QATAR UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

THE ASSOCIATION BETWEEN BOARD OF DIRECTORS' EFFECTIVENESS AND

AUDIT FEES IN STATE-OWNED ENTERPRISES

BY

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ABSTRACT

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Title: The Association Between Board of Directors' Effectiveness and Audit Fees in State-Owned Enterprises

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This study examines the association between board of directors' effectiveness and audit fees in state-owned enterprises (SOEs). Furthermore, this study examines the effect of three country-related indices (the Strength of Minority Investor Protection Index, the Economic Freedom Index, and the Democracy Index) on the association between corporate governance and audit fees. The sample consists of 462 firm-year observations from 30 different countries over the years 2016-2018. The data is collected from the Thomson Reuters database, Bloomberg database, and SOEs' annual reports. The study implements multiple linear regression to test for the hypotheses.

The empirical findings reveal a positive and significant association between the effectiveness of board of directors and audit fees in SOEs. This finding supports the demand-side of audit quality argument, which states that effective boards tend to demand greater audit efforts in order to provide reasonable assurance with regards to the quality of the financial reporting process. As the audit effort increases, higher audit fees will be incurred. Furthermore, the study shows that the strength of the relationship between boards' effectiveness and audit fees varies among the various levels of the country-specific indices. In particular, the results reveal a significant association between boards' effectiveness and audit fees in SOEs located in countries with strong, medium, and weak investor protection regulations. The board of directors' effectiveness and audit fees relationship is also significant for SOEs operating in countries with medium and high levels on the Economic Freedom and Democracy

indices. This study provides useful insights into the importance of government's role in

enhancing the effectiveness of board of directors and external auditing for SOEs.

DEDICATION

To my beloved family for their endless love, support, patience, and encouragement.

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Chapter 1: Introduction

1.1. Background

Since the 1950s, there has been a steady increase in State-Owned Enterprises (SOEs) (Tricker, 2015). This was triggered by an increase in nationalization movements, which often followed economic slowdowns or recessions resulting from financial crises (PwC, 2015). Historically, SOEs were first established in key sectors, such as utilities and transportation, mainly to provide public goods and services (IMF, 2020). However, as a result of the Global Financial Crisis (GFC) of 2008-2009, some governments intervened and acquired firms in the financial sector to support their economies (Cho, 2010). Throughout the years, SOEs' role and influence in the economy have expanded (PwC, 2015). As of today, SOEs exist in almost all economic sectors, and their objective has evolved to improve business values (OECD, 2018). The presence of SOEs in the economy warrants examining important aspects of their business operations, such as performance and corporate governance effectiveness (Vagliasindi, 2008; Lin & Chang, 2019).

In general, governments view SOEs as a tool to achieve social and political goals (Thomsen & Pedersen, 2000) and correct market failures (Grout & Stevens, 2003). As the main shareholder, the government has the right to intervene and influence the SOE's operational and financial decisions (Beuselinck, Cao, Deloof, & Xia, 2017). However, on some occasions, this intervention has been categorized as excessive, such as when there is unrestricted interference in the board nomination process based purely on the nominees' political allegiance (Vagliasindi, 2008). According to Tricker (2015), the government's appropriate involvement must revolve around setting goals and performance standards, monitoring the progress of the SOE and its board, and hiring directors. Given the special nature of SOEs, the empowerment of their board of

directors is essential to protect them from political interference, and to reduce the conflicts of interest arising from the diversity of the SOE's objectives (Afanador, Bernal, & Oneto, 2017).

Due to the important role that SOEs have in the economy, governments are responsible for reducing financial risks and exhibiting greater transparency and accountability with respect to the use of public funds (IFC, 2018). In some countries, governments have taken steps to improve corporate governance in SOEs to address these issues (Warganegara, Saputra, & Anggraini, 2013). To achieve better transparency and accountability in SOEs, the relationship between the government and enterprise must be clearly defined and documented. The company bylaws must outline the nomination and election process of the governing body, and define the roles and responsibilities of the directors (Tricker, 2015). According to Wong (2018), board composition and independence are important for SOEs' corporate governance, to ensure effective board functioning. The independence of the board members allows them, among other powers, to hire third-party consultants and auditors (Vagliasindi, 2008).

Prior studies indicate that the composition and effectiveness of the board of directors correlate with the quality of the external audit process (O'Sullivan, 2000; Jizi & Nehme, 2018). External auditing is a critical governance mechanism that provides independent opinions about the fairness of the financial representation (Soltani, 2007). The board of directors, via the audit committee, is often responsible for nominating, engaging, and negotiating with external auditors (Jizi & Nehme, 2018). The level of interaction between the company and the auditor determines the fees charged for the audit services provided by the auditor (Stewart & Munro, 2007; Yatim, Kent, & Clarkson, 2006).

Similar to other companies, SOEs undergo an audit process to ensure the credibility of the accounting process, and to confirm that the financial statements are true and fair. However, there are some differences between SOEs and other types of firms, especially in different countries. According to Wang, Wong, and Xia (2008), the appointment of external auditors is impacted by state ownership in China. In Kuwait, audit quality is negatively impacted by government ownership (Alfraih, 2017), while in Malaysia, high audit quality is related to government ownership in listed firms (Nelson & Mohamed-Rusdi, 2015). In Indonesia, SOEs' audit quality is not influenced by the auditor's size or industry specialization (Ali & Aulia, 2015). These inconclusive results indicate that the influence of government ownership on audit quality is still worth consideration.

Ownership type has been found to impact the pricing of audit services. Mitra, Hossain, & Deis (2007) found that companies with diffused institutional ownership incur higher audit fees, while companies with concentrated institutional ownership pay lower audit fees. Khan, Hossain, and Siddiqui (2011) revealed that audit fees is negatively related to institutional ownership and family ownership, especially if it was by founding members. Niemi (2005) uncovered a negative relationship between management ownership and audit fees. However, no relationship was detected between audit fees and government ownership.

A few studies focused on government ownership in relation to audit fees. Ben Ali & Lesage (2013) and Alfraih (2017) found that government ownership reduces audit fees. A possible explanation is that governments are motivated to influence SOEs' governance in order to avoid reputation costs (Ben Ali & Lesage, 2013). Other studies found that SOEs incur higher audit fees due to conflicts of interest and political

interference resulting from government ownership (Nelson & Mohamed-Rusdi, 2015; Ariningrum & Diyanty, 2017).

SOEs have unique characteristics such as multiple and conflicting goals, lack of transparency, and high levels of political influence (Wong, 2018, Thomsen & Pedersen, 2000). Due to these characteristics, governments have an incentive to adopt good corporate governance structures (OECD, 2015). SOEs with effective corporate governance will engage high-quality external auditors to mitigate agency conflicts and provide reasonable assurance vis-à-vis the financial reports. Alhababsah (2019) found that government ownership and audit fees are positively related, suggesting that governments are incentivized to require higher-quality audit services. Engaging high-quality auditors or requiring greater audit efforts lead to increased audit fees. This thesis adopts this argument in examining the association between board of directors' effectiveness and audit fees in the context of SOEs.

1.2. Motivation

This study is motivated by several factors. Firstly, the global economy witnessed a broad expansion in state ownership after the GFC of 2008-2009, with governments holding substantial shareholdings in private firms (PwC, 2015; Borisova, Brockman, Salas, & Zagorchev, 2012). Globally, SOEs represent about 20% of investments, 5% of employment, and about 40% of services and goods production (World Bank, 2014). SOEs also represented 60% of the largest initial public offerings (IPOs) between the years 2005 and 2012 (Bruton, Peng, Ahlstrom, Stan, & Xu, 2015). Although the significance of SOEs in the global market is on the rise, there is still a shortage of empirical research focusing on this type of company (Bruton et al., 2015). Therefore, this study is motivated to enrich the current literature and provide much-needed empirical evidence that helps shed light on SOEs.

Secondly, although there is a substantial body of literature on the relationship between audit fees and corporate governance, there is little consensus among the experts on the nature of this relationship (Peel & Clatworthy, 2001; Carcello, Hermanson, Neal, & Riley, 2002; Yatim et al., 2006; Wahab, Zain, & James, 2011; Jizi & Nehme, 2018; Farooq, Kazim, Usman, & Latif, 2018). The relationship between board characteristics and audit fees can be explained via two opposing perspectives. The first perspective states that an effective board of directors hires high-quality auditors and demands intensive audit services, which increases audit fees (Carcello et al., 2002; Wang, 2006; Farooq et al., 2018; Jizi &Nehme, 2018). In this case, engaging high-quality auditors is complementary to the board's monitoring, which mitigates agency costs. The second perspective claims that an effective board of directors is a self-sufficient body in its monitoring and controlling tasks; thus, it requires less effort from external auditors, leading to lower fees (Tsui, Gul, & Jaggi, 2001; Ittonen, Miettinen, & Vähämaa, 2010; Ben-Hassoun, Aloui, & Ben-Nasr, 2018; Nekhili, Gull, Chtioui, & Radhouane, 2019) as a result, effective boards can be seen as a substitute for high-quality audit services. This contradiction in perspectives requires further examination, especially in the context of non-traditional firms.

Thirdly, there is a scarcity of research in the area of audit fees and board characteristics for SOEs. Prior literature focused on the effect of government ownership on either audit quality or corporate governance quality (Wang et al., 2008; Borisova et al., 2012; Lu & Shi, 2012; Liu & Subramaniam, 2013; Al-Janadi, Abdul Rahman, & Alazzani, 2016; Sari & Tjoe, 2017). Other studies considered the ownership structure while examining the relationship between corporate governance and audit fees (O'Sullivan, 2000; Desender, Garcia−Cestona, Crespi, & Aguilera, 2009; Wahab et al., 2011; Ariningrum & Diyanty, 2017). However, little is known about the impact of

effective boards on audit fees in the context of SOEs. Abdallah and Ismail (2017) showed that when the state is a major owner in a firm, the effect of corporate governance quality on firm performance is higher. Al-Janadi et al. (2016) stated that government ownership has a negative impact on corporate governance in Saudi listed companies. However, external governance, such as audit quality, is not influenced by the ownership of government. Borisova et al. (2012) demonstrated that state ownership has a negative impact on corporate governance because the goal of SOEs is not limited only to maximizing profits. This study seeks to address the literature gap by examining the association between audit fees and board characteristics in the context of SOEs.

1.3. Research Objectives and Questions

The purpose of the current study is to extend the literature on audit quality by examining the association between audit fees and board's effectiveness in SOEs. Furthermore, this study aims to examine the moderation effect of three country-specific indices (the Strength of Minority Investor Protection Index, the Economic Freedom Index, and the Democracy Index) on the relationship between board of directors' effectiveness and audit fees in SOEs. This study addresses the following questions:

Question 1: Does board of directors' effectiveness influence audit fees in SOEs?

Question 2: Does the strength of minority investor protection moderate the relationship between board of directors' effectiveness and audit fees in SOEs?

Question 3: Does economic freedom moderate the relationship between board of directors' effectiveness and audit fees in SOEs?

Question 4: Does political democracy moderate the relationship between board of directors' effectiveness and audit fees in SOEs?

Question 5: To what extent does the association between board of directors' effectiveness and audit fees in SOEs vary among the levels of minority investor protection?

Question 6: To what extent does the association between board of directors' effectiveness and audit fees in SOEs vary among the levels of economic freedom?

Question 7: To what extent does the association between audit fees and board of directors' effectiveness and audit fees in SOEs vary among the levels of political democracy?

1.4. Research Contribution

The current study contributes to the extant literature by providing empirical evidence, which extends the current understanding of the association between audit fees and the effectiveness of SOEs' boards of directors. It also provides a new insight to the corporate governance body of knowledge by introducing the effects of governments on the corporate governance dynamics in SOEs. Moreover, policymakers and government officials can benefit from the empirical results when reforming, improving, and implementing good corporate governance practices based on country and company-specific conditions.

1.5. Research Hypotheses

The study hypothesizes the following:

Hypothesis 1: There is a positive relationship between board of directors' effectiveness and audit fees in SOEs.

Hypothesis 2: The relationship between board of directors' effectiveness and audit fees in SOEs is stronger in countries that offer higher levels of investor protection.

Hypothesis 3: The relationship between board of directors' effectiveness and audit fees in SOEs is stronger in countries that have higher economic freedom.

Hypothesis 4: The relationship between board of directors' effectiveness and audit fees in SOEs is stronger in countries that have higher levels of political democracy.

1.6. Research Methodology

This study estimates multivariate regression models to examine the association between boards' effectiveness and audit fees in SOEs. The data is extracted mainly from the Thomson Reuters database, Bloomberg database, and SOEs' annual reports for the years 2016-2018. The sample size comprises data for SOEs from 30 countries. Financial entities are excluded from the sample due to their inconsistent accounting and auditing processes with non-financial companies. Audit fees are used as a measure of external audit quality, while corporate governance composite score, board size, meetings, independence, gender diversity, and CEO duality are used as proxies for the effectiveness of SOEs' boards of directors. The Strength of Minority Investor Protection Index, the Economic Freedom Index, the Democracy Index are used in this study as moderators to examine their influence on the audit fees – boards' effectiveness relationship. The study controls for various factors, such as firm size, firm performance, firm risk, auditor type, audit complexity, firm industry, and years.

1.7. Research Results

The empirical results of this study revealed a positive association between audit fees and board of directors' effectiveness in SOEs. This is in line with the argument of the study, which states that effective monitoring by the government complements the role of SOEs' boards of directors; this results in a higher demand for quality audit services, which leads to higher audit fees. The results also indicate that audit fees are positively related to board size and board gender diversity, and negatively related to the

frequency of board meetings. However, the results show that the relationship between audit fees and effective boards in SOEs is not moderated by any of the three country-specific indices.

Additional tests were conducted to examine the significance of the relationship between board of directors' effectiveness and audit fees across various levels of country-specific indices. The results showed that audit fees and boards' effectiveness are positively related for SOEs operating in medium and high economic freedom countries. Similarly, SOEs in countries with medium and high democracy levels are more likely to have effective board of directors and pay higher audit fees. The results also showed that there is a positive relationship between audit fees and boards' effectiveness in SOEs across all levels of the Strength of Minority Investor Protection Index. These results suggest that, in countries with high economic freedom and democracy levels, SOEs' boards of directors are empowered to exercise effective oversight, which incentivizes boards to demand high-quality audit services, resulting in higher audit fees.

1.8. Contents of the Thesis

The remaining chapters in this thesis are structured as follows:

Chapter Two reviews previous studies relevant to audit quality, governance quality, and state-owned enterprises. The chapter describes effective board characteristics and includes prior studies that discuss the association between audit fees and board characteristics. Chapter Two also reviews previous studies related to the contribution of ownership structure to governance effectiveness and audit fees. The definition of SOEs, the role of governments in managing SOEs, and their objectives are also introduced in this chapter.

Chapter Three addresses the theoretical framework underpinning this thesis. In particular, agency theory is discussed to understand the base of the relationship between audit fees and board characteristics. The hypotheses of the current study are developed and outlined based on the discussion presented in this chapter.

Chapter Four demonstrates the methodology used in this thesis. It describes the source of the data used in this study, and it presents the sample and the period of the study. The measurements of the dependent, independent, and control variables are described in this chapter as well. Finally, the chapter details the models used to conduct the empirical analysis.

Chapter Five presents the results of the descriptive statistics and Pearson's correlation matrix. This chapter also shows the empirical findings of the multiple linear regressions related to 1) the association between boards of directors' effectiveness and audit fees in SOEs, 2) the moderation effect of the country-specific indices on the relationship between audit fees and corporate governance composite, 3) the additional test on the moderation effect analysis, and 4) the relationship between audit fees and corporate governance composite across the various levels of the country-specific indices.

Chapter Six discusses and interprets the empirical findings of the multiple linear regressions as follows: 1) audit fees and board of directors' effectiveness, 2) audit fees and control variables, 3) audit fees and country-specific indices, and 4) the moderation effect of the country-specific indices on the audit fees – corporate governance composite relationship at their various levels.

Chapter Seven provides an overall summary and conclusion for the study. The implications, limitations, and recommendations are discussed as well in this final chapter.

Chapter 2: Literature Review

The objective of this chapter is to review prior literature related to audit fees, the board of directors, ownership structure, and state-owned enterprises (SOEs). Furthermore, this chapter discusses country-specific characteristics and how they impact the relationship between audit fees and SOEs' boards of directors. Chapter Two is structured as follows: Section 2.1. describes the role of effective boards, identifies some board characteristics, and specifies boards' impact on firms. Section 2.2. reviews previous studies related to the relationship between the boards' characteristics and audit fees. Further, studies related to audit fees and other corporate governance aspects, such as audit committees' characteristics are reviewed in this section. Section 2.3. displays previous empirical research linked to ownership structure and defines SOEs and their relation to audit fees and corporate governance.

2.1. Board Characteristics

An effective corporate governance system helps to ensure an efficient utilization of a company's resources (Stamler et al., 2014). A good corporate governance infrastructure consists of a combination of effective internal and external control mechanisms (Soltani, 2007). The board of directors, as part of the corporate governance structure, is empowered to ensure that the company is operating in the best interest of its stakeholders by establishing adequate internal controls (OECD, 1999; CFA Institute, 2009). However, corporate boards do not fulfill their duties in isolation from external factors, which determine corporate governance. These external controls include the market for corporate control, the legal system, external auditors, media, firms' rating, and the stakeholder activists (Aguilera, Desender, Bednar, & Lee, 2015).

One of the success factors for a company is having a board of directors that fulfills its duties and carries out its responsibilities (Colley, Stettinius, Doyle, & Logan,

2005). The effectiveness of the board of directors is influenced by several characteristics, such as board size, independence, diligence, diversity, and the separation of CEO and board chair (Carcello et al., 2002; Bliss, Muniandy, & Majid, 2007). The impact of a well-structured board of directors can be felt in various parts of a company. Prior studies suggest that the board influences firm performance (Pucheta-Martínez & Gallego-Álvarez, 2019; O'Connell & Cramer, 2010), value (Mishra & Kapil, 2018; Jentsch, 2019) capital structure (Chang, Chou, & Huang, 2014; Morellec, Nikolov, & Schürhoff, 2012), and the quality of accounting information (Ran, Fang, Luo, & Chan, 2015; Zhao & Millet-Reyes, 2007). Research also indicates that board characteristics influence other firm-specific variables, such as audit fees (Carcello et al., 2002; Wang, 2006; Yatim et al., 2006; Tsui, 2017; Nehme & Jizi, 2018).

2.2. Board Characteristics and Audit Fees

Prior studies examined the relationship between board characteristics and audit fees, producing varying results (Peel & Clatworthy, 2001; Carcello et al., 2002; Boo & Sharma, 2008; Wahab et al., 2011; Yatim et al., 2016; Kikhia, 2014; Nehme & Jizi, 2018; Farooq et al., 2018; Jizi and Nehme, 2018). The majority of the studies argued that board characteristics are positively related to audit fees (Carcello et al., 2002; Wang, 2006; Kikhia, 2014; Jizi & Nehme, 2018; Farooq et al., 2018). This indicates that qualified boards demand higher quality audit services, which results in higher audit fees. However, other studies revealed that some board characteristics are negatively related to the demand for high-quality audit services (Wu, 2012; Karaibrahimoğlu, 2013). In particular, Yatim et al. (2006) found a negative association between audit fees and the ethnic diversity of boards. The assumption is that well-governed firms require less effort from auditors, which will result in lower audit pricing. It is important to note

that Peel and Clatworthy (2001) and Salehi, Tarighi, and Safdari (2018) found no relationship between board characteristics and audit fees.

Farooq et al. (2018) explored the influence of board and audit committee quality on audit fees in Pakistani listed companies. The authors found a positive and significant association between audit fees and board characteristics (board size, board diligence, board independence, chairman independence, CEO duality, and board equity holding). This finding is in line with the demand-side of the audit pricing argument. However, the results showed that audit fees and audit committee characteristics are negatively related. This finding supports the notion that effective audit committees result in a lower audit effort, which reduces audit fees. Wang (2006) examined the relationship between audit quality and board characteristics in China. The results revealed that companies with large and independent board of directors demand higher quality audit service.

Carcello et al. (2002) studied the association between three board characteristics (independence, diligence, and expertise) and audit fees in Fortune 1000 companies. They found that these board characteristics were positively associated with audit fees, and that these results remained unchanged, even when alternate measures of audit committee quality were introduced. Jizi and Nehme (2018) examined the moderating effect of CEO/chair duality on the association between audit committee characteristics and audit fees. Their focus was on the US banking sector after the GFC. The results revealed that audit fees are positively related to board size, board independence, CEO duality, and audit committee expertise. Additionally, they demonstrated that CEO/chair duality raises concerns regarding audit committee independence, which, in turn, impacts audit quality.

Nehme and Jizi (2018) explored the association between effective boards of directors and audit fees in FTSE-350 financial listed companies during the period of

2011-2015. The results suggested that audit fees are greater when boards are larger and more independent, the reason being that larger and more independent boards tend to demand higher audit quality to strengthen their oversight role. Furthermore, the study found that the risk of fraudulent financial statements is lower with the presence of female directors on boards, which results in reduced audit fees. Lia, Srinidhi, Gul, and Tsui (2017) explored the effect of board gender diversity on the choice of external auditor and audit fees. The study used a sample of US companies for the period of 2001-2011, and found a positive association between gender-diverse corporate boards and the demand for higher audit quality. Furthermore, they found that industry-specialist[1] auditors are more likely to be chosen by firms with gender-diverse boards. The authors noted that one of the main limitations of the study was the generalizability of the results; this was due to the fact that they focused on US firms, which might have different cultural, legal, institutional, and structural attributes relative to firms from other countries.

Yatim et al. (2006) examined the association between board of directors and audit committee characteristics and audit fees for Malaysian companies. The results revealed audit fees had a positive association with board independence, audit committee expertise, and frequency of audit committee meetings. Additionally, they showed that firms controlled by a certain ethnic group (known as Bumiputera) tended to pay lower audit fees in comparison to non-ethnic firms.

Peel and Clatworthy (2001) examined the relationship between governance structures and audit fees in UK industrial companies prior to the implementation of the Cadbury Committee recommendations (1992). The findings indicated that board characteristics (proportion of non-executive directors and separation of CEO/chair

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[1] "city-specific industry leaders where audit clients are headquartered" (Lia et al., 2017).

roles) did not impact audit fees. The authors noted that the results were consistent with prior studies, which were undertaken post-Cadbury Committee recommendations implementation. They also examined the impact of ownership levels on audit fees, finding that lower audit fees were negatively related to directors' shareholding levels.

Kikhia (2014) examined the relationship between audit fees and the characteristics of the board of directors and audit committees in Jordan for the period 2010-2012. The study used a sample of non-financial listed companies. In line with the demand-side perspective of the audit pricing argument, the results showed a positive association between audit fees and board characteristics (size, independence, and expertise). However, there was no association between audit fees and some audit committee characteristics (expertise and meeting frequency). This excludes audit committee independence, which is found to be positively related to the audit fees.

Wu (2012) investigated the relationship between audit fees and corporate governance in Chinese listed companies. The author used a comprehensive proxy that measures different aspects of corporate governance. The results revealed a negative association between audit fees and corporate governance, suggesting that firms with effective corporate governance have lower agency costs and less audit risk, which translated to lower audit fees.

A majority of the studies mentioned previously focused on the influence of board characteristics on audit fees. However, other studies went beyond the board of directors and used the audit committee characteristics instead as a measurement for corporate governance effectiveness (Zaman, Hudaib, & Haniffa, 2011; Ali, Singh, & Al-Akra, 2018; Ghafran & O'Sullivan, 2017; Goodwin-Stewart & Kent, 2006; Kim, Kwak, Lim, & Yu, 2017; Abbott, Parker, Peters, & Raghunandan, 2003; Aldamen, Hollindale, & Ziegelmayer, 2018; Rani, 2018; Ittonen et al., 2010; Januarti &

Wiryaningrum, 2018). Although this thesis is not focused on audit committee characteristics, it is important to preview prior studies that address the relationship between this sub-committee of the board of directors and audit fees.

Ali et al. (2018) investigated the impact of audit committee effectiveness on audit and non-audit fees in Australia. Their results showed a positive impact of audit committee effectiveness on both types of fees, suggesting that effective audit committees demand higher quality from audit and non-audit services, which increases audit fees. Ghafran and O'Sullivan (2017) examined the influence of audit committees' financial expertise on audit fees in the UK. In their study, financial expertise is measured by considering both the accounting and non-accounting knowledge and expertise of the audit committee's members. The findings of the study revealed a positive and significant association between audit fees and audit committee expertise; it was particularly evident for non-accounting experts within audit committees.

Kim et al. (2017) examined the relationship between accounting expertise on the audit committee and audit fees, finding a positive association. Furthermore, they investigated the impact of CEO power on the relationship between audit committee expertise and audit fees. The results suggested that executive power weakens the relationship between audit committee effectiveness and audit fees. Abbott et al. (2003), who examined the association between audit committee characteristics and audit fees, found similar results. They showed that audit committee independence and financial expertise are positively associated with the auditor's remuneration.

Aldamen et al. (2018) investigated the relationship between audit fees and female representation on audit committees in Australia. The research findings indicated that female representation on the audit committee is positively related to audit fees; this result is consistent with the demand-side argument of audit quality. The authors also

suggested that, in low-complexity situations, audit committees with female representatives paid higher audit fees. However, this was not the case in high-complexity conditions, where a female presence on the audit committee enhanced internal controls and monitoring activities.

Rani (2018) found that the size and independence of the audit committee has a positive impact on audit fees. However, her results also showed a negative association between audit committee expertise and audit fees, suggesting that less effort is required from the external auditors when the audit committee oversees the financial reporting process efficiently. Ittonen et al. (2010) explored the association between audit fees and female audit committee representation in S&P 500 firms, which are listed in the US stock market. They found a negative association between audit fees and the presence of female members within the audit committee. The empirical results showed that the need for assurance, as provided by external auditors, is lower for audit committees with female representatives. The authors suggested that female representatives might affect the external auditor's risk assessment (e.g. improving internal control effectiveness), thereby reducing audit costs.

As aforementioned, the above studies examined the relationship between audit fees and board of directors' and audit committees' characteristics. However, there are other aspects that fall under the corporate governance umbrella such as the ownership structure and managerial incentives (Aguilera et al., 2015). Researchers who considered ownership structure while studying the association between audit fees and internal corporate governance mechanisms are Desender et al. (2009); Boo and Sharma (2008); O'Sullivan (2000); Wahab et al. (2011); Ariningrum and Diyanty (2017); AlQadasi and Abidin (2018). These studies are highlighted in more detail in the following subsection.

2.2.1. Board Characteristics, Ownership Structure, and Audit Fees

Prior studies have considered the influence of ownership structure on the relationship between corporate governance mechanisms and audit fees. Desender et al. (2009) focused on corporate ownership structure while examining the relationship between corporate governance practices and audit fees. They showed that the board's priorities and the demand for audit services are influenced significantly by the company's ownership structure. Furthermore, they found that the demand for audit services is associated with board characteristics (e.g. CEO duality and independence) in dispersed ownership companies. However, they stated that there is no relationship between the demand for external audit services and board characteristics in controlled ownership companies[2].

In a similar context, AlQadasi and Abidin (2018) examined the effect of ownership structure on the relationship between audit fees and internal corporate governance mechanisms in Malaysian firms. The authors found a positive association between audit fees and effective corporate governance. Further, they revealed that corporate ownership structure influences the association between audit fees and the internal corporate governance mechanisms. The results of the study support the complementary perspective between the internal and external corporate control mechanisms.

In the US, Boo and Sharma (2008) investigated the association between corporate governance structures and auditors' pricing for regulated bank holding companies. Their findings indicated no significant association between corporate governance mechanisms and audit fees, except for the independence of the audit

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[2] Firms are owned by individuals, groups, or entities that have at least 20 per cent of its shares (Desender et al., 2009).

committee, which is negatively related to auditor compensation. Similarly, O'Sullivan (2000) examined the influence of board composition and ownership structure on audit quality in UK companies. The author found that corporate governance, in general, does not influence audit fees. However, the result showed that one specific governance measure, non-executive directors, was positively related to audit fees. Furthermore, the percentage of shares owned by executives was found to be negatively related to audit fees. No evidence was found to suggest that audit fees are associated with the ownership of large blockholders (e.g. institutional or otherwise).

Wahab et al. (2011) explored the relationship between political connection, corporate governance, and audit fees in Malaysian companies. They revealed that audit service quality and good corporate governance were positively related. The authors suggested that the relationship is consistent with the demand-side perceptive. They also showed that politically connected firms are considered by external auditors to be riskier than other firms; as a result, these firms require more audit effort and higher audit fees. However, they did not find any evidence that supports the association between corporate governance and audit high quality audit in politically connected firms.

Ariningrum and Diyanty (2017) examined the influence of political connections, effectiveness of board commissioner, and the audit committee on audit fees. Their results showed a positive association between politically linked companies and audit fees due to the rise of inherent risk in these companies. This finding supports the supply-side of the audit pricing argument. Furthermore, the authors found that audit fees are positively influenced by the effectiveness of both the board of commissioners and the audit committee, which supports the demand-side perspective. They concluded that effective boards of commissioners and audit committees require a better quality of audit services, which results in higher audit fees.

2.3. Ownership Structure

Ownership structure is an important governance mechanism that can result in monitoring management's activities and protecting shareholder interests. Ownership of shares is associated with the agency problem between owners and managers (Denis, Denis, & Sarin, 1999; Xu, 2007). According to the literature, there are three types of agency problems (Jerzemowska, 2006). The first type is known as "Type-1", which addresses the conflict between the principal and the agent. In this type, the agency problem arises due to the separation of ownership and control in large corporations (Berle and Means, 1932). The second type is known as "Type-2", which focuses on the conflict between different shareholders. The agency problem within this type is mainly due to conflict between majority and minority shareholders (Shleifer & Vishny, 1997). According to Panda and Leepsa (2017), majority shareholders are individuals or groups who own the majority of a firm's equity, whereas minority shareholders own a small portion of the firm's equity. The third type is known as "Type-3", which deals with the conflict between shareholders and creditors. This conflict is due to risky investments made by the owners, which could have an adverse effect on creditors (Panda & Leepsa, 2017).

According to Jensen and Meckling (1976) shareholders (principals) authorize the managers (agents) to operate the business on their behalf. In firms with dispersed ownership, shareholders lose power and control over their resources (Demsetz, 1983). There tends to be a lack of monitoring in companies with widely diffused ownership, which results in Type-1 agency problem. Shleifer and Vishny (1997) stated that governance in corporations could be achieved via concentrated share ownership, in which the significant right of control matches the significant right of cash flow. According to La Porta, Lopez-De-Silanes, and Shleifer (1999), the ultimate controllers

in entities can be divided into individuals, families, governments, financial institutions, and other corporations. However, there is a special situation related to government ownership. According to Shleifer and Vishny (1994), governments control firms in order to address and pursue their political objectives; this could ultimately result in conflict between the government and shareholders, which is, effectively, a Type-2 agency problem.

2.3.1. State-Owned Enterprises

With the recent financial crisis and corporate scandals, there has been increased attention on corporate governance practices, including ownership structures (Kirkpatrick, 2009). As a response to the GFC of 2008-2009, the level of government intervention in private entities has increased tremendously (Borisova et al., 2012; Claessens, 2009). Additionally, free global markets experienced certain changes, manifested by a shifting towards governmental ownership (Borisova et al., 2012). In the UK, three banks (HBOS, Royal Bank of Scotland, and Lloyds) were nationalized by the government as part of a plan to remedy the negative effects caused by the financial crisis (Tricker, 2015). From a corporate governance standpoint, state ownership in publicly listed companies has become a distinct ownership class (Singal & Singal, 2011), which plays a similar role to that of ownership by blockholders (i.e. owners who hold 5% or more of a firm's outstanding shares) and institutional investors (Shleifer & Vishny, 1994; 1997).

2.3.1.1. Definition of State-Owned Enterprises

There are several definitions of a SOE (World Bank, 1995). Razak, Ahmad, and Joher (2011) define it as "a legal entities created by a government to exercise some of the powers of the government" (p. 219). Similarly, all non-financial entities that are controlled by governments, regardless of ownership size, are considered SOEs

(European Commission, 2016). Mazzolini (1979) described SOEs as publicly traded companies that are owned by governments via holding 100 per cent of their equity or less. The World Bank (1995) stated that SOEs are "government-owned or government-controlled entities that generate the bulk of their revenues from selling goods and services". According to Jones (1975), it is important to understand whether a majority or minority of public shares are owned by the government or otherwise (stocks are fully owned by the state); whether governments are holding public equity directly, or indirectly through an agent; and whether capitalists (investors) or workers are the private owners.

Governments can exercise control over companies either directly or indirectly through state intermediaries, such as sovereign and pension funds (Cuervo-Cazurra, Inkpen, Musacchio, & Ramaswamy, 2014). According to Pargendler (2012), SOEs are divided into two main categories: the first category involves enterprises that are fully owned by the state, while the second category represents enterprises that are partially owned by the state. Bortolotti and Faccio (2009) showed that, in many privatized enterprises, governments hold dual class stocks[3], which allowed them to be the majority shareholders. Governments can even hold golden shares, which allows them special powers over privatized firms (Bortolotti & Faccio, 2009). By having golden shares, the government has the right to make significant strategic decisions within the SOE.

2.3.1.2. Objectives of State-Owned Enterprises

Prior literature has suggested that governments are mainly concerned with achieving certain social and political objectives (Aharoni, 1981), such as low unemployment and output prices (Shleifer & Vishny, 1994; Shleifer, 1998; Thomsen

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[3] Dual-class shares exist when a company issues two or more classes of shares with disproportionate voting power, which allow some shareholders to control boardroom decisions (CFA Institute, 2018).

& Pedersen, 2000). La Porta, Lopez-De-Silanes, and Shleifer (2002) focused on the ownership structure of companies within the financial sector. They examined governmental ownership of banks in 92 different countries. They suggested that there are two views of governmental ownership: the development and political views. The development view focuses on achieving social goals, while the political view focuses on obtaining political objectives.

In developing nations, SOEs often generate employment opportunities, which are seen as an important mechanism to develop the economy (Abu Shair, 1997). From this perspective, government ownership supports the development view (Romer as cited in Abu Shair, 1997). Additionally, other possible merits of establishing SOEs is to control inflation rates by underpricing the goods produced and ensuring equitable distribution of income and opportunities (Abu Shair, 1997). In effect, these merits could be considered as socioeconomic objectives for the country as a whole. The government's actions, in this context, aim to correct market failures, rather than maximizing profit or increasing shareholders' wealth (Thomsen & Pedersen, 2000).

Governments around the world maintain political support through controlling state-owned enterprises to remain in power (Shleifer, 1998). The form of political support varies across countries, depending on their level of democracy. Governments can often obtain political support from voters, in democratic countries, and loyalists, in less democratic countries (Shleifer, 1998). According to the political view of government involvement in firms, governments tend to provide employment, financial subsidies, and other benefits to their supporters through acquiring control of enterprises. Government supporters are then expected to return this favor to the government in the form of political votes, participation, and bribes (Shleifer & Vishny, 1994; La Porta et al., 2002). In many cases, state enterprises are privatized if they are not politically

beneficial. Shleifer and Vishny (1994) stated that, in order to constrain government expenditure, reformers resort to privatization, especially when they cannot obtain significant political benefits from public firms.

2.3.1.3. State-Owned Enterprises and Regulatory Framework

The level of state ownership and control in companies varies depending on the mandated legal system in any given country. Bortolotti, Fantini, and Siniscalco (2001), indicated that the governments of civil law countries are more reluctant to abandon control in SOEs than those in common law governments. Borisova et al. (2012) found that state ownership has a harmful effect on good corporate governance. This finding indicated that the interests of state owners do not always coincide with those of the company (for example, in value maximization). It was concluded that, as the power of the government becomes intensified, there is greater inconsistency between goals and interests. Their results showed that government owners under common law tend to support enterprises and financial markets, especially in time of crises; however, in civil law countries, where government ownership is more prevalent, state owners usually steer SOEs to attain their political agenda. It is therefore possible that the quality of corporate governance in SOEs is associated with the nature of the mandated legal system. Borisova et al. (2012) stated that the governments of common law countries are more likely to improve the SOEs' corporate governance policies and procedures. However, they also found that the presence of government ownership under civil law is negatively associated with corporate governance quality. In an attempt to centralize authority (especially in civil law countries), the power of CEOs could increase, though this risks a decrease in the number of board committees (Borisova et al., 2012).

2.3.1.4. Corporate Governance and State-Owned Enterprises

Researchers from various fields have examined SOEs. These fields include public policy (Anastassopoulos, 1985; Brumby, Hyndman, & Shepherd, 1998; Liu, 2009; Dobson, 2017), political science (Hertog, 2010; Lavelle, 2008; Chen, 1996; Laux 1983), and public administration (Musolf, 1991; Stanton, 2009). Studies related to SOEs can be found in many disciplines, such as finance (Dewenter & Malatesta, 1997; Lin, Chiou, & Chen, 2010; Aivazian, Ge, & Qiu, 2005), economics (Lin, Cai, & Li, 1998; Dewenter & Malatesta, 2001; Brandão & Castro, 2007; Mengistae & Xu, 2004; Wang, Xu, & Zhu, 2004; Cull & Xu, 2000; Boardman & Vining, 1989), management (Pyke, Robb, & Farley, 2000; Pyke, Farley, & Robb, 2002), marketing (Dawson, Young, Murray, & Wilkinson, 2017; Bei, L., & Shang, 2006), international business (Child & Tse, 2001; Liang, Ren, & Sun, 2015; Mariotti & Marzano, 2019), and accounting (Napitupulu, 2018; Yang & Modell, 2015; Wang & Yung, 2011; Xu & Uddin, 2008; Ferguson, Lam, & Lee, 2002; Alam, 1997).

Goldeng, Grünfeld, and Benito (2008) examined the differences in economic performance between state-owned and privately owned enterprises. They found that SOEs had weaker performance compared to private companies. Bhatt (2016) examined performance in "government-linked companies" (GLCs) and privately-owned companies, and found that differences do not exist between them. However, Bhatt (2016) uncovered a significant improvement in the performance level of SOEs after initiating a transformation program meant to make government-linked companies become more efficient and perform better. This program was established to ensure the implementation of good management and governance practices in GLCs.

Kyoungsun (2018) explored the relationship between performance and corporate governance in SOEs in South Korea. The results indicated that performance is positively influenced by board size, corporatization[4], and transparency. However, other corporate governance mechanisms, such as independence and CEO duality, are unrelated to the performance of SOEs. Khongmalai and Distanont (2017) examined the relationship between corporate governance practices and performance for SOEs. Their findings pointed out a negative relationship between the board of directors and performance of SOEs. Additionally, the study showed that the management system[5] played a positive mediating role between the board of directors and the performance of SOEs. The direct impact of the board on SOEs' performance was slightly less than the mediating effect of the management systems.

Simpson (2014) examined the structure, attributes, and performance of the board of directors in Ghanaian SOEs. The results indicated that SOEs adopted minimum corporate governance practices. However, the study showed that the adoption of corporate governance practices by Ghanaian SOEs is not mandatory. The study demonstrated significant weaknesses in the determinants of effective governance for SOEs, such as board performance evaluation, board appointment, executive and non-executive directors balance, and other board characteristics. The findings shed light on the fact that SOEs' board members are not politically independent, despite the seeming

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[4] Corporatization is converting a SOE into a legal organization having a structure similar to a private firm (Kyoungsun, 2018). While privatization could be defined as the "transfers of public assets to private ownership, through sale or lease of public land, infrastructure, and enterprises" (Starr, 1988, p. 16).

[5] A management system is a wide set of procedures that are applied to monitor organizations. The authors defined management systems as the systems that comprise risk management, internal controls, IT, strategic human resource management, and internal audits (Khongmalai & Distanont, 2017).

independence of the board. This could be explained by the fact that these members were appointed by the government; those members continued to approve and support activities that had political benefits for the government, regardless of the impact on the firm's profitability. The government, in turn, rewarded the appointees by retaining their membership on the board, thus potentially compromising their independence.

SOEs are recognized as poor performers, partly because of their weak governance structure (OECD, 2016; Simpson, 2014). In particular, poor corporate governance in SOEs is due to the lack of corporate transparency and the pursuit of multiple and conflicting goals (Wong, 2004; Royo, Yetano, & García-Lacalle, 2019). A possible remedy could be expanding the audit scope in order to improve the board's monitoring effectiveness (Walo, 1995; Bajo, Zuber, & Primorac, 2018). This, in turn, will lead to higher audit fees being required by the external auditor (Chan, Liu, & Sun, 2013). However, it might be assumed that ineffective boards within SOEs seek to nominate low-quality external auditors, thus resulting in less audit fees. Al-Janadi et al. (2016) found that the association between corporate governance measures and voluntary disclosure was negatively impacted by government ownership in Saudi Arabian listed companies. They showed that high levels of government involvement affected the independence of board chairs and executives. Moreover, their findings indicated that internal corporate governance measures, such as CEO duality, board size, and the presence of non-executive directors, were controlled and dominated by government ownership, whereas it was not the case with external corporate governance measures (e.g. audit quality).

2.3.1.5. Audit Fees and State-Owned Enterprises

Prior studies examined the relationship between corporate ownership concentration and audit pricing, and produced inconsistent results (Niemi, 2005; Mitra et al., 2007; Wang et al., 2008; Khan et al., 2011; Liu & Subramaniam, 2013; Alfraih, 2017). The literature has examined two opposing perspectives with respect to the relationship between ownership and audit fees. The first perspective represents the demand-side perspective, which is based on the client's viewpoint. This perspective proposes that the demand for the external auditor differs from one company to another based on the type of ownership. Khan et al. (2011) explored the relationship between ownership concentration and audit fees in Bangladeshi listed firms from 2003 to 2005. They provided empirical evidence of a significant negative association between audit fees and sponsors[6] and institutional ownership concentration. This result indicated that there are no satisfactory incentives for Bangladeshi family-owned enterprises to demand higher audit quality services. Khan et al. (2011) acknowledged that the incentives for family and institutional owners to demand high-quality audits varies across countries, depending on the markets' efficiency.

Wang et al. (2008) examined the impact of political and economic institutions on the choice of external auditors in China from 1993 to 2003. In comparison to non-state companies, the authors found that local and central state-owned Chinese companies were more likely to hire small, local auditors, who provided a price discount, instead of hiring non-local or Top 10 auditors[7]. This behavior was intensified in regions where institutions are less developed. Mitra et al. (2007) investigated the relationship between audit fees and ownership characteristics in firms listed on the New York Stock

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[6] Members from the founder family (Khan et al., 2011).

[7] Top-10 auditors based on number of clients (Wang et al., 2008).

Exchange. Their study focused on firms that were audited by one of the Big Five audit companies. They found that audit fees are positively related to diffused institutional ownership (i.e. shareholders owning less than 5% of stock each). However, no empirical relationship has been found between the ownership of non-institutional blockholders and audit fees.

The second perspective is the supply-side perspective, which is based on the external auditor's viewpoint. It indicates that external auditors are concerned with the type of ownership structure of their clients, which affects audit risk assessment and, eventually, audit pricing. Mitra et al. (2007) showed a negative relationship between audit fees and institutional blockholders ownership (i.e. owning 5% individual shareholding or more), suggesting that a firm's inherent and audit risk is reduced by the monitoring of substantial shareholders. Moreover, the results indicated that managerial stock ownership reduces audit fees due to managers' incentives to negotiate lower audit charges. Liu and Subramaniam (2013) explored the effect of state ownership on audit fees for Chinese listed firms. The results showed that state ownership is negatively related to audit fees. Furthermore, SOEs incurred lower audit fees relative to non-SOEs. Another finding showed that the auditor's pricing behavior was affected by the nature of the corporate ownership structure; more specifically, large and small external auditors responded differently to the type of SOE (i.e. central vs. local SOEs), which, in turn, affected audit pricing.

Previous studies that addressed audit quality and ownership structure have produced mixed results. Niemi (2005) explored the impact of ownership structure on audit efforts and fees in Finland. The results indicated that audit hours and fees are lower when management owns the majority of company's shares. Additionally, the results suggested that foreign subsidiaries incur higher audit hours and fees. However,

the study documented that there is no difference between the quality of audit services in companies owned by governmental or municipal agencies and companies with a more diverse ownership structure. Alfraih (2017) examined the impact of ownership structure on audit quality in Kuwait. The results indicated a positive relationship between institutional ownership and audit quality, whereas government ownership was negatively related to audit quality, which raised doubts about the effectiveness of government monitoring.

Nelson and Mohamed-Rusdi (2015) examined the relationship between ownership structures and the audit fees paid by Malaysian listed firms. Their findings suggested that external auditors tend to charge higher audit fees to companies with larger foreign and government ownership. They also pointed out a negative but insignificant relationship between audit fees and managerial ownership. These findings indicated that the conflict between the interests of principals and agents is higher when the company is owned by the government or foreign enterprises. The authors stated that, in practice, companies apply different control mechanisms based on the different levels of agency.

Chapter 3: Theoretical Framework and Hypotheses Development

This chapter presents the theory adopted in this thesis and the development of hypotheses. Section 3.1. defines agency theory. Section 3.2. discusses corporate governance and external auditing in the light of agency theory and states the first hypothesis. Section 3.3. defines minority investor protection, economic freedom, and political democracy, and presents hypotheses two through four.

3.1. Definition of Agency Theory

The agency theory dates as far back as the early 19th century. Berle and Means (1932) indicated that ownership dispersion in modern US corporations led to the separation of ownership from control. Jensen and Meckling (1976) explained the agency relationship as an agreement between one or more individuals, often a principal and an agent. The principal delegates decision-making authority to the agent, who, in turn, performs duties on behalf of the principal. However, oftentimes agents will not act in the best interests of the principal, especially if both parties are utility maximizers. Mitnick (1974) stated that the agency problem arises when the interest of the agent conflicts with the interest of the principal. Therefore, in the modern dispersed ownership corporation, the issue of separating control from ownership is intimately related to the agency problem, in which executives (agents) act in their own self-interest at the expense of shareholders (principals) (Jensen & Meckling, 1976).

According to the agency theory, dispersion of corporate ownership allows managers (agents) to have greater power and freedom to pursue their own goals, which might be contradictory to those of the owners (principals) (Zahra & Pearce, 1989). As a result, the principal's objectives will not be attained if the behavior of the agent is not well restrained. The contradiction in interests leads to information asymmetries between principals and agents. There are two main agency problems associated with

the existence of information asymmetries between the parties, which are moral hazard and adverse selection; the former is associated with the principal's uncertainty regarding the agent's actions and behavior, and the latter arises when more information is known by the agent in comparison to the principal.

This conflict is a basic assumption of the agency theory, which requires the principal to identify ways that minimize interest disparity. Jensen and Meckling (1976) suggested that establishing appropriate executive compensation and monitoring controls by the principal are two mechanisms that can be applied to reduce agency conflict. They would limit interest divergence and the possible abuse of delegated authority (Jensen & Meckling, 1976).

Prior studies have used several theories when examining corporate governance (Janang, Joseph, & Said, 2020; Madhani, 2017; Zaman et al., 2011). These include agency theory, stewardship theory, resource dependency theory, and stakeholder theory (Tricker, 2015). Each of these theories looks at corporate governance through a different lens. However, within the context of the current study, the agency theory is considered the best organizational theory in explaining the relationship between board effectiveness and other firm-related constructs (Soltani, 2007). As a result, the current study utilizes the agency theory

3.2. Agency Problem, Board of Directors and the External Auditor

Zahra and Pearce (1989) stated that the agency theory is one of the most commonly used theories in corporate governance within the context of economic and financial research. Corporations often mitigate agency conflicts via the functions of the external auditors and board of directors (Jensen & Meckling, 1976; Watts & Zimmerman, 1983). According to Jensen and Meckling (1976), corporations incur agency costs, which include monitoring costs, bonding costs, and residual losses, in

order to reduce agency conflicts. Monitoring costs represent expenditures that are associated with nominating appropriate agents (i.e. external auditors) and initiating mechanisms that control the behaviors of agents. Bonding costs are linked to a manager's contractual obligations, in which the principal expends resources in order to assure that the agent will not make harmful decisions (Jensen & Meckling, 1976). Monitoring and bonding costs are opposite to each other, where if one increases, the other decreases (Panda & Leepsa, 2017). Residual loss is associated with the inefficiencies of managerial decisions that do not align with the principal's main objective (wealth maximization).

The roles of the external auditor and the board of directors are contextualized within a control and monitoring mechanism to limit agency conflicts. Zahra and Pearce (1989) stated that, for the purpose of assuring the owner's wealth maximization, the board plays an essential role of monitoring and rewarding top management. Additionally, in the context of agency theory, monitoring the quality of the financial reporting process by external auditors can be seen as a part of the governance mechanism (Beasley & Salterio as cited in Cohen, Krishnamoorthy, & Wright, 2002).

In this study, agency theory represents a foundation to examine the relationship between board of directors' effectiveness and audit fees in SOEs. In order to mitigate agency problems, SOEs incur monitoring costs to improve the effectiveness of their boards, which, in turn, require a wider auditing scope. Increasing monitoring by the board will entail greater coordination with the external auditor, thereby increasing auditor fees. This scenario is consistent with the demand-side of the audit pricing argument. In contrast, there could be an alternative scenario supporting the supply-side argument, where increased monitoring procedures results in less audit engagement, and, as a result, lower audit fees.

Government ownership is considered a form of concentrated ownership, which influences the company's resources and decision-making processes. According to Vagliasindi (2008), state owners, in SOEs, have the right to nominate directors, set corporate goals and targets, and monitor performance. Due to the characteristics that SOEs have (e.g. lack of transparency and agency conflicts), governments are expected to seek better corporate governance practices through empowering SOEs' board of directors. SOEs with empowered boards are motivated to demand greater auditing efforts to assure transparency and accountability. As the engagement of external auditors increases, so do the audit fees. The role of the external auditor, in this case, would be considered complementary to the monitoring role of SOEs' boards, which aims to prove its success by enhancing the quality of its governance. Regardless of the social and political goals that the government aims to achieve through its control over firms, the fact remains that SOEs are no different from other private firms in terms of aspiring towards continuity and maintaining success. Thus, it is anticipated that governments need to address governance deficiencies for better performance.

Wherefore, this study posits that SOEs apply a higher quality of corporate governance mechanisms by assuring that the board is functioning effectively. The implicit assumption is that SOEs with effective boards will demand greater audit efforts in order to provide reasonable assurance with regards to the quality of financial reporting. The study presents the following hypothesis with regards to the relationship between corporate governance and audit fees:

H1: There is a positive relationship between board of directors' effectiveness and audit fees in SOEs.

3.3. Country Characteristics

3.3.1. Investor Protection

The reforms in investor protection laws and changes in accounting standards have emerged as a response to corporate governance scandals worldwide (La Porta, Lopez-De-Silanes, Shleifer, & Vishny, 2000). The term investor protection, as defined by Himmelberg, Love, and Hubbard (2002), refers to "those features of the legal, institutional, and regulatory environment, characteristics of firms or projects, that facilitate financial contracting between inside owners (managers) and outside investors" (p. 2). Newman, Patterson, and Smith (2005) stated that investor protection is mainly about detecting and preventing insiders' expropriation in a firm.

It is suggested by prior studies that the development of financial markets is determined by the legal protection given to investors in those markets (La Porta et al., 2002; Francis, Khurana, & Pereira, 2003). Persakis and Iatridis (2016) stated that countries with less investor protection were more severely affected by the GFC. A country with low investor protection exhibits severe agency costs, higher cost of capital, and suboptimal investment behavior, as well as less-developed financial markets (Basak, Chabakauri, & Yavuz, 2019). The effectiveness of investor protection in a country is determined by several factors, such as the ability of the judicial system to enforce certain laws, and its ability to detect and prevent the violations of investor rights (Newman et al., 2005; Chong & López-de-Silanes, 2007). Therefore, it can be said that weak rules can be substituted by strong legal enforcement, which increases the ability of investors to enjoy greater protection. The right of investor protection is a key element in determining external audit fees, due to its effect on both audit effort and audit risk (Jaggi & Low, 2011).

Prior studies found that investor protection laws are correlated to audit quality. Persakis and Iatridis (2016) explored the impact of the GFC and investor protection on audit quality. The study also investigated the effect of audit quality and investor protection on earnings management quality. In their study, audit quality was measured by four indicators: audit fees, audit firm status, demand for audit services, and switching to Big 4 audit firms. The authors found a positive, significant relationship between audit quality and investor protection. However, they stated that audit fees were not associated with any of the investor protection indicators. Regardless of the presence of strict securities regulations in a country, Jaggi and Low (2011) showed that higher audit quality is significantly related to strong investor protection laws, leading to higher audit charges. Furthermore, Jaggi and Low (2011) stated that the existence of strict regulations in a weak investor protection country plays an important role in determining audit fees; the violation of these regulations in a weak investor protection country would increase audit risk, as well as the scope of audit work.

According to Francis et al. (2003), firms in countries with strong investor protection laws are mainly owned by outside investors (minority investors), which results in greater agency problems, as represented in more information asymmetry between inside and outside owners. Their results indicated that corporate governance systems in such countries require higher accounting and auditing quality. However, the authors claimed that the improvement of accounting and auditing quality in weak investor protection countries played a critical role in compensating for the absence of effective investor protection laws.

When the legal system in a country does not protect the shareholders, the role of corporate governance, as well as the willingness of investors to finance firms, will be weak (La Porta et al., 2000). Furthermore, the ability of managers and controlling

shareholders to use their power and benefit from a firm's resources at the expense of outside investors would be limited in the presence of an effective legal system that protects investors' rights (Leuz, Nanda, & Wysocki, 2003).

Chung, Kim, Park, and Sung (2012) provided evidence of the relationship between investor protection and stock market liquidity. Further, the study analyzed the role of corporate governance in improving the liquidity of the stock market across countries. The results showed that the liquidity of stock markets in countries with superior legal environments that support investor protection rights is improved effectively by good corporate governance. This result supports the notion that effective corporate governance and strong investor protection are complements. Since the existence of a strong regulatory environment with strong legal enforcement is fundamental in securing the rights of shareholders, the effectiveness of corporate governance would be enhanced accordingly. In contrast, investor protection regulations in a particular country and corporate governance could be substitutes, in which firms operating in weak investor protection have better corporate governance (Withaar, 2016). Moreover, governments use their political power to substitute weak investor protection regulations (Wu, Xu, & Yuan, 2009). Unlike private firms, this can apply to SOEs (Pargendler, 2012).

In this context, it is expected that minority investor protection has an influence on the relationship between audit fees and board's effectiveness. The existence of strong investor protection in a country would lead to good governance. Boards of directors in such an environment would be motivated to lower agency costs by demanding high-quality audits and requiring more audit effort, which translates into higher audit fees. This argument supports the demand-side perspective. However, external auditors are more likely to be concerned with high investor protection countries

due to violation penalties; as a result, auditors would increase their efforts and charge higher fees. Moreover, when a firm operates in a strong investor protection market, the concerns of misappropriating financial statements would be higher; this will lead to higher audit risk, which encourages auditors to increase the level of audit effort, as well as audit fees. This argument supports the supply-side of audit services. Accordingly, it is suggested that the significance of the relationship between audit fees and board's effectiveness is different among different countries due to the variations in legal systems, legal enforcement, and investor protection strength. Accordingly, this study hypothesizes the following:

H2: The relationship between board of directors' effectiveness and audit fees in SOEs is stronger in countries that offer higher levels of investor protection.

3.3.2. Economic Freedom

The term economic freedom is widely used in the philosophy of economics, as well as in policy debates (Castro & Martins, 2020; Krieger & Meierrieks, 2016; Pieroni & d'Agostino, 2013). According to the Heritage Foundation (2019), economic freedom refers to "the fundamental right of every human to control his or her own labor and property. In an economically free society, individuals are free to work, produce, consume, and invest in any way they please" (para. 3). Economic freedom safeguards various rights for properties, as well as ensuring competition and the voluntary exchange of goods and capital (Gwartney & Lawson, 2003).

In economically free societies, governments are responsible for maintaining individuals' freedoms and allowing labor, goods, and capital to move freely without coercion or restrictions (The Heritage Foundation, 2019). Securing property rights and contract enforcement is a crucial role of governments in economically free countries (De Haan & Sturm, 2000). There is no doubt that governments that support and believe

in economic freedom provide a fertile environment for corporate innovation (Zhu & Zhu, 2017) and economic growth, through which people can achieve a life of luxury and prosperity (Doucouliagos & Ulubasoglu, 2006). However, there is a distinction between economic freedom and political and civil liberties (Gwartney, Lawson, & Block, 1996). De Haan and Sturm (2000) claimed that, when governments operate enterprises in a country, the level of its economic freedom could potentially decline. Effectively, SOEs could be considered as an alternative to political coercion and governmental interference (Gwartney et al., 1996).

The Heritage Foundation (2019) provided four categories of economic freedom. These categories are the pillars through which economic freedom can be measured. The first category is the "Rule of Law", which includes the effectiveness of the judicial system, the integrity of the government, and the rights of property. The second category is "Government Size", which involves government spending, fiscal health, and the tax burden. The third category is "Regulatory Efficiency", which comprises business, labor, and monetary freedom. The fourth category is "Open Markets", which involves trade, financial, and investment freedom.

The impact of economic freedom on different economic and business-related variables has been the subject of several studies in the past. More specifically, they have addressed the relationship between economic freedom and economic growth, GDP growth rate, or GDB per capita growth (Tran, 2019; Hussain & Haque, 2016; Akin, Aytun, & Aktakas, 2014; De Haan & Sturm, 2000). Generally, their findings have indicated that economic freedom plays an important role in economic growth. However, Sturm and De Haan (2001) concluded that there is no relationship between the level of economic freedom and economic growth.

Graeff and Mehlkop (2003) examined the association between corruption and various aspects of economic freedom. The study revealed a positive relationship between corruption deterrence and some indicators of economic freedom. However, some indicators showed no effect on deterring corruption. The results also indicated that the level of a country's development and its legal structure has a crucial role in determining the relationship between corruption and economic freedom. Similarly, Pieroni and d'Agostino (2013) and Dempster and Isaacs (2017) showed that economic freedom is a key determinant in controlling corruption. According to Malagueño, Albrecht, Ainge, & Stephens (2010) the existence of improved accounting and auditing systems lead to lower corruption levels. Therefore, it may be concluded that governments in countries with economic freedom are motivated to detect corruption by improving the quality of accounting and auditing standards.

Based on previous literature, it can be concluded that economic freedom has a major impact on economies and markets as a whole. However, there is a gap in the literature with respect to the direct effect of economic freedom on firm-related aspects, such as corporate governance and audit fees. Sarhan, Ntim, and Al-Najjar (2019) examined the impact of corporate-level governance and country-level governance on audit quality. Audit quality was represented by two different measures: The first measure was the choice of the external auditor, while the second measure was the charges for audit services. The country-level governance was operationalized by national-level indicators, such as accountability, freedom of expression, quality of regulations, rule of law, and control of corruption. The findings indicated that audit quality is positively associated with both corporate-level governance and national-level governance. Gün (2019) explored the association between corporate governance and firm performance in emerging economies. The study also examined the impact of the

moderated effect of economic freedom on the governance – performance relationship. The results indicated that corporate governance was positively related to accounting-based firm performance in emerging markets. This result was compared with developed markets, where a positive and significant association between governance and valuation-based performance indicators was found. As for the moderated effect of economic freedom, the study revealed that the relationship between corporate governance and firm performance is significantly affected by economic freedom. This finding indicated that corporate governance effectiveness was determined by key factors, such as economic liberties and the legal environment.

Based on prior studies, economic freedom has been found to have a positive effect on a firm's governance and audit quality. Consequently, we assume that economic freedom would influence the relationship between audit fees and board's effectiveness. In view of that, the current study presents the following hypothesis:

H3: The relationship between board of directors' effectiveness and audit fees in SOEs is stronger in countries that have higher economic freedoms.

3.3.3. Political Democracy

Democracy is one of the most controversial topics; as a result, there is no consensus on its definition or measurement. There is an ongoing debate regarding the criteria that distinguishes democratic from non-democratic regimes (Ishiyama, 2012). The Economist Intelligence Unit (2020) define democracy as "a set of practices and principles that institutionalize, and thereby, ultimately, protect freedom" (p. 50). According to D'Arcy and Nistotskaya (2017), democracy refers to the governance system in which rulers are accountable and responsive to citizens' preferences.

Democratic countries are mainly featured by the rule of the majority and the existence of free and fair elections. Further, governments in democratic countries ensure the protection of minority rights and the respect of basic human rights (The Economic Intelligence Unit, 2020). According to Ishiyama (2012), political democracy is based on the presence of equal rights and obligations.

From a macroeconomic perspective, some scholars assumed that democracy and economic growth are related, while others believed that political freedom has no effect on economic growth (Feng, 1997). According to Acemoglu (2014), economic reforms and private investments are positively affected by democracy, which might enhance economic growth. Further, civil liberty is found to be a key democracy component, which mostly matters for economic development. Feng (1997) found an indirect relationship between economic growth and democracy. However, Kurzman, Werum, and Burkhart, (2002) showed that democracy and economic growth are not significantly related in the long term, and suggested that an indirect, positive relationship between democracy and economic growth might be present. According to Piatek, Szarzec, and Pilc (2013), the relationship between political freedom and economic growth in transition economies appears to be neutral; however, their results revealed that political freedom levels might be affected by economic growth. Based on the previous literature, it can be concluded that the relationship between democracy and economic growth is complicated. Democracy may have an impact on the development of economic systems, either directly or indirectly, while it might be also affected by economic growth.

Given the definition of democracy, it is reasonable to say that democracy affects firms in one way or another. According to Roe (2003), politics determines corporate ownership, size, profitability, environment, and authority hierarchy. In any given

country, the political environment plays a key role in setting corporate governance standards (Cornelius, 2005). Following the recent financial crises and corporate scandals, reforming corporate governance was highly prioritized by policy makers and regulators in many countries over the world (Macavoy & Millstein, 2003). Moreover, Viana, Ruiz, Ramírez, and Camargo (2020) concluded that, on average, higher levels of democracy and economic freedom are associated with reduced corruption levels. According to Wu (2005), corruption, at the country level, can be detected by establishing good corporate governance practices. Further, high levels of democracy and effective rule of law are found to have a positive effect on corporate governance, and a negative effect on agency costs (Chen & Yang, 2017). Consequently, it can be concluded that democratic governments seek to prevent corruption and mitigate agency conflicts by ensuring sound corporate governance. This is probable when looking at the democratic principles which support the presence of corporate transparency (De Jong, & Van Witteloostuijn, 2004; Gomez & Korine, 2005; Filgueiras, 2015). In general, democratic countries enjoy information transparency (Hollyer, Rosendorff, & Vreeland, 2011). Thus, firms located in democratic countries are motivated to answer for financial statement misappropriation (Lipscy, 2018).

Over the last several decades, boards of directors have been affected by what is called "shareholder democracy", which is considered to be part of a broader democratic movement (Matheson & Nicolet, 2019). Shareholder democracy is a means of corporate governance (Parkinson, 2012), and it refers to the ability of shareholders to exercise their ownership rights in order to influence, directly or indirectly, a firm's policies and decisions in a way that safeguards their interest (Matheson & Nicolet, 2019). This is consistent with the tenants of the agency theory since shareholder democracy is associated with increased levels of accountability (Fairfax, 2009).

In this context, we assume that corporations in democratic countries are transparent and more likely to have high shareholder democracy. Therefore, boards of directors in such countries are motivated to be effective in a way that reduces agency costs and assures owners' preferences, which affects audit fees. The current study presents the following hypothesis:

H4: The relationship between board of directors' effectiveness and audit fees in SOEs is stronger in countries that have higher levels of political democracy.

Chapter 4: Methodology

This chapter aims to describe the empirical methods used to examine the association between board of directors' effectiveness and audit fees in SOEs. It provides information about the sample and the data collection process. The chapter also describes the measurements of various variables used in the univariate, bivariate and multivariate analysis. Finally, the chapter, Further, offers details regarding the regressions estimation used to test the hypotheses developed in the previous chapter.

4.1. Sample

The sample used in this study is comprised of 154 publicly listed SOEs from 30 different countries during the 2016-2018 period (see Appendix A). The selected period for the study represents the post-Global Financial Crisis period, which witnessed a change in the corporate governance environment (Claessens, 2009). One of the significant changes that occurred was the increased intervention by governments in private firms (Borisova et al., 2012). According to Kowalski, Büge, Sztajerowska, and Egeland (2013), the GFC prompted many OECD governments to intervene in the market by increasing their equity holdings in a number of sectors, such as banking and manufacturing. Prior to the joint financial crisis of 2008-2009, central and public authorities in the United States and the United Kingdom did not own any shares, or only owned a small amount of shares, in listed and unlisted companies (Christiansen as cited in Kowalski et al., 2013).

The data used in this study is obtained from annual reports and databases, such as Thomson Reuters and Bloomberg. The final sample includes firms from various industries (see Appendix B), but excludes firms from the financial sectors (banking, insurance, and finance industries) due to their unique accounting and auditing processes, which are usually incompatible with firms from non-financial sectors.

Furthermore, the sample excludes firms with missing or insufficient data. All continuous variables are winsorized at the 1st and 99th percentiles to remove outliers.

The study examines three country-specific characteristics, which are represented by the Strength of Minority Investor Protection Index, the Economic Freedom Index, and the Democracy Index. Data for these country-related indices were obtained from the Heritage Foundation, the Economist Intelligence Unit, and the World Bank databases. To gain greater insight into the dynamics of the relationship between audit fees and boards' effectiveness in light of the three aforementioned indices, the sample is divided into three levels (low, medium, and high) based on each index.

4.2. Variables Measurements

This subsection aims to define and operationalize the dependent, independent, and control variables in order to test the proposed hypotheses, which were presented in the third chapter.

4.2.1. Dependent Variable

The study uses audit fees, or *AUDFEES,* as the dependent variable. It is measured as the natural logarithm of total audit fees paid by SOEs (Carcello et al., 2002; Abbott et al., 2003; Goodwin-Stewart and Kent, 2006; Mitra et al., 2007; Desender et al, 2009; Zaman et al., 2011; Khan et al., 2011; Wu, 2012; Aldamen et al., 2018; Jizi & Nehme, 2018; Farooq et al., 2018).

4.2.2. Independent Variables

The firm's board characteristics are the primary independent variables. In line with prior studies, this thesis focuses on board size, frequency of board meetings, board independence, board gender diversity, and CEO duality (Carcello et al., 2002; Desender et al, 2009; Jizi & Nehme, 2018). Board size, or *BoardSIZE*, is defined as the natural logarithm of the total number of board members (Anderson, Mansi, & Reeb, 2004;

Yatim et al., 2006; Jizi & Nehme, 2018). Frequency of board meetings, or *BoardMEET*, is measured as the natural logarithm of the total number of board meetings held during the fiscal year (Carcello et al., 2002; Yatim et al., 2006; Jizi & Nehme, 2018). Board independence, or *BoardIND*, is the percentage of independent, non-executive directors serving on boards (Carcello et al., 2002; Anderson et al., 2004; Yatim et al., 2006; Desender et al, 2009). Board gender diversity, or *BoardGENDER*, is defined as the percentage of female members on board of directors (Lai et al., 2017). CEO duality, or *DUALITY*, is measured by using dummy variables, where a value of 1 is given when the CEO is also the chair of the board, and a value of 0 is given if otherwise (Desender et al, 2009; Yatim et al., 2006; Jizi & Nehme, 2018). The study also uses a composite score, or *GOVCOMP*, which is calculated and reported by the Thomson Reuters database as the weighted average relative rating of a company based on the reported governance information. The score ranges from 0% to 100%, with a higher percentage representing a more effective board of directors.

4.2.3. Control Variables

Aligned with prior studies that address the determinants of audit fees, this thesis includes several control variables in the analysis (Carcello et al., 2002; Yatim et al., 2006; Desender et al, 2009; Wu, 2012; Aldamen et al., 2018; Jizi & Nehme, 2018). These variables include firm size, firm risk, firm performance, auditor type, audit complexity, industry, and years.

Audit fees are determined by the size of the corporations and their degree of complexity (Naser & Nuseibeh, 2007). It is argued that larger companies are more likely to incur higher audit fees due to their large amount of transactions, which require more audit efforts (Ohiokha, Izevbekhai, & Ilaboya, 2017). As a result, the study controls for firm size, or *FirmSize*, which is defined as the natural logarithm of a firm's

total assets. According to Broye and Laurent (2008), highly leveraged firms tend to demand higher audit quality when the creditor's rights are strongly protected. Leverage is used in this study as a proxy for firm risk. The variable, or *LEVERAGE*, is measured as the ratio of total debt to total assets (Yatim et al., 2006; Aldamen et al., 2018). Consistent with the extant audit fees literature, firm performance is also used as a control variable in order to explain audit fees' variations (Yatim et al., 2006; Aldamen et al., 2018; Jizi & Nehme, 2018). The firm performance variable, or *ROA*, is measured as earnings before interests and taxes (EBIT), divided by the firm's total assets. According to Hay, Knechel, and Wong (2006), auditors that are recognized to be of higher quality may demand higher audit fees. This study controls for auditor type with the variable *BIG4,* which is measured by using a dummy variable that equals 1 if the SOE is audited by a Big Four auditor, and 0 otherwise. Another control variable that is included in this study is audit complexity. Stice (1991) found that the ratio of receivables and inventory to total assets is highly correlated with audit failures. Furthermore, accounts receivables and inventories are usually perceived by external auditors as an area for frequent substantial misstatements (Houston, Peters, & Pratt, 1999; Afify, 2009). The variable used to proxy for audit complexity is *INVREC*, which is measured as inventory and receivables divided by total assets. Finally, the study controls for industry and fiscal years.

4.2.4. Country Characteristics

In order to gain a greater understanding of the relationship between board of directors' effectiveness and audit fees in SOEs, the study utilizes three country-specific indices. These are the Strength of Minority Investor Protection Index, Economic Freedom Index, and Democracy Index.

4.2.4.1. Minority Investor Protection Index

Prior studies suggest that investor protection regulations have a critical influence on firm value (La Porta et al., 2000), audit quality (Persakis & Iatridis, 2016), and corporate governance effectiveness (La Porta et al., 2000). The study introduces investor protection into the analysis via the variable *SMIP_INDEX*, which is a proxy for the strength of minority investor protection. The data related to *SMIP_INDEX* is obtained from the World Bank's "Doing Business" report. This index, which represents the strength of minority investor protection, is measured by a standardized questionnaire that covers 190 economies. It comprises several shareholder-related indices, such as the extent of disclosure, extent of director liability, ease of shareholder suits, extent of shareholder rights, extent of ownership and control, and extent of corporate transparency. The index is scaled from 0 to 50, where 0 represents the weakest investor protection score (World Bank, 2019).

4.2.4.2. Economic Freedom Index

Governments, globally, are pursuing effective corruption control mechanisms (Goel & Nelson, 2005). According to Graeff and Mehlkop (2003), economic freedom acts as a possible deterrent to country-level corruption. It has been argued that state corruption affects firm performance and the overall health of the economy, thus resulting in increased levels of risk and uncertainty (Department for International Development, 2015; Galang, 2011). This might be a concern for external auditors, who are responsible for alerting possible fraud (Lyon & Maher, 2005). Moreover, shareholders, in such environments, demand effective corporate governance in order to mitigate corruption (Wu, 2005). The current study introduces the economic freedom index, or *EF_INDEX*, which is composed of four main pillars: rule of law, government size, regulatory efficiency, and free markets. The index ranges from 0 to 100, with the

highest score indicating a high level of economic freedom. The data for the index was obtained from the Heritage Foundation database and covers 186 countries, which are ranked based on the average scores of the twelve elements.

4.2.4.3. Democracy Index

Prior literature show that corruption tends to be lower in more democratic countries (Goel & Nelson, 2005; Saha, Gounder, & Su, 2009). According to Wu (2005), higher levels of corruption motivate shareholders to require good governance. This could be done through engaging qualified external auditors, who, in turn, could charge higher audit fees based on the risks associated with corruption. The current study includes the democracy index, or *DMC_INDEX*, in the model. The index data was obtained from the Economist Intelligence Unit (EIU) and covers 165 countries and two territories. *DMC_INDEX* measures the level of state democracy based on 60 indicators, which are grouped into five categories. These include electoral process and pluralism, civil liberties, the functioning of government, political participation, and political culture. Each of these categories has a score, ranging from 0 to 10. The overall score for *DMC_INDEX* also ranges from 0 to 10, and it is calculated by taking the mean of the scores for the five categories. Based on the countries' total score, the index classifies those countries into four types of regimes. The first type is full democracies, which requires a score greater than 8. The second type is flawed democracies, which requires a score that is between 6 and 8. The third type is hybrid regimes, which requires a score between 4 and 6. Finally, the last type is authoritarian regimes, which requires a score of less than 4.

Table 4. 1 Summary of Variable Measurement

Variables	Description	Measurement
Audit Fees	*AUDFEES*	Natural logarithm of total audit fees.
Governance Composite	*GOVCOMP*	A composite score reflecting the effectiveness of the board of directors. The score ranges from 0% to 100%.
Board Size	*BoardSIZE*	Natural logarithm of the total number of board members.
Frequency of Board Meeting	*BoardMEET*	Natural logarithm of the total number of board meetings held during the fiscal year.
Board Independence	*BoardIND*	Percentage of independent, non-executive directors serving on boards.
Gender Diversity	*BoardGENDER*	Percentage of female directors on boards.
CEO Duality	*DUALITY*	A dummy variable with a value of 1 if the CEO is also the chairman, and 0 if otherwise.
Firm Size	*FirmSize*	Natural logarithm of firm's total assets.
Firm Risk	*LEVERAGE*	Ratio of total debt to total assets.

Variables	Description	Measurement
Firm Performance	*ROA*	EBIT divided by firm's total assets.
Auditor Type	*BIG4*	A dummy variables with a value of 1 if the auditor is Big Four, and 0 otherwise.
Audit Complexity	*INVREC*	Inventory plus receivables over total assets.
Firm Industry	*INDUSTRY*	K-1 dummy variable.
Fiscal Years	*YEAR*	K-1 dummy variable.
The Strength of Minority Investor Protection Index	*SMIP_INDEX*	A composite score that ranges from 0 to 50.
Economic Freedom Index	*EF_INDEX*	A composite score that ranges from 0 to 100.
Democracy Index	*DMC_INDEX*	A composite score that ranges from 0 to 10.

4.5. Method

This study uses various methods to examine the relationship between board of directors' effectiveness and audit fees in SOEs. These include univariate analysis, bivariate analysis via Pearson's correlation, and multivariate analysis via estimating the ordinary least squares regression model.

4.5.1. Univariate Analysis

Univariate analysis involves analyzing a single variable within a sample for the purpose of description (Babbie, 2010). In this particular study, univariate analysis is executed through performing a descriptive analysis on the pooled data. Descriptive analysis provides a summary of useful information that describes basic characteristics of the sampling data (Keller, 2012).

4.5.2. Bivariate Analysis

This analysis involves analyzing two variables at a time to determine whether or not they are related to each other (Babbie, 2010). Under this type of analysis, the study uses Pearson's correlation to approximate the strength and direction of the linear association between two variables (Keller, 2012). Pearson's correlation coefficient assigns a value between $+1$ and -1, where a coefficient value of $+1$ indicates a perfect positive correlation, and a value of -1 indicates a perfect negative correlation. However, a value of 0 indicates no correlation (Bryman & Bell, 2015). Furthermore, Pearson's correlation analysis is used to test for multicollinearity, which occurs when a high correlation exists among the explanatory variables (Brooks, 2014).

4.5.3. Multiple Regression Analysis

The objective of a multiple linear regression is to determine the relationship between a dependent variable and a number of independent variables (Keller, 2012). However, prior to proceeding with the regression analysis, there are four assumptions that must be met. Similar to other parametric tests, regression analysis requires the data to be normally distributed (Anderson, Sweeney, Williams, Camm, & Cochran, 2011). The first assumption of multiple linear regression states that residuals should be normally distributed around the predicted dependent variable scores; this is often conducted by plotting the standardized residuals to assess whether the points are aligned

across a diagonal line (Pallant, 2005). The second assumption requires a linear relationship between the dependent and independent variables; this assumption is tested by performing a correlation analysis, and is met if the correlation coefficient is significant at a 5% level of significance or any significance level that is less than 5% (Leech, Barrett, & Morgan, 2014). The third assumption states that multicollinearity should not be present among the independent variables. To test for multicollinearity, the Variance Inflation Factor (VIF) is used to detect if the independent variables are correlated. If the value of the VIF ranges between 1 and 10, then it could be assumed that multicollinearity does not exist (Elliott & Woodward, 2014). The fourth assumes homoscedasticity among the independent variables, which means that the variances of error terms are similar across the scores of the independent variables. To test this assumption, a scatter plot of standardized residuals against predicted values is extracted. If the points are equally distributed in a roughly rectangular shape around the center, then the assumption of homoscedasticity would be met (Pallant, 2005). These four assumptions are tested for the current data set, and the results are presented in Appendix C.

For the purpose of explaining the association between boards' effectiveness and audit fees in SOEs, and the influence of the country-related indices on this association, this study estimates several versions of the regression models. The first version includes the governance and control variables, but excludes the country-related indices. This version examines the audit fees – corporate governance composite relationship in one model, and then substitutes the separate governance variables for the composite variable in the other model. The second version builds on first version of the model while including the Strength of Minority Investor Protection Index. The second and

third versions also use the first version of the regression model while including the Economic Freedom Index and the Democracy Index, respectively.

The multiple regression equation for the first model is as follows:

$$AUDFEES_{it} = \beta_0 + \beta_1 GOVCOMP_{it} + \beta_2 FirmSize_{it} + \beta_3 LEVERAGE_{it}$$
$$+ \beta_4 INVREC + \beta_5 ROA_{it} + \beta_6 BIG4_{it} + \beta_7 INDUSTRY_{it} + \beta_8 YEAR_{it}$$
$$+ \epsilon_{it}$$

(4.1)

Where: $AUDFEES_{it}$ = Natural logarithm of total audit fees for the i_{th} firm in year t. $GOVCOMP_{it}$= A composite score that measures boards' effectiveness the i_{th} firm in year t. $FirmSize_{it}$ = Natural logarithm of total assets for the i_{th} firm in year t. $LEVERAGE_{it}$ = Ratio of total debt to total assets for the i_{th} firm in year t. $INVREC_{it}$ = Inventory plus receivables divided by total assets for the i_{th} firm in year t. ROA_{it} = EBIT divided by total assets for the i_{th} firm in year t. $BIG4_{it}$ = 1 if the company is audited by a Big Four auditor, and 0 if otherwise, for the i_{th} firm in year t. $INDUSTRY_{it}$ = K-1 dummy variable. $YEAR_{it}$= K-1 dummy variable.

The equation for the second model is expressed as follows:

$$AUDFEES_{it} = \beta_0 + \beta_1 BoardSIZE_{it} + \beta_2 BoardMEET_{it} + \beta_3 BoardIND_{it}$$
$$+ \beta_4 BoardGENDER_{it} + \beta_5 DUALITY_{it} + \beta_6 FirmSize_{it}$$
$$+ \beta_7 LEVERAGE_{it} + \beta_8 INVREC_{it} + \beta_9 ROA_{it} + \beta_{10} BIG4_{it}$$
$$+ \beta_{11} INDUSTRY_{it} + \beta_{12} YEARS + \epsilon_{it}$$

(4.2)

Where: $BoardSIZE_{it}$ = Natural logarithm of the total number of board members for the i_{th} firm in year t. $BoardMEET_{it}$ = Natural logarithm of the number of annual board meetings for the i_{th} firm in year t. $BoardIND_{it}$ = Ratio of independent, non-executive directors on boards for the i_{th} firm in year t. $BoardGENDER_{it}$ =

Proportion of female directors on boards for the i_{th} firm in year t. $DUALITY_{it} = 1$ if the CEO is also the chair, and 0 otherwise, for the i_{th} firm in year t. The rest of the variables are defined under Model 4.1.

4.5.4. Moderation Effect and the Relationship Between Board of Directors' Effectiveness and Audit Fees
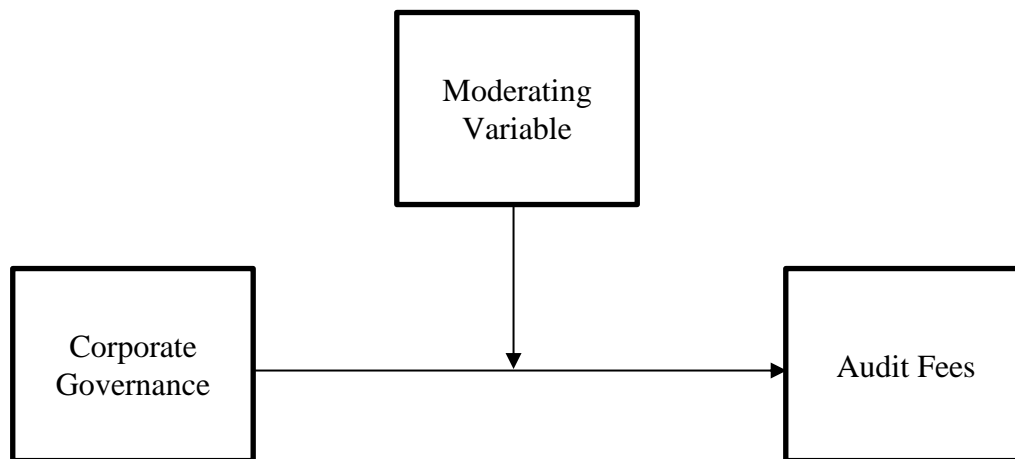
Figure 4. 1 Moderation Effect

Additional regression tests are conducted to assess whether the association between audit fees and boards' effectiveness is moderated by the three indices (*SMIP_INDEX, EF_INDEX,* and *DMC_INDEX*). The full sample is used to estimate versions two, three, and four of the regression model. However, certain steps are adopted to conduct certain moderation analyses. Firstly, the means for the independent variable *GOVCOMP* and the moderator variables (*SMIP_INDEX, EF_INDEX, DMC_INDEX*) are calculated. Then, the calculated mean values are used to obtain the mean-centered values for both the independent and moderator variables by subtracting

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the original scores from their mean values. Thirdly, the mean-centered values of the independent and the moderator variables are multiplied to determine the interaction term, which is expected to moderate the corporate governance – audit fees relationship (see Figure 3.1). Finally, the mean-centered values and interaction terms are included in Models 4.3 through 4.5, as listed below.

The moderation effect of the Strength of Minority Investor Protection Index is represented as follows:

$$
\begin{aligned}
AUDFEES_{it} = {} & \beta_0 + \beta_1 GOVCOMP\_Centered_{it} + \beta_2 SMIP\_INDEX\_Centered_{it} \\
& + \beta_3 GOVCOMP\_SMIP_{it} + \beta_4 FirmSize_{it} + \beta_5 LEVERAGE_{it} \\
& + \beta_6 INVREC_{it} + \beta_7 ROA_{it} + \beta_8 BIG4_{it} + \beta_9 INDUSTRY_{it} \\
& + \beta_{10} YEARS_{it} + \epsilon_{it}
\end{aligned}
$$

(4.3)

The moderation effect of the Economic Freedom Index is represented as follows:

$$
\begin{aligned}
AUDFEES_{it} = {} & \beta_0 + \beta_1 GOVCOMP\_Centered_{it} + \beta_2 EF\_INDEX\_Centered_{it} \\
& + \beta_3 GOVCOMP\_EF_{it} + \beta_4 FirmSize_{it} + \beta_5 LEVERAGE_{it} \\
& + \beta_6 INVREC_{it} + \beta_7 ROA_{it} + \beta_8 BIG4_{it} + \beta_9 INDUSTRY_{it} \\
& + \beta_{10} YEARS_{it} + \epsilon_{it}
\end{aligned}
$$

(4.4)

The moderation effect of the Democracy Index is represented as follows:

$$
\begin{aligned}
AUDFEES_{it} = {} & \beta_0 + \beta_1 GOVCOMP\_Centered_{it} + \beta_2 DMC\_INDEX\_Centered_{it} \\
& + \beta_3 GOVCOMP\_DMC_{it} + \beta_4 FirmSize_{it} + \beta_5 LEVERAGE_{it} \\
& + \beta_6 INVREC_{it} + \beta_7 ROA_{it} + \beta_8 BIG4_{it} + \beta_9 INDUSTRY_{it} \\
& + \beta_{10} YEARS_{it} + \epsilon_{it}
\end{aligned}
$$

(4.5)

4.5.5. Additional Tests

To reconfirm the results of the moderation effect analysis, additional tests are conducted to examine the influence of country-specific indices on the relationship between audit fees and board of directors' effectiveness in SOEs.

Similar to the moderation effect analysis, which is discussed in the previous subsection, the full sample is used again to estimate model 4.1 three times for each country-specific variable (*SMIP_INDEX, EF_INDEX, and DMC_INDEX*). Furthermore, the mean-centered values are obtained only for the independent variable *GOVCOMP*. However, in this additional test, the interaction terms are calculated differently. First, the mean is calculated for each country-specific index. Second, the values of the country-specific indices are transformed into dummy variables based on the mean calculated earlier. A value of one is given if the observation is above the mean and zero otherwise. Third, the dummy variables for each country-specific index is multiplied by the mean-centered values for the *GOVCOMP* variable to determine the interaction terms. Fourth, the mean-centered values, the dummy variables, and the interaction terms are included in Models 4.6 through 4.8. as follows:

The moderation effect of the Strength of Minority Investor Protection Index is represented as follows:

$$
\begin{aligned}
AUDFEES_{it} = {} & \beta_0 + \beta_1 GOVCOMP\_Centered_{it} + \beta_2 SMIP\_INDEX\_Dummy_{it} \\
& + \beta_3 GOVCOMP\_SMIP_{it} + \beta_4 FirmSize_{it} + \beta_5 LEVERAGE_{it} \\
& + \beta_6 INVREC_{it} + \beta_7 ROA_{it} + \beta_8 BIG4_{it} + \beta_9 INDUSTRY_{it} \\
& + \beta_{10} YEARS_{it} + \epsilon_{it}
\end{aligned}
$$

$$(4.6)$$

The moderation effect of the Economic Freedom Index is represented as follows:

$$AUDFEES_{it} = \beta_0 + \beta_1 GOVCOMP\_Centered_{it} + \beta_2 EF\_INDEX\_Dummy_{it}$$
$$+ \beta_3 GOVCOMP\_EF_{it} + \beta_4 FirmSize_{it} + \beta_5 LEVERAGE_{it}$$
$$+ \beta_6 INVREC_{it} + \beta_7 ROA_{it} + \beta_8 BIG4_{it} + \beta_9 INDUSTRY_{it}$$
$$+ \beta_{10} YEARS_{it} + \epsilon_{it}$$

(4.7)

The moderation effect of the Democracy Index is represented as follows:

$$AUDFEES_{it} = \beta_0 + \beta_1 GOVCOMP\_Centered_{it} + \beta_2 DMC\_INDEX\_Dummy_{it}$$
$$+ \beta_3 GOVCOMP\_DMC_{it} + \beta_4 FirmSize_{it} + \beta_5 LEVERAGE_{it}$$
$$+ \beta_6 INVREC_{it} + \beta_7 ROA_{it} + \beta_8 BIG4_{it} + \beta_9 INDUSTRY_{it}$$
$$+ \beta_{10} YEARS_{it} + \epsilon_{it}$$

(4.8)

Further analysis is conducted to gain greater insight into the proposed relationship between audit fees and the corporate governance composite. This includes investigating the effect of the levels of each country-specific index (*SMIP_INDEX, EF_INDEX,* and *DMC_INDEX*) on the proposed relationship. The sample is ranked from the lowest to the highest score for each index. The sample is then divided into three equal subsamples, labeled low, medium, and high, with each subsample being comprised of 154 firm-years. Nine subsamples are created; then, a regression is estimated, similar to the one represented in Model 4.1.

Only the corporate governance composite and control variables are included in the conducted analysis. This further analysis allows the detection of relationship significance across the aforementioned country-index levels.

Chapter 5: Results

This chapter presents the results of the conducted analysis. The first section shows the main findings of the descriptive analysis. The second section presents the results of Pearson's correlation, while the third section shows the main findings from the regression analysis. Finally, the results of the robustness tests are provided in the last section.

5.1. Descriptive Statistics

This section provides a descriptive summary of the dependent, independent, moderator, and control variables. The tables in this section show information related to the mean, median, maximum value, minimum value, and standard deviations.

5.1.1. Dependent and Independent Variables

A summary of descriptive statistics for the dependent and independent variables for the period of 2016 to 2018 is shown in Table 5.1. This study uses audit fees, or *AUDFEES*, as the dependent variable to proxy for audit quality. The mean for *AUDFEES* is 5.895, with a standard deviation of 0.576. The results show that audit fees paid by SOEs range from 4.759 to 7.250. The independent variables are represented by the governance composite score and five individual board characteristics. These variables are used to measure the quality of corporate governance in general, and board's effectiveness specifically. The governance composite score, or *GOVCOMP*, has a mean of 50.174 and a standard deviation of 19.382. The variable's minimum value is 12.748, while its maximum value is 90.001. Descriptive statistics are also available for individual board characteristics. The variable *BoardSIZE* has a mean of 1.003 and a standard deviation of 0.140; this suggests that SOEs' boards are composed of ten members on average. Globally, the minimum board size ranges from three to five members, and it is rare to set an upper limit on board size in most countries (OECD,

2019). The mean for the variable *BoardMEET* is 1.012, while its standard deviation is 0.225, suggesting that, on average, SOEs' boards meet ten times per year. This average is close to the best practice average of board meetings for European countries (e.g. Italy, Norway, Switzerland, France, UK, Russia, and Belgium), which meet 9.5 times per year (Spencer Stuart, 2017). Whereas meeting ten times a year is more frequent compared to the mandatory board meetings number in China (at least two times per year) (Ribeiro, Hui, & Hui, 2020), in Argentina (at least four times per year) (Lombardi, Sanz, Winschel, & Angélico, 2017) and in Qatar (at least six times per year) (The Qatar Financial Markets Authority's Board Decision No. (5) of 2016). Accordingly, it can be said that there is a flexibility in the number of board meetings across countries either for SOEs or non-SOEs. Furthermore, the results show that the mean for *BoardIND* is 43.739, which has a standard deviation of 20.683. This suggests that, on average, boards of SOEs are about 44% independent; this is considered low when compared to the 50% board independence target in several countries, such as Australia, Norway, Germany, Sweden, United Kingdom, United States, and Canada (Farient Advisors, 2018). However, 44% board independence is higher than the mandatory board independence percentage for other countries, such as Saudi Arabia, Brazil, Japan, and China (Farient Advisors, 2018).

The mean for *BoardGENDER* is 11.721, while the standard deviation for the variable is 14.245. This suggests that almost 12% of SOEs' boards are composed of female directors, which is a lower percentage compared to those reported for other companies (OECD, 2019). The OECD report showed female directors comprise at least one-third of board positions in 10% of the surveyed countries, while fewer than 15% of board positions are often held by female directors in 43% of the surveyed countries. Finally, the categorical variable *DUALITY* has a mean of 0.253. This suggests that, on

average, 25% of the sampled SOEs have CEOs that are also serving as the board chairs. In SOEs, separating CEO and chair roles is crucial to empowering the board's independence (OECD, 2020).

Table 5. 1 Descriptive Statistics for Dependent and Independent Variables

Variable	Mean	Median	Min	Max	SD
AUDFEES	5.895	5.818	4.759	7.250	0.576
GOVCOMP	50.174	48.659	12.748	90.001	19.382
BoardSIZE	1.003	1.000	0.699	1.322	0.140
BoardMEET	1.012	1.041	0.602	1.633	0.225
BoardIND	43.739	40.000	0.000	100.000	20.683
BoardGENDER	11.721	7.692	0.000	50.000	14.245
DUALITY	0.253	0.000	0.000	1.000	0.435

Notes:

AUDFEES	=	Natural logarithm of total audit fees.
GOVCOMP	=	A governance composite score.
BoardSIZE	=	Natural logarithm of the total number of board members.
BoardMEET	=	Natural logarithm of the total number of board meetings held during the fiscal year.
BoardIND	=	Percentage of independent, non-executive directors serving on boards.
BoardGENDER	=	Percentage of female directors on boards.
DUALITY	=	1 if the CEO is also the board chair, and 0 if otherwise.

5.1.2. Control Variables

The control variables for the descriptive statistics are reported in Table 5.2. The variable *FirmSIZE* has a mean of 10.071 and a standard deviation of 0.566. The variable *LEVERAGE* has a mean of 0.248 and a standard deviation of 0.151. The results show that the mean for the variable *INVREC* is 0.190, while its standard deviation is 0.15. The performance variable *ROA* has a mean of 0.067 and a standard deviation of 0.053. Finally, the variable *BIG4* has a mean of 0.647 and a standard deviation of 0.478.

Table 5. 2 Descriptive Statistics for Control Variables

Variable	Mean	Median	Min	Max	SD
FirmSIZE	10.071	10.041	8.837	11.433	0.566
LEVERAGE	0.248	0.231	0.005	0.662	0.151
INVREC	0.190	0.134	0.013	0.674	0.155
ROA	0.067	0.0584	-0.097	0.260	0.053
BIG4	0.647	1.000	0.000	1.000	0.478

Notes:

FirmSIZE	=	Natural logarithm of firm's total assets.
LEVERAGE	=	Ratio of total debt to total assets.
INVREC	=	Inventory plus receivables divided by total assets.
ROA	=	EBIT divided by firm's total assets.
BIG4	=	1 if the auditor is Big Four, and 0 otherwise.

5.1.3. Country-Specific Indices

The descriptive statistics results for the three country-specific indices are provided in Table 5.3. The first variable, *EF_INDEX*, has a mean of 5.584 and a standard deviation of 11.490. It ranges from 50 to 90, signifying that all the countries within the sample have a relatively high economic freedom score. The mean for the second variable, *DMC_INDEX*, is 5.584, while its standard deviation is 2.170. The range for this variable is between 1.9 and 9.2, which indicates that the third variable, *SMIP_INDEX*, is, on average, 33.021, while its standard deviation is 5.171. It ranges from 25 to 43, indicating that countries within the sample have relatively high investor protection scores.

The variables *EF_INDEX* and *SMIP_INDEX* range from 51 to 90 and 25 to 43, respectively. This indicates that the countries within the sample have high economic freedom and strong investor protection regulations.

Table 5. 3 Descriptive Statistics for Country-Specific Indices

Variable	Mean	Median	Min	Max	SD
EF_INDEX	63.865	58.100	50.600	90.200	11.490
DMC_INDEX	5.584	6.3900	1.930	9.260	2.170
SMIP_INDEX	33.021	32.000	25.000	43.000	5.171

Notes:

EF_INDEX	=	Economic Freedom Index, which ranges from 0 to 100.
DMC_INDEX	=	Democracy Index, which ranges from 0 to 10.
SMIP_INDEX	=	Strength of Minority Investor Protection Index, which ranges from 0 to 50.

5.2. Correlations

This study uses Pearson's correlations analysis to check for multicollinearity between the independent variables. It is evident from the results, which are presented in Table 5.4, that the independent variable, *GOVCOMP*, is positively correlated to other governance variables, such as *BoardIND* and *BoardGENDER*, at a 1% significant level, and negatively correlated to *DUALITY* at a 1% significance level. However, the magnitude of these correlations is quite low. Furthermore, the results show that *GOVCOMP* is not correlated to *BoardSIZE* and *BoardMEET*. Table 5.4 also reveals that the correlation coefficients for all individual board variables are low. *BoardSIZE* is positively related to *BoardGENDER* at the 1% significance level, while it is negatively related to *BoardIND* at the 1% significance level; however, *BoardSIZE* is not correlated to *BoardMEET* and *DUALITY*. In addition, *BoardMEET* is negatively correlated to *BoardIND* and *DUALITY* at a significance level of 5% and 1%, respectively; however, *BoardMEET* is not related to *BoardGENDER*. Furthermore, *BoardIND* has a positive correlation with *BoardGENDER* at the 1% significance level, and a negative correlation to *DUALITY* at the 1% significance level. *BoardGENDER* is not correlated to *DUALITY*.

The dependent variable *AUDFEES* is positively correlated with *GOVCOMP*, BoardSIZE, *BoardGENDER*, *FirmSIZE*, *BIG4*, *EF_INDEX*, and *DMC_INDEX* at the 1% significance level. Furthermore, *AUDFEES* is positively related to *LEVERAGE* at the 5% significance level. However, there is a negative correlation between *AUDFEES* and *ROA* at the 1% significance level.

In summary, the results reveal that there is no multicollinearity between the predictor variables, since the scores reported by the correlation matrix are below 80% (Field, 2017). Further, when the variance inflation factor (VIF) for all variables is

checked to identify collinearities between predictors, all predictors scored VIF values below 10, with a tolerance that is greater than 0.1 (Field, 2017), which assures the absence of multicollinearity.

Table 5. 4 Pearson's Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AUDFEES	1														
GOVCOMP	.270**	1													
BoardSIZE	.213**	-0.025	1												
BoardMEET	-0.061	-0.071	0.087	1											
BoardIND	-0.024	.342**	-.246**	-.116*	1										
BoardGENDER	.169**	.138**	.179**	0.036	.227**	1									
DUALITY	-0.020	-.244**	0.080	-.149**	-.174**	0.008	1								
FirmSIZE	.544**	0.059	.266**	.182**	-.126**	0.022	-0.007	1							
LEVERAGE	.097*	-0.070	0.040	.255**	0.033	0.020	-0.076	.248**	1						
INVREC	0.046	0.020	-.191**	-0.025	-0.015	-.133**	0.002	0.015	-.212**	1					
ROA	-.161**	-0.041	-0.040	0.040	-0.014	.105*	0.044	-0.084	-.256**	-0.074	1				
BIG4	.265**	.304**	-0.025	-0.074	0.090	.181**	-0.080	0.001	0.045	-.172**	0.004	1			
EF_INDEX	.138**	0.048	-0.002	-0.065	0.023	-0.050	0.000	0.085	-0.004	.133**	-0.087	-.097*	1		
DMC_INDEX	.184**	0.083	-0.035	-.156**	.124**	-0.024	0.059	.130**	0.005	.121**	-.119*	-.119*	.392**	1	
SMIP_INDEX	0.003	0.074	.113*	-0.064	.198**	.140**	.094*	-0.090	0.011	-.151**	0.033	.195**	0.054	.095*	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-taile).

5.3 Multiple Regression

5.3.1 Audit Fees and Corporate Governance Composite

The OLS regression results for the relationship between audit fees and the corporate governance composite score are presented in Table 5.5. The first column, Model 1, represents the relationship between audit fees, or *AUDFEES*, governance composite, or *GOVCOMP*, and the control variables. The results show that *AUDFEES* is positively related to *GOVCOMP* at the 0.1% significance level. This finding suggests that high levels of corporate governance composite increase the fees paid to auditors. A possible explanation for this is that SOEs with strong corporate governance and effective boards are motivated to demand greater audit services from the external auditor, thus leading to higher audit fees. Furthermore, the variable *AUDFEES* is also positively related to *FirmSIZE*, and *BIG4* at the 0.1% significance level, which indicates that larger firms that hire Big Four auditors pay higher audit fees. However, *AUDFEES* is negatively related to *ROA* at the 1% significance level. This finding suggests that higher firm performance reduces the amount of audit fees paid to the auditors. The adjusted R square for this model is 42.2%, which shows that the explanatory power of the model is relatively strong.

The second column, Model 2, shows the relationship between audit fees, or *AUDFEES*, governance composite, or *GOVCOMP*, and the control variables in light of the economic freedom variable, or *EF_INDEX*. The results between *AUDFEES* and *GOVCOMP* and the various control variables are presented in Model 1. However, in Model 2, the relationship between *AUDFEES* and *EF_INDEX* is positive and significant at the 1% significance level. This finding suggests that SOEs in countries with high economic freedom levels pay higher audit fees to external auditors. The third column, Model 3, represents the relationship between audit fees, or *AUDFEES*,

governance composite, or *GOVCOMP*, and the control variables in light of the political democracy variable, or *DMC_INDEX*. Similar to the results shown in the previous models, the relationship between *AUDFEES* and the various variables remain unchanged. However, the variable *DMC_INDEX* has a positive influence on *AUDFEES* at the significance level of 1%, which suggests that SOEs under democratic governments are more likely to pay higher audit fees.

The fourth column, Model 4, displays the relationship between *AUDFEES*, *GOVCOMP*, and the control variables in light of minority investor protection, or *SMIP_INDEX*. Once again, the relationship between *AUDFEES* and the other variables, including *GOVCOMP,* stayed unchanged. However, unlike prior models, *AUDFEES* is not influenced by a country-specific index, which, in this case, is *SMIP_INDEX*. This finding suggests that investor protection regulations do not impact audit fees paid by SOEs. It is important to note that the adjusted R square for Models 2, 3, and 4 are also similar to the adjusted R square for Model 1. The R square for Model 2, 3, and 4 are 43.1%, 43.1%, and 42.1%, respectively.

Table 5. 5 The Relationship Between Audit Fees and the Corporate Governance
Composite Score

Variable	Model 1	Model 2	Model 3	Model 4
GOVCOMP	0.004***	0.004***	0.004***	0.004***
	(3.682)	(3.549)	(3.421)	(3.668)
FirmSIZE	0.579***	0.575***	0.565***	0.581***
	(14.231)	(14.212)	(13.875)	(14.151)
LEVERAGE	-0.243	-0.237	-0.240	-0.244
	(-1.589)	(-1.563)	(-1.586)	(-1.593)
INVREC	0.011	-0.045	-0.006	0.016
	(0.070)	(-0.288)	(-0.040)	(0.103)
ROA	-1.254**	-1.183**	-1.118**	-1.257**
	(-2.966)	(-2.812)	(-2.646)	(-2.969)
BIG4	0.271***	0.283***	0.289***	0.268***
	(5.884)	(6.165)	(6.266)	(5.730)
EF_INDEX		0.005**		
		(2.773)		
DMC_INDEX			0.027**	
			(2.756)	
SMIP_INDEX				0.001
				(0.347)
YEAR	Yes	Yes	Yes	Yes
INDUSTRY	Yes	Yes	Yes	Yes
Firm-Observations	462	462	462	462
R Square	0.444	0.453	0.453	0.444

Variable	Model 1	Model 2	Model 3	Model 4
Adjusted R Square	0.422	0.431	0.431	0.421

Notes:

***, **, * Significant at 0.1%, 1%, 5%, two-tailed respectively.

Where:

Model 1:   Relationship between audit fees and corporate governance composite.

Model 2:   Relationship between audit fees and corporate governance composite in light of economic freedom.

Model 3:   Relationship between audit fees and corporate governance composite in light of political democracy.

Model 4:   Relationship between audit fees and corporate governance composite in light of minority investor protection.

5.3.2. Audit Fees and Board Characteristics

The next stage in the analysis is to examine the relationship between audit fees and the five individual board characteristics. The results of this examination is presented in Table 5.6. The first column, Model 1, shows the relationship between audit fees, or *AUDFEES,* board size, or *BoardSIZE*, frequency of board meetings, or *BoardMEET*, board independence, or *BoardIND*, board gender diversity, or *BoardGENDER*, CEO duality, or *DUALITY,* and the control variables. The results reveal that *AUDFEES* is positively related to *BoardSIZE* and *BoardGENDER* at the 5% and 1% significance level, respectively. However, the variable *AUDFEE* is negatively related to *BoardMEET* at the 0.1% significance level. These results suggest that, as the board size and gender diversity within the board increase, SOEs pay higher fees for

external auditors. Conversely, less audit charges are paid when the frequency of board meetings is high. Consistent with the results displayed earlier in Table 5.5, the variable *AUDFEES* also has a positive relationship with *FirmSIZE* and *BIG4* at the 0.1% significance level, and a negative relationship with *ROA* at the 1% significance level. The adjusted R square for this model is 43.6%.

The displayed results in the second, third, and fourth columns (Model 2, Model 3, and Model 4) show that *AUDFEES* is impacted by the governance and control variables as in Model 1. Furthermore, the results in Table 5.6 show that *AUDFEES* is positively related to both *EF_INDEX* and *DMC_INDEX* at the 1% significance level. Once more, these results in Table 5.6 are similar to those presented in Table 5.5, which further emphasizes the notion that audit fees are related to corporate governance. The adjusted R square for Models 2, 3, and 4 is 44.5%, 44.4%, and 43.4%, respectively.

Table 5. 6 The Relationship Between Audit Fees and Board Characteristics

Variable	Model 1	Model 2	Model 3	Model 4
BoardSIZE	0.428*	0.433**	0.429*	0.429*
	(2.563)	(2.616)	(2.590)	(2.541)
BoardMEET	-0.325***	-0.299**	-0.285**	-0.325***
	(-3.292)	(-3.039)	(-2.880)	(-3.288)
BoardIND	-0.001	-0.001	-0.001	-0.001
	(-0.755)	(-0.857)	(-1.071)	(-0.723)
BoardGENDER	0.005**	0.005**	0.005**	0.005**
	(2.918)	(3.031)	(2.884)	(2.914)
DUALITY	-0.041	-0.042	-0.046	-0.041
	(-0.827)	(-0.852)	(-0.939)	(-0.811)
FirmSIZE	0.568***	0.561***	0.550***	0.568***
	(13.633)	(13.541)	(13.128)	(13.497)
LEVERAGE	-0.145	-0.144	-0.150	-0.145
	(-0.940)	(-0.941)	(-0.980)	(-0.938)
INVREC	0.180	0.120	0.156	0.180
	(1.134)	(0.753)	(0.984)	(1.128)
ROA	-1.291**	-1.237**	-1.173**	-1.291**
	(-3.018)	(-2.913)	(-2.748)	(-3.013)
BIG4	0.296***	0.307***	0.313***	0.297***
	(6.685)	(6.962)	(7.052)	(6.564)
EF_INDEX		0.005**		
		(2.894)		

Variable	Model 1	Model 2	Model 3	Model 4
DMC_INDEX			0.027**	
			(2.726)	
SMIP_INDEX				0.001
				(-0.037)
YEAR	Yes	Yes	Yes	Yes
INDUSTRY	Yes	Yes	Yes	Yes
Firm-Observations	462	462	462	462
R Square	0.461	0.471	0.470	0.461
Adjusted R Square	0.436	0.445	0.444	0.434

Notes:

***, **, * Significant at 0.1%, 1%, 5%, two-tailed, respectively.

Where:

Model 1:   Relationship between audit fees and board characteristics variables.

Model 2:   Relationship between audit fees and board characteristics variables in light of economic freedom.

Model 3:   Relationship between audit fees and board characteristics variables in light of political democracy.

Model 4:   Relationship between audit fees and board characteristics variables in light of minority investor protection.

5.3.3. Moderation Effect

Additional analysis is conducted to examine the moderation effect of the three country-specific indices. This entails calculating mean-centered values for *GOVCOMP, EF_INDEX, SMIP_INDEX,* and *DMC_INDEX*. Furthermore, the analysis includes interaction terms between *GOVCOMP* and the three country-specific indices. The results displayed in Table 5.7 in regards to the relationship between mean-centered corporate governance composite and country-specific indices and audit fees are similar to the results related to the uncentered variables presented earlier in Table 5.5. Model 1 in Table 5.7 represents the relationship between audit fees and corporate governance composite in the presence of economic freedom. The results suggest that *AUDFEES* is positively related to *GOVCOMP_Centered* at the 0.1% significance level, which is similar to the results obtained when examining the relationship between audit fees and the uncentered corporate governance composite. The variable *AUDFEES* is also positively related to *EF_INDEX_Centered* at the 1% significance level. However, no association is shown between *AUDFEES* and *EF_GOVCOMP*, which suggests that economic freedom does not moderate the relationship between audit fees and corporate governance composite in SOEs.

Democracy, which is introduced in Model 2, shows the relationship between audit fees and corporate governance composite. The results indicate that *AUDFEES* and *GOVCOMP_Centered* are positively related at the 0.1% significance level, which are in line with the results in prior analysis that focused on the relationship between audit fees and the uncentered corporate governance composite. Furthermore, *AUDFEES* and *DMC_INDEX_Centered* are positively related at the 1% significance level. However, the results show positive yet insignificant correlation between *AUDFEES* and *DMC_GOVCOMP*. This suggests that political democracy does not moderate the

relationship between audit fees and governance composite in SOEs. Model 3 represents the relationship between audit fees and corporate governance composite in the presence of minority investor protection regulations. The results indicate that *AUDFEES* is positively related to *GOVCOMP_Centered* at the 0.1% significance level. However, *AUDFEES* is not influenced by the variable *SMIP_INDEX_Centered*. Similar to the first and second moderators, *SMIP_GOVCOMP* has no moderation effect on the association between audit fees and corporate governance composite.

Table 5. 7 Results of the Moderation Effect Test

Variable	Model 1	Model 2	Model 3
GOVCOMP_Centered	0.004***	0.004***	0.004***
	(3.549)	(3.455)	(3.414)
EF_INDEX_Centered	0.005**		
	(2.769)		
EF_GOVCOMP	-0.001		
	(-0.154)		
DMC_INDEX_Centered		0.027**	
		(2.763)	
DMC_GOVCOMP		0.000	
		(0.743)	
SMIP_INDEX_Centered			0.000
			(0.112)
SMIP_ GOVCOMP			0.000
			(1.803)
FirmSIZE	0.575***	0.564***	0.591***
	(14.197)	(13.842)	(14.301)
LEVERAGE	-0.237	-0.231	-0.247
	(-1.562)	(-1.518)	(-1.618)
INVREC	-0.044	-0.014	0.019
	(-0.275)	(-0.091)	(0.117)
ROA	-1.183**	-1.136**	-1.256**
	(-2.809)	(-2.681)	(-2.973)

Variable	Model 1	Model 2	Model 3
BIG_4	0.284***	0.286***	0.260***
	(6.133)	(6.173)	(5.538)
YEAR	Yes	Yes	Yes
INDUSTRY	Yes	Yes	Yes
R Square	0.453	0.454	0.448
Adjusted R Square	0.430	0.430	0.424
Firm-Observations	462	462	462

Notes:

***, **, * Significant at 0.1%, 1%, 5%, two-tailed, respectively.

Where:

Model 1: Relationship between audit fees, centered corporate governance composite, and the interaction term between centered corporate governance composite and centered economic freedom index.

Model 2: Relationship between audit fees, centered corporate governance composite, and the interaction term between centered corporate governance composite and centered democracy index.

Model 3:Relationship between audit fees, centered corporate governance composite, and the interaction term between centered corporate governance composite and centered minority investor protection index.

5.3.3.1. Additional Test for the Moderation Effect

This additional analysis is conducted to test the robustness of the moderation effect results shown in Table 5.7. This test is similar to the previous one, except that the interaction terms are calculated by using dummy variables for the country-specific indices. In general, the results of Table 5.8 are no different than the results presented in Table 5.7. This excludes the relationship between audit fees and the Economic Freedom Index. Model 1 in Table 5.8 represents the association between audit fees and corporate governance composite in the presence of the economic freedom. The results show a positive and significant association between *AUDFEES* and *GOVCOMP* at the 0.5% significance level. However, the correlation between *AUDFEES* and *EF_INDEX_Dummy* is positive yet insignificant. Furthermore, there is no association between *AUDFEES* and *EF_GOVCOMP*, suggesting that the Economic Freedom Index does not moderate the audit fees – corporate governance composite relationship. The relationship between audit fees and corporate governance composite in the presence of the Democracy Index is demonstrated in Model 2. The results indicate that *AUDFEES* and *GOVCOMP* are positively and significantly related at the significance level of 0.5%. *AUDFEES*, further, is related to *DMC_INDEX_Dummy* at the 0.1% significance level, which is similar to the result shown in Table 5.7. However, *AUDFEES* is not influenced by variable *DMC_GOVCOMP*, indicating that the association between audit fees and corporate governance composite is not moderated by the Democracy Index. Model 3 presents that relationship between audit fees and corporate governance composite in the presence of the Strength of Minority Investor Protection Index. The results show a positive and significant association between *AUDFEES* and *GOVCOMP* at the 0.5% significance level. However, no association is shown between *AUDFEES* and *SMIP_INDEX_Dummy*. In line with the first and second interaction terms,

SIMP_GOVCOMP has no effect on *AUDFEES*. This suggests that the relationship between audit fees and corporate governance composite is not moderated by the Strength of Minority Investor Protection Index.

Table 5. 8 Additional Test for the Moderation Effect

Variable	Model 1	Model 2	Model 3
GOVCOMP_Centered	0.003*	0.004*	0.003*
	(3.549)	(2.370)	(2.040)
EF_INDEX_Dummy	0.085		
	(1.960)		
EF_GOVCOMP	0.002		
	(1.029)		
DMC_INDEX_Dummy		0.135**	
		(3.095)	
DMC_GOVCOMP		0.000	
		(-0.104)	
SMIP_INDEX_Dummy			0.049
			(1.147)
SMIP_ GOVCOMP			0.003
			(1.158)
FirmSIZE	0.574***	0.562***	0.587***
	(14.128)	(13.802)	(14.308)
LEVERAGE	-0.224	-0.241	-0.252
	(-1.470)	(-1.591)	(-1.648)
INVREC	-0.044	-0.007	0.027
	(-0.275)	(-0.047)	(0.173)
ROA	-1.182**	-1.075**	-1.296**
	(-2.785)	(-2.539)	(-3.071)
BIG_4	0.275***	0.290***	0.260***
	(5.958)	(6.279)	(5.599)

Variable	Model 1	Model 2	Model 3
YEAR	Yes	Yes	Yes
INDUSTRY	Yes	Yes	Yes
R Square	0.450	0.456	0.447
Adjusted R Square	0.426	0.432	0.423
Firm-Observations	462	462	462

Notes:

***, **, * Significant at 0.1%, 1%, 5%, two-tailed, respectively.

Where:

Model 1: Relationship between audit fees, centered corporate governance composite, and the interaction term between centered corporate governance composite and centered economic freedom index.

Model 2: Relationship between audit fees, centered corporate governance composite, and the interaction term between centered corporate governance composite and centered democracy index.

Model 3: Relationship between audit fees, centered corporate governance composite, and the interaction term between centered corporate governance composite and centered minority investor protection index.

5.3.4. Levels of Country-Specific Indices

The prior results suggest that country-specific indices do not play a role in moderating the relationship between audit fees and corporate governance. However, it is important to determine at which level, within these indices, the impact is most realized. To that effect, the sample is ranked from the lowest to highest score for each

of the three indices. The sample is then split into three subsamples for each index. The first subsample is labeled "High," and it includes the top third of the ranked sample. The second subsample is labeled "Low," and it represents the bottom third of the ranked sample. Finally, the last subsample is labeled "Medium," and it includes the middle third of the ranked sample. A separate regression is estimated for each subsample of the three indices.

5.3.4.1. Audit Fees and Corporate Governance Composite for the Low, Medium and High Levels of the Country-Specific Indices

The regression results for the relationship between audit fees and the corporate governance composite score in the presence of various levels of country-specific indices are shown in Table 5.9. The first three columns in Table 5.9 provide the results for the relationship between *AUDFEES* and *GOVCOMP* for low, medium, and high economic freedom countries. The results show a positive association between *AUDFEES* and *GOVCOMP* in countries with medium and high economic freedom levels at the 0.1% and 5% significance level, respectively. However, no statistically significant relationship is shown for low economic freedom countries. This indicates that SOEs operating in medium and high economic freedom countries have higher levels of corporate governance and pay higher audit fees. *AUDFEES* and *FirmSIZE* are positively related at the 0.1% significance level across the three levels of economic freedom subsamples. The variable *AUDFEES* is positively related to *BIG4* at the 0.1% significance level in the low economic freedom model, and at the 5% significance level in the medium and high economic freedom models. *AUDFEES* is negatively influenced by *ROA* at the 5% significance level in the low economic freedom model, suggesting that SOEs with higher performance pay lower audit fees. The adjusted R square values

for these models are 37.8%, 49.3, and 48.7 for the high, medium, and low levels, respectively.

The regression results for the relationship between *AUDFEES* and *GOVCOMP* in the presence of low, medium, and high levels of political democracy are reported in Table 5.9. The results reveal that *AUDFEES* and *GOVCOMP* are positively related at the 1% and 5% significance level in countries with medium and high democracy levels, respectively. However, there is no statistically significant relationship between *AUDFEES* and *GOVCOMP* in low democracy countries. These findings indicate that SOEs operating in countries with medium and high democracy levels have high corporate governance levels and pay higher audit fees. The dependent variable also has a positive relationship with *FirmSIZE* at the 0.1% significance level for all political democracy levels. The variable *AUDFEES* and *BIG4* are positively related in low, medium, and high democracy countries at the 1%, 5%, and 0.1% significance levels, respectively. This suggests that SOEs in democratic regimes pay higher audit fees when they hire a Big Four auditor.

However, *AUDFEES* has a positive relationship with *INVREC* at the 1% significance level, and a negative relationship with *ROA* at the 1% significance level, for countries with low levels of political democracy. This result indicates that SOEs in low level democracies incur more audit fees due to their high audit complexity; however, they pay lower fees when they have high performance. The adjusted R square values for the regression models that represent the low, medium, and high levels of democracy are approximately 40%, 47%, and 44%, respectively.

The results for the relationship between *AUDFEES* and *GOVCOMP* in countries with varying levels of investor protection index are shown in Table 5.9. The results reveal a positive association between *AUDFEES* and *GOVCOMP* in countries

with low, medium, and high minority investor protection regulations at the 5%, 5%, and 0.1% significance levels, respectively. These results indicate that SOEs' boards incur higher audit fees regardless of the strength of investor protection regulations in the country. The variable *AUDFEES* is also positively related to *FirmSIZE* at the 0.1% significance level across the three minority investor protection levels. Furthermore, *AUDFEES* is positively associated with *BIG4* in countries with low and high investor protection regulations at the 1% and 0.1% significance levels, respectively.

However, *AUDFEES* is negatively related to *LEVERAGE* at the 5% significance level for countries with high minority investor protection regulations. This indicates that SOEs operating in countries with high investor protection levels have high financial risk and pay lower fees. The variable *ROA* has a negative influence on *AUDFEES* in countries with strong investor protection regulations at the 0.1% significance level. However, *AUDFEES* and *ROA* are positively related in countries with weak investor protection regulations at the 1% significance level. The adjusted R square values for the regression models that represent the low, medium and high levels of minority investor protection are approximately 56%, 52%, and 62% respectively.

Table 5. 9 The Relationship Between Audit Fees and the Corporate Governance Composite Score in the Presence of Various Levels of Country-Specific Indices

Variable	Economic Freedom			Political Democracy			Minority Investor Protection		
	EF_LOW	EF_MED	EF_HIGH	DMC_LOW	DMC_MED	DMC_HIGH	SMIP_LOW	SMIP_MED	SMIP_HIGH
GOVCOMP	0.002	0.006***	0.004*	0.003	0.005**	0.005*	0.003*	0.004*	0.008***
	(0.875)	(3.725)	(2.001)	(1.473)	(2.896)	(1.976)	(2.019)	(1.999)	(4.672)
FirmSIZE	0.381***	0.659***	0.587***	0.487***	0.641***	0.621***	0.483***	0.769***	0.684***
	(5.118)	(8.805)	(8.782)	(5.799)	(9.242)	(8.874)	(8.046)	(9.481)	(10.715)
LEVERAGE	0.534	-0.008	-1.116***	-0.159	-0.281	-0.179	0.046	-0.335	-0.388*
	(1.739)	(-0.036)	(-3.951)	(-0.524)	(-1.170)	(-0.666)	(0.230)	(-1.005)	(-1.969)
INVREC	-0.088	0.060	0.245	1.029**	-0.241	-0.121	0.145	0.281	-0.255
	(-0.238)	(0.267)	(0.911)	(2.368)	(-0.999)	(-1.413)	(0.717)	(0.702)	(-1.305)
ROA	-1.670*	0.268	-1.177	-2.572**	0.765	-1.092	2.438***	-1.523	-2.229***
	(-2.013)	(0.384)	(-1.351)	(-2.995)	(0.943)	(-1.413)	(3.247)	(-1.703)	(-4.169)
BIG4	0.326***	0.149*	0.197*	0.288**	0.186*	0.349***	0.153**	0.152	0.366***
	(3.463)	(2.111)	(2.277)	(3.020)	(2.464)	(4.090)	(2.536)	(1.218)	(4.736)
YEAR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
INDUSTRY	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R Square	0.447	0.546	0.544	0.465	0.525	0.502	0.612	0.560	0.661

Variable	Economic Freedom			Political Democracy			Minority Investor Protection		
	EF_LOW	EF_MED	EF_HIGH	DMC_LOW	DMC_MED	DMC_HIGH	SMIP_LOW	SMIP_MED	SMIP_HIGH
Adjusted R Square	0.378	0.493	0487	0.398	0.470	0.440	0.564	0.516	0.618
Firm-Observation	154	154	154	154	154	154	154	154	154

***, **, * Significant at 0.1%, 1%, 5%, two-tailed respectively.

Chapter 6: Discussion

Chapter Six provides a discussion of the empirical analyses presented in chapter four. The chapter comprises four sections. Section 6.1. presents the discussion related to the relationship between audit fees and boards' effectiveness for SOEs. Section 6.2. presents an interpretation of the results related to the relationship between audit fees and firm-level control variables. Section 6.3. discusses the results related to the association between audit fees and country-specific indices. Section 6.4. discusses the moderating effect of country-specific indices on the relationship between audit fees and corporate governance composite for SOEs.

6.1. Audit Fees and Board of Directors' Effectiveness

6.1.1. Audit fees and Corporate Governance Composite

The empirical results of the OLS regression analysis revealed a positive and significant association between audit fees and corporate governance for SOEs, which supports hypothesis one. This result is in line with previous studies, which support the demand-side audit quality argument (Carcello, et al., 2002; Desender, et al., 2009; Yatim, et al., 2006; Lia, et al., 2017; Jizi and Nehme, 2018; Farooq et al. 2018). The premise of the argument is that an effective board tends to demand extensive audit services, thus prompting the auditor to demand higher audit fees. With reference to agency theory, this finding posits that effective boards, limits agency conflicts through nominating qualified external auditors or demanding a wider audit scope (Watts & Zimmerman, 1983; Beasley & Salterio 2001), thereby resulting in higher audit fees. In this context, we can deduce that regardless if the firm is owned by government or non-government entities, effective boards influence the demand for external audit services. However, it is important to note that state owners may have different governance incentives based on their social and political goals (Shleifer and Vishny, 1994; Shleifer,

1998), which distinguish SOEs from other companies. SOEs would have to abide by high standards of corporate transparency to ensure that governments operate in the public's best interest (OECD, 2015; 2016). Furthermore, SOEs face corporate governance challenges that stem from the involvement of a complex web of accountabilities (OECD, 2015). This results in the aforementioned type-1 and type-2 agency problems, which would in turn lead to higher agency costs. Therefore, it is suggested that SOEs' boards should have high levels of accountability and transparency, and reduce agency costs. To achieve these goals, SOEs' boards may require greater levels of audit services, which ultimately increases audit fees.

6.1.2. Audit Fees and Board Characteristics

Results from Chapter Five revealed that audit fees are influenced by three individual board characteristics, which are board size, board meetings and board gender diversity. These findings indicate that large and diverse boards tend to require more audit efforts, which translated to higher audit fees. Large boards are motivated to reduce audit risk by nominating qualified auditors who charge higher fees (Hines, Masli, Mauldin, & Peters, 2015). Moreover, large boards are more likely to have less workload (Zahra and Pearce, 1989). Anderson et al. (2004) suggest that firms with large boards have better control over financial reporting process through demanding high audit quality. Large board is distinguished by its members' background, expertise, and skills (Zahra and Pearce, 1989), which is more likely to improve the efficiency of its monitoring role over management and financial reports. Chan et al. (2013) found a positive association between board size and audit fees, suggesting that larger boards demand more audit effort, thus pay higher audit fees. Furthermore, Jizi and Nehme (2018) found that banks with larger boards tend to seek higher audit quality and pay higher fees. However, their study focused on the US commercial banks, whereas the

sample of this thesis excludes firms from the financial sector. Although this thesis is mainly concerned with SOEs, results from prior non-SOE studies show that the relationship between audit fees and board size are similar to those obtained from the current study.

The results reported in Chapter Five show an inverse relationship between audit fees and the frequency of board meetings. This finding is opposite to the prediction of hypothesis one, yet, it is important to highlight its indications. The result suggests that SOEs with frequent board meetings pay lower audit fees. There could be several explanations for this finding. It could be suggested that when boards of SOEs meet more frequently, the result is higher commitment and oversight of the financial reports, which results in lower audit risk (Stewart & Munro, 2007). A lower level of audit risk is often perceived with less conservatism by auditors, who in turn would charge lower audit fees (Ho & Kang, 2013). This suggestion supports the supply-side of audit quality argument, which states that higher levels of corporate governance reduce the level of audit services required by the auditor and lowers audit fees (Rusmin, Scully, Tower, & Taplin, 2009). Another possible explanation is that SOEs are effective at self-monitoring and evaluation, thus demanding less audit services. Prior studies reported varying results. Nehme and Jizi (2018) found that frequency of board meetings is negatively related to audit fees. In contrast, others reveal a positive association between board meetings and audit fees (Carcello et al., 2002; Abbott et al., 2003; Zaman et al., 2011; Farooq et al. 2018).

Based on the results of the current study, the negative relationship between board meetings and audit fees are explained by the board's diligence in monitoring the activities of the firm. Effectively, boards demonstrate greater oversight on the financial reporting process when their members meet more frequently. Accordingly, board

members who meet more frequently tend to display higher levels of diligence in their monitoring. As a result, the company's risk level is lowered, which ultimately impacts the amount of audit fees charged by the auditors.

The results in Chapter Five show positive association between audit fees and the board's gender diversity. This indicates that the presence of female directors on the board of SOEs is related to higher audit fees. The result in the current study is in line with Lia, et al. (2017) who found that gender diversity on boards requires higher audit quality services, which results in increased audit pricing. However, this finding is contradictory to Nekhili et al. (2019) and Jizi and Nehme (2018), who suggested that the presence of females on boards results in better oversight, which reduces the need to a comprehensive audit services, thus less audit fees are charged.

Srinidhi, Sun, Zhang, and Chen (2020) suggested that governance improvements are driven more by female board directors when compared to male board directors. The presence of female directors on the boards reduces earnings management due to their excessive diligence in controlling financial misstatement compared to male directors (Selahudin, Azman, Suhaimi, Ahmad, Rahman, Sushela, & Ramesh, 2018). Although this study is primarily concerned with SOEs, it can be stated that its results map with those of other studies (Miglani & Ahmed, 2019; Nehme & Jizi, 2018; Aldamen et al., 2018. This study supports the demand-side argument of audit pricing. Accordingly, it can be concluded that better governance on financial reports is delivered by female managers through engaging high-quality external auditors, which results in higher audit fees.

6.2. Audit Fees and Control Variables

Chapter Five included the results of the regression analysis that focused on the relationship between firm-level control variables and audit fees. The findings show a positive association between audit fees and firm size, which indicates that larger firms incur higher audit fees. This result is expected as prior research finds that large-sized firms are involved in complex transactions (Januarti & Wiryaningrum, 2018; Naser & Nuseibeh, 2007). The results also show that audit fees are positively influenced by the presence of a Big 4 auditor. It is argued that Big 4 audit firms provide higher levels of assurance due to their detailed audit procedures, which results in higher audit fees (Palmrose, 1986). The analysis takes into account SOEs that operate within a certain level of political democracy, economic freedom and investor protection. The findings suggest that audit fees are positively related to the presence of a Big 4 auditor at all levels of democracy and economic freedom. Furthermore, audit fees are also positively related to the presence of a Big 4 for SOEs located in countries with either high or low investor protection levels, but not in the middle level. This indicates a U-Shaped curve, or a nonlinear relationship between the two variables.

The findings reported in Chapter Five show a negative association between audit fees and firm performance. This indicates that SOEs with higher firm performance incur lower audit fees. This is consistent with Hay et al. (2006) who stated that higher audit risk and audit fees are generally associated with bad firm performance. When compared to non-SOEs, SOEs are characterized by poor firm performance due to their inefficient oversight (Goldeng et al., 2008; OEDC, 2016). It is suggested for SOEs with poor performance to require detailed audits (Bajo et al., 2018), resulting in higher fees. Although audit fees and firm performance are inversely related for SOEs operating in countries with low levels of economic freedom, political democracy, and investor

protection, a positive correlation has emerged for SOEs in countries with strong investor protection regulations. For SOEs in countries with high economic freedom, the findings revealed that audit fees are negatively related to firm risk. On the contrary, for SOEs in countries with low levels of democracies, audit fees are positively related to audit complexity. However, the two aforementioned findings appear to be insignificant when considering the relationship between audit fees and corporate governance before the division of the sample into various subsamples.

6.3. Audit Fees and Country-Specific Indices

The results in Chapter Five reveal that audit fees are positively correlated with the economic freedom index and the democracy index. These findings suggest that SOEs in economically and politically free countries pay higher audit fees. According to Goel and Nelson (2005) economic freedom and political democracy contribute in mitigating corruption and bribery. This suggests that the absence of freedom, economically and politically, may result in corruption in a country. Good accounting and auditing standards are associated to lower corruption levels (Malagueño et al., 2010). In this context, governments in economically free countries are expected to reduce corruption by fostering the quality of accounting and auditing standards. Moreover, good corporate governance is highly desired by investors to reduce corruption levels, meanwhile, effective corporate governance reduces corruption at the state level (Wu, 2005).

In democratic nations, changing a political party can influence firm-level decisions and strategies, which requires the presence of effective boards and high quality auditing (Tricker, 2015). Therefore, our results imply that SOEs' boards in economically and politically free nations tend to engage high-quality auditors as a

mechanism of good governance. Our assertion, in this case, is that higher levels of governance will require more audit effort and services, which result in higher audit fees.

However, the results also show that audit fees are not influenced by the presence of investor protection regulations. This is consistent with Persakis and Iatridis (2016), who found that audit fees are not associated with investor protection indicators. This could be explained by the claim of Pargendler (2012) who stated that SOEs do not need effective investor protection regulations as compared to private companies due to the government support that SOEs enjoy. Unlike private companies, SOEs have either an implicit or explicit government protection against bankruptcy (Ter-Minassian, 2017), which makes investor protection regulations more essential for private companies compared to SOEs to attract investors (Pargendler, 2012).

It has been argued that state ownership leads to weaker corporate governance in civil law countries, while it enhances corporate governance quality in common law countries (Borisova et al., 2012). This is because common law countries enjoy strong investor protection and greater support for the capital market compared to civil law countries, which are characterized by government intervention and weak property protection regulations (Borisova et al., 2012; Pargendler, 2012; La Porta et al., 2000). This, in part, supports the notion that governmental behavior and market development are determined by the legal systems of the countries (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998). As a result, it can be deduced that the quality of external auditing and corporate governance in SOEs differs according to the legal origin of the country.

In summary, the association between audit fees and boards' effectiveness in SOEs is positive and significant, which is consistent with the demand-side of the audit pricing argument. Furthermore, the results are in line with the premise of agency theory.

To alleviate agency conflicts between the government, shareholders, and management, SOEs' boards seek to ensure adequate accountability and transparency through demanding further audit services, which leads to higher audit fees. Examining the relationship in the presence of different country-related indices does not change the outcome. However, it gives a new context to the study by explaining the impact of the environment, in which SOEs operate.

6.4. The Moderating Effect of Country-Specific Indices on Audit Fees – Corporate Governance Composite Relationship

Several studies showed that corporate governance is influenced by variables that are country-specific, such as the legal and organizational environments (La Porta et al., 1998; La Porta et al., 1999; La Porta et al., 2000). Hypotheses two through four focus on the effect of various country-specific indices (Strength of Minority Investor Protection Index, Economic Freedom Index, and Democracy Index) on the relationship between board of directors' effectiveness and audit fees in SOEs. The results in Chapter Five provide evidence regarding the moderation effect of each country-specific index on the relationship between boards' effectiveness and audit fees in SOEs. Furthermore, the prior chapter presents the findings with respect to the boards' effectiveness – audit fees relationship across different levels of the country-specific indices (low, medium, high). The results are discussed in the following subsections.

6.4.1. Minority Investor Protection Index

Hypothesis two states that the relationship between board of directors' effectiveness and audit fees in SOEs is stronger in the presence of high levels of investor protection. The results presented in Chapter Five reveal that the Strength of Minority Investor Protection Index does not moderate the association between audit fees and boards' effectiveness in SOEs. Contrary to the assumption of the second hypothesis,

this finding indicates that the strength and direction of boards' effectiveness – audit fees relationship remain positive and significant regardless of the level of investor protection. This suggests that whether an SOE operates in a country with strong or weak investor protection regulations, its board of directors will most likely demand more audit services, resulting in the company incurring higher audit costs.

In specific, boards of SOEs operating in countries with medium or high investor protection levels require greater audit services and incur higher audit fees. This finding supports the notion that effective investor protection regulations and corporate governance are complements (Chung et al., 2012). Whereas, boards of SOEs located in countries with weak investor protection will demand more audit efforts and pay higher audit fees to compensate for the weak property rights protection. This is in line with the substitute argument, which states that firms operating in weak investor protection regimes have better corporate governance (Withaar, 2016). Furthermore, the finding is also consistent with La Porta et al. (1998) who found that concentrated ownership substitutes for weak investor protection regulations. This could be justified by the result of Wu et al. (2009) who claimed that governments enjoy political power, which enables them to protect property rights. This political power serves as a substitute for investor protection regulations. This reasoning seems to apply to SOEs. However, this is not the case for private companies, which depend on formal investor protection regulations to attract shareholders (Pargendler, 2012). Strong investor protection regulations safeguards shareholder rights against political interference, which prompt corporate boards to perform more effectively (La Porta et al., 2000). Effective corporate boards usually demand higher audit-quality services (Ariningrum and Diyanty, 2017), which in turn increase audit fees.

6.4.2. Economic Freedom Index

Hypothesis three states that the relationship between board of directors' effectiveness and audit fees in SOEs is stronger in countries that have higher levels of economic freedom. Results reported in Chapter Five reveal that economic freedom does not moderate the relationship between audit fees and boards' effectiveness. However, the findings show that SOEs operating in countries with medium and high levels of economic freedom pay higher fees. This is supporting the third hypothesis, which predicted a stronger relationship between boards' effectiveness and audit fees in SOEs operating in high economic freedom countries. A conceivable explanation is the possible link between economic freedom and corruption. Viana et al. (2020) found that democracy and economic freedom are important factors for reducing corruption levels in a country. According to Malagueño et al. (2010), economic freedom is related to accounting and audit quality regulations, which mitigates perceived corruption. One of the main drivers of a high-quality audit is the level of service provided by external auditors for publicly listed firms.

Our assumption is that, SOEs that function within a country that enjoys economic freedom, tend to signal lower levels of corruption by providing high quality accounting information. This is achieved by obtaining audit services that require higher audit fees. SOEs in countries with a governance system that is supported by the rule of law, experience fewer governance issues and move easily towards good corporate governance practices (World Bank, 2014). Rule of law is one of the main pillars of the economic freedom index (The Heritage Foundation, 2019). Therefore, an SOE located in a high economic freedom country is more likely to be supported by a stronger rule of law, which enhances the effectiveness of its corporate governance. It can be deduced

SOEs' boards of directors that operate within these circumstances will most likely require greater audit services to improve audit quality.

6.4.3. Democracy Index

Hypothesis four displays that the relationship between board of directors' effectiveness audit fees in SOEs is stronger in countries that have higher levels of political democracy. The results in Chapter Five show that audit fees – boards' effectiveness relationship is not moderated by the interaction between corporate governance composite and the Democracy Index. However, the findings also indicate that SOEs operating in countries with medium and high political democracy levels pay higher audit fees. This is in line with the fourth hypothesis assumption. A possible justification for these results is the link between democratic principles and corporate transparency (De Jong, & Van Witteloostuijn, 2004; Gomez & Korine, 2005; Hollyer et al., 2011; Filgueiras, 2015). Companies that operate in countries with a high democracy level will need to answer for misinformation, especially if that involves financial reporting (Tricker, 2015; Lipscy, 2018). Furthermore, shareholder democracy, as a derivative of a broader democracy movement, seems to be applicable for companies operating under democratic regimes (Matheson & Nicolet, 2019; Parkinson, 2012). Managers are more accountable in companies that enjoy shareholder democracy (Fairfax, 2009), thus, boards in such instance are more likely to protect shareholders' rights against managerial expropriation (Matheson & Nicolet, 2019). As a result, it could be suggested that SOEs in democratic countries are motivated to promote accountability and transparency. This may require demanding high quality audit services, which results in higher audit fees.

According to Tocqueville's[8] hypothesis, the model form of governance in all organized activities is democracy (Gomez & Korine 2005). Firms, as business organizations, are more successful in reducing agency costs and improving corporate governance mechanisms when operating in countries with high democracy levels and strong rule of law (Chen & Yang, 2017). Therefore, it can be obtained that SOEs located in democratic countries are more likely to improve their corporate governance by effectively reducing agency costs. SOEs' boards in such an environment are motivated to perform effective external monitoring by hiring qualified auditors, who in turn charge higher fees.

Based on agency theory, boards of directors are expected to incur monitoring costs to address the principal-agent problem by engaging external auditors. Given the nature of SOEs, which involve lack of transparency and agency conflicts, SOEs boards' are motivated to foster accountability and transparency via requiring greater audit effort, which results in an increased amount of audit charges. The need for SOEs to strengthen their governance increases when they operate in countries with higher levels of economic freedom and political democracy. Therefore, SOEs' boards in such environments would be more incentivized to demand high-quality audit services. Engaging external auditors to ensure trust and credibility of financial statements would help in reducing conflict of interests between agents and principals (type-1 agency problem). In addition, the involvement of auditors, as an external governance mechanism, would contribute in improving corporate transparency and accountability, thus reducing the conflict between the state, as a controlling owner, and other

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[8] "Alexis de Tocqueville is accepted as one of the most insightful and important commentators on American Democracy" (McDonagh, 1985, p. 1).

shareholders (type-2 agency problem). As the engagement of auditors increases, the amount of audit fees will be increased as well.

Chapter 7: Conclusion

Chapter Seven provides the conclusion to the study by reflecting on the overall premise and empirical findings of this thesis. It also offers the implications of the research findings and recommendations for future explorations. Finally, Chapter Seven addresses the limitations of the current study and possible avenues for future research.

7.1. Summary

The astonishing growth of SOEs in many countries over the past few decades has attracted the attention of researchers towards state ownership (Bruton et al., 2015; Liang et al., 2015; Pargendler, 2012). The distinct characteristics of SOEs has prompted some researchers to examine various business and accounting interactions in the context of SOEs (Mengistae & Xu, 2004; Lin et al., 2010; Yang & Modell, 2015; Dobson, 2017; Dawson et al., 2017; Kyoungsun, 2018; Napitupulu, 2018). One of the characteristics that differentiate SOEs from other companies is that they are owned by the government, and are thus susceptible to political interference and influence (OECD, 2015). Furthermore, SOEs' strategies and objectives are usually different from those of non-SOEs (Aharoni, 1981; Shleifer & Vishny, 1994). Apart from profit maximization, SOEs are primarily concerned with achieving social, economic, and political goals (Thomsen & Pedersen, 2000). Although SOEs have a key role in many economies, they have relatively less effective governance, accountability, and transparency when compared to other companies (OECD, 2017; Royo et al., 2019). In particular, SOEs have experienced challenges in implementing sound corporate governance practices (OECD, 2015).

Due to the differences that SOEs exhibit relative to non-SOEs, and the increased government bailouts in the aftermath of the GFC, SOEs' resources need to be allocated to cover monitoring costs in order to ensure effective corporate governance

implementation. This includes requiring greater audit efforts in order to reduce agency costs and provide reasonable assurance with respect to the SOEs' financial reporting quality. Using an agency theory perspective, this thesis argues that governments will compensate for some of the problems inherent in SOEs by instilling better corporate governance quality. An effective board of directors will demand greater quality services from the external auditors in order to enhance accountability and transparency (Vagliasindi, 2008). The effort and time dedicated by the auditor will most likely be reflected in the fees that they charge the SOEs. Based on this deduction, this thesis adopts a demand-side perspective with regards to audit quality.

7.2. Conclusion

This study aims to examine the association between audit fees and board of directors' effectiveness, specifically in SOEs. The sample is comprised of 154 SOEs from 30 different countries. The data is obtained for the period 2016-2018 from the Thomson Reuters database, Bloomberg database, and SOEs' annual reports. The study estimates a number of linear regression models to test the hypotheses of the study. The dependent variable is audit fees, which represents the quality of external audits. The independent variables are the corporate governance composite, board size, board independence, frequency of board meetings, board gender diversity, and the CEO duality, which are proxies for board of directors' effectiveness in SOEs. Three country-specific indices are used in this study in order to examine their moderation effect on the audit fees – corporate governance composite relationship. These indices are the Strength of Minority Investor Protection Index, the Economic Freedom Index, and the Democracy Index. Finally, the study controls for firm-specific variables, such as firm size, risk, performance, industry, auditor type, audit complexity, and years.

The results revealed a positive association between audit fees and corporate governance composite, suggesting that SOEs that have higher levels of corporate governance have effective boards and pay more audit fees. With respect to the individual board characteristics, board size and board gender are positively related to audit fees. These results support the first hypothesis, which indicates that SOEs' boards demand higher audit quality and, thus, pay higher audit fees. However, the frequency of board meetings is found to have a negative influence on audit fees. This finding suggests that lower fees are incurred when boards meet more frequently. The results remain unchanged when the three country-specific indices are introduced to the analysis; this implies that audit fees are influenced by board characteristics in SOEs, regardless of the operating environment. However, it is found that economic freedom and democracy indices have a positive and significant impact on audit fees.

The results did not show statistical significance between audit fees and the moderation interaction variables, suggesting that the relationship between audit fees and corporate governance composite is not moderated by any of the country-specific indices. However, the study revealed that the strength of the association between audit fees and corporate governance composite varies among the various levels of the country-specific indices. In particular, the relationship between audit fees and corporate governance is stronger for SOEs operating in countries with high economic freedom and political democracy levels. These findings support hypothesis three and four. Finally, the results displayed a significant positive association between audit fees and corporate governance composite for SOEs operating in countries offering weak, medium, and strong investor protection regulations. This result indicates that both strong and weak legal protection for minority investors do not influence the relationship

between audit fees and corporate governance in SOEs. Therefore, the second hypothesis is rejected.

7.3. Implications and Recommendations

The empirical findings of the study provide important implications for governments and policy makers. Firstly, this study found a positive association between audit fees and boards' effectiveness in SOEs. Therefore, it supports the demand-side of audit quality argument, which suggests that effective boards demand comprehensive audit services and, thus, pay higher audit fees (Jizi & Nehme, 2018; Farooq et al., 2018). In this case, effective boards complement the role of governments, which seek better governance to generate long-term value for stakeholders. In particular, the results suggest that SOEs with larger and more diversified boards incur higher audit fees. Having larger and more diverse boards allow government entities to have more control over management due to their members' wide range of skills and backgrounds (Zahra & Pearce, 1989; Anderson et al., 2004). Moreover, as Selahudin et al. (2018) observed, less financial misstatement was associated with the presence of female directors on boards. Secondly, the results provide insight into the importance of appointing high-quality independent auditors to reduce agency conflicts and enhance accountability and transparency. This reinforces the OECD (2015) guideline, which states that government oversight over SOEs' financial statements should be complemented by the appointment of an external auditor based on high standards.

SOEs, similar to other companies, are influenced by their operating environment. Thus, it can be said that SOEs' corporate governance is also influenced by country-specific factors (La Porta et al., 1998; La Porta et al., 1999; La Porta et al., 2000). On that premise, it is important for regulators to consider political, economic, and legal aspects when developing corporate governance mechanisms for SOEs. This

conclusion is derived from the results, which revealed strength variations in the association between audit fees and corporate governance across different levels of the country-specific indices. Given that economically and politically free countries seek good governance by ensuring accountability and transparency, SOEs in such countries are encouraged to implement sound corporate governance practices and demand high-quality audit services.

7.4. Limitations

As is the case with many studies, this thesis faced several limitations that need to be recognized for the purpose of paving the way for further research. First, the sample of the study was limited to SOEs defined and provided by the Thomson Reuters database; thus, it is suggested that future researchers consider other sources to extend the sample. Another limitation is that the sample was limited to three fiscal years due to survival bias; expanding the study period would yield more informative results in future studies. Engaging only five board characteristics to measure the effectiveness of a board's role is also a limitation of this thesis. In addition to data availability and accessibility, these five characteristics are commonly used in the previous literature (Carcello et al., 2002; Abbott et al., 2003; Desender et al., 2009; Lai et al., 2017; Al-Najjar, 2018; Jizi & Nehme, 2018; Farooq et al., 2018). However, it is recommended for future research to examine audit committee characteristics, since there is a direct interaction between the external auditor and the audit committee (Tugman & Leka, 2019). Moreover, this thesis is limited by the exclusion of the financial sector from the sample due to the special nature of companies in that sector. Future studies can focus exclusively on financial companies in order to obtain greater insight into all companies in the market.

In addition, this thesis does not test or control for non-audit service fees. Thus, it is recommended for future research to test or control for non-audit fees since it has been found that audit fees are determined by the non-audit service fees (Shafie, Ahmad, & Ali, 2007). As this study uses the quantitative approach, future studies can generate new insights into the topic by applying the qualitative approach. Furthermore, the results cannot be generalized to a specific country except for China since the sample captured 53 Chinees firms (159 observations). However, the results could be generalized to countries with high and medium levels of economic freedom and democracy. Finally, the study sample is comprised of SOEs from countries with medium to high levels of economic freedom and investor protection. Future examinations should ensure that the sample is not skewed as such and that it properly represents various levels of country-specific indices.

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## Appendix A: Distribution of SOEs Based on Countries

Country	Firms	Firm-Year Observations
Argentina	2	6
Austria	3	9
Belgium	2	6
Brazil	11	33
Canada	1	3
China	53	159
Colombia	2	6
Czech Repablic	1	3
Denmark	1	3
Finland	2	6
France	4	12
Hong Kong	12	36
India	11	33
Indonesia	8	24
Italy	4	12
Japan	2	6
Korea Republic (South)	4	12
New Zealand	3	9
Norway	2	6
Oman	1	3
Pakistan	1	3
Poland	6	18
Russia	3	9
Singapore	2	6
Spain	1	3
Switzerland	2	6
Taiwan	1	3
Thailand	4	12
United Arab Emirates	1	3
United States of America	4	12

Appendix B: Distribution of SOEs Based on Industries

Industry	Firms
Energy	21
Materials	10
Industrials	41
Consumer Discretionary	13
Consumer Staples	2
Health Care	4
Information Technology	4
Communication Service	14
Utilities	42
Real Estate	3
Total	**154**

Appendix C: Regression Assumptions

I. Normality for Models 3.1 and 3.2

Histogram

Dependent Variable: AUDFEES

Mean = 2.58E−15
Std. Dev. = 0.981
N = 462

Histogram

Dependent Variable: AUDFEES

Mean = −1.88E−15
Std. Dev. = 0.977
N = 462
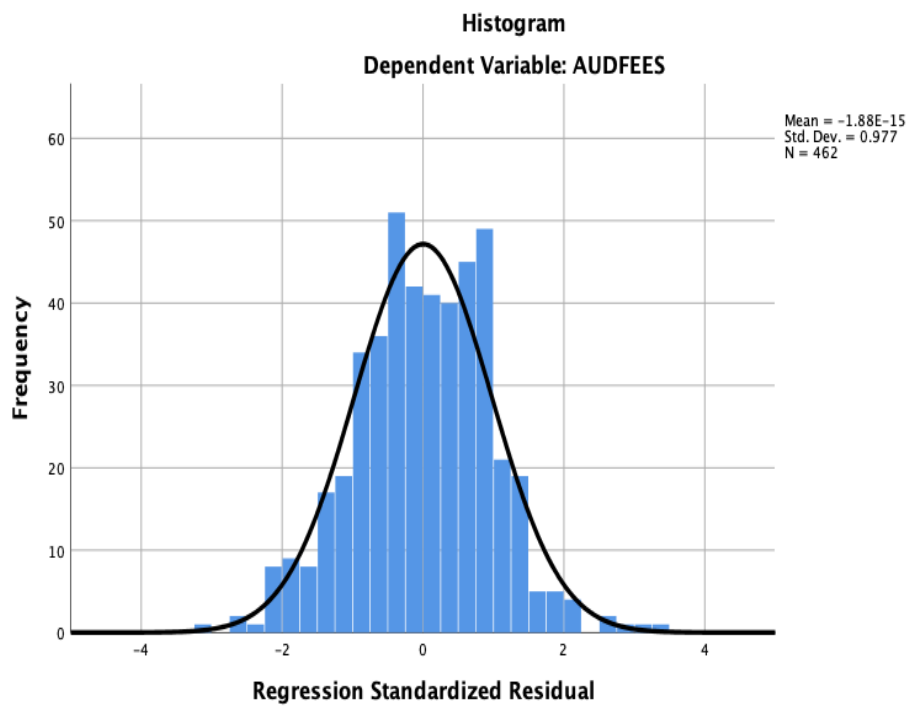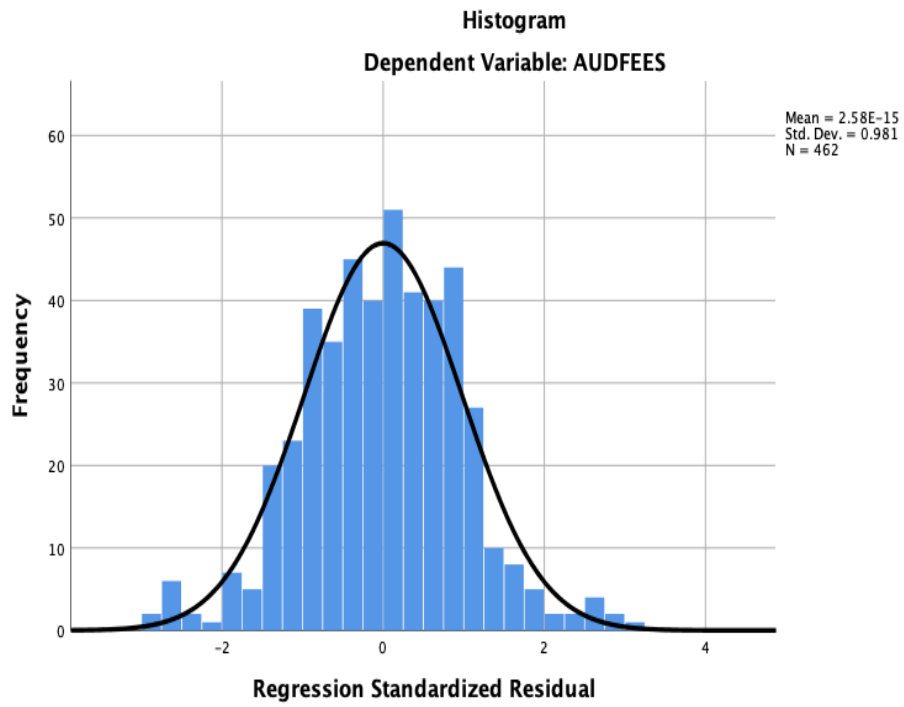
II. Linearity for Models 3.1 and 3.2

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: AUDFEES

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: AUDFEES
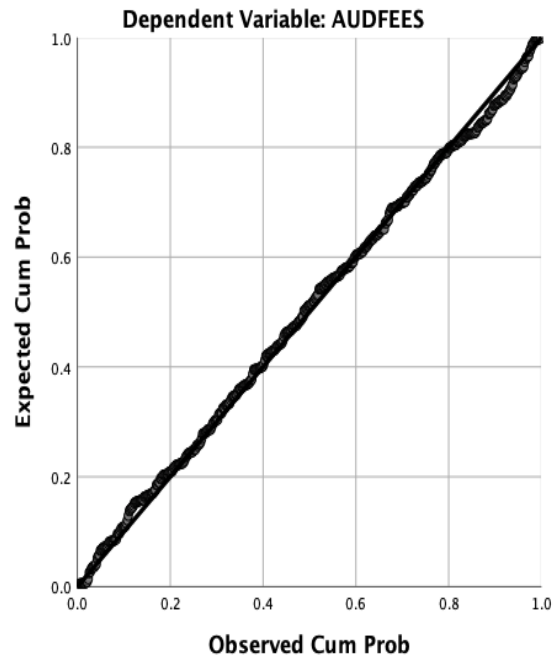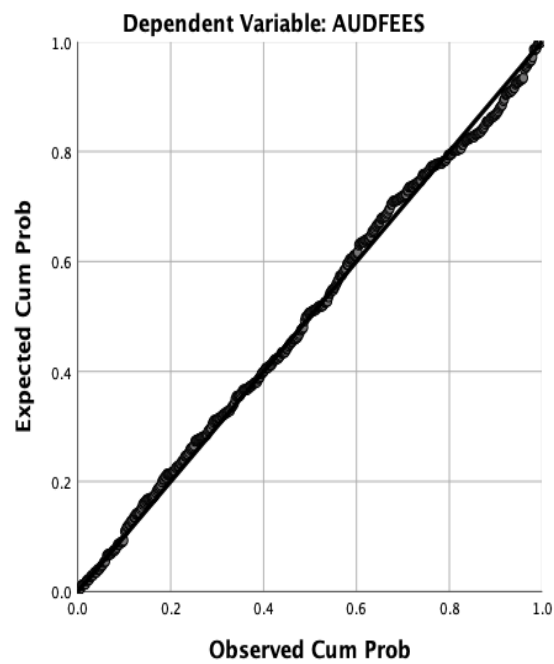
III. Homoscedasticity for Models 3.1 and 3.2

Scatterplot

Dependent Variable: AUDFEES

Scatterplot

Dependent Variable: AUDFEES
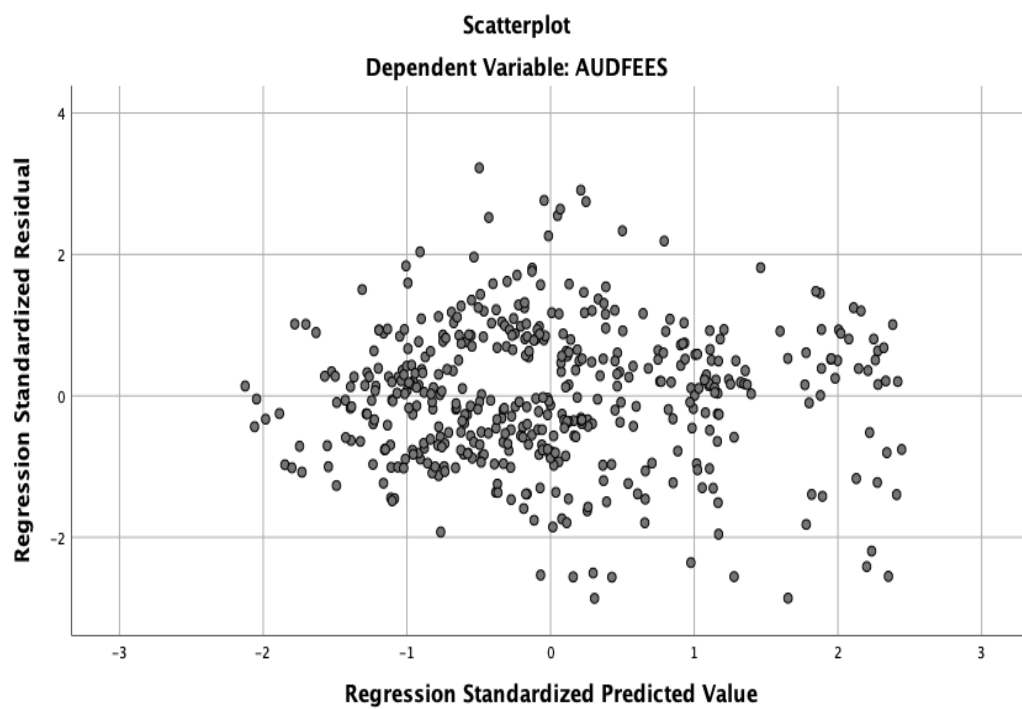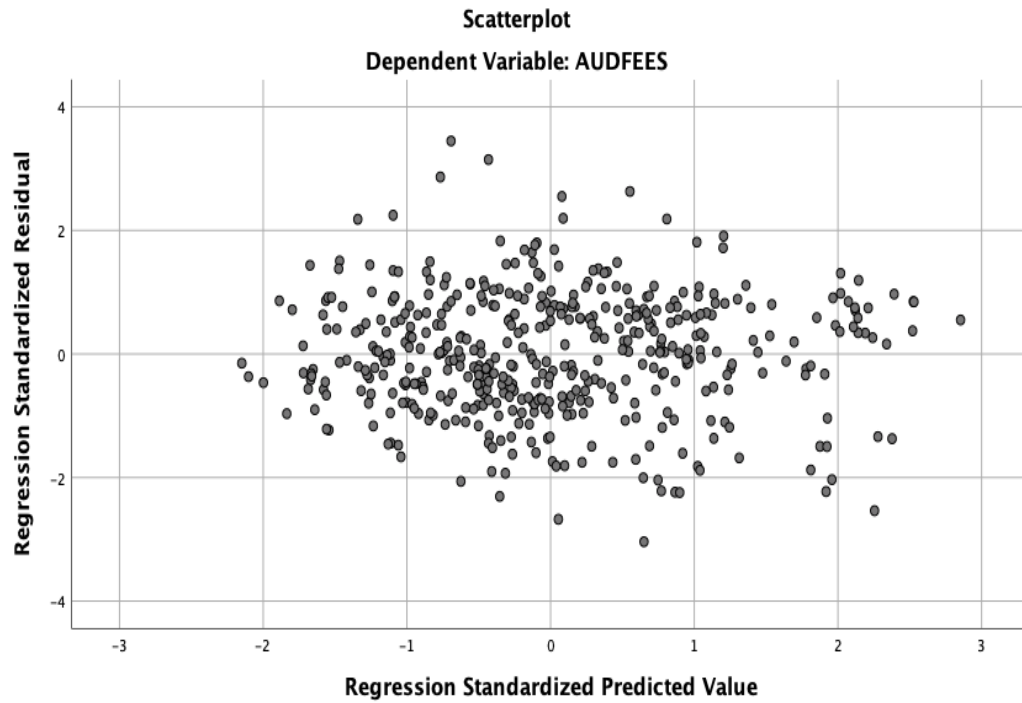
IV. Multicollinearity Test for Models 3.1 and 3.2

Variance Inflation Factor for Model 3.1

Variable	VIF
GOVCOMP	1.174
FirmSIZE	1.275
LEVERAGE	1.275
INVREC	1.438
ROA	1.186
Big4	1.167
EF_INDEX	1.067
DMC_INDEX	1.121
SMIP_INDEX	1.150

Variance Inflation Factor for Model 3.2

Variable	VIF
BoardSIZE	1.345
BoardMEETINGS	1.216
BoardIND	1.280
BoardGENDER	1.287
DUAL	1.158
FirmSIZE	1.368
LEVERAGE	1.338
INVREC	1.500
ROA	1.242
Big 4	1.107
EF_INDEX	1.076
D_INDEX	1.161
SMIP_INDEX	1.260