectives relating to the relationship between managerial overconfidence and audit fees: the supply-side perspective of audit pricing and financial reporting, and the demand-side perspective of audit pricing (Duellman et al., 2015; Habib, Wu, Bhuiyan, & Sun, 2019; Mitra et al., 2019). The demand–side perspective assumes that overconfident management that makes aggressive accounting estimates conducts very little research into auditing services. On the other hand, the supply-side perspective reflects the auditor's response to the company's business risk as the actions of overconfident management increase the risk of financial inaccuracy, as management is primarily responsible for the financial reporting process.

Hribar, Kim, Wilson, and Yang (2013) and Mitra et al. (2019) found a positive correlation between overconfident management and audit fees, consistent with the supply-side perspective of audit pricing and the risks of financial reporting. Meanwhile, Duellman et al., (2013) documented a negative correlation, which was in line with the demand-side perspective of audit pricing. They explained this negative finding as a hubris effect that overshadowed the effects of financial reporting risk. These conflicting findings need further research to provide additional empirical evidence.

This research predicts that overconfident management is associated with low audit fees for several reasons. First, this research is conducted on the Indonesian capital market, which has a weak legal environment (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000). Francis, Khurana, and Pereira (2003) documented that countries with weaker legal institutions demanded lower quality audits than countries with stronger legal institutions. Second, companies in countries with a weak legal environment usually have a corporate governance structure with internal ownership (La Porta., Lopez-De-Silanes, & Shleifer, 1999; Shleifer & Vishny, 1997). This ownership structure can result in lower demand for accounting information (Ball, Kothari, & Robin, 2000) and external audits (Defond & Jiambalvo, 1999; Francis et al., 2003). Third, in countries with weak shareholder protection, managers are more likely to act opportunistically because insiders get more private benefits and have stronger incentives to hide the company's actual performance (Hung, 2001; Leuz, Nanda, & Wysocki, 2003).

Previous literature presented the importance of audit committees in improving the quality of financial reporting (Beasley, 1996; Cohen, Krishnamoorthy, & Wright, 2002; Dechow, Sloan, & Sweeney, 1996; Defond & Jiambalvo, 1993). These studies show that stronger audit committees are associated with a higher quality of financial reporting. Consistent with the argument presented in this research, previous audit pricing literature also found that audit quality and auditors' fee adjustments were influenced by the effectiveness of audit committees (e.g., Abbott, Parker, Peters, & Raghunandan, 2003; Carcello, Hermanson, Neal, & Riley Jr, 2002; Cohen & Hanno, 2000)). An effective audit committee can demand that auditors improve audit efforts to reduce audit risks, thus improving the reliability of financial reporting—higher audit quality leads to higher audit fees (Abbott et al., 2003; Carcello et al., 2002; Duellman et al., 2015). Effective audit committees can also act to offset to overconfident managers and thus improve the financial reporting process. Furthermore, the auditor will assess more accurate financial reporting, thus adjusting the audit fees accordingly.

For this study, a sample of 500 firm years between 2013 and 2017 were used. We measured managerial overconfidence based on firms' investments and financing activities (accounting–based measurement) (Ji & Lee, 2015; Schrand & Zechman, 2012). A significant negative association was found between managerial overconfidence and the audit fees. We also find evidence that an effective audit committee counteracts the negative association between managerial overconfidence and audit fees. This finding indicates that the auditor considers a strong audit committee as capable of reducing audit risk, and thus audit fee.
This research contributes in four dimensions. First, it contributes to the literature on the determinants of audit fees perspective demand side. Specifically, this research found sample of companies with overconfident management is negatively and significantly associated with audit fees, which is consistent with a hubris effect or demand-side perspective (Duellman et al., 2015). On the other hand, this research also found a negative relationship between managerial overconfidence and audit fees only occurred in a sample of companies with a strong audit committee. The auditor’s assessed risk becomes low with an effective audit committee so that detection risk decrease, and also the audit fee (Griffin, Lont, & Sun, 2008; Krishnan & Visvanathan, 2009). This finding supports the supply-side perspective of the effect of audit committee on audit fee.

Second, this research answers the call for further research on the roles of management, external auditors, and audit committees in the audit fee negotiation process (Brown-Liburd, Wright, & Zamora, 2015; Carcello et al., 2011; Fontaine, Khemakhem, & Herda, 2016). Most previous research examined these three parties separately. Third, this research contributes to the literature on the effectiveness of an audit committee and how this affects the relationship between managerial overconfidence and the audit fee. Fourth, previous studies in this area focus mainly on the U.S. audit market. This research provides additional empirical evidence in developing countries that have different institutional characteristics in comparison to the U.S., such as a weak auditor liability regime, a two–tier governance system, and less restrictive legal enforcement. According to a strong governance view (Choi & Wong, 2007; Francis et al., 2003; Han, Kang, & Yoo, 2012; Jaggi, Gul, & Lau, 2012; Kwon, Lim, & Tan, 2007) an audit committee plays a stronger governance role in a weak legal environment than in a strong legal environment (substitute). As documented by Francis et al. (2003), countries with weaker legal environments generally demand a lower audit quality.

The paper proceeds as follows: Section 2 reviews past literature and hypothesis development and is followed by the research methods in Section 3. Section 4 discusses the main results, and Section 5 concludes the paper.

2. INSTITUTIONAL BACKGROUND, LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Institutional Background

The audit services market in Indonesia is dominated by the “Big Four” audit firms, who service 43.5% of the total number of clients. However, if the market share is measured by a company's total assets, the Big Four continue to dominate the audit services market in the Indonesian capital market at 71.54% (Rusmin & John, 2017). The market share of the Big Four in Indonesia has decreased since 2010. This decrease is due to the presence of second–tier international audit firms, such as Moore Stephens International, BKR International, and BDO International Limited, which are affiliated with local audit firms (Ali & Aulia, 2015).

The fees paid by companies listed on the Indonesian stock exchange to auditors are disclosed in the annual report on a voluntary basis. Therefore, research on audit pricing in Indonesia is limited to a sample of companies that voluntarily disclose their audit fees. Some companies include the audit fee in professional fees together with other capital markets supporting institutions and professionals, such as administration offices, securities depositories, settlement institutions, and notaries public. In addition, some companies disclose audit fees on an inconsistent basis.

Indonesia adheres to a two–tier board system, which is a governance system with a separation of functions and roles between the board of commissioners and the board of directors. The main role of the board of director is to run the business. The board of directors makes strategic decisions, manages the workforce, coordinates tasks, and controls the direction of the business. The board of commissioners monitors these decisions by questioning the board of directors, reviewing annual reports, overseeing the work of external auditors, analyzing the information provided by the board of directors, and reporting to the General Meeting of Shareholders. In this case, the board of commissioners may not involve themselves in management tasks and may not represent the company in transactions with third parties. However, the board of commissioners can influence the board of directors by setting the compensation package and offering advice regarding strategic decisions. According to Indonesia Law on Limited Liability
Companies No. 40 of 2007 (Articles 94 and 111), the members of the board of directors and the board of commissioners are appointed and dismissed by the Annual General Meeting of Shareholders.

In carrying out its functions, the board of commissioners forms one or several committees, for example, an audit committee, a compensation/remuneration committee, a nomination committee, a risk committee and any other committees according to the company's needs. The audit committee assists the board of commissioners in fulfilling their supervisory responsibilities, especially the review of the audited annual financial statements, financial reporting process and the internal control system, and supervision of the auditing process. The audit committee is also responsible for maintaining communication between the board of commissioners, board of directors, internal auditors, external auditors, and managers.

The Capital Market and Financial Services Institution Supervisory Agency Regulation requires issuers and public companies to have an audit committee. The regulation also governs the number, composition, and duties of audit committees. The duties and responsibilities of audit committees are not limited to internal matters, but also mediate between management and external auditors in the event of disagreements. Recently, the regulation strengthened the role of audit committees to provide recommendations for the appointment of external auditors to the board of commissioners, to evaluate the work of audit firms, and to assess the potential risk of audit firms that have provided services for a long tenure to offer recommendations for auditor replacement.

2.2. Managerial Overconfidence and Audit Fee

Based on the upper echelon theory (Hambrick, 2007; Hambrick & Mason, 1984), managerial personality affects organizational outcomes, choices, and performance levels. Organizational choices reflect the individual characteristics of top management (Hambrick, 2007; Hambrick & Mason, 1984). Leaders limited by bounded rationality will make decisions based on their cognitive, social, and physiological characteristics. Overconfidence is one of the cognitive (psychological) biases that leads to overestimating future outcomes of current events. Overconfident individuals often possess an above-average or better-than-average effect feeling (Svenson, 1981).

Management that is overconfident and optimistic can negatively affect company policy or financial reporting decisions. A manager's personality trait can influence a company's business risk through their business decisions and policies. Consistent with the upper echelon theory, a number of studies show support for the effect of overconfidence on corporate decisions, such as investment decisions (Malmendier & Tate, 2005), merger & acquisition decisions (Malmendier & Tate, 2008), cash holding decisions (Aktas, Louca, & Petmezas, 2019) tax decisions (Aliani et al., 2016; Chyz et al., 2014) and financial reporting decisions (Ahmed & Duellman, 2013).

Previous research suggests that overconfidence motivates managers to overestimate the ability to generate returns leading to riskier business decisions. Overconfident managers are often associated with a tendency to overestimate predicted cash flows of a project and underestimate the project risks and its effects (Heaton, 2002; Malmendier & Tate, 2005). As a result, they tend to adopt accounting practices that are less conservative (Ahmed & Duellman, 2013), misreport earnings (Schrand & Zechman, 2012), restate financial statements (Presley & Abbott, 2013), engage in earnings management (Chang, Hwang, Li, & Jhou, 2018; Hsieh et al., 2014), and create aggressive tax policies (Chyz et al., 2014; Kubick & Lockhart, 2017).

The audit fee is determined based on the auditor's assessment of client characteristics (e.g., client size, complexity and risk), audit market competition, and negotiations between the auditor and the client. From the supply-side perspective, one of the factors considered by most auditors in determining the fees is the audit risk (Cobbin, 2002; Hay, Knechel, & Wong, 2006). The auditor determines the audit risk by assessing inherent risk and client control. High inherent risk accompanied by high control risk will determine a low detection risk, so the audit risk is deemed to be low. To achieve a low detection risk, auditors must conduct more testing, gather more evidence, and choose a more extensive substantive test. As a result, the audit costs are greater. The auditor will charge the client based on the audit market competition and negotiations between the auditor and the client.
There are two aspects that determine the audit fee from the client’s point of view, or demand-side perspective. First, management can request high- or low-quality audit services depending on the underlying incentives. Based on signaling theory, when management wants to signal the credibility of financial reporting, management will request high-quality auditor services, and will therefore incur high audit fees (Datar, Feltham, & Hughes, 1991). Second, on the contrary, when management wants to conceal aggressive accounting practices and in the hope that auditors will not detect this behavior, they will request low-quality audit services (Duellman et al., 2015).

Auditors’ assessment of the “tone of the top” is important because top management decisions have an impact on a company's business risk and financial reporting. Schrand and Zechman (2012) report that overconfident management increases the risk of misreporting due to optimistic bias in accounting estimates or judgment. Presley and Abbott (2013) found a positive relationship between CEO overconfidence and the restatement of financial reports. Furthermore, Hsieh et al. (2014) reported that overconfident CEOs tended to engage in real activities manipulation resulting in abnormally high cash flows.

Hribar et al. (2013) examined the tendencies of overconfident CEOs to make unrealistic and overly optimistic decisions, and auditors’ responses to these decisions. Hribar et al. (2013) used a sample of 640 companies and 974 CEOs listed on the Fortune 500 in 2000–2007. Overconfidence at CEO level was measured by using popular press characterization at the New York Times, Business Week, the Financial Times, the Economist, Forbes, Fortune, Time, and the Wall Street Journal. The choice of press characterization was based on the rationale that the measurement was not the CEO's choice and was not exposed to internal and omitted variables. They found that the auditor charged a higher audit fee when the CEO was overconfident. In line with Hribar et al. (2013); Mitra et al. (2019) a positive relationship exists between managerial overconfidence and audit fees, suggesting that there is a supply-side-based aspect of audit pricing, i.e. the auditor’s perspective, in response to the company’s risk due to the need to for designing and implementing more extensive audit tests as a result of overconfident management.

Duellman et al. (2015) investigated the association between managerial overconfidence and the audit fees, especially the effect of managerial overconfidence as a dominant factor in the audit fee relation: financial reporting risk effect or the hubris effect. Overconfident managers can demand lower quality audit services preventing auditors from finding inaccuracies caused by aggressive accounting practices (Duellman et al., 2015). Overconfident managers feel confident about the company's financial reports thus failing to assign a high value to the corrective actions to be taken by the auditor; they therefore narrow the scope of the audit, which further reduces audit fees. Therefore, managerial overconfidence may drive management to push for a lower audit fee. Using a sample of 7,661 firm-years from 2000 to 2010, they found evidence of a negative correlation between managerial overconfidence and the audit fee. They concluded that these findings suggest the relevance of the hubris effect on the financial reporting risk.

This study argues that overconfident management tends to employ aggressive accounting practices, which lead to earnings mismanagement. In order to decrease auditor scrutiny, management demands lower quality audit services and, in turn, lower audit fees. We expect a negative correlation between managerial overconfidence and audit fees. Therefore, this study develops its first hypothesis as follows:

H1: There is a negative association between managerial overconfidence and the audit fee.

2.3. Audit Committee Effectiveness, Managerial Overconfidence, and Audit Fee

Some countries have regulations controlling the authority of audit committees to directly determine audit fees. For example, the Sarbanes–Oxley Act of 2002 (SOX) gives direct responsibility to audit committees to determine audit fees (Beck & Mauldin, 2014). The Companies Act, Act 71 of 2008 (South Africa) agreed that one of the audit committee tasks is to pay auditors. In contrast, in Indonesia, audit committees do not have direct authority to determine audit fees. Instead, the Annual General Meeting of Shareholders is designated as the ultimate decision-making entity in the company, and authorizes the Board of Commissioners or the Board of Directors to determine the fee paid to independent accountants.
Audit committees play an important role in shaping a company's financial reporting through a monitoring mechanism. Previous studies documented a strong link between the audit committee and high-quality financial reporting. For example, the effectiveness of the audit committee's monitoring practices is associated with a higher quality of financial reporting (Bajra & Čadež, 2018), lower earnings management (Klein, 2002), shorter audit lag (Sultana, Singh, & Van Der Zahn, 2015) and better disclosure quality (Karamanou & Vafeas, 2005). In relation to audits, the role of the audit committee is to increase the independence of the external auditor and to ensure that financial statements are free of material misstatement.

Beasley, Carcello, Hermanson, and Neal (2010) reported that the interference of CEO and/or CFO in all public company accounting frauds is about 89 percent, indicating dominant effect of management on financial reporting process. Given this management's financial reporting behavior, Beasley et al. (2010) suggested that board and audit committee act as the primary mechanism to control this behavior. According to agency theory, the board and audit committee member monitor management to prevent opportunistic behavior by management (Jensen & Meckling, 1976). Some previous studies show evidence that a strong audit committee mitigates negative outcomes related to the interference of management or managerial overconfidence in the audit process. Dhaliwal, Lamoreaux, Lennox, and Mauler (2015) documented that larger audit committees and audit committees with accounting expertise were associated with a lower likelihood of hiring affiliate auditors to going-concern opinions. Further, Beck and Mauldin (2014) found that more powerful audit committees were able to put pressure on reducing the audit fees under a higher audit risk scenario caused by recession.

The relationship between audit committee and audit fee can be explained from the demand-side and supply-side perspective. From the demand-side or client-side perspective, a strong audit committee can increase demand for high-quality audits, and subsequently audit fees (Abbott et al., 2003; Carcello et al., 2002; Krishnan & Visvanathan, 2009). However, on the supply side, a strong audit committee will be seen as a good control environment by auditors who will deem the audit risk low, and subsequently lower the audit fees (Griffin et al., 2008; Tsui, Jaggi, & Gul, 2001). Previous studies have shown conclusive results. Abbott et al. (2003) found that independent members of audit committees, the accounting or financial expertise of audit committee members, and the number of meetings in the sample year are positively and significantly associated with audit fees. Krishnan and Visvanathan (2009) found that the accounting expertise of audit committee members is negatively associated with audit fees when earnings management risk is low, and positive when earnings management risk is high. This finding shows that the audit committee considers the risk caused by management in the auditor selection process.

Duellman et al. (2015) found evidence that an effective audit committee was able to control the hubris effect caused by the negative relationship between managerial overconfidence and audit fees. Specifically, overconfident firm samples with a strong audit committee paid significantly higher audit fees than those paid by overconfident firm samples lacking a strong audit committee. Mitra et al. (2019) concluded that managerial overconfidence will increase financial reporting risk, and the auditor will respond to this by increasing the range of tests needed to decrease the audit risk, and will, therefore, increase the audit fee. An audit committee responds to increasing financial reporting risk caused by an overconfident management by requesting a higher quality audit, which results in a higher audit fee.

This study concludes that an effective audit committee is likely to provide a good internal mechanism to prevent management from engaging in opportunistic behavior, thus reducing the control risk resulting in a smaller scope for audit work, and the auditor will reduce their fee accordingly. This expectation is tested by the following hypothesis: H2: Audit committee effectiveness offsets the negative association between managerial overconfidence and the audit fee.
3. RESEARCH METHOD

3.1. Measurement of Managerial Overconfidence

We measure managerial overconfidence based on Ji and Lee (2015); Schrand and Zechman (2012); Murhadi (2018) and Foster et al. (2016). Managerial overconfidence (MO) is a firm-specific score that is constructed using five measures of firm-level investment and financing activities (accounting-based measurement) (Ji & Lee, 2015; Schrand & Zechman, 2012). The first component of the score is an industry-adjusted excess investment (EI), which is the firm’s residual from a regression of total asset growth on sales growth. EI is a dummy variable equal to 1 if the excess investment is in the top quartile of firms within the industry for the year, and 0 otherwise.

The second component is the industry-adjusted net acquisition (NA), which is a dummy variable equal to 1 if NA from the statement of cash flows is in the top quartile of firms within the industry for the year, and 0 otherwise. The third component is the debt-to-equity ratio (DER), measured as long-term debt plus short-term debt divided by the total market value. The debt-to-equity ratio was assigned the value of 1 for DER in the top quartile of firms within the industry for the year, and 0 otherwise. The fourth component of the score is an indicator variable equal to one if the firm uses either convertible debt or preferred stock (RD/risky debt). The last component is the dividend yield (DY), for which the value is 1 if the dividend yield is zero, and 0 otherwise. This method of measurement shows the lowest absolute MO values as 0 and the highest 5. For hypothesis testing, the absolute value is then changed to a dummy variable coded 1 if the sum of the dummy variable is equal to, or greater than, three, and 0 otherwise (Ji & Lee, 2015; Schrand & Zechman, 2012).

3.2. Measurement of Audit Committee Effectiveness

Following previous studies (Duellman et al., 2015; Mitra et al., 2019; Schrand & Zechman, 2012) we measured audit committee effectiveness (AC) as the sum of three dimensions, namely the independence of the audit committee (a dummy variable equal to 1 if the proportion of the audit committee to the total number of audit committees is 0.5 or more, and 0 otherwise), accounting and financial expertise (a dummy variable equal to 1 if there is a member of the audit committee who has an educational background or expertise in accounting and/or finance, and 0 otherwise), and an audit committee meeting (a dummy variable equal to 1 if the number of meetings is equal to or greater than four, and 0 otherwise). This method of measurement produces the lowest absolute AC value of 0 and the highest of 3. For hypothesis testing, the absolute value is then changed to a dummy variable coded 1 if the sum of the dummy variables listed above is equal to three, and 0 otherwise.

3.3. Control Variables

We use several control variables consistent with previous studies on the determinants of audit fees (e.g., (Duellman et al., 2015; Huang et al., 2014; Mitra et al., 2019)). We use company size as a control for (InT.A), the most dominant determinant of audit fees, and we use profitability as a control (ROA) because a firm with higher profitability incurs lower audit fees. Inv_Rec, measured as inventory and account receivables to total asset, serves as a control for the inherent risk of current assets held by the company. We use growth opportunity as a control (market to book ratio/MTTB) because this affects the risk of the firm and thus the audit fee. We use negative income as a control (LOSS) as losses increase the audit risk. We also use any extraordinary items reported by the firm (EXTRA). We use CEO_Change as a control since Huang, Parker, Yan, & Lin, (2014) found a positive correlation between CEO turnover and audit fees. MERGER is a dummy variable equal to 1 if a company had an acquisition that contributed to sales (AQS, > 0), and 0 otherwise. We use the effect of company complexity on audit fee by including the number of segments (SEGMENT) and foreign sales to total assets (FOREIGN) (Huang et al., 2014). We also use the effect of company financial and operating results as a control on audit fees by adding operating income (OL_T.A) and debt (Debt_TA) to the model.
3.4. Sample Selection

The main sample in this study consists of firms that were listed in the Indonesia Stock Exchange between 2013 and 2017. In order to be included in the sample, the company must have disclosed their audit fees. We omitted firms from the finance, insurance, and trust industries (Global Industry Classification Standard Code 40) due to regulatory requirement differences. The data was screened based on the following criteria: the firm was listed on the Indonesia Stock Exchange before 2013; second, the firm was still listed through to 2017; third, the firm disclosed its audit fee; and fourth, the full range of information required regarding the firm is available. After removing the unavailable data, the number of observations were made over 500 firm years. All the financial data was sourced from Osiris BvD. The audit fee and audit committee data were hand collected from the annual report. The sample selection procedure is described in detail in Table 1.

3.5. Models to Examine the Relationship between Test Variables and the Audit Fee

We used a pooled OLS multiple regression model to analyze the relationship between selected variables and the audit fee.

To test hypothesis 1 (H1), we estimated the following OLS regression model:

\[ \ln(AF) = \alpha + \beta_1 \text{D_MO} + \beta_2 \text{ROA} + \beta_3 \text{MTB} + \beta_4 \text{INV_REC} + \beta_5 \text{LOSS} + \beta_6 \text{EXTRA} + \beta_7 \text{MERGER} + \beta_8 \text{SEGMENT} + \beta_9 \text{FOREIGN} + \beta_{10} \text{CEO_Change} + \beta_{11} \text{OI_TA} + \beta_{12} \text{Debt_TA} + \text{YearFixedEffects} + \text{IndFixedEffects} + \epsilon. \]  

(1)

The variable of interest in Equation 1 is \( D_{MO} \) that represents managerial overconfidence. A higher score indicates higher managerial overconfidence. In the hypothesis H1, we predicted that the sign of coefficient \( \beta_1 \) is negative. A negative and significant coefficient of \( \beta_1 \) indicates that a firm with higher managerial overconfidence pays a lower fee to the auditor.

Hypothesis 2 (H2), examines the effect of managerial overconfidence on audit fees in a sample of companies with and without a strong audit committee. To test H2, we split the sample into two subsamples based on audit committee strength as described in Section 3.2. Then we estimate Equation 1 for the two subsamples grouped by the observations that reflect audit committee strength. We predicted that the sign of \( \beta_1 \) remains negative and significant in the subsample of companies with a strong audit committee.

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics

We present the descriptive statistics of our final sample in Table 2. The mean of the managerial overconfidence figure based upon investing and financing activities (MO) is 0.108, indicating that most of the samples have a manager with a lower level of overconfidence. This measure of managerial overconfidence is comparable with those found by Ji and Lee (2015).
The mean of *AuditFee* for our samples, measured in thousands of dollars, is 147, while the standard deviation is 312, indicating a significant variation in audit fees within our sample. The average audit fee is much smaller than reported by Duellman et al. (2015) and Mitra et al. (2019). The mean total assets, measured in thousand of dollars, is 962,560. The sample firms have, on average, a market to book ratio of equity (*MTB*) 3.225, return on assets (*ROA*) of 0.063, similarly reported by Duellman et al. (2015); 19.2% of samples reported negative earnings; 25.2% of total assets comprise of receivables and inventory, and 1.8% of the firms reported anomalies and discontinued operations in income statements. A total of 14.8% (74) of samples reported CEO change.

The mean value of *AC* is 0.854, indicating that most firms (85.4%) have an effective audit committee. In the untabulated analysis, we found that only 6.6% of our sample observations had a 0.5 or less proportion of independent members of the audit committee, indicating that most of samples have met the rules regarding the implementation of an audit committee. Furthermore, only 4% of the observations do not have a financial or accounting expert on the audit committee. The financial expert dimension of *AC* is lower than those reported by Duellman et al. (2015). In addition, 4.6% of our samples do not meet the requirement for the number of audit committee meetings.

| Dependent variable | Mean   | Std. Deviation | Q1    | Median | Q3    |
|--------------------|--------|----------------|-------|--------|-------|
| lnAF               | 11.072 | 1.226          | 10.226| 11.092 | 11.872|
| AF (thousand US$)  | 147    | 312            | 28    | 66     | 144   |
| **Test variables** |        |                |       |        |       |
| MO (composite score) | 1.240  | 0.979          | 1.000 | 1.000  | 2.000 |
| D_MO               | 0.108  | 0.210          | 0.000 | 0.000  | 0.000 |
| AC                 | 0.854  | 0.553          | 1.000 | 1.000  | 1.000 |
| **Control Variables** |      |                |       |        |       |
| ROA                | 0.063  | 0.117          | 0.007 | 0.054  | 0.103 |
| MTB                | 3.222  | 13.425         | 0.664 | 1.339  | 2.767 |
| INV_REC            | 0.252  | 0.189          | 0.101 | 0/211  | 0.361 |
| LOSS               | 0.192  | 0.394          | 0.000 | 0.000  | 0.000 |
| EXTRA              | 0.018  | 0.133          | 0.000 | 0.000  | 0.000 |
| MERGER             | 0.026  | 0.159          | 0.000 | 0.000  | 0.000 |
| lnTA               | 19.588 | 1.532          | 18.566| 19.562 | 20.781|
| TA (thousand US$)  | 962,560| 1,935,485      | 115,387| 313,137| 1,059,939|
| SEGMENT            | 2.948  | 1.492          | 2.000 | 3.000  | 4.000 |
| FOREIGN            | 0.132  | 0.347          | 0.000 | 0.000  | 0.065 |
| CEO_Change         | 0.148  | 0.355          | 0.000 | 0.000  | 0.000 |
| OI_TA              | 0.086  | 0.114          | 0.029 | 0.077  | 0.117 |
| Debt_TA            | 0.467  | 0.255          | 0.295 | 0.448  | 0.609 |

*Source:* Obtained from Thomson Reuters database.

### 4.2 Correlation Matrix

Table 3 presents Pearson (Spearman) statistics for the variables used in the regression model. The Pearson (Spearman) correlation between managerial overconfidence, audit fees, audit committee effectiveness, and control variables are shown above the diagonal. We find a positive and significant correlation between audit fees and the measure of managerial overconfidence to be inconsistent with the hypothesis. Many variables exhibit a significant relation to audit fees, therefore it needs to be controlled in a multivariate test. *ROA, lnTA, SEGMENT, CEO_Change,* *OI_TA,* and *Debt_TA* show a positive correlation with audit fees. *LOSS* is negatively and significantly correlated with audit fees.

The Pearson correlation between company size (*lnTA*) and audit fee is 0.138, which is consistent with the prediction that larger firms pay higher audit fees. The audit fee is also positively correlated to *ROA*. The audit fee is negatively associated with some firm-specific factors, such as *INV_REC, LOSS,* and *EXTRA*. 

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firms with overconfident management pay lower audit fees. The findings are in line with the notion that overconfident managers tend to overvalue their firms and thus are satisfied with lower audit quality. This result is consistent with Duellman et al. (2015).

With respect to control variables, we found that the variables that had a positive and significant effect on audit fees were INV_REC and Ln_TA. Other control variables did not affect the audit fee.

### 4.3. Main Results

#### 4.3.1. The Association between Managerial Overconfidence and Audit Fee

Table 4 reports the results from estimating audit fee regressions separately for the two overconfidence measures. The coefficients of managerial overconfidence for both measures, D_MO and MO, are -0.272 and -0.05 respectively, which are significantly negative at the 5% confidence level. These results suggest that firms with overconfident managers pay lower audit fees. The findings are in line with the notion that overconfident management is satisfied with the quality of financial reporting, so it does not value audit services as much as management that is not as confident. This result is consistent with Duellman et al. (2015).

With respect to control variables, we found that the variables that had a positive and significant effect on audit fees were INV_REC and Ln_TA. Other control variables did not affect the audit fee.
Table 4. Regression of audit fees on managerial overconfidence and control variables.

| Overconfidence measure | D_MO    | MO     | p-value | p-value |
|------------------------|---------|--------|---------|---------|
| **Test variables**     |         |        |         |         |
| D_MO                   | 0.269   | 0.002  | 0.052   | 0.056   |
| MO                     |         |        |         |         |
| **Control Variables**  |         |        |         |         |
| ROA                    | -0.014  | 0.979  | -0.112  | 0.839   |
| MTB                    | -0.0003 | 0.853  | -0.0004 | 0.805   |
| INV_REC                | 0.561   | 0.019  | 0.566   | 0.018   |
| LOSS                   | -0.039  | 0.517  | -0.037  | 0.635   |
| EXTRA                  | 0.231   | 0.239  | 0.217   | 0.272   |
| MERGER                 | 0.015   | 0.307  | 0.022   | 0.867   |
| LnTA                   | 0.631   | 0.000  | 0.628   | 0.000   |
| SEGMENT                | -0.038  | 0.298  | -0.045  | 0.232   |
| FOREIGN                | -0.077  | 0.499  | -0.076  | 0.488   |
| CEO_Change             | 0.035   | 0.573  | 0.036   | 0.563   |
| OL_TA                  | 0.429   | 0.456  | 0.545   | 0.348   |
| Debt_TA                | 0.272   | 0.064  | 0.277   | 0.063   |
| Cons.                  | -1.439  | 0.053  | -1.348  | 0.071   |

Managerial overconfidence (MO) is the sum of the following five measures of firm-level investment and financing activities (accounting-based measurement): Excess Investment (EI), Net Acquisition (NA), Debt-to-Equity ratio (DER), Risky Debt (RD), and Dividend Yield (DY). D_MO is a dummy variable coded 1 if the composite MO score is equal to or greater than 3, and 0 otherwise.

Source: Results have been obtained by the author in STATA software.

Table 5. Regression of audit fees on managerial overconfidence and control variables, partitioned by audit committee effectiveness.

|                      | AC Weak (AC = 0) | AC Strong (AC = 1) |
|----------------------|------------------|--------------------|
|                      | Coef.            | p-value            | Coef.            | p-value            |
| **Test variables**   |                  |                    |                  |                    |
| D_MO                 | 0.149            | 0.561              | -0.309           | 0.002              |
| **Control Variables**|                  |                    |                  |                    |
| ROA                  | 2.413            | 0.444              | -0.016           | 0.977              |
| MTB                  | 0.068            | 0.177              | -0.0002          | 0.907              |
| INV_REC              | 0.433            | 0.596              | 0.496            | 0.053              |
| LOSS                 | 0.569            | 0.019              | -0.116           | 0.205              |
| EXTRA                | Omitted          |                    | 0.221            | 0.277              |
| MERGER               | 0.069            | 0.860              | -0.0002          | 0.999              |
| LnTA                 | 0.659            | 0.000              | 0.628            | 0.000              |
| SEGMENT              | 0.025            | 0.810              | -0.038           | 0.328              |
| FOREIGN              | 0.240            | 0.750              | -0.072           | 0.530              |
| CEO_change           | -0.125           | 0.414              | 0.067            | 0.392              |
| OL_TA                | 0.744            | 0.789              | 0.292            | 0.641              |
| Debt_TA              | 0.450            | 0.225              | 0.312            | 0.099              |
| Cons.                | -2.670           | 0.253              | -1.353           | 0.078              |
| **Year**             |                  |                    |                  |                    |
| Industry             | Included         | Included           | Included         | Included           |
| N                    | 73               | 427                | 508.86***        | 0.533              |
| Wald                 |                  |                    |                  |                    |
| R²                   | 0.633            |                    | 0.533            |                    |

Source: Results have been obtained by the author in STATA software.
4.3.2. Audit Committee Effectiveness

Table 5 presents regression partitioned on audit committee effectiveness (AC). Regression results show managerial overconfidence had a negative effect on audit fees, but only in companies with a strong audit committee (coeff = −0.309, p-value = 0.002). One possible explanation is that the audit committee perceives the hubris effect of managerial overconfidence as the cause of high-quality financial statements so that the audit committee requests low-quality audit services. This finding supports those by Krishnan & Visvanathan, (2009) that negative and significant associations exist between audit fees and audit committee expertise when earnings management risk is low.

4.4. Additional analysis

4.4.1. CEO Change

The following test is conducted to isolate CEO characteristics from firm characteristics. In order to do that, we identified the companies within the sample that changed CEO for the period and then re-tested the regression model in Equation 1 using a sample that changed CEOs and companies that did not change CEOs. If there is a change in audit fees in the sample of companies that changed CEOs, it means that the change in audit fees cannot be attributed to the company’s characteristics, but the managerial characteristics. Table 6 presents the results of the audit fee regression to managerial overconfidence in each subsample.

Regression results show that MO affects AF only in the company subsample where there is no CEO turnover (coefficient = −0.298, p-value = 0.014). These results indicate the possibility of decreasing AF due to company characteristics, and not management characteristics.

| Table 6. Regression of Audit Fees on Managerial Overconfidence and Control Variables, Partitioned by CEO Change |
|-----------------------------------------------|-------------------------------------------------|
| Coef. | p-value | Coef. | p-value |
| **Test variables** |
| D_MO | −0.238 | 0.014 | −0.098 | 0.571 |
| **Control Variables** |
| ROA | −0.078 | 0.900 | 1.203 | 0.168 |
| MBE | −0.00003 | 0.987 | −0.017 | 0.015 |
| INV_REC | 0.454 | 0.073 | 1.701 | 0.005 |
| LOSS | −0.078 | 0.384 | 0.540 | 0.000 |
| EXTRA | 0.409 | 0.077 | −0.692 | 0.003 |
| MERGER | −0.155 | 0.303 | 1.288 | 0.013 |
| LnTA | 0.608 | 0.000 | 0.602 | 0.000 |
| SEGMENT | −0.023 | 0.556 | −0.074 | 0.316 |
| FOREIGN | 0.122 | 0.343 | −0.237 | 0.417 |
| OL_TA | 0.254 | 0.691 | 2.708 | 0.028 |
| Debt_TA | 0.294 | 0.131 | 0.782 | 0.006 |
| Year | −1.042 | 0.186 | omitted | |
| Industry | Included | Included | Included | |
| N | 426 | 74 | |
| Wald | 15743.64*** | 0.543 | 0.640 | |

Source: Results have been obtained by the author in STATA software.

5. CONCLUSION

We examined whether managerial overconfidence relates to audit fees and how this association is affected by the effectiveness of an audit committee. We predicted that managerial overconfidence had a negative association with audit fees. Consistent with our predictions, we demonstrated that the audit fee is negatively associated with
managerial overconfidence. Further findings show this negative association occurs in companies with a strong audit committee.

Our results complement and support previous studies by Duellman et al., (2015), which showed that an overconfident manager demanded a lower quality of auditing service, resulting in lower audit fees. In addition, this study also contributes to the literature on the important role of audit committees in creating governance mechanisms to offset negative effects of managerial overconfidence regarding audit fees, which is consistent with the supply-side perspective of audit pricing.

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