School of Accounting

Book-*Zakat* differences and Earnings Persistence: Evidence from Saudi Arabia

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DECLARATION

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgment has been made.

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ABSTRACT

This thesis examines the relationship between book-zakat differences (*BZDs*) and earnings persistence for a sample of Saudi non-financial listed firms. Further, the thesis investigates the impact of two important Saudi's capital market institutional settings: the appointment of royal family directors to the board of directors and institutional investors' presence on the persistence of accounting earnings. Next, the study investigates whether these two institutional settings mitigate the relationship between *BZDs* and earnings persistence.

The sample of the thesis is based on 636 firm-year observations during the 2012–2017 period. This study uses pooled ordinary least square (OLS) regression to test the hypothesized relationships between the independent variables and the dependent variable. All financial data are downloaded from S&P Capital IQ database. Data related to zakat disclosures, corporate governance, royal family directorship, and institutional ownership are hand-collected from the firms' annual reports available at the Saudi stock exchange, Tadawul.

The empirical analysis shows that the magnitude of the firm's book-zakat differences is negatively associated with earnings persistence. This suggests that firms whose book income significantly differ from their taxable income (i.e., large book-zakat differences, *LBZD*) exhibit less persistent accounting earnings than firms with smaller book-zakat differences (*SBZD*). Second, the analysis shows that firms with royal family members serving as directors exhibit significantly higher earnings persistence than firms that do not have royal family directors. The study's extended analysis finds the royal family's presence on the board of directors to mitigate the negative relationship between *LBZD* and earnings persistence. Next, the study documents a positive link between institutional investors' ownership and earnings persistence. Finally, the empirical results show that institutional investors' ownership mitigates the negative association between *LBZD* and earnings persistence.

The thesis provides several contributions. First, it documents the Islamic tax system's role, zakat, in a capital market setting, which is largely unexplored. Further, the thesis extends the extant literature of the role of the royal family and institutional investors within the Gulf Cooperation Council context. Overall, the results remain qualitatively unaltered after performing a series of additional analyses and controlling for endogeneity concerns.

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ABBREVIATIONS

AASB	Australian Accounting Standard Board
BTDs	Book-tax differences
BZDs	Book-zakat differences
CEDA	Council of Economic and Development Affairs
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CMA	Capital Market Authority
EPS	Earnings Per Share
ERC	Earnings Response Coefficient
GAAP	Generally Accepted Accounting Principles
GAZT	General Authority of Zakat and Tax
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GOSI	General Organization for Social Insurance
IFRS	International Financial Reporting Standards
IPO	initial public offering
IRS	Internal Revenue Services
IRC	Internal Revenue Code
LBTD	Large book-tax differences
LBZD	Large book-zakat differences
MCI	Ministry of Commerce and Investment
MTB	Market-to-Book Value
OLS	Ordinary Least Square
PIF	Public Investment Fund
PPF	Public Pension Fund
ROA	Return on Assets
ROE	Return on Equity
SAMA	Saudi Arabian Monetary Authority (the central bank)
SBZD	Small book-zakat differences
SCI	Specialized credit institutions
SOCPA	Saudi Organization for Certified Public Accountants
Tadawul	Saudi Stock Exchange
UK	United Kingdom
VIFs	Variance Inflation Factors
USA	United States of America

CHAPTER 1: INTRODUCTION

1.1 Background and motivations

Saudi Arabia possesses social, institutional, legal, and political features similar to those prevailing across the Arab region (the Gulf Cooperation Council, or GCC, member states in particular) and across the Islamic world.[1] These features differ significantly from those of developed countries. More specifically, Saudi Arabia is an Islamic country where religion is believed to be the most influential factor affecting every act. Therefore, Islamic teaching substantially influences the day-to-day life of Saudi society (Haniffa & Hudaib, 2007). Moreover, the Saudi government stresses that *Shariah* (Islamic) law is the formal statutory law for the country (Al-Matari et al., 2012). *Shariah* law governs all spheres of life, including the business and tax environment. Unlike the traditional corporate income tax practiced globally, the Saudi taxation system is primarily influenced by Islam's teaching and is based on the concept of Islamic *zakat*. The Saudi zakat and income tax law requires all listed companies to file an audited zakat return to the General Authority of Zakat and Tax (GAZT) every year. Likewise, the Saudi Companies Act requires Saudi firms to disclose zakat-related items (e.g., zakat expense and zakat liability) in their audited financial statements (see Appendix 1 for an example).[2] Islamic zakat — which has been referred to as a religious levy in the Islamic literature — is charged to firms wholly owned by Saudi nationals and nationals of other GCC member states.[3] If the firm is mixed-ownership (owned by Saudi/GCC nationals and other foreign investors), then zakat applies to the proportion owned by Saudi/GCC nationals while income tax applies to foreign investors' ownership.

Apart from the Islamic characteristics of the zakat system discussed above, Saudi Arabia is a conservative tribal society built on Arabic traditions and cultural values, including familial ties and informal social relations (Elamin & Alomaim, 2011; Haniffa and Hudaib, 2007). Further, the political system in Saudi Arabia (like other GCC states) is a monarchy, wherein the king/ruler and his family members have

[1] For more information about the Saudi institutional environment see for example (Haniffa & Hudaib, 2007; Hussainey & Al-Nodel, 2008; Piesse et al., 2012).
[2] Appendix 1 provides an example of how zakat is disclosed on the financial statements of Saudi listed firms.
[3] Extant Islamic literature has described zakat as a religious levy as well as a form of corporate taxation (see for example Al-Sehali & Spear, 2004; Al-Ajmi et al., 2009; Lewis, 2001)

unlimited power and authority over the country's political, economic, and legal spheres (Al-Turaiqi, 2008). Such a political system also reinforces personal relationships, promotes cronyism, prohibits elections, and discourages press freedom, leading to an overall unsound governance system (Haniffa & Hudaib, 2007; Hertog 2012; Mazaheri 2013). Further, the ruling families in the GCC regions employ their members in important government offices. Thus, it is not surprising to see individuals from the ruling family appointed to corporate boards. Interestingly, many of these individuals are not necessarily appointed based on their qualifications but, instead, based on their royal status or social connections (Mazaheri, 2013).

Arguably, such appointments are perceived to have an impact on governance practices and firm value. Therefore, the second objective of this research is to investigate the impact of royal family directors on the earnings persistence of Saudi firms. Prior literature has discussed this phenomenon in the context of political connections within the GCC region (i.e., Al-Hadi et al., 2016, 2017; Al-Nasser, 2019). Board political connections are perceived to be valuable and may increase firm value. Fisman (2001) examines the impact of political connections on firm value in Indonesia and shows that business groups close to former President Suharto and his family experienced a sharp decline in market value following the announcements of bad news concerning the president's health. Using a cross-country firm sample, Faccio (2006) investigates the effect of political connections on firm value and documents an increase of more than 2% in firm value following announcements of a board member or large shareholder entering the political landscape. Other studies, however, have linked political connections to non-value-maximizing activities or unfavorable corporate outcomes. Gul (2006) examines how audit fees is affected by Malaysia's corporate political connections and shows that politically connected firms incur higher audit fees than non-connected firms. Gul (2006) concludes that this relationship exists for two reasons: (1) perceived cronyism that leads to less efficient operation and (2) inability to receive government subsidies during the time of financial crisis pressuring connected firms to report materially misstated financial statements. In a similar study, Abdul Wahab et al. (2009) examine whether institutional investors and political connections affect audit fees in Malaysia. The authors find that audit fees paid by connected firms are 17.58% higher than those paid by non-connected counterparts, indicating that auditors regard connected firms as having an increased inherent risk.

In Saudi Arabia, royal family board members are expected to be helpful and provide a competitive advantage to the firms they serve, as they have social prestige, royal status, and political power (Henry & Springborg, 2010) and derive rents from the government, including legal protection, subsidized credit, and access to resources and contracts (Mazaheri, 2013). Further, royal family members' presence on the company board arises from their royal status, their controlling interest of a firm's equity ownership, their selection by a nomination committee, or being the company's founders (Hertog, 2012). Thus, these directors are expected to refrain from taking questionable actions that may increase public scrutiny or attract market attention. Therefore, I hypothesize that firms with royal family board members — as denoted by the dummy variable (*RoyDir*) — will have higher persistent earnings than firms that do not have royal directors.

Moreover, in Saudi Arabia, firms' ownership structure is deemed highly concentrated, notably by institutional investors. By the end of 2018, the total holdings of these institutions amounted to SAR 1258.5 billion (US$335.4 billion), representing 67.72% of total stock market capitalization, of which approximately SAR 754.4 billion (US$198 billion) or 40.59% belonged to institutional investors established by the government. There are three institutional investors in Saudi Arabia. The first is the Public Investment Fund (PIF), a sovereign wealth fund investing on behalf of the Saudi government domestically in Saudi firms and internationally. The second is the Public Pension Agency (PPA), whose main service is to disburse pensions monthly to government employees (civilian and military) after retirement, and the third is the Saudi General Organization for Social Insurance (GOSI), whose main objective is to provide benefits for retired workers in non-government sectors.

Investors with substantial holdings in a firm's equity have long been viewed as an essential governance device in resolving agency problems (Shleifer & Vishny, 1997), as they can afford to implement costly governance actions dedicated to monitoring corporate managers (Jennings, 2005) and influencing firm's decision-making process (Chung et al., 2002). Further, institutional investors are also considered sophisticated investors who have superior information access and processing abilities than individual investors (Bartov et al., 2000; Velury & Jenkins, 2006). Prior literature has presented two competing hypotheses about institutional investors' role: the private benefit hypothesis and the active monitoring hypothesis. The former predicts that institutional investors behave myopically in their investments

as they focus excessively on short-term earnings to meet quick earnings benchmarks to the detriment of long-term equity investment (e.g., Coffee, 1991; Porter, 1992). The latter, on the other hand, predicts that due to their concentrated equity holdings and sophistication, institutional investors play an active role in monitoring their investee companies (Jiambalvo et al., 2002; Velury & Jenkins, 2006), pressuring and influencing corporate managers (Chung et al., 2002) and protecting minority shareholders' interests (Daily et al., 2003; Abdul Wahab et al., 2007).

Consistent with the active monitoring hypothesis, prior empirical studies provide evidence that institutional investors positively impact firm value. For instance, Brous and Kini (1994) find a positive and significant relationship between the level of institutional investors' ownership and stock return. Consistent with their prediction, Jiambalvo et al. (2002) find that the stock prices of firms with higher levels of institutional ownership contain more information about forthcoming earnings relative to firms' lower institutional ownership. Velury and Jenkins (2006) and Kane and Velury (2004) find that institutional ownership levels are significantly and positively correlated with earnings quality and audit quality, respectively. Moreover, Abdul Wahab et al. (2007) find a positive relationship between institutional investors and corporate governance code in the Malaysian setting. They also find that the presence of institutional investors protects other minority investors. Therefore, consistent with the active monitoring hypothesis presented above, I hypothesize that firms largely held by institutional investors — as denoted by the variable (*InstOwn*) — will exhibit higher earnings persistence.

1.2 Research questions and objectives

Studying the linkage between a firm's taxable income and its reported earnings has been a subject of great interest to both financial and tax accounting scholars. Extant literature from developed countries (e.g., the US and the UK) suggests that an increased level of BTDs may raise serious concerns about the persistence and quality of reported earnings (Phillips et al., 2003; Lev & Nissim, 2004; Hanlon, 2005; Blaylock et al., 2012; Tang & Firth, 2012). The underlying argument for BTDs being informative about fundamental firms outcomes (e.g., earnings persistence) is that financial accounting principles (i.e., GAAP) provide managers with more discretion over the accounting choices and accruals process than do the more conservative tax laws (i.e., IRC) (Hanlon, 2005; Mills & Newberry, 2001; Phillips et al., 2003; Hanlon

at al., 2010). This discretion provides corporate managers with greater incentives to practice aggressive financial reporting (i.e., avoid reporting a loss or earnings decline) and/or tax reporting (i.e., increase tax savings) (Mills, 1998; Phillips et al., 2003). In support of this argument, empirical research provides evidence that firms with large BTDs exhibit significantly lower earnings persistence (less transparent earnings) than firms with small BTDs (Hanlon, 2005; Blaylock et al., 2012; Tang & Firth, 2012).

The primary objective of this research is to extend the above line of research by investigating whether *BZDs* hold information about earnings persistence in the Saudi context. More specifically, I examine whether the negative association between book-tax differences (BTDs) and earnings persistence documented in developed countries (see Hanlon, 2005) also holds for Saudi-listed firms.[4] Like the BTDs approach, this research adopts a similar construct to investigate the role of book-zakat differences (*BZDs*) in indicating the persistence of accounting earnings. *BZDs* are measured as the total differences between a firm's income reported on the income statement and its zakatable income reported on its zakat return to determine the amount of zakat owed to the government. Therefore, findings from this research will shed light and understanding on *BZDs*/ earnings persistence linkage in a new context for several reasons. First, in Saudi Arabia existing research on the role of zakat-related disclosure in informing about firms outcomes is limited, often takes theoretical form and is descriptive in nature. Additionally, empirical studies are often survey- or interview-based (e.g., Habbash & Alghamdi, 2015) and thus lack more in-depth analysis about managing zakat for reporting incentives. Nonetheless, anecdotal evidence suggests that corporate managers have exploited zakat reporting to increase their compensation scheme and/or to increase firm tax savings through manipulating zakat returns (Al-Moghaiwli, 2001; Al-Sehali & Spear, 2004; Habbash & Alghamdi, 2015). Such exploitation often gives rise to book-zakat difference being larger. Therefore, I hypothesize that firms with large book-zakat differences — as denoted by the dummy variable (*LBZD*) — will exhibit significantly lower earnings persistence levels than firms with small book-zakat differences. Consistent with the research's main objective, the first main question is stated as follows:

[4] See for example Hanlon (2005) and Blaylock et al. (2012) in the US, Abdul Wahab & Holland, 2015 in the UK, and Tang and Firth (2012) in China.

RQ1: Will Saudi publicly listed firms with larger book-zakat differences (LBZDs firms) exhibit less persistent earnings than firms with small book-zakat differences (SBZDs firms)?

While this research is primarily motivated by the Islamic values influencing the Saudi corporate taxation practices (e.g., zakat system), the research also investigates the impact of two important Saudi's capital market institutional settings: (a) the appointment of royal family directors to the board of directors and (b) institutional investors' presence on the persistence of accounting earnings. Consequently, this research offers the following research questions:

RQ2: Will Saudi publicly listed firms with royal family directors exhibit higher persistent earnings than firms without royal family directors?

RQ3: Will Saudi publicly listed firms with higher institutional investors' ownership exhibit higher persistent earnings than firms without such ownership?

Finally, the study investigates whether these two institutional settings moderate the relationship between *BZDs* and earnings persistence. The study proposes the following research questions:

RQ4: Will the negative association between BZDs and earnings persistence be mitigated with the presence of royal directors on the firm's board?

RQ5: Will the negative association between BZDs and earnings persistence be mitigated with the presence of institutional investors?

The five research objectives corresponding to the five research questions are summarized as follows:

1. To examine whether the Saudi firms with large book-zakat differences (*LBZDs* subsample) will exhibit less persistent accounting earnings than firms with small book-zakat differences (*SBZDs* subsample). This objective corresponds to research question *RQ1*.
2. To examine whether Saudi firms with individual royal family members serving on boards will have higher earnings persistence than firms without royal directors. This objective corresponds to research question *RQ2*.
3. To examine whether Saudi firms with larger institutional ownership in their equity structures will exhibit higher earnings persistence than firms without such ownership. This objective corresponds to research question *RQ3*.

4. To examine whether the presence of royal family board directors mitigates the relationship between large book-zakat differences and earnings persistence. This objective corresponds to research question *RQ4*.
5. To examine whether institutional investors' ownership mitigates the relationship between large book-zakat differences and earnings persistence. This objective corresponds to research question *RQ5*.

1.3 Significance of the Study

This research makes significant contributions to various strands of the literature. First, it contributes to Islamic zakat literature. Although numerous studies have looked into the subject of Islamic zakat, none have progressed beyond the theoretical perspective, and all have been descriptive in nature. That is, there has been only anecdotal evidence for the implications of zakat disclosures on corporate outcomes. This research empirically fills this gap. To the researcher's knowledge, this study is the first attempt to empirically examine the role of zakatable income in providing information about companies' earnings persistence. Since the zakat concept is closely equivalent to the concept of corporate taxation, this research adopts the book-tax differences (BTDs) approach, commonly employed by the tax and accounting scholars, to validate the research assumptions. Evidence from prior studies on BTDs may not be generalizable to the Saudi corporate tax environment; therefore, this study extends this line of research by examining whether the negative association between BTDs and earnings persistence documented in prior studies (mainly in the USA) holds for Saudi-listed companies. The regression results show that Saudi firms with large book-zakat differences (*LBZDs* subsample) exhibit significantly less persistent accounting earnings than firms with small book-zakat differences (*SBZDs* subsample). This suggests that both BTDs and *BZDs* have a similar impact on the persistence of accounting earnings. Consequently, incorporating such an approach will explain both the tax and financial reporting environment for Saudi investors and foreign investors willing to invest in the Saudi capital market.

Second, this research contributes to the growing literature on the value and the impact of political connections on reporting transparency in a GCC corporate context that is socially, legally, and politically different from most other developed and developing countries. Specifically, to date, the existing literature on the effects of political connections on the quality of reported earnings has not only overlooked the

unique political environment of the GCC region but also yields contrasting results regarding such effects (see, for example, Chaney et al., 2011; Batta et al. 2014). Besides being a conservative tribal society, built on Arabic traditions and significantly influenced by Islamic concepts (Elamin & Alomaim, 2011), the GCC region (including Saudi Arabia) is believed to have a distinctive political and legal system that takes the form of monarchy, where the king/ruler and his family members have unlimited power and authority over the country's political, economic, and legal spheres (Al-Turaiqi, 2008). Such a political system reinforces personal relationships, promotes cronyism, prohibits elections, discourages press freedom, and overall suffers from weak governance (Haniffa & Hudaib, 2007; Hertog 2012; Mazaheri 2013). In such a corporate environment, specific groups (in particular the royal family members) have access to government resources, hold privileged positions, have royal power and prestige, and directly or indirectly (through their agents) have the ultimate ownership and control of most of the businesses in Saudi Arabia (Mazaheri, 2013). Prior studies (e.g., Al-Hadi et al., 2016, 2017; Al-Nasser, 2019) examining board political connections in the GCC region have provided mixed evidence on the impact of royal directors on firms. Therefore, this research contributes to this limited and conflicting literature. Specifically, in contrast to Al-Hadi et al. (2016), who find that the appointment of individuals from the royal family to corporate boards is detrimental, I find that royal family board directors are positively and significantly correlated with accounting earnings persistence, indicating that their presence is advantageous and is associated with improved board monitoring effectiveness.

Third, this research contributes to the extant literature on the monitoring effectiveness of institutional investors (Jennings, 2005; Khurana & Moser, 2013; Velury & Jenkins, 2006) by documenting a positive relationship between institutional investors and earnings persistence. The study sheds light on the role of institutional investors in promoting the quality and credibility of financial reporting from the perspective of an emerging capital market, such as the Saudi capital market. Researchers (e.g., Aguilera et al., 2008; Aguilera and Jackson, 2010) have called for consideration of country-level characteristics (e.g., legal system and ownership structure) when examining the monitoring incentives for institutional investors in improving their investee firms' information environment. Additionally, when the Saudi capital market experienced a devastating crash in 2006, losing nearly 53% (or US$480 billion) of its value by the end of the year, the crash was attributed to the

absence of active institutional investors, which had worsened the financial impact of the crash, as pointed out by Lerner et al. (2017). In 2015, the Saudi government announced opening of the capital market to foreign institutional investors to attract foreign capital and liquidity to the market and promote reporting transparency. As such, the findings of this research should enhance the understanding of not only local institutional investors but also foreign institutional investors in terms of allocating investment capital in an environment that suffers from weak legal protection for minority investors. The research findings also contribute to the view that institutional investors have varying sizes and objectives owing to their heterogeneity (Ryan & Schneider, 2003; Abdul Wahab et al., 2009). In particular, I extend this research by categorizing institutional investors into either government or non-government. Consequently, I find that non-government institutional investors play a greater role in monitoring their portfolio firms than government institutional investors, suggesting that institutional investors' heterogeneity leads to varying levels of activism, as the literature suggests (Ryan & Schneider, 2002, 2003).

Fourth, this research will add to the growing literature regarding the usefulness of earnings persistence as an important attribute of earnings quality from the lens of important emerging markets, such as the Saudi market, where firms operate in less transparent reporting environments. Prior studies on the persistence attribute of earnings have focused on the USA (e.g., Francis et al., 2004; Hanlon, 2005; Richardson et al., 2005) and the UK (e.g., Abdul Wahab & Holland, 2015; Eliwa et al., 2016). This line of research is still unexplored within the Saudi context, and the empirical results of this research thus provide new insights beyond those provided in the abovementioned countries.

1.4 Summary of research findings

This research makes several key findings, summarized as follows. First, the empirical results show that firms with large book-zakat differences — as denoted by the dummy variable (*LBZD*) — present significantly lower earnings persistence levels than firms with small book-zakat differences (*SBZD*). More specifically, a one standard deviation increase in *LBZD* is associated with an 11.1% decline in earnings persistence. This result is consistent with hypothesis *H1*, which predicts that as the book-zakat difference widens (e.g., book income exceeds zakatable income), the persistence of earnings declines.

Second, the empirical results demonstrate that firms with royal family members serving as directors — as denoted by the dummy variable (*RoyDir*) — exhibit significantly higher earnings persistence levels than firms that do not have royal family directors. More specifically, a one standard deviation increase in *RoyDir* is associated with a 22.64% increase in earnings persistence. This result is consistent with hypothesis *H2*, which predicts that royal family board members' presence is advantageous to the firm and that such presence will be associated with higher earnings persistence.

Third, the empirical results show that the presence of royal family directors weakens the negative association between *LBZD* and *PERSIST*. The coefficient on the two-way interaction term (*LBZD*RoyDir*) yields positive and significant results. More specifically, I find that a one standard deviation increase in *LBZD* is associated with a 6.37% reduction in earnings persistence in the absence of royal directors (*RoyDir* = 0), but associated with a 2.5% increase in earnings persistence when the interaction term (*LBZD*RoyDir*) is introduced. These results suggest that when royal family directors are present on the firms board (*RoyDir* = 1), the negative association between *LBZD* and *PERSIST* is mitigated. These results are consistent with hypothesis *H2A*, indicating that royal family directors mitigate the negative impact of large book-zakat differences on earnings persistence.

Fourth, the results provide evidence that higher equity ownership by institutional investors — as denoted by the continuous variable (*InstOwn*) — is associated with higher earnings persistence. More specifically, a one standard deviation increase in *InstOwn* is associated with an 18.30% increase in earnings persistence. This result is consistent with hypothesis *H3*, which predicts that institutional investors' ownership is an effective monitoring mechanism in solving agency problems and promoting financial reporting quality. Further, these results are in line with agency theory, which suggests that firms with concentrated ownership are more capable of constraining managerial opportunism than firms without such ownership concentration.

Fifth, the empirical results show that institutional investors' equity ownership attenuates the negative association between *LBZD* and *PERSIST*. In particular, the coefficient on the two-way interaction term *LBZD*InstOwn* is positive and statistically significant for *PERSIST* as the dependent variable. More specifically, I find that one standard deviation increase in *LBZD* is associated with a 6.86% reduction in earnings persistence, but this negative association is mitigated 21.26%) when the interaction

term *LBZD*InstOwn* is included in the regression. These results are consistent with hypothesis *H3A*, suggesting that institutional investors (due to their large size, sophistication, and information-gathering capability) are more likely to increase their monitoring duties in firms with large book-zakat differences (*LBZD* subsample), as they worry more about the quality of earnings of such firms. Further, these results are consistent with the active monitoring hypothesis that institutional investors play an active role in monitoring management activities, notably those related to the financial reporting process. Overall, the results continue to be robust after performing a series of additional tests and controlling for endogeneity issues.

1.5 Thesis structure

The remainder of this thesis proceeds as follows. Chapter 2 outlines the institutional background in Saudi Arabia, focusing on the political, legal, and economic system, and highlighting important bodies governing the business practices and accounting profession in Saudi Arabia. Chapter 3 summarizes the relevant literature on the dependent and independent variables of the study. Chapter 4 details the hypotheses development, while Chapter 5 outlines the data collection, the sample profile, variables measurements, and regression models. Chapter 6 presents the empirical results, while Chapter 7 presents the additional and robustness tests. Finally, Chapter 8 summarizes the findings and concludes the thesis.

CHAPTER 2: SAUDI INSTITUTIONAL BACKGROUND

2.1 Overview of chapter

Chapter 2 presents a brief overview of Saudi Arabia and highlights key institutional factors affecting business practices. Specifically, the chapter begins by discussing the country's political, legal, economic, and financial systems. Key monitoring and governing bodies are then reviewed. This is followed by a brief review of the Saudi tax and Islamic zakat system. The following section discusses the importance of royal family members, including their involvement in firms' ownership and management. A brief insight into the concept of earnings quality in Saudi Arabia is then highlighted before a summary of the discussion concludes the chapter.

2.2 The Saudi institutional setting

2.2.1 The political system

Saudi Arabia is a developing country that emerged in 1932 when King Abdul Aziz Al-Saud declared the formation of the modern Kingdom of Saudi Arabia. Riyadh, the largest and the most populous city, is the country's capital. The system of government in Saudi Arabia is based on the concept of absolute monarchy; the king acts as the chair of the Council of Ministers and has absolute authority over all three arms of state's authorities: judicial, legislative, and executive (Al-Turaiqi, 2008). The monarchical form of government system is recognized in many other countries around the world, including the United Kingdom, Belgium, Malaysia, and Japan.

The Council of Ministers, also known as the Cabinet, is the principal channel of government through which the king exercises authority and approves decisions. It comprises seven state ministers and 21 other ministers with portfolio. The cabinet holds a weekly session chaired by the king or his deputy (the Crown Prince). It is responsible for issuing ministerial decrees as well as the implementation of internal and external policies. Its resolutions are invalid unless agreed upon by the majority of the cabinet members. In the event of a tie, the cabinet chair (the king or his deputy) exercises the deciding vote. In addition, there are two other councils that advise the king and the Cabinet on matters that are important to Saudi Arabia. The first is the Consultative Council, also known as Alshura Council, is an official advisory body consisting of 150 members. These members are appointed by the king and typically include businessmen, academics, government officials, and religious scholars. The

council advises the king and comments on general matters referred to it by the Council of Ministers. Article 15 of Alshura Council Law states:

> The council should express its opinion on the general policies submitted to it by the chair of Council of Ministers, specifically (1) it should discuss the general plan for social and economic development, (2) review laws, regulations, treaties and international agreements and express a view on it, (3) interpret laws, and (4) discuss annual reports provided by state ministries and other governmental units and provide whatever recommendations it deems necessary.

The second is the Council of Senior Scholars, also known as Council of *Kibar AlUlama*, which is the highest religious body in Saudi Arabia. The council is made up of 21 members appointed by the king and is in charge of advising the king on religious matters. In addition, it ensures that Islamic law is followed and Islamic rituals are properly practiced.

2.2.2 The legal system

Saudi Arabia occupies an important position in the Islamic world because it is the home of Islam's two holiest cities: Makkah, the birthplace of Prophet Mohammed (PBUH) and the home of Kabba (the direction toward which more than a billion Muslims pray), and Madinah, the burial place of Prophet Mohammed (Falgi, 2009). Saudi Arabia is an Islamic country where the religion of Islam is evident in all aspects of life, including its legal system. Accordingly, the country's legal system is based on Islamic teachings, known as Islamic law or *Shariah* law. Shariah law consists primarily of the Holy Quran and, secondarily of the Sunnah, the teachings of Prophet Mohammed (PBUH). In this context, Article 1 of Chapter 1 of the Basic Law of Saudi Arabia states:

> The Kingdom of Saudi Arabia is a sovereign Arabic and Islamic state. Its religion is Islam. Its constitutions is the Holy Quran and the Sunnah (Traditions) of Prophet Mohammed (PBUH). Arabic is the Kingdom's language and the City of Riyadh is its capital.

The third source of law in Saudi Arabia is *Ijma*, the agreement or consensus of Muslim scholars on a particular matter where the first two sources (the Quran and the Sunnah) remained silent. It drives its binding force or legitimacy from the Hadith of Prophet Mohammed (PBUH) in which he says, "my community will never agree upon an error." *Qias* or analogy constitutes the fourth source of Shariah law. In addition, the King and the Council of Ministers can issue royal and ministerial orders. These orders

or decrees are issued to organize life's complexity and govern commercial and trade activities. Examples of such decrees address commercial law, labor law, companies law, and tax law. These laws must be published in *Umm al-Qura*, the official Saudi Gazette. Moreover, since Saudi Arabia has strong historical relationships with many developed countries, specifically the USA and the UK, aspects of those countries' legislation have been adopted and implemented in the local business environment, such as accounting and auditing policies and practices (Al-Angari, 2004).

2.2.3 The economic system

When the modern Saudi state was established in 1932, the country was an agricultural society and the economic system was wholly reliant on farming and selling of locally grown foods. The kingdom was poor, had only basic facilities and lacked the infrastructure needed to serve the country and its people. However, the discovery of oil in large quantities in 1938 resulted in dramatic developments in the Saudi economy. Today, the Saudi economy is the largest in the Middle East and ranks 18th worldwide, with Gross Domestic Product (GDP) estimated at US$793 billion (World Bank, 2019). The oil and gas industry constitutes the main source of national income, accounting for roughly 50% of the country's GDP and 70% of its total export revenues. Saudi Arabia possesses 266.3 billion barrels or 18% of the world's proven oil reserves (OPEC, 2018). Furthermore, recent statistics show that Saudi Arabia is now the world's largest oil producer and exporter (see Table 2.1), with an average daily output of 9.96 million barrels in 2017 (SAMA, 2018).[5]

Table 2.1. Saudi oil production 2014–2017

					% Change	
Year	2014	2015	2016	2017	2016	2017
Total production	3,545.1	3,720.3	3,828.4	3,635.3	2.9	-5.0
Daily average	9.71	10.19	10.46	9.96	2.60	-4.80

Source: Ministry of Energy, Industry and Mineral Resources

[5] SAMA is the Saudi Arabian Monetary Authority, which performs as the Saudi central bank.

In 2017, the Saudi government announced a series of reforms, led by the Crown Prince, including reforms to its political, social, and economic systems. These reforms are parts of a long-term plan named "Saudi 2030 Vision" and aimed at transforming the country into a global investment powerhouse. The 2030 Vision revolves around the diversification of revenue sources by reducing the degree of reliance on oil and gas production and export. Diversification of income sources is inevitable to avoid risks associated with the depletion of natural resources and the uncertainty of supply and demand (Banafea & Ibnrubbian, 2018). The Saudi government introduced three initiatives to achieve its 2030 agendas. First was the establishment of an anti-corruption commission, to create an attractive investment environment, increase transparency, and promote foreign and local investors' trust and reinforce confidence in the local economy. The second was opening the Saudi capital market to foreign investment and issuance of same-day visas electronically to qualified foreign investors. The third initiative was the imposition of a "sin tax" on goods deemed harmful to society and environment. The government also launched the Citizen Account Program to help low- and middle-income Saudi families to face financial challenges resulting from economic reforms.

In addition, at the beginning of 2018, the Council of Economic and Development Affairs (CEDA) established three programs in order to meet the goals of Vision 2030: (1) a financial sector development program, which seeks to improve and diversify the financial sector services to support the development of the financial system through stimulating savings, finance, and investment; (2) a quality of life program, which aims to enhance the lifestyle quality of Saudi individuals and households by creating new options that ensure individuals enjoy higher standards of living through participating in cultural, social, and sport activities; and (3) a privatization program, which aims to encourage and increase the private sector involvement in public services. This can contribute to achieving fair competition, creating job opportunities, attracting the latest technologies, and improving the services provided.

2.2.4 The financial system

The Saudi financial system, regulated by the Ministry of Finance, consists of three institutions: the Saudi Arabian Monetary Authority (SAMA), licensed commercial banks, and Specialized Credit Institutions (SCI). SAMA, which was established by

royal decree in 1952, serves as the Central Bank of Saudi Arabia. It provides the typical functions assigned to central banks, which include supervising banks and other financial firms, setting monetary policies, overseeing the insurance system, and maintaining a stable banking system. SAMA has been an important monitor and a key player in the Saudi financial system. This was clearly evident during the global financial crisis of 2007–2010 when Saudi banks remained highly liquid and did not need any foreign financial assistance (Ramady, 2010)

The Saudi banking industry dates back to 1927 when the Algemene Bank Nederlands, now known as Alawal Bank, opened its first branch in Jeddah city to provide financial services to the business community and pilgrims who constituted the main sources of income (Molyneux & Iqbal, 2005). In 1953 the Saudi government permitted the opening of the first local bank, the National Commercial Bank, which had previously acted as the government's agent to provide payment services under the name Al-Kaki and Bin Mahfouz Money Changer Co. (Ramady, 2010). In 1966, the Banking Control Law was enacted by royal decree to supervise and govern banking practices, such as the terms and conditions of loan contracts. Applications for banking licenses are approved by Council of Ministers. However, the Ministry of Finance is the responsible authority for license issuance (after review by SAMA). Currently, there are 13 local banks in addition to 10 licensed foreign banks with operating branches in Saudi Arabia. Moreover, the Capital Market Authority (CMA) has issued 91 licenses to foreign and local brokers and financial service providers.

Another important element of the Saudi financial system is the establishment of four Specialized Credit Institutions (SCI): the Saudi Industrial Development Fund (SIDF), Real Estate Development Fund (REDF), Agricultural Development Fund (ADF), and Social Development Bank (SDB). The government took the initiative of founding these institutions to generate funds from a wide range of sources in order to meet businesses' and individuals' demand for cash for fundamental economic activities such as housing, agriculture, and industry (Molyneux & Iqbal, 2005). Total loans granted by these institutions from their establishment to 2017 amounted to SAR346.9 billion (US$92.5 billion) (SAMA, 2018).

2.3 Monitoring bodies

2.3.1 The Ministry of Commerce and Investment (MCI)

The Ministry of Commerce and Investment is the body responsible for monitoring and regulating both commerce and investment sectors in Saudi Arabia. Its responsibilities include setting and implementing commercial policies, studying and approving applications of formation new joint-stock companies, and assessing investment opportunities. In addition, the MCI has a monitory role in which it ensures that Saudi companies comply with the Company Act and government regulations. The MCI performs an important role in combating commercial fraud activities and participates in preventing and detecting commercial cover-up cases where non-Saudis own or operate businesses using Saudi names in order to hide their identities and thereby benefit from programs or schemes exclusively dedicated to supporting Saudi nationals working in the private sector.

2.3.2 The Saudi Capital Market Authority (CMA)

The Saudi Capital Market Authority is an independent government regulatory authority responsible for regulating and developing the Capital Market. The CMA started as an unofficial organization in the early 1950s and continued to perform successfully until the government issued its basic regulations during the 1980s. However, in 2004 the CMA was officially established by royal decree and the current Capital Market Law was enacted. The CMA enjoys absolute legal and administrative independence and reports directly to the king. The CMA serves as the sole regulator of the capital market, and therefore is responsible for developing and regulating the capital market, issuing rules and regulations, and implementing the Capital Market Law (cma.org.sa). The objectives of the CMA are to build a solid investment environment that boosts confidence, enhances transparency and disclosure, and protects investors' interests by constraining illegal practices in the market. In order to achieve these objectives, the CMA is charged with the following duties:

- Regulate and monitor the capital market, and promote appropriate rules and regulations for all departments and participants in the market.
- Protect the rights of investors and the general public from unlawful practices, including fraud, deception, manipulation, and information asymmetry between insiders.

- Maintain fairness, enhance the transparency of transactions, and increase market efficiency.
- Minimize risks associated with securities transactions by developing relevant measures.
- Regulate the issuance of securities and monitor trading transactions.

2.3.3 The Saudi Organization for Certified Public Accountants (SOCPA)

The Saudi Organization for Certified Public Accountants (SOCPA) is a professional organization concerned with the accounting and auditing profession in Saudi Arabia. It was established in 1992 and operates under the supervision of the Ministry of Commerce. SOCPA is in charge of promoting the accounting and auditing profession in all areas that might give rise to developing the practice of the profession and upgrading its status. SOCPA aims at realizing a wide range of objectives. It reviews, sets, and authorizes accounting and auditing standards. It also prepares and conducts professional accounting exams (CPA exam) and provides continuing education programs in accounting-related areas. In addition, it carries out research and studies covering accounting, auditing, taxation, and other related topics. Moreover, SOCPA periodically publishes a number of books and bulletins in the accounting and auditing field, and it participates in local and international workshops and conferences that lead to improved accounting and auditing practices.

2.3.4 The accounting profession in Saudi Arabia

The profession of accounting and auditing in the Saudi context is still relatively new and evolving compared to Western countries such as the USA and the UK (Falgi, 2009). The accounting and auditing profession has experienced various developments in Saudi Arabia. During the early stages of accounting profession, there was no substantial authoritative support and accounting practices were based wholly on the Income Tax Law promulgated in 1950 (Jad Alha, 1993). The Income Tax Law in states section 16 that financial statements are considered true and complete if they are verified by an international chartered accountant. In this regard, Al-Angari (2004) states that in a developing country, in the early stages of building its economy, foreigners constitute the majority of practitioners and they practice based on their own knowledge and efforts. In fact, there were a number of reasons for the absence of

domestic auditors, including limited commercial activity, shortage of accounting professionals, and a total lack of accounting education (Falgi, 2009). In 1955 the Ministry of Finance and National Economy granted the first license for an audit firm, before handing over the issuance of professional licenses to the Ministry of Commerce and Industry in 1957.

The Companies Act issued in 1965, which was based on British companies law, provides the basis of rules and regulations for Saudi companies. It also forms the primary authoritative source for accounting profession practices. This Act was the first law to require all companies to have their financial statements audited by an audit firm (Al-Twaijry et al., 2003). The first regulation for Certified Public Accountant was issued in 1974 under the guidance of the MCI, which set forth the conditions for individuals to become independent auditors.

These efforts continued until 1991, when the SOCPA was established. Today, the SOCPA is the sole authority responsible for the accounting and auditing profession in Saudi Arabia, and its responsibilities include participating in international conferences, attracting scholars and academic researchers, and conducting studies to develop the profession. In this regard, it is worth noting that, since 1986, Saudi companies have continued to follow local accounting and auditing standards, which were originally based on the US Generally Accepted Accounting Principles (GAAP); this only changed with the adoption of the International Financial Reporting Standards (IFRS) in 2017. Moreover, in 2019 SOCPA announced its plan to employ 20,000 national professionals in accounting and auditing firms by the end of 2022, in alignment with the Saudi 2030 Vision.

2.3.5 The Saudi Capital Market (Tadawul)

The Saudi Capital Market, known as Tadawul, is the sole organization entitled to operate a stock exchange in Saudi Arabia. The Saudi market started unofficially in 1934 when the first Saudi joint-stock company, Arab Automobile Company, was established. In 1954 there were only five joint-stock companies; the number continued to increase, to 14 by 1965 (Al-Barrak, 2005). During the 1970s the market remained unofficial because the primary goal of the government was to build infrastructure and improve the quality of life of Saudi citizens, and therefore the focus on the development of the capital market was limited (Alzomaia & Al-Khadhiri, 2013). There

were 19 public offerings of new companies during the period from 1976 to 1980. This rapid economic expansion resulted from the dramatic increase in oil prices, the introduction of a policy of *Saudization* (localization) of a number of foreign banks' capital, and the government's participation in the establishment of many state-owned companies through its investment agencies, such as the Public Investment Fund (PIF). The first attempt to officially regulate the capital market was in 1983 through the formation of a ministerial committee that consisted of the Ministry of Commerce, the Ministry of Finance and National Economy, and the Saudi Arabian Monetary Authority. This committee served as a government body to monitor and regulate market activities until control was transferred to the Capital Market Authority in 2004.

More recently, Tadawul was formed in 2007 as a joint-stock company with a capital of SAR1.2 billion wholly owned by the PIF. It is managed by a board of directors composed of nine members. These members are nominated by the chairman of CMA and appointed by ministerial decree. Tadawul is responsible for managing the stock market and its executive and operational functions. In addition, it handles listing and trading of financial securities as well as providing a number of post-trade services, such as deposit, transfer, and registry of ownership. Moreover, it offers equities, mutual fund, Islamic bonds, also known as *sukuk*, and exchange-traded funds (ETF).

In the last few years, the Saudi government has decided to privatize most of its public sector, which has enticed a large number of privately owned firms to go public. In this respect, a recent report shows that the number of publically traded companies rose from just 61 in 2004 to 190 at the end of 2018. A recent capital market report shows that, as of the end of 2018, the total market value stood at SAR1,858.95 billion (US$495.72 billion) (Tadawul, 2018). The report also shows that, based on nationality type, the monthly report of ownership data on 31 December 2018 shows that 93.35% of total market capitalization was owned by Saudi investors, 1.98% by GCC investors, and 4.67% by foreign investors. Moreover, based on investor type the report reveals that institutional investors own 87.93%, compared to only 12.07% ownership by non-institutional investors. These figures indicate that the Saudi market can be categorized as institutionally oriented but that foreign investors nonetheless seem not to be attracted, owning only 4.67% of the market. Table 2.2 contains the statistics presented above.

Table 2.2. Ownership by type for 2018

	November 2018		December 2018		Monthly Change	
	Holding Value (SAR)	Ownership (%)	Holding Value (SAR)	Ownership (%)	Holding Value (SAR)	Ownership (%)
Panel A: By Investor type:						
Institutional	1,601.18	87.87%	1,634.21	87.93%	33,028.16	0.06%
Non-Institutional	221.03	12.13%	224.32	12.07%	3,296.23	-0.06%
Grand Total	1,822.21	100%	1,858.54	100%	36,324.40	
Panel B: By Nationality						
Saudi	1,700.68	93.33%	1,734.95	93.35%	34,267.97	0.02%
GCC	36.48	2.00%	36.74	1.98%	253.9	-0.03
Foreign	85.04	4.67%	86.84	4.67%	1802.5	0.01%
Grand Total	1,822.21	100%	1,858.53	100%	36,324.37	

Source: Tadawul- *monthly ownership report (2018).*

2.4 The tax system

All economic entities in Saudi Arabia, whether owned wholly by Saudi citizens or jointly with foreigners, must lodge an annual income tax or zakat return to the zakat and tax authority. In addition, they must obtain a zakat or tax clearance certificate that confirms the zakat or tax status of the entity is up-to-date. Failure to obtain a clearance certificate can lead to a temporary suspension of business operations of the entity. Zakat is a form of religious tax, based on an Islamic concept, charged to the portion of ownership in a Saudi company owned by Saudi nationals or nationals of other GCC countries, who are treated as Saudi citizens for zakat and tax purposes. Income tax, however, is charged according to the proportion of foreign ownership in a Saudi company. On January 1, 2018, the Saudi government also introduced Value Added Tax (VAT) at a fixed rate of 5%. VAT is considered an indirect tax imposed on all products or services offered by a company. It is collected whenever value is added at every point of the supply chain, from production to point of sale. As of 2019, proceeds from zakat contributed a total of SAR29 billion (US$7.73 billion) to the kingdom's revenue, an increase of 41.8% on the previous year (SAMA Budget Statement, 2020).

2.4.1 The concept of zakat

According to the Oxford English Dictionary the "tax" is defined as "a compulsory contribution to state revenue, levied by the government on personal income and business profits or added to the cost of some goods, services, and transactions."[6] Zakat cannot be regarded as a voluntary; it is of compulsory nature by the order of the Holy Qur'an, and thus satisfies the definition of tax. Therefore, in the extant Islamic literature zakat is referred to as an Islamic system of taxation (see, e.g., Al-Sehali & Spear, 2004; Al-Ajmi et al., 2009; Lewis, 2001).

Zakat is the third of the five pillars of Islam, which conveys that giving zakat is commanded by Allah. In the Arabic language, the term "zakat" means increase, growth, and praise in something. It also means to purify, cleanse, or remove dirt or filth from something. In theological terms, the practice of giving zakat is considered a spiritual purification and satisfaction to zakat payers. Legally, it means the transfer of ownership from those who have surplus to eligible beneficiaries, e.g., the poor and needy, under specific conditions. Further, zakat collections can be used for the legitimate functions of the government (Mcgee, 1998).

Zakat derives its importance from Islamic teachings, as one of the five pillars of Islam. Zakat applies to assets that are manufactured or purchased for the purpose of reselling and making profit at a fixed rate of 2.5%. Capital invested in fixed assets such as tools and machinery is exempt from zakat. Income tax in the Saudi context is based on the Income Tax Law introduced in 1950 and its subsequent amendments. Income tax applies to taxable net income allocated to foreign investors at a tax rate of 20%. Taxable income is defined as gross income generated from any business operation in Saudi Arabia, less all deductible expenses that meet deductibility rules. In addition, based on recent amendments to the Income Tax Law, the current tax rate on companies engaged in the natural gas industry is reduced to 20%, rather than 30% as per the old law. Additionally, companies engaged in the production of oil and hydrocarbons are subject to a higher tax rate, which varies from 50% up to 85% based on the amount of capital invested.

Every company must submit an online tax or zakat return to the tax authorities no later than 120 days after its fiscal year-end. If a company's taxable income is more

[6] Quoted from "The taxation of Income: 2nd edition, Cambridge Academic, Cambridge 2013. P. 3." By Abimbola A. Olowofoyeku.

than SAR1 billion before the deductible allowances, then a certified accountant must verify the accuracy of the return. The General Authority of Zakat and Tax (GAZT) is the government body responsible for assessing and collecting zakat, income tax, and VAT. It is directly under the authority of the Ministry of Finance; its board of directors consists of nine members and is chaired by the Finance Minister. GAZT was established on 7/8/1370 Hijri (corresponding to May 13, 1951) by Ministerial Resolution No. 394. Apart from its main role of collecting zakat and taxes, GAZT is charged with the following roles:

- Supporting taxpayers in understanding and satisfying their tax obligations.
- Coordinating with taxpayers to ensure proper measures of collecting zakat and taxes are followed.
- Raising awareness level of taxpayers and stressing the importance of compliance with GAZT regulations and requirements.
- Working and exchanging experience and practices with local and international organizations.
- Participating in regional and international forums and conferences.

2.4.2 Zakat evasion

As with every tax system, the act of zakat evasion exists and is classified as an unlawful act (Allami, 2015). Such evasion acts distorts the function of tax collection and can result in serious economic consequences, such as deficit or imbalance in the government budget. Likewise, zakat evasion reduces the amount to be collected from zakat payers. Prophet Mohammed (PBUH) stated: " Zakat shall be taken by force from evaders and those who instigate evasion, and half their fortune as a sanction." Additionally, Abu Bakr, the successor of Prophet Mohammed, said: "I swear to Allah I will fight those who differentiate between establishing prayers and paying zakat." Islamic scholars such as Al-Qaradawi (1999) point out that the term "half their fortune" does not mean half of the evader's entire wealth but, rather, half of his zakat base. Accordingly, it is clear that zakat is of paramount importance and evading it results in severe consequences. It is important to point out that Islamic jurists make no distinction between zakat evasion and avoidance.

2.5 Royal family in Saudi Arabia

Saudi Arabia is a conservative tribal society, built on Arabic traditions and significantly influenced by Islamic concepts (Elamin & Alomaim, 2011). The country's political system is an absolute monarchy, ruled by the royal family of Al-Saud since 1932. The ruling royal family is regarded as the most powerful group in the country, with unlimited power and ruling authority over Saudi society (Hussainey & Al-Nodel, 2008).[7] The royal family's social superiority has been the focus of numerous studies. For instance, Sabri (2001) and Bray and Darlow (2012) argue that the royal family's absolute control over the political arena, together with its tremendous wealth, ensures complete control over the implementation and enforcement of rules and regulations in Saudi Arabia. From the above, it can be inferred that individual Saudi royals and their firms enjoy a privileged position and access compared with non-royals.

In fact, researchers report that the engagement of royal private sector elites in the local economy has been largely sponsored by the state government. For instance, Reed (2007) points out that, over many years, royal entrepreneurs have accumulated massive wealth from multibillion-dollar public contracts allocated by the government to royal family-controlled companies. In addition, Sabri (2001) suggests that numerous public projects have been granted to royals based on their kinship and business relations to key government officials, regardless of their merits and talents in the business field. Moreover, Habtoor and Ahmad (2017) conclude that because royal members are assumed to have superior status and authority to non-royals, the Saudi government is keen to have more royal members on companies' boards to support its plans and implement its policies.

Additionally, the political system in Saudi Arabia reinforces the idea that economic partnership with royal family members ensures business continuity over the long run (Mazaheri, 2013). Various forms of support are enjoyed by royal family companies, including low-cost bank loans, better access to markets, lower tax rates, and bail-outs in times of financial difficulty. Furthermore, evidence shows that the royal families in the Arab region own capital investment amounting to about US$240 billion and hold approximately 10% of Saudi public company board seats (Alzahrani

[7] Other influencing groups in Saudi society include Islamic scholars, government officials, tribal leaders, and private sector business elites (Hussainey & Al-Nodel, 2008).

& Che-ahmad, 2015). According to Hertog (2012), the presence of royal family members on companies' boards arises from their royal status, their controlling interest of a firm's equity ownership, their selection by a nomination committee, or being the company's founders.

2.6 Institutional investors in Saudi Arabia

The concept of institutional ownership in the Saudi setting is relatively immature. In fact, the lack of large institutional investors, and particularly foreign investors, was among factors significantly contributing to the crash of the Saudi capital market in 2006 (Lerner et al., 2017), in which the market lost 53% of its value (Al-Bassam et al., 2015). The ownership structure is highly concentrated among Saudi-listed firms, as institutional investors, notably those established by the government, own a large stake of the capital market shareholdings as well as many large state-owned companies (Al-Bassam et al., 2015). The Saudi government has established three governmental institutions: the Public Investment Fund (PIF), Public Pension Fund (PPF), and General Organization for Social Insurance (GOSI). These bodies invest on behalf of the government in various listed companies.

The PIF was established in 1971 by royal decree and over the years has financed many key projects and been a major owner of many state-owned firms. In 2015, the PIF's board was re-formed and Crown Prince Mohammed Bin Salman (MBS) was appointed as the chairman. This marks a major step toward assigning more comprehensive authority and clearly-defined economic objectives to the PIF. It serves as the kingdom's primary investment channel and manages a diversified portfolio across a variety of asset classes domestically and internationally (www.pif.gov.sa). The next large institutional investor is the PPA, established in 1958 as the "Pension Benefits Authority." The PPA's main service is to disburse pensions on a monthly basis to government employees (civilian and military) after retirement. Lastly, the Saudi General Organization for Social Insurance (GOSI) is a pension fund established in 1969 to provide benefits for retired workers in non-government sectors. A recent market report shows that as at the end of 2018, the total holding value owned by local institutional investors amounted to SAR1258.5 billion (US$335.4 billion), representing 67.72% of total stock market capitalization (Tadawul, 2018). The statistics also indicate that government institutional entities form 40.59% of the listed

firms' capital shareholdings with a market capitalization of SAR754.4 billion (US$198 billion).

Recently, in 2015, the Saudi government announced the opening of the capital market to foreign institutional investment, not only to attract foreign capital or liquidity to the market, but also to achieve a number of short- and long-term objectives, as clearly stated on the CMA's website. These objectives are as follows:

- To attract a larger base of sophisticated foreign institutional investors into the market, which will provide additional stability and reduce significant volatility in shares prices.
- To transfer the knowledge and expertise of foreign investors to the local market.
- To attract foreign professionals, which will promote professionalism among market participants.
- To improve transparency, disclosure quality, and governance practices, which in turn will contribute to enhanced market efficiency and improved firms performance.
- To upgrade the market position from a stand-alone market to an emerging market index, such as the Morgan Stanley Capital International (MSCI) index and FTSE Russell index.
- To promote research and undertake studies that will enhance the accuracy of companies' financial reports and market-related data.

2.7 Earnings quality in Saudi Arabia

High-quality earnings figures are of importance to the financial statement users as they truly reflect the companies' current performance, anticipate future performance, and provide a useful summary measure of the firm's value (Dechow & Schrand, 2004; Dechow, 1994). However, the majority of accounting research on the topic of earnings quality is based on data from developed markets such as those in the USA, UK, and Australia. To date, few researchers have attempted to study the quality of reported earnings in the Saudi capital market. Naser and Nuseibeh (2003) examine the extent to which Saudi-listed firms comply with accounting measurement and reporting quality requirements, with their results showing relatively high compliance with mandatory disclosure requirements. Al-Sehali and Spear (2004) find reported accounting earnings

to be decision-irrelevant to investors in the Saudi market. Alsaeed (2006) reports that, on average, the level of disclosure in annual reports is very low among Saudi-listed firms, which he attributes to the fact that in many cases disclosure is left to managers' discretion. More recently, Al-Shetwi et al. (2011) has found the impact of internal audit function on the quality of financial reporting to be insignificant.

The studies discussed above generally suggest that the quality of financial information is relatively poor, as reported earnings figures do not provide financial report users with information useful for decision-making. In addition, the characteristics of the Saudi capital market – such as being an emerging market, and having weak investor protection, high ownership concentration, and inadequate legal enforcement – have undoubtedly contributed to earnings reporting being of lower quality. Furthermore, over the last few years, trading by company insiders (e.g., managers and royal family members) has become an increasingly common practice in the Saudi market (Alghamdi, 2012). In fact, some researchers, such as McGee (2009), view this phenomenon as an agency problem faced by a wide range of equity investors, who have raised concerns about the credibility of financial reports in the Saudi market. Therefore, this research presents an important opportunity to extend the literature on the quality of financial reporting from an emerging market perspective. The research results will also provide the market regulators and policy-makers with important information on how reporting higher-quality earnings can mitigate illegal market practices (such as insider trading), which in turn will enhance local investors' confidence, attract foreign investment, and provide more stability to the Saudi capital market.

2.8 Summary of chapter

Chapter 2 reviews the institutional environment of Saudi Arabia. The chapter begins by discussing the country's political, legal, economic, and financial systems. Key monitoring and governing bodies are outlined next. This is followed by a brief overview of the Saudi tax and Islamic zakat system. The following section discusses the importance of royal family members, including their involvement in firm ownership and management. A brief insight into the concept of earnings quality in Saudi Arabia is then highlighted. Finally, a summary of the chapter is provided.

CHAPTER 3: LITERATURE REVIEW

3.1 Overview of chapter

Chapter 3 commences by defining earnings quality and its properties. The notion of book-tax differences is discussed next, followed by a review of prior studies examining the relationship between book-tax differences and corporate outcomes. The next section defines the notion of corporate political connections, discusses its measurements, and reviews prior literature on the effect of political connections on firm value. This is followed by a definition of institutional investors and a review of past studies examining the relationship between institutional investors and firm value. A critical evaluation of the literature is provided next. A summary of the chapter is presented last.

3.2 Definition of earnings quality

In defining the objective of financial reporting, the Financial Accounting Standards Board (FASB) states that "Financial reporting should provide information about an enterprise's financial performance" (Statement of Financial Accounting Concepts No., CON1-13, para. 42). Biddle et al. (2009) define financial reporting quality as "the precision with which financial reporting conveys information about the firms' operations, in particular its expected cash flows, that inform equity investors" (p.113). This definition is consistent with the Statement of Financial Accounting Concept (SFAC No. 1), which states that one objective of financial reporting is to provide current and potential investors, creditors, and other financial statement users with information useful in making optimal investment decisions and in assessing the firm's expected cash flows.

The term "earnings quality" was first introduced in 1934 by Graham and Dodd in their book *Security Analysis*, as a valuation model of firms' equity. The term was re-introduced by O'Glove in 1987 when he published *Quality of Earnings*. However, the term attained more popularity when Lev (1989) reviewed prior academic research on earnings usefulness for investors. The extant accounting literature has extensively used earnings as a proxy for the quality of financial reporting. Earnings is the most important proxy for financial reporting quality (Balsam et al., 2003), occupying a central position in financial statements and perceived as a valuable summary measure of a company's financial performance by a wide variety of users (Dechow et al., 1998).

Francis et al. (2008) define earnings quality as "the precision of earnings signal emanating from the firm's financial reporting system. Such imprecision affects the capital market's demand for, as well as a firm's motive to supply, disclosures that are useful to current shareholders and prospective investors in assessing firm value" (p. 54). According to Dechow (1994), the focus on earnings rather than cash flows relates to the fact that realized cash flows are a "noisy measure" because they suffer from serious time recognition and matching problems that are less likely to occur with earnings when it comes to measuring a firm's value and predicting its future performance.

From a decision-usefulness perspective, earnings numbers are deemed of higher quality if they are relevant to specific capital allocation decisions. From this perspective, the construct of earnings quality is defined based on the needs of financial statements' users. For instance, financial analysts regard earnings information as being high quality if they precisely convey a company's current financial performance, are indicative of future operating performance, and are a reliable summary measure for valuations purposes (Dechow & Schrand, 2004). This is in line with the objective of financial analysis, which states that earnings are used to assess the extent to which current performance is indicative of future performance and to determine whether the current stock prices reflect intrinsic firm value (Dechow & Schrand, 2004). On the contrary, debt holders and other creditors are more likely to perceive earnings as being higher if they are easily convertible into cash, while the compensation committee views them higher if they are indeed a representation of managers' performance.

According to Schipper and Vincent (2003), high-quality earnings are also important for financial statements users for debt contracting and compensation arrangements for two reasons. First, earnings and other metrics derived from it can be used in debt covenants and compensation arrangements; thus, lower quality or defective earnings may result in undesirable wealth transfer. For instance, overstated earnings numbers will result in overpayments of executive compensation; similarly, they may lead money lenders to continue lending insolvent firms that will not be able to pay the debt back. Second, low-quality earnings are undesirable because they provide defective information, which leads to a slowdown in economic growth and misallocation of capital. In sum, high-quality earnings should improve the quality or financial reports, which in turn increases the effectiveness of decision-making by security-holders and other market participants.

3.3 Properties of earnings quality

There is no agreed-upon measure of earnings quality, as each measure is linked with a specific attribute that captures differences in assumptions about the performance of earnings. Prior literature (e.g., Francis et al., 2004; Perotti & Wagenhofer, 2014) has divided earnings attributes into two categories: accounting-based measures (accrual quality, predictability, smoothness, and persistence) and market-based measures (earnings response coefficient, timeliness, and conservatism) (see Figure 3.1).

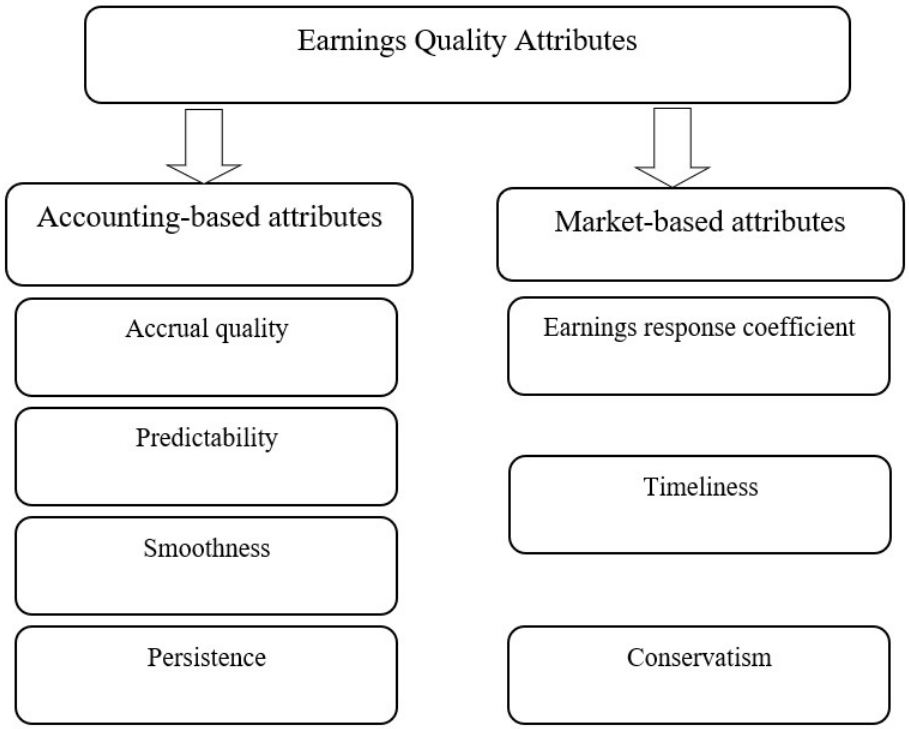

Figure 3.1. Commonly used earnings attributes

3.3.1 Accounting-based measures of earnings

3.3.1.1 Accrual quality

The accrual component of earnings has been the focus of numerous empirical studies in the accounting literature. This area of research aims to differentiate normal from abnormal accruals. While normal accruals arise from adjustments that capture fundamental accounting transactions, abnormal accruals reflect the aggressive application of accounting roles with the aim of manipulating earnings, commonly known as earnings management (Dechow et al., 2010). A prominent contribution in this area is the model of Jones (1991), which uses time series regression to differentiate

between actual and expected accruals. Jones' model estimates normal accrual as the change in noncash (or working capital less total depreciation expense) as a function of changes in the levels of sales and the gross of property, plant, and equipment (PPT).[8] The residual of the estimated regression model represents abnormal accruals, which capture an firm's unexplained performance arising from earnings management. However, the Jones model suffers from Type I errors, classifying normal accruals as abnormal when in fact they are a misclassification of fundamental performance, and Type II errors, in classifying accruals as normal when in fact they are not (Dechow et al., 2010). In an attempt to mitigate Type II errors associated with the Jones model, Dechow et al. (1995) modify the model by controlling for growth in credit sales. Although the modified Jones model is deemed more powerful in detecting earnings management, it still suffers (even more than the original Jones model) from Type II errors (Dechow et al., 2010).

To overcome concerns about the correlations between performance and the accruals contained in Jones and modified Jones models, researchers (e.g., Kothari et al., 2005) suggest controlling for the effect of performance on discretionary accruals by using a linear regression, where return on assets (ROA) is included as an additional independent variable in Jones and modified Jones models. The seminal work of Dechow and Dichev (2002) introduces a different perspective on earnings quality centered on the notion that accruals are a function of recognition of cash flows over time. In other words, because accruals can anticipate future cash inflows/outflows, they are more likely to reverse when previously recognized cash is received/paid (Dechow et al., 2010). In fact, because this model measures the link between income and accruals directly, it avoids the problematic errors identified in the Jones model, which explains its common usage in earnings quality literature (Francis et al., 2004; Perotti & Wagenhofer, 2014). However, Dechow and Dichev's approach is not without limitations. For instance, this model is unsigned, which may reduce the explanatory power of tests if researchers predict signs in a particular direction (Dechow et al., 2010). Another limitation of Dechow and Dichev's approach is that it is not intended to capture earnings manipulation arising from long-term accruals, because it assumes

[8] Jones defines changes in noncash working capital as the change in current assets (other than cash and short term-investments) less current liabilities (other than the current portion of long-term debt and income tax payable) (1991, p. 207).

that working capital accruals lag/lead cash receipts/payments by no more than one accounting period (Schipper & Vincent, 2003).

3.3.1.2 Predictability

Earnings predictability has been defined as the ability of current earnings to predict future earnings and its components, such as future cash flows (Finger, 1994; Lipe, 1990). Earlier literature suggests that, compared to cash flows, current earnings may not provide a good measure for predicting future cash flows due to the high level of discretion it encompasses. To clarify this misconception, an empirical study by Greenberg et al. (1986) compares the coefficient of determination (R^2) using least-squares regression for both cash flows and earnings models. They find that current earnings are more fundamental predictors of prospective cash than current cash flows. Specifically, they find that the coefficients of determinations (R^2) for the current earnings model are higher than those of current cash flows. In the same vein, Dechow et al. (1998) find that the current earnings model has a smaller forecast error in valuation than does current cash flows.

It is worth noting that although earnings predictability and persistence are similar constructs, they differ in that while predictability reflects the average magnitude of the annual earnings shocks in absolute value, persistence reflects the autocorrelations of time series patterns of earnings (Lipe, 1990). Similarly, Schipper and Vincent (2003) note the possible contradiction between persistence and predictability, as both capture the behavior of earnings over time. However, high-quality earnings of the persistence model may be of low-quality in terms of predictability. This is because, for example, if earnings persistence is high (random walk approach), predictive ability will be low if the magnitude of the variance of a typical shock is greatly large.

3.3.1.3 Smoothness

Earnings smoothness is defined as "the intentional dampening of fluctuations about some level of earnings that is currently considered to be normal for a firm" (Beidleman, 1973, p. 653). Based on this definition, smoothness of earnings represents an attempt by firms' managers to reduce significant variations of earnings to the extent permitted by accounting principles. According to Beidleman (1973), a stable earnings stream is desirable to firms' management; for instance, it allows boards of directors to authorize a higher level of dividends than under earnings fluctuations. Beidleman also

notes that variable earnings signals an overall riskiness of the firm, which may undermine investors' expectations about the firm's performance, causing its shares to decline sharply.

The literature is split on whether smoothness of earnings is a desirable property. For example, Barnea et al. (1975) argue that earnings smoothness enables outside investors to better predict future earnings. Beidleman (1973) asserts that smoother earnings is helpful for strategic planning processes (e.g., budgeting) and in minimizing perceived uncertainties among outsiders. Other studies, however, perceive smoothing as an unfavorable corporate practice. For example, Leuz et al. (2003) view smoothness of earnings as a mechanism by which corporate insiders obscure their consumption of private benefits at the expense of outside shareholders. Bhattacharya et al. (2003) assert that smoothing may result in greater earnings opacity, while Myers et al. (2007) provide evidence that managers use smoothing techniques to manage earnings to ensure that their firms sustain strings of increasing EPS over time. Still other studies find no association between smoothness and stock returns, arguing that such an association relates primarily to optimism in analysts' earnings forecast.

3.3.1.4 Persistence

According to Ronen and Yaari (2008, p. 374), "persistence of each variable is defined as the weight of current variable in predicting the same variable one year ahead." Earnings persistence is a construct commonly defined in the context of sustainability (Schipper & Vincent, 2003). For instance, Revsine (1999) reports that if earnings are sustainable, then they are of higher quality, while Dichev et al. (2013) suggest that the earnings quality represents the extent to which current earnings are sustainable and repeatable in future periods. Prior literature also defines earnings persistence from a decision-usefulness perspective, notably for security valuation purposes (Dechow et al., 2010; Schipper & Vincent, 2003). Similarly, Frankel and Litov (2009) report that a permanent accounting earnings presents an ideal example for a valuation role because permanent earnings is also viewed by outsiders as a substitute prediction measure for cash flow. In this regard, highly persistent earnings are more sustainable, less transitory, and less volatile, and thus viewed as a desirable earnings attribute (Penman & Zhang, 2002; Schipper & Vincent, 2003). Persistence is measured as the slope coefficient obtained from regressing of future earnings on current earnings as follows:

$$Earn_{it+1} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it}$$

where $Earn_{it+1}$ and $Earn_{it}$ are earnings of firm i at the time period t+1 and t, respectively. A coefficient ($\beta 1$) closer to 1 implies highly persistent earnings, while a coefficient ($\beta 1$) closer to 0 implies highly transitory earnings (Francis et al., 2004). A common extension to this model is splitting earnings into two components, accruals and cash flows. For a paper in this stream of research see Sloan (1996), who decomposes total earnings into accrual component and cash flow component:

$$Earn_{it+1} = \beta_0 + \beta_1 CashFlow_{it} + \beta_2 Accruals_{it} + \varepsilon_t$$

Sloan finds that $\beta_1 > \beta_2$, suggesting that compared to the accruals component of earnings, the cash flow component of earnings is more persistent for one-year-ahead earnings. Specifically, Sloan (1996) finds the parameter on the accrual component of earnings or (β_2) is 0.76, while the parameter on the cash flow component or (β_2) is 0.855.

3.3.2 Market-based measures of earnings

3.3.2.1 Earnings response coefficient (ERC)

The earnings response coefficient (ERC) is the most commonly used market-based measure of earnings. This measure is also referred to as "investor responsiveness to earnings," as it directly links earnings with usefulness for decision-making by investors in the context of security valuation (Dechow et al., 2010). ERC captures the ability of accounting earnings to predict not only future cash flows, but also the persistence of earnings (Ali et al., 2007). In other words, while predictability is meant to predict cash flows and persistence is meant to predict earnings, ERC measures the ability of current earnings to predict both cash flows and earnings comprehensively. This measure defines earnings as being of high quality if they have an explanatory power with respect to security prices and market returns (Ewert & Wagenhofer, 2015). Prior studies (e.g., Ali et al., 2007; Zhao & Chen, 2009; Ben-Nasr et al., 2015) have proposed the following regression model to measures ERC, in which the slope coefficient from the regression of the cumulative abnormal stock returns on unexpected earnings represents earnings quality as follows:

$$CAR_{it} = \beta 0 + \beta 1 UE_{it} + \varepsilon_t$$

where CAR_t is the cumulative 12-month abnormal return for firm *i* ending 3 months after its fiscal year ends and EU_{it} is unexpected earnings for firm i in year t.[9]

3.3.2.2 Timeliness

Timeliness is often viewed as an important attribute of high-quality accounting earnings. For example, Lang and Lundholm (1996) report that timely disclosure of earnings information is fundamental to ensure the relevance and reliability of financial statements. The Australian Accounting Standards Board (AASB) defines timeliness as "having information available to decision-makers in time to be capable of influencing their decision. Generally, the older the information is, the less useful it is" (AASB, 2013, p. 23). Asymmetric timeliness is perceived as a property of higher quality earnings by equity investors (Ball and Shivakumar, 2005).

Some researchers (e.g., Ashbaugh-Skaife et al., 2009) find more timely accounting information to be associated with higher-quality earnings and lower information risk, and thereby lower cost of equity capital. In contrast, Botosan and Plumlee (2002) find that timely disclosure of financial reports (e.g., quarterly disclosure) to financial statements users is accompanied by increasingly stock price volatility, which in turn leads to higher cost of equity capital. In a similar study, Jackson and Wang (2013) find timeliness, as a proxy for analysts' forecast precision, to be positively related to the cost of equity capital. Timeliness is obtained from "reverse regression" where earnings is the outcome variable while return is the regressor variable (Francis et al., 2004).

3.3.2.3 Conservatism

Basu (1997, p. 4) defines conservatism as "capturing accountants' tendency to require a higher degree of verification for recognizing good news than bad news in financial statements." Similarly, Lev (1998) describes conservatism as a proxy for financial reporting quality, representing an ideal measure for transparency as it involves a higher degree of verification when recognizing good news as compared to bad news. In a more extreme form of conservatism, Watts (2003, p. 207) defines it as "anticipate no profits, but anticipate all losses." Under this construct, a company recognizes expenses or loss immediately, whereas revenues or gains are not recognized until they are realized. Conservatism in accounting could serve as a governance monitoring

[9] $EU_{it} = (NIBE_{it} - NIBE_{it-1})/ MV_{it-1}$; where NIBE is net income before extraordinary items and MV is market value of equity (Ben-Nasr et al., 2015).

mechanism because it forces management to recognize losses associated with investment decisions on a timely basis, thereby mitigating potential agency problems (Ball & Shivakumar, 2005).

Several accounting scholars perceive accounting conservatism as being a desirable property of earnings. For instance, conservatism contains managers' opportunistic behaviors and reduces asymmetries in information between managers and outside investors (Watts, 2003), reduces political and legal costs through quickly recognizing of bad news (Hui et al., 2009), improves reporting quality and promotes transparency (Ball & Shivakumar, 2005), and increases firms' values and cash flows (LaFond & Watts, 2008). Other scholars, however, view conservatism as an undesirable property of earnings because it creates hidden or unrecorded reserves on the balance sheet that are released in subsequent periods when firms face growth slowdowns (Penman & Zhang, 2002), and it is suggested to be non-optimal from a valuation perspective (O'Connell, 2007). Further, due to the difficulty in identifying the presence of conservatism, such a technique may signal manipulations of earnings as management records excessive charges and write-offs that understate asset values – that is, "big mouth" in order to overstate future earnings (Hanna, 2002). Still others suggest that the application of conservative accounting methods has limited or no impact on the quality of reported earnings (Bricker et al., 1995; Francis et al., 2005).

3.4 Prior studies on the informativeness of book-tax differences

3.4.1 Definition of book-tax differences

Book-tax differences represent the gap between a given firm's book income (income reported on financial statements for reporting purposes) and its taxable income (income disclosed on tax returns to determine payable taxes).

3.4.2 Prior studies examining the relationship between book-tax differences and firm's outcomes

Prior studies have investigated the informativeness of book-tax differences (BTDs) on important corporate outcomes, including earnings quality, earnings management, tax avoidance, tax sheltering, credit rating, audit fees, analysts' earnings forecasts, bankruptcy, and cost of borrowing (Ayers et al., 2010; Blaylock et al., 2012; Hanlon, 2005; Hanlon et al., 2012; Lev & Nissim, 2004; Mills, 1998; Moore & Xu, 2018; Noga

& Schnader, 2013; Phillips et al., 2003; Tang & Firth, 2012; Weber, 2009; Wilson, 2009). The majority of these studies have found the level of book-tax differences to be associated with aggressive financial and tax reporting practices. Table 3.1 presents chronologically detailed information about prior major studies examining the relationship between book-tax differences and various corporate outcomes.

As shown in Table 3.1, Mills (1998) examines whether an abnormal increase in book income over taxable income is associated with audit adjustments imposed by the IRS. The study uses confidential data obtained from the tax returns of both public and private US firms. The sample consists of 1,545 firm-year observations covering the period 1982–1992. Mills provides evidence that as book-tax differences increase, so do the IRS proposed audit adjustments. This finding suggests that without incurring economic costs, firms cannot maximize financial statements earnings and tax savings separately. Mills concludes that researchers can continue to use financial book income to draw inferences about corporate taxes.

Phillips et al. (2003) evaluate the usefulness of book-tax differences (BTDs) in detecting earnings management. Specifically, they assess the effectiveness of BTDs in identifying earnings management activities meant to avoid reporting earnings fall, reporting a loss, or failing to meet earnings analysts' forecasts. The sample ranges between 3352 and 4139 firm-year observations in the USA and covers the period 1994–2000. Phillips et al. argue that greater discretion in GAAP reporting than in tax reporting provides incentives for managers to exploit this discretion to manage earnings upward, thereby generating BTDs. They provide evidence that BTDs are more useful than abnormal accrual earnings in detecting earnings management activities aimed at avoiding reporting a decline in earnings or reporting a loss. However, they show that BTDs may not be useful in identifying earnings management activities aimed at meeting or beating analysts' forecasts.

Table 3.1. List of major prior studies on the informativeness of book-tax differences

No.	Authors/ Year	Country	Sample size	Period	Area of study	Main findings
1	Mills (1998)	USA	1,545 firm-year observations.	1982–1992	Tax and audit adjustment	Audit adjustments by IRS are more likely for firms that have higher book income in excess of taxable income.
2	Phillips et al. (2003)	USA	Ranges between 3,352 and 4,139 firm-years	1994–2000	Earnings management	BTDs, as measured by deferred tax expense, are useful in detecting earnings management activities meant to achieve earnings benchmarks, e.g., avoiding decline or reporting a loss.
3	Lev and Nissim (2004)	USA	Ranges between 37,621 and 24,055 firm-years.	1973–2000	Earnings growth and returns	The ratio of tax-to-book income is useful in predicting five-year future earnings.
4	Hanlon (2005)	USA	14,106 firm-year observations.	1994–2000	Earnings persistence	The results show that firms with large BTDs exhibit less persistent earnings (accruals and cash flows) for one year ahead than firms with small BTDs.
5	Weber (2009)	USA	21,015 firm-year observations	1984–2004	Analysts' earnings forecasts	The findings show that even sophisticated users of financial information e.g., financial analysts underestimates the important of information inferred from BTDs, as they fail to incorporate such information into their forecasts.
6	Wilson (2009)	USA	59 firms	---	Tax aggressiveness	The findings reveal that the magnitude of BTDs is positively associated with tax sheltering activities. Further, the results show that BTDs are a useful proxy for tax aggressiveness.
7	Ayers et al. (2010)	USA	3,132 firm-year observations		Credit rating	The study shows that there is a negative and significant association between BTDs and credit rating.
8	Hanlon et al. (2012)	USA	17,613 firm-year observations	2000–2006	Audit fees	The findings show a positive relationship between large BTDs and audit fess, and the researchers interpret this as a reflection of audit effort and time spent when firms have large BTDs arising from earnings management activities. In other words, auditors view firms with large BTDs as being more risky and thus they charge them higher audit fees.
9	Blaylock et al. (2012)	USA	21,043 firm-year observations	1993–2005	Earnings persistence	The persistence of earnings and accruals are significantly lower in firms with large BTDs generated by aggressive earnings management than in firms with large BTDs

No.	Authors/ Year	Country	Sample size	Period	Area of study	Main findings
						arising from other sources such as tax avoidance or normal or regulatory differences between financial and tax reporting.
10	Tang and Firth (2012)	China	664 firm-year observations	1999–2004	Earnings persistence	The study provides consistent evidence that firms with large BTDs arising from both tax avoidance and earnings management exhibit less persistent earnings.
11	Noga and Schnader (2013)	USA	54,577 firm-year	1994–2010	Bankruptcy	The study reveals that firms with large BTDs are more likely to face the risk of going bankrupt than other firms. Further, the study shows that using BTDs in the prediction process can increase the prediction window from the two-year using the traditional bankruptcy predictors to five years prior to going bankrupt.
12	Moore and Xu (2018)	USA	6,336 firm-year observations	1996–2012	Costs of debt	The finding reveals that the cost of borrowing is positively related to the temporary components of BTDs. They conclude that high borrowing costs is consistent with the view that BTDs raising concerns about the quality of reported earnings, increasing lenders' fear of not recovering debt granted to risky borrowers.

Lev and Nissim (2004) investigate the role of the ratio of tax-to-book income in predicting future earnings (growth and stock returns) of US firms. Their sample for earnings growth analysis consists of 37,621 and 24,055 firm-year observations for one-year and five-year ahead earnings respectively, covering the period 1973–2000, while the sample for earnings price analysis and subsequent returns analysis consists of 14,962 and 33,496 firm-year observations respectively and covers the period 1982–2000. The results show that the ratio of tax-to-book income can predict up to five-year ahead earnings growth and returns. Further, they demonstrate that the ratio of tax-to-book income has a greater predictive ability for future earnings growth than do cash flows and accruals.

Hanlon (2005) investigates the ability of BTDs to indicate the persistence of accounting earnings (accruals and cash flows). The sample consists of 14,106 firm-year observations and covers the period 1994–2000. Hanlon argues that important inferences about firm's earnings can be drawn from BTDs because much of the discretion allowed under GAAP is not permitted under the tax code. Consistent with this expectation, Hanlon finds that US firms with large BTDs exhibit less persistent accounting earnings for one year ahead than firms with small BTDs. Further analysis also shows that when earnings are decomposed into cash flows and accruals components, the accruals have less persistent earnings as they are more subject to managerial discretion than the cash flows. Hanlon concludes that this finding is consistent with the conjecture that when book income differs significantly from taxable income, the quality of earnings is low as captured by persistence.

Weber (2009) examines whether the accuracy of earnings forecasts is systematically associated with the information contained in BTDs at the time of forecasts. Weber's sample consists of 21,015 firm-year observations for all US firms with information available on Compustat for forecasts from 1984 to 2004. Weber finds that even sophisticated market participants, e.g., analysts, fail to fully incorporate BTDs information into the process of earnings forecasts and stock pricing, given that extreme BTDs are indicative of deteriorating earnings quality. Specifically, the study shows that analysts' forecasts of future earnings exhibit greater optimistic bias in firms where book income is significantly larger than taxable income. In other words, this optimism in earnings forecasts is inconsistent with the view that firms with large BTDs generally have lower quality earnings.

Wilson (2009) examines whether BTDs are associated with the incidence of tax sheltering activities in the USA. Using a sample of 59 US firms accused by the IRS of being actively engaged in tax sheltering activates, Wilson notes that in the majority of sample firms the tax sheltering activities significantly increased the firms' book-tax gap. Specifically, the study shows that tax saving generated from tax sheltering raises BTDs on average by 102% during the year in which the firms participate in sheltering. Further, Wilson notes that accused firms exhibit significantly greater BTDs compared to a non-accused set of matched firms. Wilson concludes that a firm's reported BTDs is significantly affected by tax shelter participation and that BTDs are a useful proxy for detecting tax aggressiveness among a cross-section of firms.

Ayers et al. (2010) examine whether credit rating agencies incorporate BTDs information in assessing a firm's credit rating and risk. Specifically, the study examines whether changes in the levels of BTDs also reflect changes in credit ratings. The sample comprises 3,132 firm-year observations during the period 1994–2004. Data are obtained from Compustat and Center for Research in Security Prices (CRSP) and contain only firms incorporated in the USA. The study shows that BTDs are informative for credit rating agencies for two reasons. First, an increased book-tax gap might be interpreted by credit analysts as a signal of deteriorating earnings quality. Second, as positive BTDs relates to off-balance-sheet financing activities, credit analysts view information on BTDs as being incrementally informative in making rating recommendations. Consistent with these two reasons, Ayers et al. find positive changes in the levels of BTDs to be negatively associated with credit rating changes.

Hanlon et al. (2012) employ BTDs as a proxy for audit risk assessment and auditor effort and investigate whether BTDs are associated with higher audit fees. The sample consists of 17,613 firm-year observations during the period 2000–20006. Consistent with the view that large BTDs signal a higher likelihood of earnings management activities that increase audit effort and time to detect material misstatement, Hanlon et al. find large BTDs measured in absolute value to be positively associated with audit fees. Specifically, they find an increase of 10% in the mean of the log of absolute to be associated with an increase by 1.4% (or USD$4,600) in audit fees. They conclude that BTDs are useful in signaling the risk of earnings management and explaining audit risk and fees.

Blaylock et al. (2012) examine the role of BTDs in explaining variations in the persistence of earnings and accruals. The sample consists of 21,043 firm-year

observations and the data are obtained from Compustat and CRSP for the years 1993–2005. The authors cite three main sources for large positive BTDs. First, BTDs can be caused by abnormal activities, e.g., managing earnings aggressively. Second, firms may defer taxes as long as possible to reduce the tax liabilities' present value, which represents a basic form of tax planning or tax management. Third, deferred tax expense (a measure of BTDs) can arise from normal or unbiased treatment for revenues and expenses for accounting or tax purposes, representing neither earnings management nor tax planning. As such, it is expected that firms with large positive BTDs predominantly arising from earnings management (tax planning) would exhibit less (more) earnings and accruals persistence relative to firms with small positive BTDs. Their results show that firms that have large positive BTDs stemming from aggressive earnings management have less earnings and accruals persistence than firms that have large positive BTDs stemming from normal or unbiased regulatory differences between the GAAP and the tax code.

Tang and Firth (2012) extend the work of Blaylock et al. (2012) by examining whether regulatory and opportunistic sources for BTDs affect the persistence of earnings differently in the Chinese capital market. The data comprises 664 firm-year observations and are obtained from the DataStream database for the years 1999–2004. Tang and Firth find that firms with large BTDs arising from both tax avoidance and earnings management exhibit less persistent earnings. They conclude that BTDs (either from regulatory or opportunistic sources) provide information about the quality and persistence of earnings beyond and above those provided by accruals.

Noga and Schnader (2013) test whether BTDs are associated with the risk of bankruptcy. Their data comprises 54,577 firm-year observations obtained from Compustat for the period 1994–2010. Noga and Schnader argue that researchers have overlooked information disclosed for tax reporting purposes and relied solely on information disclosed for financial reporting purposes to investigate why public firms experience bankruptcy. Further, they argue that incorporating BTDs information into the process of bankruptcy prediction may allow financial analysts to focus on a reduced number of troubled firms, and thus making them perform the analysis task more efficiently and effectively. Their study shows that tax information (e.g., BTDs) is incrementally useful in predicting the likelihood that a firm will go into bankruptcy. Specifically, the study finds that firms having extreme BTDs are more than twice as likely as firms having small BTDs to experience bankruptcy over the next five years.

Moore and Xu (2018) examine whether BTDs are associated with borrowing costs. Their data comprises 6,336 firm-year observations obtained from Compustat for the period 1996–2012. They argue that large BTDs generally raise concerns about the quality of firm's earnings information, which in turn leads creditors to view borrowers with large BTDs as being highly risky and thus to charge them higher borrowing costs. In other words, lenders' concerns arise from the increased uncertainty about the ability of borrowers with large BTDs to repay the loans. They partition BTDs into temporary and permanent components, finding that only temporary BTDs are associated with costs of debt.

3.5 Political connections

3.5.1 Definition of political connections

According to Shleifer and Vishny (1994), political connections represent the relationship through which firm managers receive subsidies from politicians, who in turn receive bribes from managers. Additionally, political connections in a corporate setting exists when a politician seeks to favor a specific firm through cronyism or through control of equity ownership or board directorship (Fisman, 2001; Johnson & Mitten, 2003). Moreover, Bushman et al. (2004, p. 209) define political connections in the context of political economy as "a range of institutional arrangements that capture important relations between the government and the economy."

3.5.2 The prevalence of political connections

Faccio (2006) finds that political connections are pervasive, as connected firms account for nearly 8% of stock market capitalization across the world. Unlike the arm's length system, the economy in many developing countries is built on a relationship-based system (Rajan & Zingales, 1998).[10] This system is characterized by poorly drafted laws, poorly enforced contracts, weak corporate governance, and high levels of cronyism. Further, in developing countries, political connections are commonly obtained through a combination of kinship and familial ties, political alliances, ethnic affiliation, or financial partnership between business owners and political elites (Desai & Olofsgård, 2011). Bunkanwanicha and Wiwattanakantang (2009) report that business elites often spend resources to establish political connections, mostly indirectly, with public officials through friendship, shared educational and work

[10] In an arm's length system, which prevails in Anglo-Saxon countries, contracts are based on written laws and properly enforced (Rajan & Zingales, 1998).

experience, board membership, and campaign funding. The authors also note that business leaders can use their connections to win elections or top official positions themselves without using any intermediaries. This is usually is due to the weak system of checks and balances that allows business leaders to run for high office, which in turn gives them more power to serve their private interests or agendas (Bunkanwanicha & Wiwattanakantang, 2009). Generally speaking, the phenomenon of political connections prevails in countries with weak institutions, those known for being highly corrupt, and those with political leadership that encourages lenders to grant loans to firms with political ties, and is less prevalent in countries with strong institutions or those that have adopted more stringent regulations against conflict of interest (Faccio, 2006; Fisman 2001). In this regard, Bushman and Piotroski (2006, p. 4) report that firms in countries where government is strongly involve in the economy are more likely to have "speed recognition of good news and slow recognition of bad news in reported earnings relative to firms in countries with less state involvement."

Researchers have cited many cases, notably in developing countries, where firms with political ties were affected by the circumstances surrounding their political individuals. For example, stock prices of firms linked to former Indonesian President Suharto experienced a significant downturn when rumors surfaced that Suharto was critically ill during his final year in power (Fisman, 2001). Similarly, Brazilian firms that provided contributions to winning candidates experienced higher stock returns and had easier access to finance during election time (Claessens et al., 2008). Another example is that, during the Asian financial crisis, Malaysian firms with political ties to Prime Minister Mahathir benefited from the closure of foreign currency markets (Johnson & Mitten, 2003). Moreover, as compared to non-connected firms, financial firms connected to the King of Thailand and his family were more likely to survive the Asian financial crisis (Polsiri and Jiraporn, 2012).

3.5.3 Prior studies on corporate political connections

Prior studies have regarded the phenomenon of corporate political connections as a double-edged sword; it can compromise firm value when politicians pursue non-value-maximizing or rent-seeking behaviors, but, conversely, political connections can bring valuable benefits and increase firm value (Braam et al., 2015; Chaney et al., 2011; Chen et al., 2010; Faccio, 2006; Faccio et al., 2006; Fisman, 2001; Gul, 2006; Wahab et al., 2009). Table 3.2 presents chronologically detailed information of prior major studies examining the impact of political connections in the firm.

Table 3.2. List of major prior studies on political connections

No.	Authors/ Year	Country	Sample size	Period	Area of study	Political connections proxy	Main findings
1	Fisman (2001)	Indonesia	79 observations	1995–1997	Political connections and firms value	Suharto Dependency Index developed by Castle Group to identify business groups close to President Suharto.	The study shows that political connections affect firms value and may bring competitive advantages to connected firms.
2	Agrawal and Knoeber (2001)	US	264 firm-year observations	1987	Board of director's political involvement	Board members with prior involvement in government or political party or with a degree in law as a political board member.	The study provides evidence that firms with politically connected directors have prudential access to government contracts.
3	Gul (2006)	Malaysia	812 firm-year observations	1996–1998	Audit fees	The firm is deemed politically connected if it has close ties to top politicians or major shareholders, specifically with Mahathir, Daim, and Anwar.[11]	The study shows that auditors perceive firms with political connections as being highly risky and thus the time and effort needed to perform the audit process to be high. As a result, audit fees are higher in politically connected firms than in their counterparts.
4	Faccio (2006)	Cross-country study	450 firms	1997–2002	Firms value	The firm is deemed politically connected with a politician if at least one of its owners holds at least 10% of voting shares or one of its top management directors (e.g., CEO or Chair) is a member of parliament, a minster, or has close connections with a political party.	The findings reveal that firms can derive various benefits from connections such as favorable treatment by the government, low tax rates, the award of government contracts, and lenient regulations. Further, the result shows that stock prices are affected by the relationships between business leaders and politicians.
5	Faccio et al. (2006)	Cross-country study	450 firms	1997–2002	Corporate bailouts	The firm as deemed politically connected with a politician if at least one of its owners holds at least 10% of voting shares or one of its top management directors (e.g., CEO or Chair) is a member of parliament, a minster, or has close connections with a political party.	The finding indicates that lenders are willing to give loans to politically connected firms at favorable terms, as these firms will be bailed out and thus pay any outstanding debts should they encounter any financial issues. That is, lenders have more trust that connected firms will pay them back even if they face financial difficulties.
6	Claessens et al. (2008)	Brazil	159 and 216 firm-year observations for 1998 and 2002, respectively.	1998 and 2002	Access to bank finance	Campaigns contributions (a firm is deemed politically connected if it provides contributions to a candidate)	The findings reveal that higher contributions are associated with higher returns on stocks and contributing firms are able to receive debt finance at lower interest rates than non-contributing firms.
7	Goldman et al. (2009)	US.	---	2000	Firm value	Nomination of a former politician to the board membership or the winning of the political party from which the board member is.	The results indicate that political connections of board members can increase firm value even in countries where the legal and judicial system is strong, such as in the US.

[11] Mahathir is the former Prime Minister, Anwar is the former Deputy Minister, and Daim the former Finance Minister of Malaysia.

No.	Authors/ Year	Country	Sample size	Period	Area of study	Political connections proxy	Main findings
8	Wahab et al. (2009)	Malaysia	390 firms	1999–2003	Audit fees	A dummy variable of 1 denotes a firms is having a political connections based on index provided by Johnson and Mitton (2003).	The findings show that connected firms pay higher audit fees which is consistent with the view that connected firms are generally believed to have less effective governance systems, more monitoring costs, and thus are deemed riskier.
9	Cooper et al. (2010)	US.	1,930 firms	1979–2004	Firm performance	Donations to Political campaigns	The findings show a positive link between political donations and firm performance in the US.
10	Chen et al. (2010)	Cross-country study	349 firm-year observations	1997–2001	Earnings forecasts	A dummy variable of 1 denotes a firms is having a political connections based on based on the list provided by Faccio (2006)	The findings show that analysts face more difficulty predicting earnings of connected firms compared to non-connected firms, notably in countries where corruption levels are high. Further, the study reveals that information asymmetry between management and outside investors is exacerbated by political connections process. Moreover, the study shows that the adverse effect of information asymmetry (created by political connections) can be alleviated when anti-corruption measures are implemented.
11	Chaney et al. (2011)	Cross-country study	4,954 and 4,308 firms for 5 and 10 years measure, respectively.	1996–2005 and 2001–2005 for 5 and 10 years, respectively	Earnings quality	A dummy variable of 1 denotes a firms is having a political connections based on based on the list provided by Faccio (2006)	The findings show that the quality of earnings reported by connected firms are less than that of con-connected counterparts.
13	Boubakri et al. (2012)	Cross-country study	245 observations	1997–2001	Firms performance and leverage.	A dummy variable of 1 denotes a firms is having a political connections based on based on the list provided by Faccio (2006)	The findings reveal that firms establishing political connections exhibit increased performance and leverage level than a similar sample of nonconnected peers.
14	Braam et al. (2015)	Cross-country study	17,664 firm-year observations	1997–2001	Earnings management	A dummy variable of 1 denotes a firms is having a political connections based on based on the list provided by Faccio (2006)	The results show that politically connected firms have incentives to use more costly and less detectable real earnings management because it help covers the rents a firm draw from its politicians.
15	Al-Hadi et al. (2016)	GCC	667 firm-year observations	2007–2011	Risk reporting	A dummy variable set for 1 if at least one royal family member is setting on the firm's board.	The findings shows that the presence of royal family directors on the boards of firms within the GCC region is linked to less quality risk disclosures, notably during the periods of financial distress and when the levels of risks are high.

Fisman (2001) examines the impact of political connection on firm value in Indonesia. Data on political connections are collected from the Suharto Dependency Index developed by Castle Group to identify business groups close to President Suharto and his children during the period 1995–1997. Fisman reports that in Southeast Asian countries (e.g., Indonesia), profitability was significantly determined by political factors rather than fundamental economic factors, and that this led to distortion of investment and capital allocation decisions. Fisman argues that although connected firms can extract tremendous political rents, no or little financial profit might be generated from such connections due to the high costs and resources required to establish such connections. Fisman cites firms close to the former Indonesian President Suharto and his children as a case where firm value was highly dependent on political connections. Specifically, he finds that the values of President Suharto's firms declined sharply following bad news concerning the condition of his health. Fisman concludes that political connections play an important role in determining firms' profitability across different countries and economies. In summary, Fisman's study shows that the termination of political connections results in a decline in connected firms' equity value.

Agrawal and Knoeber (2001) examine whether outside directors on corporate boards with backgrounds in politics or law provide a political gain for the firm. Their sample consists of 264 manufacturing firms during the year 1987. They employ board directors' prior involvement in government or political party, as well as having a degree in law, as proxies for political connections. They argue that politics serves an important function – determining a firm's profitability – and assert that lawyers and directors familiar with politics can provide assistance to the firm, notably in terms of predicting government actions and understanding government procedures. Further, they note that political directors can align the interests of the government with those of the firm or prevent detrimental government actions to the firm. Importantly, they note that political directors can facilitate the awarding of government contracts through friendship with key decision-making bodies.

Gul (2006) examines how audit function, in terms of auditor' effort and audit fees, is affected by corporate political connections in Malaysia. The sample comprises of 812 firm-year observations and the data are obtained from the Worldscope database for the years 1996–1998. Gul argues that during the Asian financial crisis, politically

connected firms performed poorly for two reasons: (1) cronyism led these firms to operate inefficiently and (2) the inability to receive government subsidies during the financial crisis pressured these connected firms to produce materially misstated financial statements. For these two reasons, when auditors assess audit risk as high, significant efforts and time are needed to gather sufficient evidence to form an appropriate audit opinion. As a consequence, audit fees should be higher for firms with political connections than for non-connected peers. Consistent with the study's argument, the findings showed that during the Asian financial crisis, audit fees were higher for politically connected firms compared to non-connected firms.

Faccio (2006) examines whether firms' value is affected by political connections for a cross-country firm sample. The sample comprises 20,202 firms from 47 countries. Faccio defines a firm as being politically connected if at least one of its owners holds at least 10% of voting shares or one of its top management directors (e.g., CEO or Chair) is a member of parliament, a minster, or has a close connection with a political party. The study finds that political connections prevailed in 35 out of the 47 countries in the sample and that politically connected firms represented nearly 8% of total market capitalization of the sample in the study. The study presents a number of findings. First, political connections are pervasive in countries where levels of corruption are high, countries with strict investing regulations for foreign investors, and in countries with more transparent systems. Second, connections are less pervasive in countries where limitations on political conflict of interests are imposed. Third, different type of politicians have different effects on firms. For instance, appointments of politicians to firms' boards have no significant effect on share prices. However, share prices increase when a businessperson enters politics or is nominated as a prime minister, but not as a member of parliament. In summary, Faccio (2006)'s study shows that the establishment of corporate political connections increases connected firms' equity value.

Faccio et al. (2006) investigate whether firms with political connections can be bailed out by the government during difficult financial times. The study identifies 450 politically connected firms from 35 countries using the same dataset employed in Faccio (2006). The study argues that lenders are willing to provide credit to politically connected for three possible reasons. One is that when making lending decisions lenders take into account the possibility that borrowers (e.g., connected firms) are more likely to be rescued/bailed out by the government should they face any financial issues.

The study presents evidence consistent with this interpretation. That is, connected firms receive extended credit at favorable terms (e.g., low-interest rates) due to their higher likelihood of being rescued or supported by their home governments. Thus, the study posits that firm's shareholders benefit from political connections in various forms, including bailouts during periods of economic distress.

Claessens et al.'s (2008) study investigates whether firms that provided contributions to campaigns of federal candidates in Brazil during the 1998 and 2002 elections exhibited higher stock returns than firms that did not. Specifically, the study is meant to address two questions: (1) do higher contributions to campaigns result in future political favoritism? and (2) if so, what are the benefits? The study finds evidence for a positive answer to the first question, noting that contributing firms did indeed derive rent from their contributions to election campaigns. In terms of the second question, the study shows that contributing firms enjoyed higher stock returns and preferential access to bank finance compared to non-contributing firms. This study highlights a number of reasons why Brazil presents a good case for such study, including disagreement between firms and politicians, a weaker legal environment that amplifies the value of politicians (notable in Brazil, where banks are mostly state-owned and interest rates are high), and the fact that in Brazil information on contributions to campaigns is recorded at the individual candidate level.

Goldman et al. (2009) explore the value of political connections to publicly-listed US companies. Their study relies on a hand-collected dataset on the political involvement of board directors of S&P500 companies. The study defines board connections based on whether a board member held a political position in the past. The study shows that political connections are pervasive in the USA despite the well-developed legal systems in place. That is, firms operating in such an environment are not expected to derive any political rents (e.g., competitive advantage or favorable treatment) from politicians, simply because these politicians have concerns that legal action will be taken against them if they use their power to assist firms for self-dealing purposes at the cost of the public. The results show that the nomination of a politically connected director to the board is associated with an increase in the firm value. Further, when the political party of a board member wins the presidential election, the value generated by this member increases, while the value generated by a board member from the opposing party decreases.

Wahab et al. (2009) examine whether institutional investors and political connections affect audit fees in Malaysia. Their sample comprises 390 non-financial firms for the years 1999–2003. They argue that political connections play a role in explaining the audit prices of Malaysian firms, as politically connected firms are characterized as having a poorer governance system and greater agency problems. Therefore, such firms are expected to incur higher monitoring costs, which, in turn, should increase audit fees. Consistent with their argument, they find a link between political connections and increased audit fees and interpret these findings as evidence that connected firms are viewed by auditors as being highly risky. Specifically, the finding shows that audit fees paid by connected firms were 17.58% higher than those paid by non-connected firms.

Cooper et al. (2010) examine whether contributions to political campaigns are associated with the value of US companies. Their sample comprises 1,930 firms for the years 1979–2004. Data on political connections are collected from the US Federal Election Commission (FEC), while financial data are collected from CRSP and Compustat. The study develops a measure to capture political connections based on whether a firm provides donations to the candidate campaign. The results show a positive and significant relationship between the number of supported political candidates and the contributing firm's future abnormal returns.

Chen et al. (2010) investigate the link between firm's political connections and analysts' earnings forecasts accuracy. Their sample comprises 349 firm-year observations from 17 countries during the years 1997–2001. The study presents two competing hypotheses on the impact of political connections on earnings forecasts process. The first is called the analyst task difficulty hypothesis; it predicts that political connections add complexity to earnings forecasts task, due to the hidden political favors the political connections often entail. If this view is correct, then analysts' earnings forecasts for firms with political connections will be less accurate than for firms with no such connections. The second hypothesis is called the income smoothing hypothesis; it predicts that politicians help their firms smooth earnings by using their influence and power if these firms fail to provide transparent earnings information. If this view is correct, then connected firms' earnings should be more predictable, and thus the accuracy of forecasts should be more greater, in connected firms as opposed to non-connected firms. The results shows that analysts' forecast accuracy is lower in firms with political connections and that such connections also

exacerbate information asymmetry between insiders and outside investors, which is consistent with the analyst task difficulty hypothesis discussed above.

Chaney et al. (2011) investigate whether the quality of reported earnings varies systematically across politically connected firms and other firms. Their sample comprises 4,954 firms using five years measure of accruals and 4,308 firms using ten years measure of accruals for the years 1996–2005. The results demonstrate that firms that established political connections showed less quality earnings than similar non-connected firms. Chaney et al. (2011) attribute the result to three causes. First, because politicians generate political gains that outweigh the costs incurred to establish such connections, insiders of connected firms face pressure to hide or obscure the political gain they enjoy in an attempt to expropriate other shareholders. Second, since managers of politically connected firms receive protection from their political-backers in the event that less transparent earnings information is disclosed, these managers worry less and spend less time to ensure earnings information is credible. Third, it may simply be the case that firms with low-quality accounting information have incentives to establish political connections. Further, the study documents that political connections provide information useful in explaining a firm's accounting information beyond those provided by the country's regulatory system and firm's ownership structure. Chaney et al. (2011) find that the quality of earnings reported by politically connected firms is significantly lower than those of their non-connected peers, indicating that managers of such firms are less concerned with the quality of reported earnings due to the protection they expect from the politicians.

Boubakri et al. (2012) study the impact of political connections on performance and financing decisions of publicly traded firms. Their study relies on Faccio's (2006) data on political connections. The sample comprises 245 observations from Worldscope database for the years 1997–2001. The study operationalizes operating performance in terms of return on assets (ROA) and leverage in terms of debt to assets (DTA). The results show that the initiation of political ties is associated with an increase in firms' accounting performance and leverage. Further, the results indicate that this association is more pronounced when governments are expected to bail out their financially troubled connected firms.

Braam et al. (2015) examine the form of earnings management (e.g., real or accrual-based earnings management) preferred by firms with political connections compared to firms without political connections. The study also relies on Faccio's

(2006) data on political connections. The sample comprises 17,664 firm-year observations for the years 1997–2001. They argue that firms with political ties are more likely to engage in real activities earnings management despite its high costs, because it provides greater secrecy and hides political rents that political connections typically entail. Consistent with their argument, Braam et al. show that politically connected firms prefer real earnings management over accrual-based earnings management when compared with non-connected firms. Connected firms are more likely to exercise less detectable real earnings management, specifically when public monitoring and detection risk are high. They conclude that political connections play a role in explaining the choices between different measures of earnings management (e.g., accrual-based vs. real earnings).

Al-Hadi et al. (2016) examine whether the political connections of royal family board members have any effect on the quality of risk reporting in the GCC region. The sample is based on a sample of financial firms for the years 2007–2011, comprising 667 firm-year observations. They argue that the degree to which a firm's directors are close to political power can influence the extent and quality of reporting. Further, they argue that the existence of politically powerful members on firm's board can create agency problems, which may increase monitoring costs or lead to the expropriation of shareholders. They provide evidence that the presence of royal family members on firm boards decreases the quality of risk disclosure, notably when firms face a high level of detection risk or are financially distressed. This finding also holds after using alternative measures of royal family political connections, including the number of royal family directors, royal family rank, and the presence of a royal family individual as a firm's chairman.

3.6 Institutional investors

3.6.1 Definition of institutional investors

Davis (1996, p. 64) defines institutional investors as "specialized financial institutions which manage savings collectively on behalf of small investors, towards a specific objective in terms of acceptable risk, return-maximization and maturity of claims." Schneider (2000) defines institutional investors as financial intermediaries that hold a large fraction of a given firm's total equity and have fiduciary duties to provide stable return to the fund's providers. The transformation of firms from privately owned to

publically owned has led to a separation of ownership and management, or "managerialism" (Berle & Means, 1932). This, in turn, has given rise to agency problems, which Jensen and Meckling (1976, p. 308) define as "a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent." Prior studies (e.g., Bushee, 2001; Hartzell & Starks, 2003; Jennings, 2005) have described institutional investors as sophisticated investors who have superior ability to acquire and analyze information and own significant stakes of corporate shares; such investors are expected to play a leading role in monitoring management and mitigating agency problems.

3.6.2 Prior studies on institutional investors

Although some studies have revealed that institutional investors are short-term investors, "transient," and may behave myopically (e.g., Bushee, 2001; Coffee, 1991; Porter, 1992), the majority view institutional investors as long-term investors who can play a monitoring role, resolve agency conflicts, and increase firm value (e.g., Daily et al., 2003; Jennings, 2005; Jiambalvo et al., 2002; Abdul Wahab et al., 2007). Table 3.3 presents chronologically detailed information on major prior studies on the effects of institutional ownership on the firm.

Table 3.3. List of major prior studies on institutional investors

No.	Authors/ Year	Country	Sample size	Period	Area of study	Main findings
1	Shleifer and Vishny (1986)	US	-----	-----	Monitoring and takeovers	The study shows that the large holdings provide incentives to large shareholders to monitor the firm managers as they can afford the monitoring costs that small shareholders cannot. Therefore, large shareholders serve as a solution to mitigate the free-riding problem associated with small shareholders.
2	McConnell and Servaes (1990)	US.	1,173 firms and 1,093 firms for the years, 1976 and 1986, respectively.	1976 and 1986	Firm value	The study provides evidence that higher fractions of common stocks owned by intuitional investors to be associated with an increase in the firm performance, as captured by Tobin's Q.
3	Brous and Kini (1994)	US.	379 firms	1976–1985	Firm value	The study provides evidence consistent with effective monitoring hypothesis that a positive and significant relationship exists between the level of institutional investors' ownership and stock return.
4	Bushee (2001)	US.	10,380 firm-year observations	1980–1992	Firm performance	The study demonstrates that, a firm whose ownership structure is dominated by transient investors, is overly focused on meeting short-term earnings benchmarks at the expense of long-term firm's value.
5	Ryan and Schneider (2002)	US.	----	-----	Institutional investors activism	The study explores how institutional investors can intervene in their portfolio firms to communicate their concerns. The study shows that this can be done in two ways: cooperative with management or going public.
6	Jiambalvo et al. (2002)	US.	9,840 firm-year observations	1989–1995	Earnings informativeness	Consistent with the view that institutional investors are sophisticated and better informed than individual unsophisticated investors, the study presents evidence that higher level of institutional holdings reflect greater informativeness of current earnings about the firm' future earnings and stock prices.
7	Hartzell and Starks (2003)	US.	36,352 firm-year observations	1991–1996	Executive compensation structure	Consistent with the view that institutional investors play a monitoring role, the findings show that concentration of ownership by institutional investors is positively related to pay-for-performance sensitivity of managerial compensation.
8	Jennings (2005)	US.	20,000 firm-year observations	1982–1991	Firms value	The study finds little evidence to support the notion that institutional investment increases firm value. Specifically, the study finds quality firms attract institutional investors, however, institutions do not engage in monitoring, and the value of these firms declines.
9	Velury and Jenkins (2006)	US.	4,238 firm-year observation	1992–1999	Earnings quality	The findings show that there is a positive relationship between institutional ownership and the earnings quality, however, the prelateship becomes negative as institutional ownership becomes more concentrated.

No.	Authors/ Year	Country	Sample size		Period	Area of study	Main findings
10	Cornett et al. (2007)	US.	573 observations	firm-year	1993–2000	Firm performance	The findings reveal a positive and significant correlation between firm operating performance and institutional investors.
11	Abdul Wahab et al. (2007)	Malaysia	1,760 observations	firm-year	1999–2002	Corporate governance	The findings show that institutional investors, insensitive in particular, improves corporate governance and provide possible protection to minority shareholders.
13	Tee (2017)	Malaysia	3,882 observations	firm-year	2002–2012	Stock price informativeness	The findings show that institutional investors, through their substantial investment stakes, can reduce agency problems in politically connected firms. Further, institutional investors can help communicate market information to minority shareholders.

Shleifer and Vishny (1986) state that when a firm's equity is held by many small individual shareholders, it is not of interest to any of these shareholders to monitor the firm. That is, shareholders with small stakes in the firm cannot afford the large burden or costs needed to monitor the management. Accordingly, they explore whether the presence of large shareholders (e.g., institutional investors) helps overcome this free-rider problem. They argue that the large fraction of the firm's shares that the institutional investors own creates an incentive for them to watch the incumbent managers. They find that as large shareholders increase their interests in the firm's shares, the market value of the firm also increases. Further, they provide evidence that large shareholders play a role in facilitating the takeover process, as they proportionately split the returns on their shares with the bidder.

McConnell and Servaes (1990) investigate the relationship between firm value and the equity ownership structure. Their sample comprises 1,173 firms and 1,093 firms for the years 1976 and 1986 respectively. They argue that if shareholders exercise their rights and influence the management actions, then they "vote with their feet." In other words, if institutional investors are dissatisfied with management, they may simply liquidate their investments. Further, the study refers to the work of Jensen and Meckling (1976), who classify stockholders as either insider shareholders (manager owners), who manage the firm and have voting rights, or outsider shareholders, who do not have any voting rights. Even though both types of shareholder have the same rights to receive dividends on the shares they hold, insiders, are capable of augmenting their cash flow by consuming other resources of the firm. If is true, then insiders will adopt investing policies that maximize their own wealth but reduce payments to outsider investors. On the other hand, outsider investors – particularly institutional ones – are capable of forcing the firm's management toward pursuing value-maximizing objectives, regardless of the size of stake the management owns in the firm. If the latter view is correct, then McConnell and Servaes (1990) posit that the larger the fraction of common stock owned by institutional investors, the greater the firm value will be. Consistent with this expectation, they find an increased proportion of common stocks owned by institutional investors to be positively associated with operating performance, as captured by Tobin's Q. They interpret this result as evidence that institutional investors play an important monitoring role.

Brous and Kini (1994) examine the association between the level of intuitional ownership and the market response to the issuance of equity. Their sample comprises 379 equity issuing during the period 1976–1985 by companies listed on the New York Stock Exchange or American Stock Exchange. Brous and Kini provide two competing views regarding the effectiveness of monitoring by institutional investors. The first is the effective monitoring hypothesis, which predicts that higher equity ownership creates incentives for institutional investors to effectively monitor and protect their investments. The second is the ineffective monitoring hypothesis, which predicts that higher equity ownership may lead investors to develop other profitable relationships with the firm's management, and thus reduce their incentive for monitoring in order not to compromise those valuable relationships. Consistent with the active monitoring hypothesis, the study finds the level of institutional ownership to be positively and significantly associated with the abnormal stock prices, and interprets this finding as evidence that institutional investors are effective monitors of cash proceeds raised from equity issuance due to their large holdings in the firm's shares.

Bushee (2001) investigates whether institutional investors prefer short- or long-term earnings performance and whether such preferences are associated with the firm value. The sample comprises 10,380 firm-year observations for the years 1980–1992. The study considers the issue that institutional investors (transient investors in particular) may behave myopically by exerting influence on managers to focus on short-term earnings at the expense of the value to be realized over the long-term. Bushee notes that although institutional investors are believed to be sophisticated with advanced information gathering and analyzing capabilities, they may nonetheless overly focus on meeting short-term earnings benchmarks as they have fiduciary duties toward fund providers. The results reveal that institutional investors with short-term investment horizons (such as transient) and those with stringent fiduciary duties (such as banks) show a preference for meeting short-term earnings targets rather than prioritizing long-term performance.

Ryan and Schneider (2002) study the activist role institutional investors play when such investors dominate a firm's ownership structure. They define activism as investors' ability to influence or evoke fundamental outcomes or processes in a given firm. The study notes that activism can be facilitated in two ways. First, activism can be achieved initially through negotiation and cooperation (often behind-the-scenes) with a firm's management; if this fails, activism can be communicated to members of

the board of directors or the firm's advisors. Second, institutional investors can communicate their concerns publicly via media campaigns, proxy voting, or proposals; each of these actions represent entrenched managerial positions and thus are considered hostile.

Jiambalvo et al. (2002) investigate the relationship between institutional investors' ownership levels and future earnings and stock prices. Their sample comprises 9,840 firm-year observations for the years 1989–1995. Data on ownership are obtained from SEC filings, while financial data are collected from Compustat. The study provides two competing views of institutional investors. One is that institutional investors have incentives to meet short-term earnings targets at the expense of long-run earnings prospects. The alternative view is that institutional investors are sophisticated and possess superior expertise in accessing and interpreting information compared to individual or atomistic investors. Consistent with the latter view, Jiambalvo et al. provide compelling empirical evidence that as the level of institutional ownership increases, so does the informativeness of current-period earnings regarding future-period earnings.

Hartzell and Starks (2003) study whether institutional ownership affects corporate governance of the firms. Specifically, they examine the relationship between institutional ownership and firms' executives compensation structure. Their sample comprises 36,352 firm-year observations for the years 1991–1996. Data on institutional ownership are obtained from the CDA Spectrum database while financial data are collected from Compustat and CRSP. They find a strong and positive link between various measures of institutional ownership and pay-for-performance measures of executive compensation. Further, they find a negative and significant relationship between institutional investors' concentration and the level of executive compensation. That is, a firm whose ownership structure is significantly owned by institutions will have lower managerial compensation. They interpret their findings as evidence that the presence of institutional investors in the firm's ownership structure influences the managerial compensation structure. Hartzell and Starks conclude that investors with substantial shareholdings play a monitoring role in mitigating agency conflicts between managers and equity holders.

Jennings (2005) examines the monitoring role of institutional investors and their effect on firm value. The sample comprises 20,000 firm-year observations for the years 1982–1991. Jennings defines the term monitoring as "shareholder oversight of

management to increase firm value" (p. 168). Jennings provides three reasons institutional investors can be good corporate monitors. First, institutional investors' scale enables them to gather valuable information more efficiently, which, in turn, makes them capable of evaluating and disciplining management. Second, institutional investors' size gives them the power to exercise influence over management, because managers are typically more responsive to large shareholders than to small shareholders. Finally, institutional investors can indirectly monitor management through the market. That is, institutional investors' large trading volume can affect share prices and, as a consequence, serve as a disciplining mechanism because any decline in share prices will be widely discussed in the financial press. Jennings finds little empirical evidence to support the notion that institutional investors are effective monitors or that their investment increases firm value. He finds that well-performing firms attract institutional investors, but that performance declines occur subsequent to institutional investors control of the firms' shares.

Velury and Jenkins (2006) examine whether institutional investors play a monitoring role that affects the quality of reported earnings. Their sample comprises 4,238 firm-year observations for the years 1992–1999. The study provides two competing hypotheses. The active monitoring hypothesis predicts that institutional investors are more likely to actively manage their portfolio firms due to the magnitude of the funds invested. Alternatively, the private benefit hypothesis argues that institutional investors have superior access to critical information, which is then exploited for trading purposes. The study provides evidence that higher levels of institutional ownership are associated with higher-quality earnings, which is consistent with the active monitoring hypothesis. However, when institutional ownership becomes concentrated a negative relationship is observed.

Cornett et al. (2007) examine the effect of institutional investors (through share ownership and board membership) on firms' operating performance. Their sample comprises 573 firm-year observations for the years 1993–2000. The study notes that recent corporate financial scandals imply a failure of corporate governance. Further, the study points out that corporate boards have been unable to sufficiently monitor firms' management, and that external/unaffiliated agents (e.g., institutional investors) should be involved to promote governance and monitoring activities. This is because institutional investors have large blocks of ownership and can use their voting rights to pressure management to act in the interest of shareholders. The study finds the

operating cash flow returns of a given firm to be positively and significantly correlated with both the fraction of common stock owned by institutional investors and the number of institutional investors in the firm's ownership structure.

Abdul Wahab et al. (2007) examine whether institutional ownership has an effect on corporate governance mechanisms in Malaysia. Their sample comprises 1,760 firm-year observations and covers the period 1999–2002. They argue that institutional investors are expected to play an important monitoring role due to their significant equity holding in the firm. The study predicts a positive relationship between institutional ownership and corporate governance. Consistent with this expectation, the study finds institutional ownership to be positively associated with corporate governance. Abdul Wahab et al. attribute these findings to the presence of pressure-insensitive institutional investors.[12] They conclude that institutional investors are heterogeneous – that is, only insensitive institutions are capable of forcing management to protect the interests of minority shareholders.

Tee (2017) examines whether institutional investors moderate the relationship between stock price informativeness and political connection in Malaysia. The sample consists of 3,882 firm-year observations for the years 2002–2012. The results provide evidence that a higher level of institutional ownership is associated with increased stock price informativeness. Further, the results show that institutional investors can reduce severe agency problems in firms with political connections. Tee concludes that this result is consistent with the view that large shareholders (e.g., institutional investors) play an effective role in monitoring corporations and can improve information communication to market participants (e.g., minority shareholders).

3.7 Critical evaluation of the literature

Although numerous studies have examined the link between BTDs and reported earnings, especially within the US and Chinese context, there is still no published literature on such link in the Saudi context where the corporate tax system is based on the Islamic zakat concept. Previous BTDs literature (i.e., Mills, 1998; Lev & Nissim, 2004; Hanlon, 2005; Wilson, 2009; Hanlon et al., 2012; Tang & Firth, 2012; Moore & Xu, 2018) has focused on evaluating whether large BTDs hold information about key

[12] According to Brickley et al. (1988), insensitive institutional investors are those that have no business relationship with the firm, while sensitive institutional investors are those that have a relationship with the firm. While the former is less likely to comply with management decisions, the latter is expected to agree in order to maintain a valuable relationship with the firm.

corporate outcomes from the lens of the tax system but not from the zakat system. Therefore, this thesis fills this gap by examining whether *BZDs* hold information about Saudi firms' reported earnings.

Additionally, by reviewing the existing literature on political connections, it is clear that there remain several limitations that warrant further investigation. One limitation is that most of the political connection studies tend to answer the question, "Are political connections associated with improved firm's governance and performance?". However, empirical studies on this topic have yielded only contrasting results. While some studies have documented positive impact (Goldman et al., 2009; Cooper et al., 2010; Boubakri et al., 2012; Batta et al., 2014), others have documented quite the contrary (Gul, 2006; Abdul Wahab et al., 2011; Chaney et al., 2011; Braam et al., 2015). Still others, provide inconclusive or mixed evidence (Fisman, 2001; Chen et al., 2017). Therefore, this research attempts to fill this gap using a different geographical and political context, incorporating more control variables, and using hand-collected data from recent time spans. This research aims to clarify the ongoing debate on the consequences of political connections on firm performance in a new political corporate context.

3.8 Summary of chapter

Chapter Three begins by highlighting the definition and properties of earnings quality. Next, the chapter defines and presents the prior literature on the concept of book-tax differences. Subsequently, the definition, measures, and major prior literature on the notion of political connections are discussed. The definition and prior published studies on the role of institutional investors in monitoring the firm are then discussed. A critical evaluation of the reviewed literature is then provided to highlight the research gaps before a summary of the chapter concludes.

CHAPTER 4: THEORETICAL PERSPECTIVE AND HYPOTHESES DEVELOPMENT

4.1 Overview of chapter

This chapter commences by discussing the theoretical framework of this research. Empirical studies relating to each of the explanatory variables about their expected impact on the outcome variable are then reviewed. Proposed hypotheses examining the direction of the key relationships examined are outlined in the relevant sections. A conceptual schema representing the direction of the relationships explored in this research is demonstrated and a summary of the chapter is provided in the last section.

4.2 Theoretical framework

4.2.1 Agency theory

Agency theory was first discussed by Berle and Means (1932), who highlighted the potential conflict of interest between a firm's managers (agents) and owners (principals) when managers have no ownership in the firm's shares. Jensen and Meckling (1976) and Fama and Jensen (1983) further contributed to agency theory by formalizing the relationship between firm value and managers' equity ownership. They posit that the agency relationship arises as principals assign agents the authority to manage the firm on their behalf. However, managers (agents) may deviate from their main responsibilities and adopt policies meant to maximize their own wealth at the expense of the firm owners (the principals), thereby creating the agency problem. As both parties (the principals and the agents) have conflicting interests in the firm, the monitoring role will be more difficult and expensive; this is known as agency costs (Fama & Jensen, 1983; Jensen & Meckling, 1976). To alleviate such conflict, it has been argued that managers' interests should be aligned with those of the outside shareholders through allocating managers a greater proportion of the firm's shares (McConnell & Servaes, 1990).

Conflict of interest could also arise from misalignment between different shareholder classes, such as controlling and non-controlling shareholders. Such conflict arises when controlling shareholders use their concentrated equity holdings to reward themselves at the expense of non-controlling/minority shareholders (Shleifer & Vishny, 1997). For example, controlling shareholders have influence and control because they own the majority of firm's shares, their voting rights exceed their cash

flow rights, and they dominate the firm's board seats (Ali et al., 2007). Private benefits created by controlling shareholders could take various forms, such as exerting influence on other agents (Barclay & Holderness, 1989), preventing minority shareholders from exercising their votes (Gilson & Gordon, 2003), engaging in related-party transactions (Anderson and Reeb, 2003b), and promoting managerial entrenchment (Shleifer and Vishny, 1997).

4.2.2 Resource dependency theory

The resource dependency theory revolves around how a firm derives resources from the environment in which it operates. According to Hillman and Dalziel (2003), the resource dependency theory provides a theoretical perspective on how boards' human capital (i.e., experience and reputation) and social capital (i.e., connections and networking with external contingencies) can supply valuable resources to the firm. Further, this theory contends that a firm's success is conditional on its ability to control contingencies or environmental constraints (Hillman et al., 2009).

In a corporate governance context, the premise underlying this theory is that firms' connected directors can bring valuable resources to the firm and, in parallel, reduce the risk or complexity linked to the firm's external environment (Pfeffer & Salancik, 1978). In the same vein, Gales and Kesner (1994) argue that having connected directors on the board can serve two objectives: (1) reducing environmental contingency and uncertainty and (2) securing essential resources to the firm in various forms, including information, contacts, expertise, access to key institutions, and legitimacy. Such objectives are often facilitated through the directors' connections with external environmental factors (Oehmichen et al., 2017). Based on the theoretical views underlying agency theory and resource dependency theory, the present research builds on these theories to explain the possible political gain that the Saudi royal family directors can bring to the firms they represent.

4.3 Hypotheses development

4.3.1 Book-tax differences (BTDs), book-zakat differences (*BZDs*), and earnings persistence

The purposes and users of the financial reporting system differ from those of the tax system and, accordingly, so does the calculation of book income and taxable income, resulting in book-tax differences (BTDs). The extant literature, primarily in the USA,

has demonstrated that information inferred from BTDs not only highlights the mechanical differences between accounting standards and tax laws but also provides information on how managers' discretion affects earnings and tax disclosure (e.g., Graham et al., 2012; Hanlon et al., 2012). The underlying argument is that since there is little or no conformity between tax code and financial accounting principles (e.g., GAAP), firms have the scope to manage taxable and accounting book income inconsistently (Mills, 1998). In other words, firms cannot increase reported earnings and tax savings separately. In this regard, Mills (1998, p. 344) states that "in the absence of revenue enforcement (e.g., IRS), firms would report zero taxable income to avoid all tax payments." In another study, Hanlon (2005) argues that accounting standards, such as GAAP, provide more managerial discretion for financial reporting purposes that are disallowed under conservative revenue recognition tax measures. For financial reporting purposes, corporate managers are permitted to choose between various accounting methods for assets depreciation (e.g., straight-line vs. accelerated), estimates (e.g., for pension or goodwill), and allowances (e.g., bad debt), but these methods and estimates are often not permitted as a basis for deducting purposes under the tax code (Mills & Newberry, 2001).

Further, Lev and Nissim (2004) report that following Enron's bankruptcy in 2001, the US financial press pointed out that while the company reported billions of dollars of accounting earnings, it paid only a negligible amount of income tax, suggesting that Enron's shareholders overlooked taxable income as a key indicator of the quality of earnings. The usefulness of the taxable income measure is also documented in the financial analysis textbooks. For instance, Revsine et al. (1999) state that widening differences between book income and taxable income should be investigated, as such differences signal deterioration in the quality of reported earnings.

Additionally, Phillips et al. (2003) argue that deferred tax expense (a measure of BTDs) can be used to better detect earnings management activities than other earnings accrual measures. Further, Weber (2009) argues that due to varying objectives and rules of financial reporting and tax reporting systems, such variations often affect the timing and scope of accounting for financial transactions under each system. Therefore, the application of the two sets of rules leads to either normal BTDs arising from timing and scope differences or abnormal BTDs arising from biased reporting incentives to increase the firm's earnings while decreasing its tax liabilities. From a

financial accounting perspective, the normal BTDs can be permitted under generally accepted accounting principles, but the abnormal BTDs are a representation of aggressive tax and earnings management. Weber (2009) comments that inferences from BTDs can be useful in evaluating and predicting the current and future firm's earnings. Wilson (2009) predicts that the magnitude of BTDs will be positively associated with tax sheltering incidence. Wilson's argument is based on the possible trade-off between financial reporting income and taxable income to maximize tax savings. Thus, Wilson concludes that BTDs are significant in identifying firms' involvement in active tax sheltering. Ayers et al. (2010) argue that information contained in BTDs can also be useful in evaluating the firm's credit risk, for two reasons. First, credit analysts view the increased gap between book income and taxable income as a signal of deteriorating earnings quality, and thus heightened credit risk. Second, as positive BTDs may arise from off-balance-sheet financing, credit rating agencies may incorporate the information contained in BTDs into the rating process.[13] For the above two reasons, Ayers et al. (2010) expect a negative relationship between positive BTDs and credit rating changes. In other words, the larger the positive BTDs, the more likely the rating is downgraded.

Recent literature also suggests that BTDs could provide incrementally useful information about the firm's earnings quality and persistence. Consistent with this view, Blaylock et al. (2012) cite three sources of BTDs. First, BTDs can be caused by managing earnings aggressively. Second, firms may defer taxes as long as possible to reduce the tax liabilities' present value, which represents a basic form of tax planning or tax management. Third, deferred tax expense (a measure of BTDs) can arise from normal or unbiased treatment for revenues and expenses for accounting or tax purposes, which represents neither earnings management nor tax planning. As such, Blaylock et al. expect that firms with large positive BTDs predominantly arising from earnings management (tax planning) would exhibit less (more) earnings and accruals persistence relative to firms with small positive BTDs. In another study, Hanlon et al. (2012) argue that BTDs (driven by issues related to either managing earnings or tax avoidance) can create additional audit effort and audit risk. Thus auditors perceive clients with large BTDs as riskier and charge them higher audit fees. Noga and

[13] A positive book-tax differences refers to the cases when book income exceeds taxable income, while a negative book-tax differences refers to cases when taxable income exceeds book income.

Schnader (2013) argue that researchers have overlooked tax-related information and relied solely on information derived from financial statements to investigate why public firms experience bankruptcy. Further, they argue that incorporating information such as those contained in BTDs into the process of bankruptcy prediction may allow interested users such as equity holders and financial analysts to focus on a reduced number of troubled firms, thus making them perform the analysis task more efficiently and effectively. Further, Noga and Schnader assert that using BTDs in the prediction process can increase the prediction window from two years using the traditional bankruptcy predictors to five years prior to going bankrupt. Moore and Xu (2018) argue that BTDs communicate information beyond that provided in the firm's financial statements to market participants. However, BTDs may also reflect the uncertainty that affects the information environment. They assert such uncertainty translates into lenders perceiving borrowers with large BTDs as being more riskier, thereby increasing debt financing costs.

Given that BTDs may arise from managerial judgment, managers may be motivated to exploit inconsistencies between the two systems to maximize the reported earnings figures to meet earnings benchmarks and/or to minimize taxes (Desai, 2003). BTDs should, therefore, communicate information useful in assessing current and predicting future earnings performance. Therefore, accounting and tax researchers can utilize financial accounting income and taxable income to draw inferences about various attributes of the firm's earnings (for example, earnings persistence). Although there is a little consensus among scholars on the definition of earnings persistence, this property of earnings is commonly defined in terms of sustainability and recurrence. Earnings numbers are viewed to be of higher quality when they are more persistent; that is, the extent to which a firm's past earnings is expected to sustain or recur in subsequent years (Dichev et al., 2013; Dichev & Tang, 2009; Schipper & Vincent, 2003). Further, persistence is a value-relevant property of earnings that is useful in evaluating the firm's equity and assessing its future cash flows (Frankel & Litov, 2009; Hanlon, 2005).

Empirically, a number of US studies have provided evidence supporting the notion that tax disclosures (e.g., BTDs) hold useful information for market participants beyond that conveyed in the financial statements. The majority of these studies link BTDs with negative or undesirable corporate outcomes. For example, Lev and Nissim (2004) provide evidence that the ratio of tax-to-book income is a useful measure in predicting future earnings growth. Using confidential tax returns data provided by the

IRS solely for research purposes, Mills and Newberry (2005) show that many US firms often report a higher amount of tax expense on the lodged tax return than to shareholders and other stakeholders on the financial statements. Using confidential data from tax returns, Mills (1998) provides evidence that firms with increased book income over taxable income are more likely to face audit adjustments imposed by the IRS. Wilson (2009) finds that firms accused of committing tax shelter activities exhibit larger book-tax differences relative to a similar sample of non-accused firms. Specifically, he shows that the amount of federal tax savings generated from tax sheltering was linked to an increase by 102% in BTDs during the year in which the sheltering activities occurred.

Consistent with the argument that large book-tax differences are positively associated with negative consequences, other empirical studies have shown that firms with extreme BTDs are more financially distressed (Mills & Newberry, 2001), more likely to experience bankruptcy (Noga and Schnader, 2013), riskier and charged higher audit fees (Hanlon et al., 2012), and more likely to have lower credit ratings (Ayers et al., 2010), and higher market uncertainty (Dhaliwal et al., 2017) as compared to firms with normal BTDs. Moreover, examining whether BTDs are associated with analysts' earnings forecasts, Weber (2009) finds the accuracy of analysts' forecasts of earnings is highly biased for firms with extreme BTDs. More recently, Moore and Xu (2018) find the cost of borrowing is positively related to the temporary components of BTDs. They conclude that high borrowing costs are consistent with the view that BTDs raise concerns about the quality of reported earnings, increasing lenders' fear of not recovering debt granted to risky borrowers.

Another strand of research links the magnitude of BTDs with low-earnings persistence (that is, low-quality earnings). For example, Hanlon (2005) finds the temporary components (both positive and negative) of extreme BTDs are associated with less persistent earnings. Extending the work of Hanlon, Blaylock et al. (2012) find that such a negative relationship is more evident in firms with large BTDs most likely arising from earnings management activities, but not from tax avoidance activities. In a similar study, Chen et al. (2012) find that total BTDs (measured in terms of the absolute value) are associated with lower persistent earnings. Moreover, using Chinese data, Tang and Firth (2012) provide consistent evidence that firms with large BTDs arising from both tax avoidance and earnings management exhibit less persistent earnings.

Together, the empirical evidence presented above indicates that extreme or unusual levels of BTDs raise serious concerns about the quality and persistence of earnings.

As this research opts for a similar approach to investigate the role of book-zakat differences (BZDs) in providing information about the persistence of reported earnings, it builds on the arguments presented above for BTDs to test whether they also hold for BZDs. Accordingly, the first research hypothesis discussed in this research is whether an increased divergence between book income and zakatable income (that is, book-zakat differences, BZDs) is associated with lower earnings quality as captured by earnings persistence. From an accounting point of view, the concept of BZDs is closely matched with that of BTDs, as Saudi firms prepare two sets of income reporting on an annual basis: book income reported on the firm's income statements and zakatable income reported to the GAZT to determine the firm's zakat liabilities.14

Prior literature on zakat suggests that managers often view zakat as an opportunity to pursue self-serving objectives instead of maximizing shareholder value. For example, a survey-based study by Habbash and Alghamdi (2015) finds that 70% of professional auditors and 60% of academics view zakat reduction to be a motive for earnings management. Al-Ajmi and Abo Hussain (2011) argue that Saudi firms tend to follow a high-paying dividends policy in order to reduce a zakat base that would otherwise result in the firm being charged or paying higher amounts of its income to the tax authorities.15 Al-Moghaiwli (2001) finds that managers of Saudi firms tend to exploit the provision of zakat as a means to maximize their own and/or the firms' wealth, which is consistent with the definition of earnings management. In another study, Al-Sehali and Spear (2004) state that many Saudi firms perceive zakat liabilities as a " religious duty," and thus, that they should be responsible for paying only a negligible amount to the GAZT, asserting that such perceptions facilitate earnings management activities. More recently, in 2018, several listed firms agreed to pay settlements totalling US$4.5 billion to the Saudi tax authorities over zakat litigation and disputes.

The empirical research on the impact of zakat on Saudi firms' outcomes is somewhat limited. However, available studies suggest that Saudi firms may manage zakat (e.g., zakat return and zakatable income) opportunistically. For example, Habbash and Alghamdi (2015) show that reducing a firm's zakat obligation is among

[14] See appendix 1 for an example of zakat reporting on the financial statements of Saudi-listed firms.
[15] The Saudi code for zakat and taxation states that dividends distributed to the shareholders during the year are deducted from the zakatable income (zakat base).

several factors driving the practice of earnings management in Saudi firms. In addition, Al-Ajmi et al. (2009) find zakat reduction to be a key factor for acquiring further borrowing. This is because reducing a firm's zakat liability increases its net income and, accordingly, its financial position, thereby facilitating the receipt of further financing. Further, Al-Ajmi and Abo Hussain (2011) find a negative association between zakat and dividends payout, which they attribute to firms' attempts to reduce their zakatable income as a means to generate more tax savings. Taken together, the evidence presented above constitutes a strong argument that Saudi firms exploit the inconsistencies between zakat levying regulations and financial accounting standards (i.e., IFRS) to increase their book income in financial statements while simultaneously reducing their zakatable income on zakat returns. Stated differently, increasing a firm's book income above its zakatable income is a representation of large book-zakat differences (*BZDs*), which is consistent with the same premise or the assumption underlying the concept of book-tax differences (BTDs). Therefore, consistent with the argument or the notion that large BTDs are associated with less persistent accounting earnings, this study expects Saudi firms with large *BZDs* to exhibit less persistent earnings. The study's first proposed hypothesis is as follows:

H1: Firms with large book-zakat differences (LBZD) will exhibit less persistent earnings than firms with small book-zakat differences (SBZD).

4.3.2 Royal family directors' political connections and earnings persistence

Prior political connections literature has based its theoretical framework on agency theory and resource dependency theory to explain the impact of politically connected boards on firms value. Agency theory offers two conflicting views on the consequences of board political connections. One view suggests that political connections can result in weak governance practices due to increased agency costs associated with either rent extracting/opportunistic behavior or expropriation of the firm's resources at the expense of the owners (Fisman, 2001; Qian et al., 2011; Chen et al., 2017). Conversely, such connections can bring benefits and provide competitive advantages to the firms with politically connected directors, which in turn, maximizes shareholders value (Chaney et al., 2011; Chen et al., 2017). For instance, Fisman (2001) and Faccio (2006) show that political connections should increase equity value and performance, arguing that political connections provide some leverage and support

to the firms in relation to the allocation of capital and investment opportunities due to the availability of information and resources derived from such connections. Agrawal and Knoeber (2001) note that political directors can directly help firms through possible government involvement in the firm's interests or through preventing government actions that are hostile to the firm.

Resource dependency theory contends that a firm's connected directors can secure valuable resources and, in parallel, reduce the risk or complexity linked to the firm's external environment (Pfeffer & Salancik, 1978). Further, Gales and Kesner (1994) argue that having connected directors on the board can serve two objectives: (1) reducing environmental contingency and uncertainty and (2) supplying important resources to the firm in various forms, including information, contacts, expertise, access to key institutions, and legitimacy. Such objectives are often facilitated through the directors' connections with external environmental factors (Oehmichen et al., 2017). Therefore, this research builds on the abovementioned two theories to explain the possible political gain that the Saudi royal family directors can bring to the firms they represent.

The existence of ruling family members on firms' board of directors has been used as a proxy for corporate political connections in prior literature in the GCC region.[16] Likewise, this study perceives Saudi firms with royal directors as being politically connected due to the power and influence they have. In the corporate environment of Saudi Arabia, royal family members have significant control over companies' equity and management, occupy top government positions, and govern all important policies and strategic decision-making processes (Crystal, 1995; Hertog, 2012). Accordingly, Al-Hadi et al. (2016) assert that connected royal directors are less likely to provide transparent disclosure, as they face less market or regulatory pressure due to the protection they extract from royal patronage. Further, Mazaheri (2013) supports this assertion by stating that a non-royal entrepreneur may need to partner with a royal patron to gain market share and ensure the enterprise's survival, which is consistent with the resource dependency theory argument. Importantly, royal directors are often selected to hold managerial positions through family ties and connections regardless of their qualifications. Such biased selection may lead to the exclusion of more qualified outside professional directors (Anderson et al., 2003).

[16] See for example (Al-Hadi et al., 2016, 2017).

A distinctive feature of most emerging economies is the prevalence of political networking that may exist between firms and politicians. According to Faccio (2006), connected firms account for nearly 8% of stock market capitalization across the world. Shleifer and Vishny (1994) state that managers pay bribes to politicians in exchange for political gain and subsidies to their firms. This relationship between corporate managers and government politicians is like a two-sided coin, as such relationships may either jeopardize or improve firm value.

Extant literature suggests that political connections may jeopardize firm value. For instance, Bartels and Brady (2003) argue that business elites run for government office to exploit the weakness of the institutional and legal environment to extract private benefits and political power. Gul (2006) perceives politically connected firms as being riskier, and their financial statements as more likely to be materially misstated, as these firms operate inefficiently (due to cronyism) and are unable to derive protection or support from the government, especially during the time of financial crisis. Gul (2006) also adds that auditing the financial statements of connected firms requires more time and effort to collect sufficient evidence to form an appropriate audit opinion, and auditors therefore charge these firms higher audit fees compared to non-connected firms. In a similar study, Abdul Wahab et al. (2009) argue that politically connected firms are generally riskier, face greater agency problems, and thus bear greater monitoring costs compared to those that are not connected.

Another detrimental aspect of political connections is the possible rent-seeking activities meant to divert the firms' sources or to expropriate minority investors. According to Shleifer and Vishny (1994), connected firms and politicians have stronger incentives to seek rents when the marginal gains outweigh the marginal costs of such connections. Political connections also pose a serious threat to the firms' and their political supporters' reputation, which could harm the social image of the politicians themselves, increase the possibility of government intervention, heighten public scrutiny, and ultimately lead to greater costs, such as the loss of privileged or exclusive access to private benefits (Braam et al., 2015; Burton et al., 2011; Faccio, 2006). Another strand of literature also suggests that political connections can negatively affect the information environment. For example, Chaney et al. (2011) argue that since politicians provide a shield for management against capital market punishment, connected firms provide less transparent accounting information as they make less effort and spend less time to accurately reflect the actual earnings. Braam et

al. (2015) argue that because connected firms face greater public monitoring, they tend to follow more costly and less detectable real earnings management strategies. This costly method allows connected firms to avoid detection, maintain connections, and protect the firm's reputation in the short term while sacrificing long-term performance (Braam et al., 2015). Further, Chen et al. (2010) conjecture that political connections not only promote uncertainty of reported earnings, but also add complexity to the analyst's forecast task, simply because political connections involve hidden favoritism and result in a "windfall gain" that misrepresents the time series pattern of firms' earnings numbers. Chen et al. call this conjecture the "analyst task difficulty hypothesis." Conversely, Chen et al. predict that when connected firms' earnings are low, politicians can use their power to help the firms smooth their earnings, thereby making their earnings more predictable. They refer to this prediction as "income smoothing hypothesis." Moreover, Al-Hadi et al. (2016) argue that the political connections of ruling family board members can exert a significant influence on the board to extract private benefits that might expropriate dispersed shareholders and affect risk reporting quality in the GCC region.

Additionally, political connections can result in agency conflicts between dominant insiders and minority outsiders, for two reasons. First, dominant insiders have incentives to generate benefits that exceed the costs incurred to build such connections. Second, insiders also have more opportunities to tunnel firms' resources since they are expected to face less severe penalties from regulators (Guedhami et al., 2014; Morck et al., 1998). In this regard, Morck et al. (1998) report that Canadian firms with political connections tend to have concentrated ownership, thereby giving rise to the concern that insiders might derive gains at the expense of outside investors. Similarly, Berkman et al. (2010) argue that new market regulations will not be fully enforced, particularly for Chinese firms with strong ties to the government, raising concerns among minority shareholders about the effectiveness of these regulations in protecting their interests.

Closely related literature has also suggested that family presence in the firm (either through ownership or board of directors) can have a detrimental effect and influence on firm performance and exacerbate agency problems (Anderson et al., 2003; Anderson and Reeb, 2003a).[17] Further, Johnson et al. (1985) argue that family

[17] In Saudi Arabia and other GCC countries, companies are typically founded, owned, and managed by the ruling family members in association with other wealthy families.

founders have an adverse impact on the firm, noting a positive increase in stock prices after the announcement of the death of a firm's founder. Gomez-Mejia et al. (2001) extend this argument by arguing that family domination of firms' ownership leads to greater agency costs due to managerial entrenchment. According to Anderson and Reeb (2003a), families can expropriate a firm's wealth through excessive compensation, related-party transactions, or special dividends. Moreover, family firms face a more severe agency problem (Type II agency problem) between controlling and non-controlling shareholders (Ali et al., 2007; Gilson & Gordon, 2003). In this respect, controlling shareholders have the impetus and power to compensate themselves at the expense of minority shareholders (Fan & Wong, 2002). Thus, concentrated family ownership leads to managerial actions that are not in the best interest of minority shareholders (Jaggi et al., 2009). Consistent with this view, Wang (2006) posits that family control over firms' equity ownership and important managerial positions can result in an entrenchment effect that motivates earnings management activities, creates ineffective monitoring by board members, and increases information asymmetry between founders and other shareholders. Thus, Wang (2006) predicts entrenchment effect by controlling families will be associated with low-quality earnings.

Empirical evidence also indicates that the political connection of royal directors can have a harmful effect on the firm. For instance, Qian et al. (2011) document that controlling owners' expropriation activities, in the forms of self-dealing and tunneling, are more pronounced in politically connected firms. Using cross-country data, Chaney et al. (2011) find that the quality of earnings reported by politically connected firms is significantly poorer than for their non-connected peers, indicating that managers of such firms are less concerned with the quality of reported earnings. Similarly, using a wider sample of firms from 30 different countries, Braam et al. (2015) find that politically connected firms are, on average, more inclined to engage in real activities earnings management than non-connected firms. Additional evidence also links political connections with higher audit fees (Gul, 2006; Abdul Wahab et al., 2011), reduced analysts' earnings forecast accuracy (Chen et al., 2010), and a higher level of riskiness and financial uncertainties (Faccio et al., 2006). Lastly, Al-Hadi et al. (2016) examine the impact of the presence of royal family directors on the boards of firms within the GCC region and find that firms with royal directors provide lower quality risk disclosures, notably during the periods of financial distress and when levels of risks are high.

Although prior literature suggests that political connections can be detrimental to the firm, political connections can also bring benefits and provide competitive advantages. Agrawal and Knoeber (2001) argue that politics is an important source of firm profitability. They further argue that firms are increasingly interested in appointing politicians to the board because they are familiar with the political arena, capable of predicting government actions, and have friendships with key decision-makers. Agrawal and Knoeber note that political directors can directly help firms through possible government involvement in the firm's interests or through preventing government actions that are hostile to the firm. Boubakri et al. (2012) extend this argument by stating that access to government contracts and projects is easily facilitated when politicians are negotiating with each other. Bunkanwanicha and Wiwattanakantang (2009) show that, in Thailand, big business owners can pressure legislative bodies and influence state institutions to exclude or handicap competitors from market entry, thus providing their firms with greater market valuations and control. Fisman (2001) and Faccio (2006) also note that political connections should increase equity value and performance, arguing that political connections provide some leverage and support to the firms in relation to the allocation of capital and investment opportunities due to the availability of information and resources derived from such connections. Guedhami et al. (2014) note that connected firms are willing to disclose higher-quality financial reports to maintain the trust of outside investors by appointing high-quality auditors who are more likely to limit or constrain insiders' discretion to distort reported earnings.

Furthermore, connections can provide competitive advantages or benefits to connected firms, including lower corporate tax rates (Faccio, 2006), government bailouts during periods of financial turbulence (Faccio et al., 2006), access to debt financing on preferential lending terms (Claessens et al., 2008), and early avoidance of political uncertainties and potential government intervention (Batta et al., 2014; Pástor & Veronesi, 2013). Interestingly, recent literature shows that political connections exist in the US corporate scene. For instance, Goldman et al. (2009) show that the political connections of board members increase the value of public US firms, despite the strong legal system in which they operate. Cooper et al. (2010) show that firms contributing financial support to political candidates have better future performance and returns, while Correia (2014) notes that connected US firms enjoy more lenient monitoring from market regulators than similar but non-connected firms.

Moreover, from an agency theory point of view, concentrated equity ownership (e.g., by royal family members) should reduce agency costs, which, in turn, translates into improved market value (Jensen & Meckling, 1976). Further, agency problems arising from the separation of management and control (Type I agency problem) is less likely in family firms (Ali et al., 2007).[18] This is because family directors undertake actions that increase firm value, thereby reducing agency costs (Demsetz & Lehn, 1985). Shleifer and Vishny (1986) state that when a controlling family (or a family with significant ownership) dominates board membership, such domination often facilitates the monitoring functions and may lead to management replacement. Additionally, the alignment effect contends that concentrated ownership in the hands of controlling owners provides greater monitoring of management (Shleifer & Vishny, 1997), suggesting that family directors are more effective in monitoring their firms. This is because family members have a long-term board presence, have more knowledge about the business, own larger equity stakes, and thus have greater incentive to protect the family's name than non-family professional directors (Jiraporn & DaDalt, 2009; Wang, 2006). Conversely, non-family professional managers often serve for shorter terms and thus may pursue short-term objectives and manage earnings to maximize their own profits at the expense of shareholders (Christie & Zimmerman, 1994). Moreover, because family members tend to maintain a long-term presence in the firm, they invest in long-term and costly projects (Anderson & Reeb, 2003a). In this respect, Stein (1989) shows that firms with long-term horizon investors are less likely to face managerial myopia, as these investors focus on the firm's performance in the long run. More importantly, family directors (e.g., directors from among the founding family) view their firms as an asset to be passed along to the next generation, not as wealth to be consumed during their lifetime (Casson, 1999). Accordingly, firm survival is a major concern to the family (Anderson & Reeb, 2003a), and family directors are less likely to report low-quality information earnings.

Empirical evidence supports the view that the presence of royal family members on firms' boards is generally beneficial. For instance, using data from Venezuelan industrial firms, Batta et al. (2014) provide evidence that, being subject to greater media scrutiny and state expropriation, politically connected firms tend to maintain higher reporting quality than non-connected firms. Boubakri et al. (2012) find that

[18] Type I agency problems arise from conflict between management and shareholders, while Type II problems arise from conflict among shareholder groups (controlling versus non-controlling).

connected firms enhance their performance in terms of return on assets and increase their leverage and liquidity in the first three years following the establishment of political connections. Further, US literature also provides empirical evidence that political connections have a positive effect on firm performance. For example, Anderson et al. (2003) find family ownership is associated with lower debt financing costs. Further, contrary to their conjecture, Anderson and Reeb (2003a) find family firms perform better than non-family firms. Wang (2006) and Ali et al. (2007) both provide compelling evidence that firms managed or owned by family members provide higher-quality earnings. Moreover, Goldman et al. (2009) find a positive relationship between abnormal stock return and the nomination of politically connected directors to the board. Lastly, Cooper et al. (2010) find a positive link between corporate political ties and firms' future earnings and returns.

In the Saudi corporate setting, royal family directors are expected to be advantageous to the firm. This is because the presence of royal family members on companies' boards arises from their royal status, their controlling interest of a firm's equity ownership, their selection by a nomination committee, or being the company's founders (Hertog, 2012). Thus, they are less likely to engage in actions that attract public attention or that damage the family name. Consistent with this, recent work by Al-Nasser (2019) examines the effect of royal family members on Saudi firms' performance and finds that a higher number of royal family board members is associated with better performance. Similar results are documented by Alzahrani and Che-Ahmad, (2015). Taken together, the above discussion suggests that collusion between royal managers and politicians to provide lower quality accounting information would be much less likely, notably in an environment where firms may face the consequence of government intervention (Batta et al., 2014). Thus, firms with royal family directors are expected to provide more credible financial reports (e.g., more persistent earnings) than other firms.[19] Therefore, the following hypothesis is presented:

H2. Firms with royal family directors have higher persistent earnings than firms without royal family directors.

[19] As part of the recent developments aimed at combating corruption and promoting transparency in the country, Saudi Crown Prince Mohamed Bin Salman (MBS) ordered the arrest of a number of business elites, state ministers, and royal family members accused of committing financial and managerial corruption.

4.3.3 Royal family directors, *LBZD*, and earnings persistence

Next, this study examines whether the presence of individuals from the royal family on company boards has a moderating effect on the association between *LBZD* and earnings persistence. This study initially hypothesizes that *LBZD* subsample firms would exhibit lower earnings persistence, as discussed in hypothesis *H1*. Consistent with the argument that the existence of family members, such as royal family directors, on firm's boards reduces agency costs (e.g., results in a less severe Type I agency problem), the study also hypothesizes that firms with royal family members will have higher-quality earnings as captured by persistence, as discussed in hypothesis *H2*.

To examine the moderating effects of royal family directors, I provide the following arguments. First, firms with royal family directors have political access to the government and thus are expected to pay fewer taxes (Faccio, 2006), and therefore face less of a need to decrease their taxable income (i.e., they are expected to have smaller *BZDs*). Second, founding families (such as the royal family) are less likely to manage earnings because they would more closely align their incentives with the firm's performance (e.g., Tosi & Gomez-Mejia, 1989). In addition, empirical research suggests that family-controlled firms are less likely to take actions that result in poor earnings quality reporting. This stream of research shows that US family-controlled firms have superior performance, lower cost of capital, and higher-quality accounting earnings (Ali et al., 2007; Anderson & Reeb, 2003a, 2003b; Jiraporn & DaDalt, 2009; Wang, 2006). Moreover, using BTDs as tax aggressiveness measures, Chen et al. (2010) find that family firms are less tax aggressive. These findings are contrary to the notion that connected family firms are more tax aggressive as their owners receive tax savings from government connections. Family owners are more likely to refrain from fraudulent tax reporting that may result in penalties imposed by the IRS as well as reputational damage (Chen et al., 2010).

Therefore, the above discussion suggests that the presence of royal family members on boards is not detrimental to the firm or shareholders. Accordingly, the study conjectures that the presence of royal family members on the board is likely to moderate (weaken) the negative association between *LBZDs* and earnings persistence. To test this expectation, the study proposes the following hypothesis:

H2A: The negative association between LBZDs and earnings persistence is weaker with the presence of royal directors on the firm's boards.

4.3.4 Institutional investors and earnings persistence

The ability of corporate managers to aggressively manage firms' profits is generally constrained when external monitors such as institutional investors are present (Chung et al. 2002). Institutional investors are often viewed as sophisticated investors who have superior information access and processing abilities to other individuals, unsophisticated investors (Bartov et al., 2000; Velury & Jenkins, 2006). Additionally, institutional investors, through their significant shareholdings, have long been considered a key governance instrument against agency problems (Shleifer & Vishny, 1997), as they can afford to implement costly governance actions dedicated to monitoring corporate managers (Jennings, 2005). Importantly, acting as a financial intermediary, institutional investors have fiduciary responsibilities to serve funds providers by providing superior and stable cash flow returns (Droms, 1992; Schneider, 2000).

There are two theoretical views on the role of institutional investors in reducing agency conflicts and increasing corporate value: the private benefit hypothesis and the active monitoring hypothesis. The private benefit hypothesis predicts that institutional investors behave myopically in their investments as they are overly focused on short-term earnings to meet quick earnings benchmarks to the detriment of long-term equity investment (see Coffee, 1991; Porter, 1992). Advocates of this view argue that institutional investors are large owners who generally enjoy certain benefits, such as exclusive access to private information that they may exploit for trading activities (Kim, 1993). In the same vein, other scholars (e.g., Koh, 2003) classify these owners as short-term-oriented investors who may also exploit such information for self-serving incentives. If this view is true, institutional investors are expected to have a negative effect on the quality of reported earnings. More importantly, Hartzell et al. (2014) document that unsophisticated institutional investors may face fund outflows from the fund providers. Consistent with the private benefit hypothesis, where institutional investors are criticized for being short-term oriented or "transient," Bushee (2001) provides compelling evidence that these investors are overly concerned with current and near-term corporate profits. Further, Jennings (2005) reports a negative and significant relationship between institutional ownership and firm value.

On the other hand, the active monitoring hypothesis predicts that due to their concentrated equity holdings and sophistication, institutional investors will play an active role in monitoring their investee companies (Jiambalvo et al., 2002; Velury &

Jenkins, 2006), influencing and monitoring corporate managers (Chung et al., 2002), and protecting minority shareholders' interests (Daily et al., 2003; Abdul Wahab et al., 2007). The extant literature documents that varying levels of firm ownership concentration could impact reporting incentives and earnings quality (Katz, 2009). This is because stockholders such as institutional investors often nominate directors to the board to ensure their investment policies are implemented and that more transparent financial reports are provided (Leuz, 2006). Consistent with this argument, institutional investors have a more sophisticated investment philosophy, which allows them to better analyze current-period financial information to predict future earnings performance than other investors (Jiambalvo et al., 2002). According to Ryan and Schneider (2002), active institutional investors can improve corporations' value and performance, provide reforms to governance systems, and pursue enhancements in the board of directors' performance and effectiveness. Further, Ryan and Schneider (2002) note that institutional investors' activism role ranges from cooperative or behind-the-scenes, through negotiation with firm management or contacting board members to hostile, to raising their concerns with the public, which can lead to entrenched positions.

Consistent with the active monitoring hypothesis, Brous and Kini (1994) argue that the significant proportion of ownership by institutional investors will give them greater interests to protect and monitor their investments in the firm's equity. This objective is accomplished by carefully tracking the fund generated from the issuance of the equity to ensure that the capital raised is allocated to productive and profitable investment projects. As such, the active monitoring hypothesis predicts a positive relationship between institutional investors' ownership and stock returns. Conversely, institutional investors may reduce their monitoring activities by cooperating with firms' managers, and thereby maintaining a sound business relationship with the firm (Brous & Kini, 1994).[20] Further, Jiambalvo et al. (2002) argue that the sophistication of institutional investors allows them to better access and process financial statement information compared to unsophisticated (individual) investors. Jiambalvo et al. (2002) add that if institutional investors are sophisticated, then they will be able to use current-period accounting information to predict future-period earnings performance, and therefore, as institutional ownership increases, the current-period stock process should provide information useful in predicting future-period earnings. Shiller and

[20] Brous and Kini (1994) call this approach the *ineffective-monitoring hypothesis*.

Pound (1989) further support the view that institutional investors are sophisticated in a survey study showing that institutional investors spend more time and effort in analyzing investment opportunities. Lev (1988) argues that institutional investors are better informed and have more resources because they have the wealth to access costly information that individual investors cannot afford.

Being active monitors of the firm, institutional investors can reduce agency costs, which in turn increases the market value of the firm (Kane & Velury, 2004). In this regard, McConnell and Servaes (1990) argue that institutional investors have the expertise to monitor the firm at a lower cost compared to small individual shareholders. In addition, Jennings (2005) argues that institutional investors' scale makes them efficient in acquiring valuable and costly information, while their size enables them them pressure and influence management in order to increase the firm's value. Jennings (2005) further argues that corporate managers are more responsive to large shareholders, e.g., institutional investors. Further, monitoring by institutional investors affects the quality of the audit and reported earnings. In this regard, Kane and Velury (2004) and Velury and Jenkins (2006) argue that since institutional investors hold larger blocks of firms' shares they demand high-quality earnings information for valuation purposes, and thus it is logical that such information should be provided when high-quality audit services are performed.

Consistent with the active monitoring hypothesis, prior empirical studies provide evidence that institutional investors have a positive impact on various firms outcomes and governance attributes. For instance, Brous and Kini (1994) find a positive and significant relationship between the level of institutional investors' ownership and stock return. Consistent with their prediction, Jiambalvo et al. (2002) find the stock prices of firms with higher levels of institutional ownership provide more information about forthcoming earnings reports relative than do the prices for firms with lower institutional ownership. McConnell and Servaes (1990) report a positive relationship between firm value and the fraction of outstanding shares owned by institutional investors. They attribute the finding to the low monitoring costs arising from a greater proportion of institutional ownership present in the firm's equity. Bushee (1998) finds that when institutional ownership is high, managers are less likely to reduce research and development costs to meet near-term profits, indicating that institutional investors are effective corporate monitors. Karamanou and Vafeas (2005) provide evidence that institutional investors serve as an effective governance mechanism that improves

financial disclosure quality for a sample of US firms. In a similar study, Jung and Kwon (2002) find that the informativeness of earnings is positively related to institutional holdings across Korean listed firms.

Moreover, Hashim and Devi (2012) provide evidence that concentrated ownership, in the hand of the five largest institutional investors, is significantly and positively related to the accrual measure of earnings quality. Similarly, Velury and Jenkins (2006) and Kane and Velury (2004) find the level of institutional ownership is significantly and positively correlated with earnings quality an' audit quality. Hadani, Goranova, and Khan (2011) find that institutional owners' monitoring is negatively related to earnings management activities. Further, the findings of Pucheta-Martínez and García-Meca (2014) show that the appointment of institutional directors improves the quality of financial statements, which translates into a lower likelihood of receiving a qualified audit report. Moreover, Abdul Wahab et al. (2007) find a positive relationship between institutional investors and the code of corporate governance. They also find that the presence of intuitional investors provides protection for other minority investors.

In the Saudi context, statistics show that nearly 45% of firms shares are owned by institutional investors (Al Kahtani, 2014) – which is also consistent with the size argument raised by Jennings (2005) – and thus closely monitor their investee firms. Therefore, consistent with the active monitoring hypothesis, this study expects those institutional owners to be active monitors of corporations, which can improve the quality of reported earnings. Accordingly, the study proposes the following hypothesis:

H3. There is a positive relationship between institutional investors and earning persistence.

4.3.5 Institutional investors, *LBZD*, and earnings persistence

Taking into account the importance of institutional investors as an ideal governance mechanism, the study next aims to examine whether the level of institutional shareholdings mitigates the negative association between *LBZD* and earnings persistence. Initially, the study hypothesizes a negative relationship will exist between *LBZD* and earnings persistence (see *H1*). Furthermore, consistent with the active monitoring hypothesis, it is expected that institutional investors will play an effective monitoring role, notably in terms of increasing earnings persistence (more quality

earnings), as discussed in hypothesis *H3*. The following discussion is presented to examine hypothesis *H3A*.

While tax avoidance (a source of increased BTDs) may increase firm value and shareholders' wealth through tax savings, it also entails managerial opportunism (Khurana & Moser, 2013). Theoretically, tax avoidance activities represent an immediate transfer of cash from the tax authorities to the firm's shareholders. In contrast, institutional investors tend to monitor and force managers to maximize the firm's long-term value and refrain from taking questionable activities (Chung et al., 2002). Further, institutional investors often make trade-offs between cash savings generated by tax avoidance and potential government sanctions and reputational damage if such tax avoidance behavior is detected (e.g., Chen et al. 2010).

From the above discussion, the argument for the possible moderation effects of institutional investors can be made in two possible ways. On the one hand, if institutional investors behave myopically and focus on short-term profits at the expense of long-term performance, then they will encourage more tax avoidance to obtain quick gains, which should increase the firm's book-tax gap (Khurana & Moser, 2013). If this is the case, then firms held by institutional investors will have larger *BZDs* and, thus, the negative association between *LBZD* and earnings persistence hypothesized in *H1* will be strengthened. On the other, institutional investors with substantial equity shares in the firm will monitor managers' actions (Shleifer & Vishny, 1986) and discourage them from adopting self-serving incentives such as aggressive tax avoidance activities (Chung et al. 2002). This is because corporate managers find it difficult to take detrimental actions in the presence of such investors, fearing that these large investors could liquidate their portfolios – "vote with their feet" – and leave the firm (Bushee et al., 2014), which would adversely affect the firm's market value. In support of this view, Khurana and Moser (2013) find that institutional investors with long-term investment horizons are less tax aggressive than those with myopic investment behavior. More recent evidence shows that the monitoring role of institutional investors increases the stock price informativeness (Tee, 2017), and reduces the risk of future crashes in stock prices (Tee, 2019). As such, I expect firms with institutional investors will have smaller *BZDs* and, thus, the negative association between *LBZD* and earnings persistence hypothesized in *H1* will be less severe. Accordingly, the study proposes the following hypothesis:

H3A: The negative association between LBZDs and earnings persistence is weaker in firms with a high level of institutional investors.

4.4 Conceptual schema

Figure 4.1 depicts the research's five main hypotheses concerning the relationships examined.

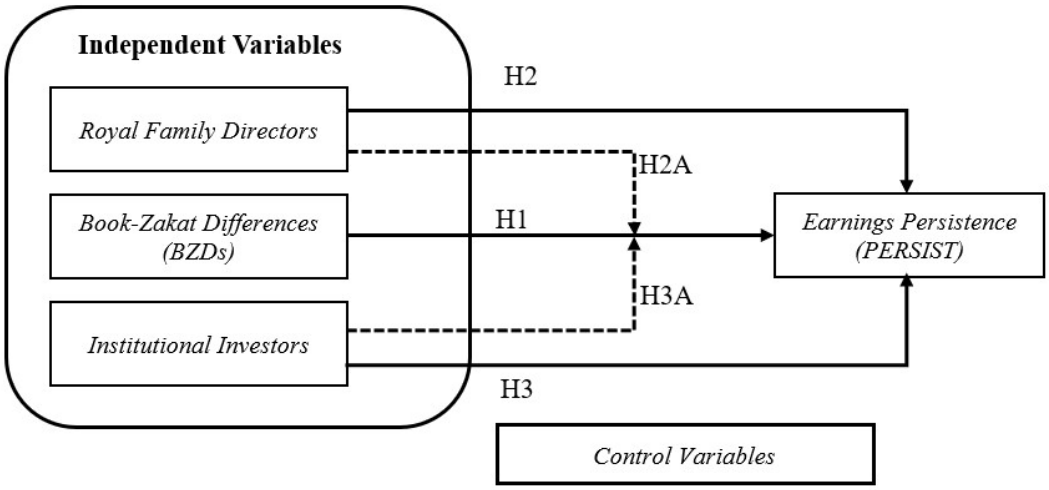

Figure 4.1. Conceptual schema

4.5 Summary of chapter

This chapter begins by discussing the theoretical perspective of this research. Empirical studies relating to each of the explanatory variables with regards to their expected impact on the outcome variable are then reviewed. Proposed hypotheses examining the direction of the key relationships between tested variables are outlined in the relevant sections. A conceptual schema representing the directional of the relationships explored in this research is then demonstrated.

CHAPTER 5: RESEARCH METHODOLOGY

5.1 Overview of chapter

Chapter 5 provides an overview of the research methodology used to test the hypotheses developed in Chapter 4 of this research. The chapter commences by outlining the sample selection criteria and the sources from which data were obtained. The following section provides the measurement and definition of the study's dependent variable, independent variables, and control variables. The regression models used to test the hypotheses are then outlined. Tests of endogeneity are discussed next before a chapter summary is provided.

5.2 Sample selection

The sample is drawn from all non-financial companies listed on the Saudi Stock Market (Tadawul) during the 6-year period from 2012 to 2017. The initial sample comprises 1,015 firm-year observations. In accordance with past empirical research, financial firms are excluded from the sample as such firms have different reporting requirements (Hanlon, 2005; Lev & Nissim, 2004). Firms that have any missing data for any of the variables used in the regressions are also excluded. After these exclusions, the final pooled sample size consists of 636 firm-year observations. Table 5.1 outlines how the final sample size is derived. Observations with extreme values for all continuous variables are winsorized at 1st and 99th percentiles to reduce the impact of outliers on the regression results.

Table 5.1 Panel B shows the sample distribution for the period 2012–2017. Panel C shows the sample distribution based on group industry, with Material the most represented sector in the sample (37%), followed by Industrial (16%). On the other hand, Utilities (2%) and Energy (4%) represent the lowest proportion of the final sample based on industry sector. Years and industry dummies are included in the regression to control for years and industry effects. The data for variables used in this study are collected from a number of sources. All financial data are downloaded from S&P Capital IQ. Data related to zakat disclosures, corporate governance, royal family board membership, and institutional ownership are hand-collected from the firms' annual reports, firms' websites, and the Saudi capital market website (www.Tadawul.com.sa).

Table 5.1. Sample selection based on year and industry

	Firm-years	% of Sample
Panel A: pooled sample		
Main Market total firms 2012-2017	1015	
Less:		
Financial firms (Investment, bank, insurance, and real estate)	(373)	
Firms with missing values	(6)	
Total firm-year observations	636	
Panel B: sample by year		
2012	95	15
2013	101	16
2014	106	17
2015	109	17
2016	112	18
2017	113	18
Total firm-year observations:	636	100
Panel C: sample by industry		
Communication Services	36	6
Consumer Discretionary	98	15
Consumer Stables	94	15
Energy	24	4
Health Care	35	6
Industrials	102	16
Materials	235	37
Utilities	12	2
Total firm-year observations:	636	100

5.3 Variable measurements

5.3.1 Dependent variable – earnings persistence (*PERSIST*)

The dependent variable of this study is earnings persistence, a commonly used measure of earnings quality. According to Ronen and Yaari (2008, p. 374), "persistence of each variable is defined as the weight of the current variable in predicting the same variable one year ahead." Earnings persistence is often discussed in the context of sustainability, where highly persistent earnings imply that the earnings number has a valuation role, and is thus perceived by equity investors as an ideal substitute for cash-flow measures of a firm's performance (Frankel & Litov, 2009). According to Penman and Zhang (2002), earnings is deemed of high quality if it is a good predictor of future earnings, and thus sustainable earnings are perceived to be high-quality earnings. Further, higher persistent current earnings provide smaller valuation errors, and therefore is a useful valuation measure of firms' future earnings performance (Dechow et al., 2010). That is, highly persistent earnings figures are more permanent and less volatile (Schipper & Vincent, 2003), and thus a fundamental predictor of stable share prices (Anandarajan et al., 2007). In summary, a higher value in earnings persistence indicates a higher quality of reported earnings (i.e greater reporting transparency), while a lower value in earnings persistence indicates a lower quality of reported earnings (lower reporting transparency).

In line with past studies (Ali et al., 2007; Francis et al., 2004; Richardson et al., 2005), earnings persistence is measured by regressing one year ahead earnings on current-period earnings. To estimate the persistence parameter, the following time series regression model is used:

$$Earn_{it+1} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it} \qquad (1)$$

In the above model, $Earn_{it+1}$ and $Earn_{it}$ are defined as income before zakat and income tax of firm i at the time period t+1 and t, scaled by the number of outstanding shares and winsorized at the 1st and 99th percentiles.[21] The slope coefficient, $\beta 1$, in Equation (1) represents the persistence parameter of current year earnings. A coefficient $\beta 1$

[21] Earnings are typically scaled by the number of outstanding shares, assets, or sales (Dechow et al., 2010).

closer in value to one implies that earnings are highly persistent, while a value closer to zero implies that earnings are highly volatile or transitory.[22]

For the purpose of facilitating the regression analysis with interaction terms, model (2) is estimated using the coefficient $\beta 1$ from the model (1) for each firm with six-year rolling periods as a proxy for earnings persistence, hereafter *PERSIST*.

Equation 2 details the basic regression model for earnings persistence in which the dependent variable, *PERSIST*, is regressed on the independent and other controls variables, including years and industries dummies, in the following way:

$$PERSIST_{i,t} = \beta_0 + \beta_1 \, Independent\ Variables + Control\ Variables + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (2)$$

5.3.2 Measurements of independent variables

5.3.2.1 Book-zakat differences (*BZDs*)

The primary independent variable of this study is book-zakat differences (*BZDs*). An increasing body of accounting and tax literature in many Western and developed countries has linked extreme divergence between book income and taxable income, book-tax differences (BTDs), with low-quality earnings and increased earnings management (e.g., Blaylock et al., 2012; Hanlon, 2005; Lev & Nissim, 2004; Phillips et al., 2003; Tang and Firth, 2012).

BTDs are typically measured as the total difference between income reported for book purposes and taxable income used to determine the firm's tax liabilities. However, because tax-related data are confidential and can only be accessed by the filing firm or the tax authorities, prior accounting literature (e.g., Moore & Xu, 2018; Ayers et al., 2010; Hanlon, 2005; Lev & Nissim, 2004; Manzon & Plesko, 2002) estimated taxable amounts by dividing a firm's current reported tax expense by the statutory corporate tax rate.

Similarly, I estimate book-zakat differences as follows:

$$Zakatable\ income = annual\ zakat\ expense \,/\, zakat\ rate \quad (3)$$

$$Book\text{-}zakat\ differences\ (BZDs) = book\ income - zakatable\ income \quad (4)$$

[22] Sloan (1996) documents that $\beta 1$ in equation (1) has a mean value of approximately 0.84 for U.S. firms during the period 1962 to 1991. In a similar study, using cross country data, Pincus, Rajgopal, and Venkatachalam (2007) find the mean of $\beta 1$ is ranging between 0.6 and 0.8.

where book income is earnings before zakat and income tax for firm i in year t, and zakatable income for firm i in year t is as estimated in Equation (3), zakat expense is the amount of zakat reported on the income statements for firm i in year t, and zakat rate is the applicable zakat rate in year t.

In line with prior studies (e.g., Hanlon, 2005; Tang & Firth, 2012), I analyze whether firms having larger gap between book and taxable incomes have lower levels of earnings persistence by partitioning the pooled sample into two subsamples based on the level of the *BZDs* (in absolute value), scaled by the number of outstanding shares. The first group comprises firms in the upper two quintiles and is labeled the large book-zakat differences (*LBZD*) subsample, while the second group comprises those firms in the lower three quintiles and is labeled the small book-zakat differences (*SBZD*) subsample.

5.3.2.2 Political connection of royal family directors

The second independent variable for this study is political connections arising from the presence of royal family directors on Saudi firms' boards, denoted by the dummy variable (*RoyDir*). Researchers often define and measure political connections based on the context or the geographical location in which they conduct their research. For instance, Faccio (2006) classifies a firm as being politically connected if at least one member of the top management (e.g., CEO or Chairman) or a large shareholder holding 10% or more of the company's shares is head of state (e.g., president, king, or prime minister), a minister, or a member of parliament. Polsiri and Jiraporn (2012) examine political connection in Thailand and identify a firm as being politically connected if it is owned by the King of Thailand or his immediate relatives. In the Malaysian context, Johnson and Mitten (2003) perceive the firm as being politically connected if it has an officer or a major shareholder with close relationships with key government officials such as the former Prime Minister Mahathir Mohamad, his deputy Anwar Ibrahim or Finance Minister Daim Zainuddin. In developed countries or countries that have strong systems of checks and balances meant to protect investors rights (e.g., the USA and Canada), researchers commonly use financial contributions or donations to a political party or candidate as a measure of political connections (e.g., Cooper et al., 2010; Correia, 2014; Goldman et al., 2009).

In the GCC corporate scene, members from the powerful ruling families often control firms by controlling the firm's equity ownership or its board of directors'

membership. The presence of members from the ruling families on corporate boards of firms in the GCC region has been used as a proxy for corporate political connections (see, e.g., Al-Hadi et al., 2016). Therefore, in order to empirically test the association between political connection and earnings persistence of Saudi-listed firms, a dummy variable (*RoyDir*) is constructed to equal 1 if a firm has at least one royal family member on the board of directors, and 0 otherwise.

5.3.2.3 Institutional investors

The third independent variable is institutional investors (*InstOwn*). In line with prior studies, the study measures this variable is the proportion of total shares owned by institutional investors in a given firm (Abdul Wahab, How, & Verhoeven, 2008; Ameziane Lasfer, 2006).

5.3.3 Measurements of control variables

This study controls for several firm-level control variables that could potentially influence earnings quality measurements (i.e., earnings persistence) as suggested by the prior literature.

5.3.3.1 Board size (*LnBoardSize*)

Board size is included in this study to control for possible effects on earnings quality (Xie et al., 2003). Consistent with prior studies (i.e., Xie et al., 2003; Abdul Wahab et al., 2015), board size is operationalized as the natural log transformation of the number of directors on board (*LnBoardSize*). The empirical evidence on the impact of board size on firm performance is rather inconclusive. While some past studies argue that smaller boards could improve monitoring effectiveness, enhance firm performance, and mitigate earnings management (Eisenberg et al., 1998; Xie et al., 2003; Yermack, 1996), other studies suggest that larger boards are associated with better corporate outcomes. For example, Dalton et al. (1999) find that larger boards are associated with better financial performance. In addition, Wahab et al. (2015) argue that a larger board could provide the diversity needed to secure additional sources, expertise, and contacts. Further, Xie et al. (2003) assert that larger boards may bring a larger number of experienced board directors into the board room. Moreover, Peasnell et al. (2005) find that larger-sized boards are associated with fewer earnings management activities. However, Abdul Rahman and Ali (2006) find that larger boards are positively related

to earnings management, attributing this to larger boards being ineffective in monitoring management relative to smaller boards. Based on these conflicting views, there is no expectation for the sign on the coefficient on (*LnBoardSize*).

5.3.3.2 Board independence (*BoardInd*)

Board independence (*BoardInd*) is measured as the proportion of independent directors on the board. Agency theory contends that in order to maintain the independence of the board from management, boards should predominantly comprise independent outside directors. Further, Jensen and Meckling (1976) argue that non-executive directors are needed to oversee other directors who may behave opportunistically. This variable is included to control for the potential effect of greater board independence on earnings persistence (Peasnell et al., 2005). Past studies (e.g., Beasley, 1996; Klein, 2002) find board independence to be positively associated with earnings quality, indicating that boards that have a higher proportion of outside independent directors could play an influential role in monitoring managers and constraining opportunistic earnings management activities. Dechow et al. (1996) find a negative link between board independence and the incidence of financial fraud. Moreover, Peasnell et al. (2005) conclude that independent directors appear to play a monitoring role in improving the integrity and reliability of financial statements.

However, some studies acknowledge that boards predominantly comprising majority independent non-executive directors could be impractical. For example, Baysinger and Butler (1985) argue that boards with a high proportion of independent directors could lead to excessive pressure and monitoring. Further, Patton and Baker (1987) contend that non-executive independent directors are less effective as they may lack needed business knowledge, while Demb and Neubauer (1992) note that such directors may also lack real independence. Based on the preceding discussion, board independence (*BoardInd*) is expected to provide better monitoring and therefore improved reported earnings, and thus to be positively related to *PERSIST*.

5.3.3.3 Frequency of board meeting (*LnBoardMeet*)

The study also controls for the frequency of board meetings (*LnBoardMeet*), measured as the natural log transformation of the number of board meetings. This variable is included to control for the possible effects of active boards on the quality of earnings. Xie et al. (2003) find a negative association between the frequency of board meetings

and the magnitude of earnings management, arguing that frequently meeting boards provide enhanced levels of monitoring. Further, Lipton and Lorsch (1992) note that the time allocated to carry out managerial duties is one of the main problems managers often face. Similarly, Conger et al. (1998) emphasize that boards that meet frequently help directors perform their monitoring duties effectively and diligently. Furthermore, Vafeas (1999) argues that boards that meet frequently are more likely to complete their responsibilities on a timely basis and in accordance with shareholders' best interests. Based on the preceding argument, the frequency of board meetings is expected to be positively related to earnings persistence.

5.3.3.4 Audit quality (*BIG4*)

This study also controls for audit quality, commonly represented by the presence of a Big 4 auditor. This variable is measured as a dummy variable (*BIG4*) assigned a value of 1 if the firm is audited by one of the big four auditors, otherwise 0. Prior literature has demonstrated that higher-quality auditors are associated with higher-quality earnings, as such auditors have the ability to constrain or limit managers' ability to exercise aggressive earnings management. For example, Becker et al. (1998) argue that high-quality auditors are more likely to detect questionable accounting choices that may signal earnings management activities. They further argue that detecting such activities could lead to the issuance of undesirable audit reports, damage management's reputation, and ultimately reduce firm value. Additionally, prior work has documented that high-quality auditors reduce information asymmetry between management and users of financial statements (Watts & Zimmerman, 1986), improve the accuracy of analysts' earnings forecasts (Behn et al., 2008), and are associated with less earnings management and improved reporting quality (Balsam et al., 2003; Francis et al., 1999; Johnson et al., 2002). Overall, this evidence suggests that compared to those of lower quality, high-quality audit firms have the ability to detect and correct (or reveal) material misstatement, which, in turn, improves the overall credibility of financial reports. Based on the preceding discussion, firms engaging a big four auditor will exhibit higher earnings persistence (higher earnings quality) than firms engaging a non-big four auditor.

5.3.3.5 Firm Size (*LnSIZE*)

This study also controls for firm size, measured as the natural log transformation of total sales (*LnSIZE*). Prior literature has demonstrated evidence that firm size affects the firm's outcomes. For example, Frankel and Litov (2009, p. 184) report that "size is related to a company's earnings persistence because it indicates the strength of the company's competitive position." Empirical evidence on the association between firm size and reported earnings is somewhat mixed. Baginski et al. (1999) argue that larger firms have the greater and diversified financial resources needed to generate stable growth that leads to a more persistent stream of earnings. Moreover, Martin (1988) provides evidence that larger firms are able to offset transitory losses in earnings by increasing prices, which generates a highly persistent stream of earnings relative to small firms. Bathke et al. (1989) find size to be positively associated with quarterly earnings. Similarly, Dechow and Dichev (2002) find size to be positively related to the accrual quality of earnings. In addition, Albrecht and Richardson (1990) find evidence that larger firms are less likely to manage earnings through smoothing activities than are small firms. Also, Lee and Choi (2002) find evidence that larger firms have less incentive to manage earnings for the purpose of avoiding loss reporting. Interestingly, Baginski et al. (1999) and Lev (1983) both fail to support the notion that size is significantly and positively linked to the level of earnings persistence. Siregar and Utama (2008) find no consistent evidence that firm size has a significant influence on the quality of earnings. However, Michaelson et al. (1995) and Moses (1987) both find that firm size is negatively related to earnings management measures. Based on the preceding discussion, firm size is expected to have a positive influence on earnings persistence.

5.3.3.6 Managerial ownership (*ManOwn*)

In line with prior studies (Ameziane Lasfer, 2006; Oei et al., 2008; Warfield et al., 1995) this study measures managerial ownership (*ManOwn*) as the percentage of ordinary shares owned by managers. Agency theory suggests that low managerial ownership is associated with exacerbated agency problems, while high ownership by managers helps align their interests with those of shareholders (Jensen & Meckling, 1976). Consistent with this view, many past studies document a positive link between managerial ownership and firm performance. For example, Warfield et al. (1995) find that an increased level of managerial ownership is negatively associated with the

absolute value of abnormal accruals. In a similar vein, McConnell and Servaes (1990) find a significant and positive relationship between firm performance (measured by Tobin's Q) and the proportion of common stock owned by firm managers. However, other studies (e.g., Eng & Mak, 2003; Ruland, 1990) document a negative association between managerial ownership and the quality of reporting. Meanwhile, Oei et al. (2008) provide no evidence that managerial share ownership is associated with earnings persistence. Therefore, this study offers no prediction on the association between the level of managerial ownership and earnings persistence.

5.3.3.7 Negative earnings (*LOSS*)

This study also controls for negative earnings (*LOSS*) by constructing a dummy variable given the value of 1 if firm i reported a loss at time period t, otherwise 0. Prior literature has documented that loss firms tend to exhibit less quality earnings. For instance, according to Frankel and Litov (2009), loss firms are considered a prime source for a less persistent stream of accounting earnings. Frankel and Litov also note that losses are associated with less persistent earnings for three reasons. First, losses often arise from transactions that have a high likelihood of being unprofitable, in which firms tend to record unrealized losses in current earnings and then convert future loss transactions into one single transitory loss (Basu, 1997). Second, because equity holders have the option to liquidate investments in firms reporting losses, such firms often exhibit less persistent earnings than firms reporting profits (Hayn, 1995). Third, loss could arise from a negative shock caused by natural disasters (e.g., a strike, flood, or fire) or technological changes that entail assets liquidation (Frankel & Litov, 2009). This is because negative shocks result in significantly more timely realization of losses compared to positive shocks. Based on the preceding discussion, loss firms are expected to have less persistent earnings.

5.3.3.8 Firm leverage (*LEV*)

Leverage (*LEV*) represents the level of funding a firm borrows to finance its assets and operations. In line with prior literature (Jiraporn & DaDalt, 2009; Srinidhi et al., 2011; Abdul Wahab & Zain, 2013), leverage is operationalized as the ratio of total debt to total assets. Extant research has shown that financial leverage is associated with low earnings quality or high earnings management (Jiang et al., 2010; Choi et al., 2014;

Dechow & Skinner, 2000). Hence, this study predicts that financial leverage will be negatively associated with earnings persistence.

5.3.3.9 Firm performance (*ROE*)

This study controls for firm performance/profitability using return on equity (*ROE*), which is measured as the ratio of net income to total equity, consistent with Barton and Simko (2002). As a measure of robustness, return on assets (ROA) is also employed to proxy for performance in the additional analysis. Prior studies have employed both *ROE* and *ROA* to measure firm performance (Barton & Simko, 2002). Prior research has demonstrated mixed results on the relationship between performance measures, e.g., *ROE*, and firms' outcomes. On the one hand, some studies (Ashari et al., 1994; Chen et al., 2006) find that firms with low profitability tend to encourage earnings management behavior to acquire external financing needed to boost their cash flows positions. However, other studies (Hayn, 1995; Liu & Lu, 2007) find that firms with high profitability have greater incentive to manage earnings to meet certain return on equity (*ROE*) targets, as such firms are subject to greater market pressure than loss reporting firms. Still other studies (e.g., Dechow et al., 1995) argue that firms reporting profits have less incentive to modify their earnings. Hence, this study makes no prediction on the association between return on equity (*ROE*) and earnings persistence.

5.3.3.10 Firm growth (*MTB*)

This study also controls for growth opportunities by employing the ratio of market-to-book (*MTB*). In line with prior studies (Ali et al., 2007; Jiraporn & DaDalt, 2009), *MTB* ratio is operationalized as the market value of equity divided by the book value of equity. Skinner and Sloan (2002) document that growth firms are severely penalized by the market for reporting negative earnings surprises. Jiraporn and DaDalt (2009) argue that growth firms have relatively high incentives to meet certain levels of earnings targets as a way to secure access to capital at low cost. Moreover, growth firms are perceived as riskier as they tend to smooth earnings using accruals for the purpose of decreasing volatility (Beaver et al., 1970).

However, other studies report that firms with high growth have higher-quality earnings. For example, Collins and Kothari (1989) report that since the higher market-to-book value (*MTB*) ratio reflects higher earnings growth opportunities, it also reflects higher earnings persistence. In a similar vein, Jiambalvo et al. (2002) also find the

coefficient on *MTB* to be positively related to earnings response coefficients (ERC), another earnings quality measure. Therefore, this study makes no prediction on the association between market-to-book value (*MTB*) and earnings persistence.

5.3.3.11 Years and industries effects

This study also controls for period effects and industry effects by constructing year dummies (Year) and industry dummies (Industry). The study has six-year periods comprising the years 2012, 2013, 2014, 2015, 2016, and 2017. For example, the variable Year is scored 1 if the observation belongs to the year 2012, and zero if it belongs to other years. Further, the study has eight different industry sectors: Communication Services, Consumer Discretionary, Consumer Staples, Energy, Health Care, Industrials, Materials, and Utilities. For example, the variable Industry is scored 1 if the observation belongs to Communication Services, and zero if it belongs to other industry sectors.

Table 5.2 presents the definition, measurements, and sources of all variables used in this research.

Table 5.2. Variables definition and measurements

Variables	Denoted by	Measured as	Source
Panel A: dependent variable			
Earnings persistence	$PERSIST_{it}$	The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$	Author's calculation
Panel B: independent variables			
Large book-zakat differences	$LBZD_{it}$	A dummy variable assigned the value of 1 if firm-year with $AbsBZD\ s$, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise	Author's calculation
Royal family directors	$RoyDir_{it}$	A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0	Annual report
Institutional ownership	$InstOwn_i$	The percentage of shares of the firm i owned by institutional investors at the time period t	Annual report
Panel C: control variables			
Board size	$BoardSsize_{it}$	The number of directors sitting on board of firm i at the time period t	Annual report
Log of board size	$LnBoardSize_{it}\ SIZE_{it}$	The natural log transformation of the number of directors sitting on board of firm i at the time period t	Author's calculation
Board independence	$BoardInd_{it}$	The proportion of independent directors on the board of firm i at the time period t	Annual report
Board meetings	$BoardMeet_{it}$	the frequency of board meetings of firm i at the time period t	Annual report
Log of board meetings	$BoardInd_{it}$	The natural log transformation of number of board meetings of firm i at the time period t	Author's calculation
Audit quality	$BIG4_{it}$	A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0	Annual report
Firm size	$SIZE_{it}$	The total sales in the US dollar of firm i at the time period t	Capital IQ

Variables	Denoted by	Measured as	Source
Log of firm size	$LnSIZE_{it}$	The natural log transformation of total sales of firm i at the time period t;	Author's calculation
Managerial ownership	$ManOwn_{it}$	The proportion of shares held by managers of firm i at the time period t	Annual report
Negative earnings	$LOSS_{it}$	A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0	Capital IQ
Financial leverage	$LOSS_{it}$	The ratio of total debt to total assets of firm i at the time period	Capital IQ
Return on equity	ROE_{it}	The ratio of net income to total equity of firm i at the time period t	Capital IQ
Market-to-book value ratio	ROE_{it}	The ratio of market value of equity to book value of equity of firm i at the time period t.	Capital IQ
Panel D: variables used in the additional analysis			
Absolute book-zakat differences	$AbsBZD_{it}$	The absolute value of $BZDs$, scaled by the number of outstanding shares	Author's calculation
Log of *AbsBZD*	$LnAbsBZD_{it}$	The natural log transformation of *AbsBZD*	Author's calculation
Number of royal family directors	$RoyNum_{it}$	The proportion of the number of royal directors on firm's board of firm i at the time period t	Annual report
Royal family chair	$RoyChair_{it}$	A dummy variable assigned the value of 1 if a firm's chair is a royal family member, otherwise 0	Annual report
Royal family ownership	$RoyOwn_{it}$	A dummy variable assigned the value of 1 if a royal director has ownership in the firm's equity shares, otherwise 0	Annual report
government institutional ownership	$GovOwn_{it}$	The total equity shareholdings owned by a governmental institutional investor of firm i at the time period t	Annual report
More than 15% ownership by government institutions	$GovOwn>15\%$	A dummy variable assigned the value of 1 if the total government ownership is more than 15% in the firm, 0 otherwise	Author's calculation
Non-government institutional ownership	$NonGovOwn_{it}$	The total equity shareholdings owned by a non-governmental institutional investor of firm i at the time period t	Annual report

Variables	Denoted by	Measured as	Source
More than 15% ownership by non-government institutions	*NonGovOwn>15%*	A dummy variable assigned the value of 1 if the total non-governmental ownership is more than 15% in the firm, 0 otherwise	Author's calculation
Return on Assets	ROA_{it}	The ratio of net income to total assets of firm i at the time period t	Capital IQ
Audit committee size	AC_SIZE_{it}	The natural log transformation of the number of audit committee members of firm i at the time period t	
Audit committee independence	AC_IND_{it}	he percentage of independent board members on the audit committee of firm i at the time period t	Annual report
Audit committee meetings	AC_MEET_{it}	The natural log transformation of the number of audit committee meetings of firm i at the time period t	Annual report
Inverse Mills Ratio	*IMR*	Heckman self-selection parameter estimated in Equation (9)	Author's calculation
Royal family founder	$RoyFounder_{it}$	A dummy variable equals to 1 if the firm with a royal family director was also founded by a royal family member, otherwise 0.	Firm's website and capital market website

5.4 Regression models

This study uses pooled ordinary least-square (OLS) regression to test the hypothesized relationships between the study's independent variables (*LBZD*, *RoyDir*, and *InstOwn*) and the dependent variable (*PERSIST*). Multivariate regression will be used to test the study's hypotheses empirically. The advantage of employing a pooled OLS estimator is that it provides a greater degree of flexibility in modeling dissimilarities across the sample (Greene, 2007). Another advantage of applying pooled analysis is that it offers less complexity when alternative specifications are introduced to validate the robustness of the original results (Beaver, 1998). Additionally, robust standard errors are clustered at the firm level to correct for heteroskedasticity, as recommended by Petersen (2009). Finally, all continuous variables are winsorized at the 1st and 99th percentiles to reduce the possible effects of outliers.

5.4.1 Hypothesis 1

The first hypothesis is intended to investigate whether *LBZD* subsample firms exhibit less persistent earnings than *SBZD* subsample firms. To empirically validate this expectation, the study proposes the following regression model, with the variables of interest in bold:

$$\boldsymbol{PERSIST_{it}} = \beta_0 + \beta_1\boldsymbol{LBZD_{it}} + \beta_2 LnBoardSize_{it} + \beta_3 BoardInd_{it} + \beta_4 LnBoardMeet_{it} + \beta_5 BIG4_{it} + \beta_6 LnSIZE_{it} + \beta_7 ManOwn_{it} + \beta_8 LOSS_{it} + \beta_9 LEV_{it} + \beta_{10} ROE_{it} + \beta_{11} MTB_{it} + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (5)$$

That is, if firms with large book-zakat differences (*LBZD*) exhibit less persistent earnings, the coefficient $\beta 1$ in Equation (5) is expected to be negative. Please refer to Table 5.2 for variable definitions and measurements.

5.4.2 Hypothesis 2

Hypothesis 2 is intended to investigate the relationship between the political connections of royal family board members (*RoyDir*) and earnings persistence. To empirically validate this hypothesis, the study proposes the following regression model, with the variables of interest in bold:

$$\boldsymbol{PERSIST_{it}} = \beta_0 + \beta_1\boldsymbol{RoyDir_{it}} + \beta_2 LnBoardSize_{it} + \beta_3 BoardInd_{it} + \beta_4 LnBoardMeet_{it} + \beta_5 BIG4_{it} + \beta_6 LnSIZE_{it} + \beta_7 ManOwn_{it} + \beta_8 LOSS_{it} + \beta_9 LEV_{it} + \beta_{10} ROE_{it} + \beta_{11} MTB_{it} + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (6)$$

That is, if firms with royal family directors are associated with more persistent accounting earnings, then the coefficient $\beta 1$ in Equation (6) is expected to be positive. Please refer to Table 5.2 for variable definition and measurements.

5.4.3 Hypothesis 2A

Hypothesis 2A is meant to determine whether the presence of royal family board members mitigates the negative relationship between *LBZD* and *PERSIST*. To empirically validate this hypothesis, the study proposes the following regression model, with the variables of interest in bold:

$$\boldsymbol{PERSIST_{it}} = \beta_0 + \beta_1 LBZD_{it} + \beta_2 RoyDir_{it} + \boldsymbol{\beta_3 LBZD_{it} * RoyDir_{it}} + \beta_4 LnBoardSize_{it} + \beta_5 BoardInd_{it} + \beta_6 LnBoardMeet_{it} + \beta_7 BIG4_{it} + \beta_8 LnSIZE_{it} + \beta_9 ManOwn_{it} + \beta_{10} LOSS_{it} + \beta_{11} LEV_{it} + \beta_{12} ROE_{it} + \beta_{13} MTB_{it} + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (7)$$

That is, if the presence of royal family board members mitigates (weakens) the negative relationship between *LBZD* and *PERSIST*, then the coefficient on the two-way interaction term *LBZD*RoyDir* in Equation (7) is expected to be positive or greater than zero or ($\beta_3 > 0$). Please refer to Table 5.2 for variable definition and measurements.

5.4.4 Hypothesis 3

Hypothesis 3 is intended to test whether firms with a higher level of institutional investors' ownership exhibit higher persistent accounting earnings. To empirically validate this hypothesis, the study proposes the following regression model, with the variables of interest in bold:

$$\boldsymbol{PERSIST_{it}} = \beta_0 + \beta 1 \boldsymbol{InstOwn_{it}} + \beta_2 LnBoardSize_{it} + \beta_3 BoardInd_{it} + \beta_4 LnBoardMeet_{it} + \beta_5 BIG4_{it} + \beta_6 LnSIZE_{it} + \beta_7 ManOwn_{it} + \beta_8 LOSS_{it} + \beta_9 LEV_{it} + \beta_{10} ROE_{it} + \beta_{11} MTB_{it} + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (8)$$

That is, if institutional ownership is associated with more persistent earnings, the coefficient $\beta 1$ in Equation (8) is expected to be positive. Please refer to Table 5.2 for variable definition and measurements.

5.4.5 Hypothesis 3A

Hypothesis 3A is intended to test whether institutional investors mitigate the negative relationship between *LBZD* and *PERSIST*. To empirically validate this hypothesis, the study proposes the following regression model, with the variables of interest in bold:

$$\boldsymbol{PERSIST_{it}} = \beta_0 + \beta 1 LBZD_{it} + \beta_2 InstOwn_{it} + \boldsymbol{\beta_3 LBZD_{it} * InstOwn_{it}} + \beta_4 LnBoardSize_{it} + \beta_5 BoardInd_{it} + \beta_6 LnBoardMeet_{it} + \beta_7 BIG4_{it} + \beta_8 LnSIZE_{it} + \beta_9 ManOwn_{it} + \beta_{10} LOSS_{it} + \beta_{11} LEV_{it} + \beta_{12} ROE_{it} + \beta_{13} MTB_{it} + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (9)$$

That is, if institutional investors' ownership (weakens) the negative relationship between *LBZD* and *PERSIST*, then the coefficient on the two-way interaction term *LBZD*InstOwn* in Equation (9) is expected to be positive or greater than zero or ($\beta_3 > 0$). Please refer to Table 5.2 for variable definition and measurements.

5.5 Additional analysis and tests of endogeneity

5.5.1 Additional analysis

Additional tests will be undertaken to ensure the robustness of the main results. First, the main independent variable of interest, large book-zakat differences (*LBZD*), was a dummy variable in the main analysis. However, consistent with prior studies (e.g., Hanlon et al., 2012; Moore & Xu, 2018), this variable is also operationalized as a continuous variable in two ways: (1) *BZDs* are measured in terms of the absolute value of *BZDs*, scaled by the number of outstanding shares, and this variable is denoted as (*AbsBZD*), and (2) *BZDs* are measured in terms of the natural log transformation of the absolute value of *BZDs*, scaled by the number of outstanding shares, and this variable is denoted as (*LnAbsBZD*).

Second, the independent variable royal family director (*RoyDir*) in the primary analysis was a dummy variable. However, similar to past studies (e.g., Houston et al., 2014; Al-Hadi et al., 2016), three alternative measures are used: (1) a continuous variable based on the actual number of royal directors on the board as a proportion of the total number of board members (*RoyNum*); (2) a dummy variable based on whether a royal family member is the firm's chairman (*RoyChair),* given the value of 1 if present, 0 otherwise; and (3) a dummy variable based on whether a royal family member holds ownership in the firm's equity (*RoyOwn*), given the value of 1if present, 0 otherwise.

Third, the independent variable institutional investors (*InstOwn*) in the primary analysis was a continuous variable based on the total shares institutional investors hold in the firm. However, similar to past studies (e.g., Abdul Wahab et al., 2009), I categorise institutional investors by type into government (*GovOwn*) and non-government (*NonGovOwn*), where (*GovOwn*) represents the percentage of shares the Saudi government holds in a firm via its sovereign wealth fund (the Public Investment Fund), and (*NonGovOwn*) represents the percentage of shares owned by other institutional investors.

Fourth, consistent with prior studies (e.g., Hanlon, 2005; Tang & Firth, 2012), I exclude loss firms from the sample and re-estimate the regression models. This exclusion reduces the number of observations from 636 firm-year observations to 530 firm-year observations. This test is performed because prior studies (e.g., Frankel & Litov, 2009; Hayn, 1995) suggest that including firms experiencing losses may affect the accuracy of an earnings persistence regression model.

Fifth, the dependent variable earnings persistence in the main analysis was derived from scaling earnings by the number of outstanding shares. However, prior literature (i.e., Hanlon, 2005; Dechow et al., 2010: Tang & Firth, 2020) has scaled earnings by assets and sales. Accordingly, I scale earnings by average total assets and re-estimate all regressions specified in Equations 5–9.

Sixth, while in the main analysis I assess the persistence of current earnings into 1-year ahead, in line with Dichev and Tang (2009), I also assess the persistence of current earnings over a longer time horizon using 2-year and 3-year ahead earnings. This test allows me to explore how quickly the productive power of current earnings deteriorates over time. Accordingly, the baseline Equation (1) is re-estimated as follows:

$$Earn_{it+2,3} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it}$$

Seventh, as an additional check of the primary results, the regressions models are re-performed, applying alternative control variables. The firm size (*LnSIZE*) is measured as the log transformation to total assets instead of the firm's log transformation of total annual sales. The financial leverage (*LEV*) is calculated as total debt divided by total equity instead of being divided by total assets. Moreover, the performance variable is measured as return on assets (*ROA*) instead of return on equity (*ROE*).

Finally, the main regression models are re-estimated with additional control variables. These control variables comprise three audit committee characteristics, namely audit committee size (*AC_SIZE*), audit committee independence (*AC_IND*), and audit committee meetings (*AC_MEET*). Prior literature shows that an audit committee improves earnings quality as it is charged with selecting auditors of higher quality, reviewing the implementation of adequate internal controls, supervising the internal audit function, and monitoring the overall financial reporting process (Srinidhi et al., 2011). The absence of an active internal audit committee may result in less transparent financial reporting and poor earnings quality (Doyle et al., 2007). Accordingly, the above audit committee attributes are controlled for. These additional variables are defined in Table 5.2.

5.5.2 Endogeneity tests

The study employs two commonly used techniques to address selection bias concerns (endogeneity), namely Heckman and propensity score matching (PSM).

5.5.2.1 Test of self-selection bias (Heckman two-stage)

In the first stage, the probit model is estimated by regressing (*RoyDir*) as the dependent variable on all independent control variables, year dummies, and industry dummies. Additionally, in the first stage an instrument variable (*RoyFounder*) is included as an additional control variable to generate the inverse Mills ratio (*IMR*) as in Equation (10).

The first stage (probit model)

$$RoyDir_{it} = \beta_0 + \beta_1 RoyFounder_{it} + \beta_2 LnBoardSize_{it} + \beta_3 BoardInd_{it} + \beta_4 LnBoardMeet_{it} + \beta_5 BIG4_{it} + \beta_6 LnSIZE_{it} + \beta_7 ManOwn_{it} + \beta_8 LOSS_{it} + \beta_9 LEV_{it} + \beta_{10} ROE_{it} + \beta_{11} MTB_{it} + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (10)$$

where RoyFounderit is a dummy variable equal to 1 if the firm with a royal family director was also founded by a royal family member, otherwise 0.

In the second stage (outcome equation), the self-selection parameter (*IMR*) estimated in the first stage is included as an additional independent variable, as in Equation (11).

The second stage (outcome equation)

$$PERSIST_{it} = \beta_0 + \beta_1 RoyDir_{it} + \beta_2 LnBoardSize_{it} + \beta_3 BoardInd_{it} + \beta_4 LnBoardMeet_{it} + \beta_5 BIG4_{it} + \beta_6 LnSIZE_{it} + \beta_7 ManOwn_{it} + \beta_8 LOSS_{it} + \beta_9 LEV_{it} + \beta_{10} ROE_{it} + \beta_{11} MTB_{it} + \beta_{12} IMR + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (11)$$

where IMR is the inverse Mills ratio estimated from the first stage. Please refer to Table 5.2 for variable definition and measurements

5.5.2.2 Test of sample selection bias propensity score matching (PSM)

Similar to the Heckman two-stage model, propensity score matching (PSM) is employed using the following two-step regression model as in Equations (12) and (13):

The first stage (logit model)

$$RoyDir_{it} = \beta_0 + \beta_1 LnBoardSize_{it} + \beta_2 BoardInd_{it} + \beta_3 LnBoardMeet_{it} + \beta_4 BIG4_{it} + \beta_5 LnSIZE_{it} + \beta_6 ManOwn_{it} + \beta_7 LOSS_{it} + \beta_8 LEV_{it} + \beta_9 ROE_{it} + \beta_{10} MTB_{it} + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (12)$$

The second stage (outcome equation)

$$PERSIST_{it} = \beta_0 + \beta 1 RoyDir_{it} + \beta_2 LnBoardSize_{it} + \beta_3 BoardInd_{it} + \beta_4 LnBoardMeet_{it} + \beta_5 BIG4_{it} + \beta_6 LnSIZE_{it} + \beta_7 ManOwn_{it} + \beta_8 LOSS_{it} + \beta_9 LEV_{it} + \beta_{10} ROE_{it} + \beta_{11} MTB_{it} + Year\ Dummies + Industry\ Dummies + \varepsilon_{it} \quad (13)$$

Please refer to Table 5.2 for variable definition and measurements

5.6 Summary of chapter

This chapter outlines the research methodology. The first section details the sample selection process and the source for data. The next section measures and defines the study's dependent variable. Measurements and definitions of the study's independent variables control variables are discussed next. This is followed by outlining the regression specifications used to test the hypotheses. Tests of endogeneity are discussed before the chapter concludes.

CHAPTER 6: EMPIRICAL RESULTS AND FINDINGS

6.1 Overview of chapter

Chapter 6 begins by presenting basic descriptive statistics of the dependent variable, independent variables, and control variables. Subsequently, correlation analysis is presented, and univariate tests of differences of means and medians are provided. The next section focuses on the main empirical results by reporting and discussing the multivariate regression analysis of each hypothesis. Finally, a summary is presented at the end of the chapter.

6.2 Descriptive statistics

Table 6.1 below reports descriptive statistics of the research variables for a sample of 636 firm-year observations representing non-financial firms publicly traded in the Saudi capital market. Panel A reports descriptive statistics of the dependent variable of this study: earnings persistence (*PERSIST*). The mean (median) values for earnings persistence (*PERSIST*) for the pooled sample are 0.349 (0.347), and range from −2.820 to 1.727. While positive values of *PERSIST* imply firms' earnings are more persistent, negative values imply firms' earnings are less persistent, more volatile, and transitory. In comparison, these values are relatively similar to values reported by Ben-Nasr et al. (2015), who show that persistence has a mean (median) value of 0.355 (0.338) for 350 firms across 45 countries over the period 1985–2007. Further, these values are comparable to those documented by Ghosh and Moon (2010), who report a mean (median) persistence value of 0.280 (0.222) for US firms between 1992 and 2006. Moreover, these values are also similar to those reported by Eliwa et al. (2016), who provides a mean (median) persistence value of 0.32 (0.29) for UK listed firms during the period 2005–2011. However, earlier research by Baber et al. (1998) reports a mean (median) persistence value of 0.857 (0.854) during the period 1974–1993 for US firms. Francis et al. (2004) report a mean (median) persistence value of 0.482 (0.520) during the period 1975–2001 for US firms.

Panel B of Table 6.1 presents the summary descriptive statistics for independent test variables. Approximately 40% of the sample comprises firms with large book-zakat differences (*LBZD*) based on quintile partitioning of all firms for all years within the pooled sample. Further, the sample shows that, on average, 19.3% of Saudi-listed firms have at least one royal family director (*RoyDir*) on the board. This result is

similar to the mean value of 18% recorded by Al-Nasser (2019) for Saudi-listed firms. In comparison with other studies in the GCC region, Al-Hadi et al. (2016) report that, on average, 31.2% of financial firms have at least one ruling family member on the board of directors. Moreover, the mean (median) of common shares outstanding held by institutional investors (*InstOwn*) is 9.5% (zero%) with a range of 0% to 83.7%. This average is similar to the average of 12.5 reported by Abdul Wahab et al. (2007) for Malaysian firms. This figure, however, is lower than the averages of 39%, 21.6%, and 48.1% recorded by firms in the US, UK, and Australia, respectively (Jiambalvo et al., 2002; Hsu & Koh, 2005; Peasnell et al., 2005).

Panel C of Table 6.1 tabulates the descriptive statistics of independent control variables. The average board size (*BoardSize*), defined as the number of directors sitting on the firm's board, is 8.2, with a range from 4 to 12 board members. These figures are also consistent with the recommendation of the Saudi code of governance, which states that the number of members on the board should be not less than three and not more than eleven. In comparison with other corporate contexts, the average board size for the pooled sample firms tends to be similar to an average board size of eight members for UK firms, as reported by Peasnell et al. (2005), slightly larger than the average of 7.23 board members reported for Malaysian firms according to Abdul Wahab et al. (2015), and significantly smaller than the 12.48 board members reported for US firms according to Xie et al. (2003). Panel C also reveals that, on average, 50% of board members within the pooled sample are independent directors (*BoardInd*). In comparison with other contexts, these figures are lower than those documented in the USA, where approximately 58.4% of board members are independent directors (Klein, 2002). However, boards of Saudi firms tend to have more independent directors than boards of the UK and Malaysian firms, which have 43% and 36% respectively (Peasnell et al., 2005; Abdul Wahab et al., 2015). Additionally, Panel C reports that the pooled sample's average number for board meetings (*BoardMeet*) is 5.45, with the range from 2 to 22. In comparison, the average number of board meetings in Saudi firms is comparable to the average of 5.28 for Malaysian firms (Hashim & Devi, 2008), but lower than that reported for both the USA and Australia at 8.26 and 10.43, respectively (Christensen et al., 2010; Xie et al., 2003).

With regard to other firm characteristics, Panel C also reveals that 59% of sample firms engaged a Big Four auditor (*BIG4*). The mean (median) firm size (*SIZE*) is US$1,075 (US$281) million and ranges between 1 and 16,534 million US dollars. The

mean (median) percentage of managerial ownership (*ManOwn*) is 7.8% (1.90%), with a range of between 0% and 63% of a firm's total outstanding shares. On average, 16.7% of the pooled sample reported negative earnings (*LOSS*) during the previous year. Finally, Panel C shows that the mean (median) values for debt-to-assets ratio (*LEV*), return on equity ratio (*ROE*), and market-to-book value (*MTB*) are 0.244 (0.228), 0.182 (0.087), and 3.204 (1.794), respectively.

Table 6.1. Descriptive statistics of 636 sample Saudi-listed firms, 2012–2017

Variable	Mean	Median	Min	Max	St.Dev
Panel A: Dependent variable					
PERSIST	0.349	0.347	-2.820	1.727	0.602
Panel B: Independent test variables					
LBZD	0.399	0.000	0.000	1.000	0.490
RoyDir	0.193	0.000	0.000	1.000	0.395
InstOwn	0.095	0.000	0.000	0.837	0.181
Panel C: Independent control variables					
BoardSize	8.206	9.000	4.000	12.000	1.426
LnBoardSize	2.089	2.197	1.386	2.485	0.180
BoardInd	0.500	0.429	0.143	1.000	0.167
BoardMeet	5.451	5.000	2.000	22.000	2.288
LnBoardMeet	1.623	1.609	0.693	3.091	0.376
BIG4	0.591	1.000	0.000	1.000	0.492
SIZE (US $ million)	1075	281	1	16,534	2,624
LnSIZE	5.563	5.639	0.255	9.713	1.755
ManOwn	0.078	0.019	0.000	0.630	0.128
LOSS	0.167	0.000	0.000	1.000	0.373
LEV	0.244	0.228	0.000	1.427	0.205
ROE	0.182	0.087	-10.102	72.941	2.924
MTB	3.204	1.794	0.574	40.997	5.520

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $BoardSsize_{it}$ = the number of directors sitting on board of firm i at the time period t; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t; $BoardInd_{it}$ = The proportion of independent directors on the board of firm i at the time period t; $BoardMeet_{it}$ = the frequency of board meetings of firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $SIZE_{it}$ = The total sales in the US dollar of firm i at the time period t; Ln$SIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio, calculated as the market value of equity divided by the book value of equity of firm i at the time period t.

6.3 Correlation analysis

This bi-variate analysis is performed to test the strength of the relationship between any given two data variables, and thus to detect if multicollinearity exists between the independent or control variables. High multicollinearity indicates that the intercorrelation among the independent variables is significant, and thus that these variables are not different from each other. Therefore, the existence of high multicollinearity (i.e., above 0.8) may cause data disturbance and result in unreliable inferences from the estimated regression (Hair et al., 1995)

Table 6.2 reports both Pearson and Spearman-rank correlation matrix for the variables used in the primary multivariate regression analysis. The correlations between *PERSIST* and *LBZD* are significantly negative for both Pearson (−0.133) and Spearman-rank (−0.066) at the 1% and 10% level, respectively. In addition, royal family director (*RoyDir*) is positively and significantly correlated with *PERSIST* for both Pearson (0.227) and Spearman-rank (0.226) at the 1% level. Further, institutional ownership (*InstOwn*) is significantly and positively correlated with *PERSIST* for both Pearson (0.234) and Spearman-rank (0.294) at the 1% level. The above preliminary findings are consistent with the initial predictions that earnings persistence (*PERSIST*) is (negatively) positively correlated with (*LBZD*), *RoyDir*, and *InstOwn* respectively.

With regard to the correlation between the dependent variable (that is, earnings persistence (*PERSIST*)) and the independent variables, the table reveals that *PERSIST* is positively and significantly correlated with board size (*BoardSize*), audit quality (*BIG4*), firm size (*SIZE*), and managerial ownership (*ManOwn*) for both Pearson and Spearman-rank. However, the table reveals that *PERSIST* is significantly and negatively correlated with board independence (*BoardInd*), negative earnings (*LOSS*), financial leverage (*LEV*), and market-to-book ratio (*MTB*) for both Pearson and Spearman-rank. The correlation between *PERSIST* and the frequency of board meetings (*BoardMeet*) is non-significant for both Pearson and Spearman-rank.

Further review of Table 6.2 highlights a number of observations. It is shown that there is a high correlation between *PERSIST* and *ROE*, which is 0.895 for Spearman-rank but not for Pearson. This is expected, since *ROE* is a variable that is closely related to *PERSIST* in terms of representing a firm's return. While the first is the ratio of current year earnings to total equity, the latter represents the fitted value of regressing next year's earnings on current year earnings. Nonetheless, additional steps have been

taken to show that the results remain largely unaffected.[23] Table 6.2 also shows that the highest correlation coefficients are observed between *PERSIST* and *LOSS*, which are −0.599 for Pearson and −0.632 for Spearman-rank, both at the 1% level of significance. This negative correlation between the dummy variable *LOSS* and *PERSIST* is expected, as prior literature has documented that loss firms are considered a prime source for a less persistent stream of earnings (e.g., Frankel & Litov, 2009).[24] Finally, the table shows that most the correlations among the explanatory variables are reasonable with no correlation coefficient higher than 0.8, the critical multicollinearity limit suggested by Hair et al. (1995).

[23] Regressions were run without the variable *ROE* (see Appendix 2) and the results remained largely unchanged. Additionally, the variance inflation factor (VIF) has been conducted for all regression models. The VIFs across all regression models are below 3, indicating that multicollinearity is not a factor influencing the results.
[24] In additional analysis, *LOSS* firms are excluded from the sample, and the regression models are re-performed, without alteration to the overall results (see Table 7.4).

Table 6.2. Pearson (below diagonal) Spearman-rank (above diagonal) correlation between variables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	*PERSIST*		−0.066*	0.226***	0.294***	0.207***	−0.175***	0.003	0.262***	0.442***	0.177***	−0.632***	−0.172***	0.895***	0.206***
2	*LBZD*	−0.133***		−0.104***	−0.049	−0.055	0.020	−0.028	−0.014	−0.074*	−0.044	0.169***	−0.076	−0.157***	0.063
3	*RoyDir*	0.227***	−0.103***		0.491***	0.210***	0.039	0.107***	−0.014	0.133***	−0.062	−0.064	−0.106***	0.123***	−0.038
4	*InstOwn*	0.234***	0.038	0.304***		0.392***	−0.132***	0.178***	0.174***	0.394***	−0.249***	−0.144***	0.030	0.157***	−0.028
5	*BoardSize*	0.181***	−0.039	0.197***	0.273***		−0.261***	−0.063	0.249***	0.408***	−0.032	−0.086**	0.123***	0.150***	−0.083**
6	*BoardInd*	−0.142***	0.033	0.023	−0.178***	−0.267***		0.052	−0.314***	−0.417***	−0.008	0.123***	−0.240***	−0.157***	0.016
7	*BoardMeet*	0.039	−0.016	0.088**	0.220***	−0.087**	0.012		−0.039	−0.007	−0.174***	0.062	−0.128***	−0.043	−0.008
8	*BIG4*	0.200***	−0.014	−0.014	0.190***	0.278***	−0.328***	−0.029		0.445***	0.063	−0.117***	0.224***	0.257***	0.059
9	*SIZE*	0.364***	−0.031	0.119***	0.403***	0.435***	−0.454***	0.047	0.456***		−0.068	−0.225***	0.404***	0.361***	−0.088**
10	*ManOwn*	0.153***	−0.003	−0.057	−0.209***	−0.047	−0.161***	−0.083**	0.114***	−0.013		−0.175***	0.063	0.263***	0.031
11	*LOSS*	−0.599***	0.169***	−0.064*	−0.098**	−0.101***	0.142***	0.037	−0.117***	−0.246***	−0.140***		0.116***	−0.62	0.074*
12	*LEV*	−0.182***	−0.069	−0.111***	0.025	0.125***	−0.224***	−0.093**	0.225***	0.404***	−0.014	0.137***		−0.161***	−0.247***
13	*ROE*	−0.128***	0.029	0.061	−0.013	0.080**	−0.039	−0.039	0.053	−0.003	−0.008	0.039	0.057		0.286***
14	*MTB*	−0.264***	0.154***	−0.051	−0.020	−0.086**	0.109***	−0.037	−0.014	−0.201***	−0.053	0.268***	−0.178***	−0.070*	

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $BoardSize_{it}$ = the number directors sitting on board of firm i at the time period t; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $BoardMeet_{it}$ = the frequency of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $SIZE_{it}$ = The total sales in the US dollar of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a loss at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio, calculated as the market value of equity divided by the book value of equity of firm i at the time period t. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

6.4 Univariate analysis

The univariate analysis of differences in means (two-sample *t*-test) and medians (Mann-Whitney test) are performed to test whether the mean or median of the population is different across two independent samples or groups. Therefore, the study examines the differences in mean and medians between firms with large book-zakat differences (the *LBZD* subsample) and firms with small book-zakat differences (or *SBZD* subsample). That is, the purpose of this univariate analysis is to investigate whether the differences in the variables' means and medians differ significantly across the two subsamples. Similar to Hanlon (2005) and Tang and Firth (2012), the two subsamples are operationalized as follows: *LBZD* is a dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; *SBZD* is a dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the bottom three quintiles of all firm-years in the sample, and 0 otherwise.

Table 6.3 reports the results of differences in variables means, medians, t-statistics, and z-statistics across *LBZD* and *SBZD* subsamples. Panel A tabulates the mean and median differences of the dependent variable across the two subsamples. It shows that firms with *LBZD* report significantly lower mean ($t = 3.391$, $p<0.01$) and median ($z = 1.662$, $p<0.10$) values of earnings persistence (*PERSIST*) than firms with *SBZD*. The results provide preliminary support for the first hypothesis (*H1*) that firms with larger differences between their books and zakatable incomes have a lower level of earnings persistence. In addition, the results are similar to other book-tax differences studies documenting significantly lower earnings persistence for firms with large book-tax differences (see Blaylock et al., 2012; Hanlon, 2005; Huang & Wang, 2013; Tang & Firth, 2012). Interestingly, the results indicate that both book-tax differences (BTDs) and book-zakat differences (*BZDs*) are qualitatively similar in relation to their impact on earnings persistence.

Panel B of Table 6.3 tabulates the mean and median differences of the independent variables, namely royal family directors and institutional investors respectively. The chi-square test for the dummy variable royal family director (*RoyDir*) is significant at the 1% level ($\chi^2 = 6.809$) and shows that firms with *LBZD* have fewer royal family members on the board than firms with *SBZD*. Panel B further reveals that the mean (median) value of institutional ownership (*InstOwn*) is 10.40%

(zero) in *LBZD* firms compared to 9% (zero) in *SBZD* firms. However, the univariate test results show that (*InstOwn*) is insignificantly different across the two subsamples. Moreover, Panel C of Table 6.3 shows that the differences in means and medians for control variables, of which firm size (*LnSIZE*), negative income (*LOSS*), financial leverage (*LEV*), return on equity (*ROE*), and market-to-book value (*MTB*) are significantly different across both *LBZD* and *SBZD* subsamples.

Table 6.3. Differences in mean and median across *LBZD* and *SBZD* subsamples

	Mean			Median		
Variable	*LBZD*	*SBZD*	*t*-stat.	*LBZD*	*SBZD*	*z*-stat.
Panel A: Dependent variable						
PERSIST	0.251	0.415	3.391***	0.336	0.350	1.662*
Panel B: Independent test variables						
RoyDir	0.319	0.421	(6.809)***	0.000	0.000	
InstOwn	0.104	0.090	−0.965	0.000	0.000	1.237
Panel C: Independent Control variables						
BoardSize	8.114	8.267	0.977	8.000	9.000	1.373
BoardInd	0.507	0.495	−0.843	0.437	0.429	−0.497
BoardMeet	5.409	5.479	0.395	5.000	5.000	0.699
BIG4	0.583	0.597	(0.127)	1.000	1.000	
LnSIZE	5.497	5.606	0.772	5.499	5.722	1.873*
ManOwn	0.078	0.078	0.073	0.017	0.020	1.107
LOSS	0.244	0.115	(18.254)***	0.000	0.000	
LEV	0.226	0.255	1.751*	0.192	0.240	1.933*
ROE	0.286	0.112	−0.736	0.072	0.099	3.957***
MTB	4.246	2.511	−3.926***	1.937	1.763	−1.577
Observations	254	382			254	382

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; *SBZD* it = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the bottom three quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $BoardSsize_{it}$ = the number directors sitting on board of firm i at the time period t; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $BoardMeet_{it}$ = the frequency of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio, calculated as the market value of equity divided by the book value of equity of firm i at the time period t. *, **, and *** denotes significance level at 10%, 5%, and 1%, respectively. Numbers in parentheses denote chi-squared tests.

Table 6.4 tests for differences in means and median and t-statistics and z-statistics between firms with royal family board director and firms without. The purpose of this univariate analysis is to test for differences in means and medians between these two samples. *RoyDir* is operationalized as a dummy variable assigned the value of 1 if a royal family member is sitting on the board, and zero otherwise.

Table 6.4. Differences in mean and median between RoyDir firms and non-RoyDir firms

	Mean			Median		
Variable	RoyDir=1	RoyDir=0	t-stat.	RoyDir=1	RoyDir=0	z-stat.
Panel A: Dependent variable						
PERSIST	0.524	0.242	−5.875***	0.448	0.285	−5.684***
Panel B: Independent test variables						
LBZD	0.335	0.439	(6.809)***	0	0	
InstOwn	0.165	0.052	−8.035***	0.089	0	−12.367***
Panel C: Independent Control variables						
BoardSize	2.134	2.061	−5.278***	2.197	2.079	−5.050***
BoardInd	0.505	0.497	−0.568	0.444	0.429	−0.989
BoardMeet	1.665	1.597	−2.221**	1.609	1.609	−2.707***
BIG4	0.583	0.596	-0.127	1	1	
LnSIZE	5.829	5.399	−3.025***	5.985	5.482	−3.345***
ManOwn	0.069	0.084	1.434	0.014	0.032	1.559
LOSS	0.136	0.185	(18.254)***	0	0	
LEV	0.215	0.261	2.800***	0.17	0.257	2.665***
ROE	0.41	0.042	−1.543	0.107	0.076	−3.095***
MTB	2.844	3.425	1.291	1.763	1.8	0.951
N	242	394		242	394	

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $BoardSize_{it}$ = the number directors sitting on board of firm i at the time period t; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $BoardMeet_{it}$ = the frequency of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a loss at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio, calculated as the market value of equity divided by the book value of equity of firm i at the time period t. *, **, and *** denotes significance level at 10%, 5%, and 1%, respectively. Numbers in parentheses denote chi-squared tests.

Panel A shows that firms with royal family board members (*RoyDir=1* firms) record significantly greater mean (t= −5.875, p<0.01) and median (z= −5.684, p<0.01) values for earnings persistence (*PERSIST*) than (*RoyDir*=0 firms), providing support for the initial prediction that firms politically connected through royal family board members will have higher earnings persistence, as outlined in hypothesis *H2*. Panel B reveals that the mean (median) of institutional ownership (*InstOwn*) is 16.5% (8.9%) in firms with royal family directors compared to 5.2% (zero) for non-royal family director firms. Panel C shows that firms with royal family directors have larger boards (*BoardSize*), a higher fraction of independent directors (*BoardInd*), and higher board meetings frequency (*BoardMeet*) than firms without royal family directors. Moreover, Panel C shows that firms with royal family directors are also relatively larger in size (*LnSIZE*), less leveraged (*LEV*), more profitable (*ROE*), less likely to report losses (*LOSS*), and have a higher market-to-book ratio (*MTB*).

Table 6.5 reports the results of variable differences in means, median, t-statistics, and z-statistics across firms audited by a *BIG4* auditor and firms audited by a non-*BIG4* auditor. The purpose of this univariate analysis is to test for differences in means and medians between these two samples. Panel A reveals that firms audited by a *BIG4* auditor record significantly higher mean (t = −5.150, p<0.01) and median (z = −6.607, p<0.01) values for earnings persistence (*PERSIST*). This is consistent with the notion that higher audit quality provides higher assurance that reported earnings are more credible.[25] In Panel B, the chi-square test for auditor types shows that there is no significant differences across *LBZD* and *SBZD* firms ($\chi 2 = 0.127$) nor for firms with or without royal family directors ($\chi 2 = 0.118$) based on auditor type. Panel B also indicates that firms audited by a *BIG4* auditor have a higher proportion of institutional ownership (*InstOwn*) with a mean (median) value of 12.4% (zero) compared to firms audited by a non-*BIG4* auditor, with a significant difference and mean and median between the samples (t = −4.860, z = −4.387). Finally, Panel C reports that firms audited by a *BIG4* auditor tend to have larger boards (*BoardSize*), less independent directors (*BoardInd*), larger size (*LnSIZE*), more managerial ownership (*ManOwn*), greater likelihood of reporting losses (*LOSS*), greater financial leverage (*LEV*), higher return on equity (*ROE*), and lower market-to-book ratio (*MTB*).

[25] See for example Francis et al. (1999); Becker et al. (1998).

Table 6.5. Differences in mean and median between firms audited by a *BIG4* auditor and firms audited by a non-*BIG4* auditor

	Mean			Median		
Variable	*BIG4*=1	*BIG4*=0	t-stat.	*BIG4*=1	*BIG4*=0	z-stat.
Panel A: Dependent variable						
PERSIST	0.450	0.205	−5.150***	0.437	0.241	−6.607***
Panel B: Independent variables						
LBZD	0.394	0.408	(0.127)	0.000	0.000	
RoyDir	0.375	0.388	(0.118)	0.000	0.000	
InstOwn	0.124	0.054	−4.860***	0.000	0.000	−4.387***
Panel C: Independent Control variables						
BoardSize	2.131	2.029	−7.292***	2.197	2.079	−6.274***
BoardInd	0.454	0.566	8.747***	0.429	0.571	7.923***
BoardMeet	1.614	1.636	0.725	1.609	1.609	0.982
LnSIZE	6.227	4.601	−12.898***	6.073	4.927	−11.204***
ManOwn	0.090	0.060	−2.878***	0.029	0.011	−1.585
LOSS	0.130	0.219	(8.749)***	0.000	0.000	
LEV	0.282	0.188	−5.813***	0.273	0.138	−5.636***
ROE	0.311	−0.004	−1.336	0.112	0.053	−6.479***
MTB	3.142	3.294	0.341	1.893	1.668	−1.496
Observations	376	260		376	260	

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it}$; ; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $BoardSsize_{it}$ = the number directors sitting on board of firm i at the time period t; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $BoardMeet_{it}$ = the frequency of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a loss at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio, calculated as the market value of equity divided by the book value of equity of firm i at the time period t. *, **, and *** denotes significance level at 10%, 5%, and 1%, respectively. Numbers in parentheses denote chi-squared tests.

Table 6.6 reports the result of variable differences in means, median, t-statistics, and z-statistics for firms incorporating loss (*LOSS*) and profit-making firms. The purpose of this univariate analysis is to test for differences in means and medians between these two samples. Panel A shows that the mean and median values for earnings persistence (*PERSIST*) are significantly lower for firms that reported a loss (t = 18.847, z = 15.926). In Panel B the chi-square test for the *LOSS* variable shows that *LBZD* firms are more likely to report negative earnings during the financial year; this is significant

at the 1% level ($\chi 2 = 18.254$). Further, the chi-square test for the *LOSS* variable reveals that significant differences exist between firms with or without royal directors ($\chi 2 = 2.583$). Moreover, Panel B indicates that the mean (median) of institutional ownership (*InstOwn*) is 5.6% (zero) in *LOSS* firms compared to 10.3% (zero) in profit-making firms, as indicated by the significant differences in mean ($t = 2.487$, $p<0.05$) and median ($t = 3.625$, $p<0.01$) between the groups. Finally, Panel C shows that aside from board meeting frequency (*BoardMeet*), significant differences are observed in the mean and/or median for board size (*BoardSize*), board independence (*BoardInd*), firm size (*LnSIZE*), auditor type (*BIG4*), financial leverage (*LEV*), return on equity (*ROE*), and market-to-book ratio (*MTB*).

Table 6.6. Differences in mean and median between *LOSS* firms and non-*LOSS* firms

	Mean			Median		
Variable	*LOSS*=1	*LOSS*=0	t-stat.	*LOSS*=1	*LOSS*=0	z-stat.
Panel A: Dependent variable						
PERSIST	−0.456	0.510	18.847 ***	−0.204	0.425	15.926 ***
Panel B: Independent test variables						
LBZD	0.585	0.362	(18.254)***	1.000	0.000	
RoyDir	0.311	0.394	(2.583)**	0.000	0.000	
InstOwn	0.056	0.103	2.487**	0.000	0.000	3.625 ***
Panel C: Independent Control variables						
BoardSize	2.048	2.097	2.561**	2.079	2.197	2.175**
BoardInd	0.553	0.489	−3.600 ***	0.500	0.429	−3.090 ***
BoardMeet	1.654	1.617	-0.929	1.609	1.609	-1.549
LnSIZE	0.462	0.617	2.974 ***	0.000	1.000	2.956 ***
ManOwn	4.599	5.755	6.386 ***	4.827	5.754	5.660 ***
BIG4	0.038	0.086	(8.749)***	0.002	0.025	
LEV	0.307	0.231	−3.489 ***	0.340	0.218	−2.929 ***
ROE	0.435	0.131	−0.976	-0.087	0.110	15.623 ***
MTB	6.513	2.542	−7.012***	2.091	1.763	−1.868*
Observations	106	530		106	530	

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = the percentage of shares of the firm i owned by institutional investors at the time period t; $BoardSsize_{it}$ = the number directors sitting on board of firm i at the time period t; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $BoardMeet_{it}$ = the frequency of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio, calculated as the market value of equity divided by the book value of equity of firm i at the time period t. *, **, and *** denotes significance level at 10%, 5%, and 1%, respectively. Numbers in parentheses denote chi-squared tests.

6.5 Multivariate regression analysis of earnings persistence model

This section discusses multivariate regression results for the earnings persistence model. Table 6.7 presents initial results testing the hypotheses *H1*, *H2*, *H2A*, *H3*, and *H3A* outlined in Chapter 5. Pooled ordinary least-squares (*OLS*) estimation is used across all regression models using robust *t*-statistics clustered at the firm level. [26] In addition, industry and year dummies are included to control for their fixed effects.

6.5.1 Regression results for earnings persistence (*PERSIST*) and control variables

Column 1 of Table 6.7 reports the regression analysis results when only the control independent variables are regressed against the dependent variable: earnings persistence (*PERSIST*). The results from this regression reveal that the estimated coefficient on board size, which is denoted by the variable (*LnBoardSize*), is positive but statistically insignificant for *PERSIST* as the dependent variable (0.063, $t = 0.610$, $p>0.1$). These findings could be due to the fact that prior studies are inconclusive and inconsistent about the impact of board size on the quality of earnings (e.g., Abdul Rahman & Ali, 2006; Peasnell et al., 2005). Contrary to expectations, the estimated coefficient for board independence, which is denoted by the variable (*BoardInd*), is negative and insignificant (−0.037, $t= -0.314$, $p>0.1$), thus failing to support the prediction that a higher proportion of independent board members in Saudi firms will improve the quality of earnings. One possible explanation for the negative and insignificant association between board independence and earnings persistence is that non-executive outside directors in the Saudi context may lack real independence, as argued by Demb and Neubauer (1992). The results also show that the frequency of board meetings, which is indicated by the variable (*LnBoardMeet*), is significantly and positively related to *PERSIST* (0.110, $t = 2.372$, $p<0.05$). This finding is consistent with the argument raised by Vafeas (1999) that an active board is more likely to devote time to perform its responsibilities in accordance with shareholders' best interests relative to an inactive board. It is also in conformity with Xie et al.'s (2003) finding that board meeting frequency is associated with less earnings management and high earnings quality.

[26] To account for the correlation of error terms across time and firms, Petersen (2009) recommends using robust standard errors clustered at the firm level.

Further analysis of column 1 reveals that the estimated coefficient for a big four auditor, which is denoted by the dummy variable (*BIG4*), is significantly and positively related to earnings persistence (*PERSIST*) at the 5% level (0.100, t = 2.328, p<0.05). These findings are consistent with prior literature (Balsam et al., 2003; Becker et al., 1998; Behn et al., 2008; Francis et al., 1999; Johnson et al., 2002; Watts & Zimmerman, 1986), suggesting that higher-quality auditors reduce information asymmetry, improve the performance of analysts' earnings forecasts, help constrain earnings management, and improve reporting quality. Moreover, consistent with expectations, the estimated coefficient for firm size, which is denoted by the variable (*LnSIZE*), is positively and statistically associated with earnings persistence (*PERSIST*) (0.163, t = 9.857, p<0.01). This result is also in agreement with prior literature (Baginski et al., 1999; Bathke et al., 1989; Dechow & Dichev, 2002; Martin, 1988), suggesting that larger-sized firms have higher levels of earnings persistence (higher earnings quality). Additionally, this result is consistent with the argument raised by Watts and Zimmerman (1990) that larger firms are expected to bear greater political costs and are subject to greater public scrutiny, and thus are less likely to report lower quality earnings information.

Next, the estimated coefficient on managerial share ownership, which is indicated by the continuous variable (*ManOwn*), is positively and statistically significant with earnings persistence (*PERSIST*) (0.480, *t* =3.147, p<0.01). This result is consistent with the view that high levels of managerial ownership help solve the agency problem by aligning the interests of managers with that of shareholders (Jensen & Meckling, 1976). It is also in conformity with prior studies that find that managerial ownership is positively associated with higher firm performance and earnings quality (e.g., McConnell & Servaes, 1990; Warfield et al., 1995). Further, as expected, the results show that the coefficient for (*LOSS*) is negative and statistically significant (−0.349, *t* = 7.453, p<0.01). This is consistent with the view that firms incorporating economic losses have a greater likelihood of reporting a significantly less persistent stream of earnings (Basu, 1997; Frankel & Litov, 2009; Hayn, 1995). The estimated coefficient for firm's financial leverage, which is indicated by the variable (*LEV*), is negative and statistically significant (−1.167, *t* = 9.029, p<0.01). This result is consistent with prior studies (Jiang et al., 2010; Choi et al., 2014; Dechow & Skinner, 2000), indicating that highly leveraged firms are more likely to report highly managed earnings (less quality and persistent earnings) than their counterparts. The estimated

coefficient on return on equity, which is indicated by the variable (*ROE*), is found to be positive and statistically significant (0.012, t = 3.387, p<0.01), indicating that firms with a higher return on equity exhibit higher quality and persistent earnings. Finally, the estimated coefficient for the equity ratio of market-to-book value, which is denoted by the variable (*MTB*), is found to be statistically insignificant with earnings persistence (0.003, t = 1.057, p>0.1). Industry and year dummies are constructed to control for industry effects and time periods effects respectively. The F-statistic is significant at the 1% level. The model explanatory power (Adjusted-R^2) is 0.476, indicating that 47.6% of the variance in the dependent variable (*PERSIST*) is explained by the independent control variables.[27] The average value for variance inflation factors (VIFs) is 2.12, indicating that multicollinearity is not a problem.[28]

6.5.2 Regression analysis of the relationship between large book-zakat differences (*LBZD*) and earnings persistence (*PERSIST*).

Column 2 of Table 6.7 reports the multivariate analysis examining the relationship between the magnitude of book-zakat differences and earnings persistence. The results reveal that firm-years identified as having large book-zakat differences (*LBZD*) exhibit significantly less persistent accounting earnings than small book-zakat differences (*SBZD*) firm-years. The estimated coefficient on the dummy variables *LBZD* is negative and statistically significant (−0.079, t = −2.097, p<0.05). In terms of economic significance, a one standard deviation increase in *LBZD* implies an 11.1% decline in earnings persistence.[29] These results support hypothesis *H1* and are consistent with the argument that when a firm exhibits large book-tax differences (LBTDs), the quality of its reported earnings is deteriorating (e.g., Hanlon, 2005; Blaylock et al., 2012; Tang & Firth 2012). The empirical results are also consistent with the theory that managers have incentives to exploit the inconsistency between book income (as determined by GAAP) and taxable income (as determined by the tax code) to report higher book income with the objective of achieving certain earnings thresholds while reporting lower taxable income with the objective of decreasing the amount of tax owed to the government (i.e., Desai, 2003; Ayers et al., 2010).

[27] The adjusted-R^2 results reported in columns 1–5 are relatively high; nonetheless, they are close to those reported in prior earnings persistence research (e.g., Blaylock et al., 2012; Dichev & Tang, 2009; Li, 2019; Oei et al., 2008).
[28] As a general rule, VIFs greater than 10 suggests serious multicollinearity (Chatterjee & Hadi, 2015).
[29] 11.1% = [(0.49 STD of LBZD)*−0.079 (regression coefficient on LBZDs)/ 0.349) (mean of *PERSIST*)].

Moreover, the findings are also consistent with prior research that links LBTDs to increased audit adjustments by IRS (Mills, 1998), more tax sheltering (Wilson, 2009), biased optimism in analysts' forecasts (Weber, 2009), lower credit ratings (Ayers et al., 2010), higher audit fees and audit risk (Hanlon et al., 2012), and higher borrowing costs (Moore & Xu, 2018). More importantly, the results are consistent with prior studies on zakat that find zakat reporting to provide incentives for opportunistic managerial behavior in the Saudi context. More specifically, it is consistent with the findings of Al-Moghaiwli (2001) and Habbash and Alghamdi (2015), who examine earnings management behavior in Saudi firms and find that managers of these firms perceive accounting for zakat as offering a self-serving opportunity, whereby they aim to gain private benefits that maximize their wealth. Collectively, these results strongly support hypothesis *H1*, which predicts that firms with large book-zakat differences (*LBZDs*) are more likely to report less persistent earnings than firms with small book-zakat differences (*SBZD*). Finally, the results from this analysis can be interpreted as evidence that both BTD and *BZD* are qualitatively similar in relation to their impact on firms' earnings persistence.

Further analysis of column 2 reveals that many of the independent control variables remain qualitatively similar to column 1 of Table 6.7, indicating that these controls are good predictors of earnings persistence. The F-statistic continues to remain significant at the 1% level. When *LBZD* is included in the model as a predictor of the dependent variable, the model explanatory power (Adjusted-R^2) increases slightly from 47.6% to 47.9%. Specifically, the adjusted-R^2 shows that 47.9% of the variance in the dependent variable (*PERSIST*) is explained by the explanatory variables used in the model. Finally, column 2 reveals that the average value for variance inflation factors (VIFs) is 2.08, indicating that multicollinearity is not a problem.

6.5.3 Regression analysis of the relationship between royal family board directors (*RoyDir*) and earnings persistence (*PERSIST*)

Column 3 of Table 6.7 reports the regression results of the association between royal family board directors, a proxy for political connections indicated by the dummy variable (*RoyDir*), and earnings persistence (*PERSIST*). The estimated coefficient for *RoyDir* is positive and significant (0.200, t = 5.154, $p<0.01$), indicating that firms whose boards include royal directors have higher earnings persistence than those with

no royal family directors on the board. The magnitude of the coefficient for *RoyDir* is economically significant. That is, an increase by one standard deviation in *RoyDir* is associated with a 27.85% increase in earnings persistence.[30] This result strongly supports hypothesis *H2*, outlined in Chapter 4, that predicts the presence of royal family members on corporate boards to be advantageous and thus positively related to earnings persistence.

The positive relationship observed is consistent with the argument raised by Fisman (2001) that political connections provide some leverage and support to firms by enhancing capital allocation and promoting accurate and timely information. Further, it is consistent with the view that establishing a political connection is a value-adding strategy that increases equity value (Faccio, 2006) and improves firms' performance and financial leverage (Boubakri et al., 2012). Additionally, this finding is similar to the view of Guedhami et al. (2014) that politically connected firms are eager to appoint a high-quality auditor that will presumably improve the quality of earnings reported by such firms, with the aim of assuring outside investors that rents stemming from political strategies do not exist. This result is also in line with the findings of Abdul Wahab et al. (2018) that political patronage through government-controlled institutional ownership is associated with reduced analysts forecast error (e.g., greater analyst forecast accuracy). Furthermore, these results support the conjecture that firms managed by family members face less severe agency problems between managers and shareholders, commonly referred to as Type I agency problems (Ali et al., 2007; Wang, 2006).

Interestingly, however, the finding differs from the conclusions of Gul (2006), Chaney et al. (2011), and Chen et al. (2010), all of whom link political connection with unfavorable corporate outcomes such as low earnings quality, high audit risk and audit cost, and low earnings forecast accuracy. The finding is also inconsistent with the argument made by Faccio et al. (2006) that politically connected firms are risky and have a high level of uncertainty. Finally, the results provide no support for the argument raised by Chen et al. (2010) that political connections worsen the information asymmetry between management and equity holders.

Further analysis of column 3 reveals that many of the independent control variables remain qualitatively similar to column 1 of Table 6.7, indicating that these

[30] 27.85% = [(0.486 STD of *RoyDir*)* 0.200 (regression coefficient on *RoyDir*)/ 0.349) (mean of *PERSIST*)].

controls are good predictors of earnings persistence. The F-statistic continues to remain highly significant at the 1% level. When the variable *RoyDir* is included in the model as a predictor of the dependent variable, the model explanatory power (Adjusted-R^2) increases slightly from 47.6% to 49.9%. Specifically, the adjusted-R^2 shows that 49.9% of the variance in the dependent variable (*PERSIST*) is explained by the explanatory variables used in the model. Finally, column 3 reveals that the average value for variance inflation factors (VIFs) is 2.09, indicating that multicollinearity is not a problem.

6.5.4 Royal family directors, *LBZDs*, and earnings persistence

Column 2 of Table 6.8 documents the impact of royal family board members on the relationship between *LBZD* and *PERSIST*. The results show that the coefficient for the two-way interaction term *LBZD*RoyDir* is positive and statistically significant at the 5% level (0.182, t = 2.496, p< 0.05). This result supports hypothesis *H2A*, which predicts that the presence of the royal family members on the board will mitigate (weaken) the negative association between *LBZD* and *PERSIST*. In terms of the magnitude of royal family directors' moderating effects, column 2 shows that a one standard deviation increase in *LBZD* is associated with a 6.37% reduction in earnings persistence (0.0637 = 0.490 STD of *LBZD* * 0.130 estimated coefficient on *LBZD*) in the absence of royal directors (*RoyDir* = 0), but with a 2.5% increase in earnings persistence (0.025 = 0.490 STD of *LBZD* * 0.182–0.130) when royal family directors are present on the board (*RoyDir* = 1). These results are consistent with prior studies that show political connections resulted in an improvement in various governance attributes and firms outcomes, including equity value (Fisman, 2001), stock prices (Faccio, 2006), future earnings and returns (Goldman et al., 2009; Cooper et al., 2010), operating performance, leverage and liquidity (Boubakri et al., 2012), and reported earnings quality (Batta et al., 2014). The positive relationship observed also supports the view that political connections help connected firms by providing access to lower corporate tax rates (Faccio, 2006), government bailouts during periods of financial turbulence (Faccio et al., 2006), more lenient monitoring from market regulators (Correia, 2014), access to debt financing at preferential lending terms (Claessens et al., 2008), and early avoidance of political uncertainties and potential government intervention (Pástor & Veronesi, 2013).

These results also suggest that royal family directors refrain from taking aggressive tax actions, which translates into book-zakat differences remaining within normal levels. For example, these results are consistent with the notion that earnings quality is improved and earnings manipulation activities are reduced when royal family individuals are present on boards (Ali et al., 2007; Jiraporn & DaDalt, 2009; Wang, 2006). The results are also consistent with the argument that family control reduces the Type I agency problem arising from the conflict between firms' managers and shareholders. Together, these results suggest that the appointment of royal individuals to corporate boards ensures good governance is practiced, aggressive tax reporting is discouraged, and high-quality and more persistent earnings are reported.

Further analysis of column 2 reveals that many of the independent control variables remain qualitatively similar to column 1 of Table 6.7, after introducing the interaction term *LBZD*RoyDir*. The F-statistic continues to remain significant at the 1% level. The Adjusted-R^2 of 0.535 presents the explanatory power of the regression model. Finally, column 2 reveals that the average value for variance inflation factors (VIFs) is 2.13, indicating that multicollinearity is not a problem.

6.5.5 Regression analysis of the relationship between institutional investors (*InstOwn*) and earnings persistence (*PERSIST*)

Column 4 of Table 6.7 reports the regression results of the relationship between institutional investors, which is indicated by a continuous predictor variable (*InstOwn*), and earnings persistence (*PERSIST*). The estimated coefficient for *InstOwn* is positive and statistically significant (0.353, t = 3.041, p<0.01). This finding provides support for hypothesis *H3*, which predicts that firms with a higher fraction of institutional ownership will have higher stream of earnings persistence and thus higher earnings quality. The magnitude of the coefficient on *InstOwn* is economically significant, showing that a one standard deviation increase in *InstOwn* is associated with an 18.30% increase in earnings persistence.[31] The positive relationship observed is consistent with previous studies that document a positive association between institutional investors and several corporate outcomes, including reported earnings quality (Velury & Jenkins, 2006), stock returns and profitability (McConnell & Servaes, 1990; Brous & Kini, 1994), selection of high-quality audit firms (Kane &

[31] 18.30% = [(0.181 STD of *InstOwn*)* 0.353 (regression coefficient on *InstOwn*)/ 0.349) (mean of *PERSIST*)].

Velury, 2004), informativeness of earnings (Jiambalvo et al., 2002), executive compensation schemes (Hartzell & Starks, 2003), operating performance (Cornett et al., 2007), corporate governance (Abdul Wahab et al., 2007), and dividend payouts (Benjamin et al., 2016).

The results are also consistent with the view that institutional investors are sophisticated (Jiambalvo et al.,2002; Bushee, 2001), large-sized (Jennings 2005), and thus can reduce agency costs (Shleifer & Vishny, 1986), constrain earnings management activities (Rajgopal et al., 1999; Chung et al., 2002; Sakaki et al., 2017), and limit tax avoidance activities (Khurana & Moser, 2013). Overall, the finding presented in column 4 is consistent with the active monitoring hypothesis, which predicts that institutional investors are active monitors who oversee their investee firms very carefully due to the magnitude of money they invest; it therefore supports hypothesis *H3* of this study. However, this finding conflicts with the private benefit hypothesis's suggestion that significant ownership by institutional inventors provides incentives to access private information that could be exploited for trading activities or self-serving purposes (Coffee, 1991; Kim, 1993; Koh, 2003).

Further analysis of column 4 reveals that many of the independent control variables remain qualitatively similar to column 1 of Table 6.7, indicating that these controls are good predictors of earnings persistence. The F-statistic continues to remain highly significant at the 1% level. When *InstOwn* is included in the model as a predictor of the dependent variable, the model explanatory power (Adjusted-R^2) increases slightly from 47.6% to 48.4%. Specifically, the adjusted-R_2 shows that 48.4% of the variance in the dependent variable (*PERSIST*) is explained by the explanatory variables used in the model. Finally, column 4 reveals that the average value for variance inflation factors (VIFs) is 2.12, indicating that multicollinearity is not a problem.

Column 5 of Table 6.7. documents the results of the regression when all three independent variables are entered into the regression model (that is, *LBZD*, *RoyDir*, and *InstOwn*) as predictors of earnings persistence (*PERSIST*) for the pooled sample. The findings remain qualitatively similar to those reported in columns 2, 3, and 4. Even though there is a slight decrease in the economic significance of the coefficients, they remain statistically significant across all three independent variables in their association with earnings persistence. The negative relationship between *LBZD* and *PERSIST* holds even in the presence of the other two independent variables. The

coefficient for *LBZD* is negative and significant (−0.071, t = −1.916, p<0.1). Further, both *RoyDir* and *InstOwn* continue to show signs in the predicted directions in their association with *PERSIST*, as shown by the coefficients for *RoyDir* (0.174, t = 4.580, p < 0.01) and *InstOwn* (0.243, t = 3.041, p < 0.05). Overall, the results presented in column 5 are in agreement with hypotheses *H1* to *H3*, as outlined in Chapter 4.

Further analysis of column 5 reveals that many of the independent control variables remain qualitatively similar to column 1 of Table 6.7, indicating that these controls are good predictors of earnings persistence. Moreover, the F-statistic continues to remain significant at the 1% level. When all three independent variables (*LBZD*, *RoyDir*, and *InstOwn*) are included in the model as predictors of the dependent variable, the model explanatory power (Adjusted-R^2) increases slightly from 47.6% to 50.3%. Specifically, the adjusted-R^2 shows that 50.3% of the variance in the dependent variable (*PERSIST*) is explained by the explanatory variables used in the model. Finally, column 5 reveals that the average value for variance inflation factors (VIFs) is 2.07, indicating that multicollinearity is not a problem.

6.5.6 Institutional investors, *LBZDs*, and earnings persistence

Column 3 of Table 6.8 documents the impact of institutional ownership on the relationship between *LBZD* and *PERSIST*. The results show that the coefficient for the two-way interaction term *LBZD*InstOwn* is positive and statistically significant (β3 > 0) at the 1% level (0.574, t = 3.69, p<0.01). The results support hypothesis *H3A*, indicating that a higher level of institutional ownership in the firm moderates (weakens) the negative association between *LBZD* and *PERSIST*. In terms of the magnitude of institutional investors moderating effects, column 3 shows that a one standard deviation increase in *LBZD* is associated with a 6.86% (0.0686 = 0.490 STD of *LBZD* * 0.140 estimated coefficient on *LBZD*) reduction in earnings persistence, but this negative association is reversed (increased by 21.26%) when the interaction term *LBZD*InstOwn* is included in the regression.[32]

These results are consistent with the active monitoring hypothesis – that is, that institutional investors play an active role in monitoring management activities, notably those related to the financial reporting process. Stated differently, while firms with large book-zakat differences exhibit less persistent earnings (low levels of

[32] 21.26% = [0.2126 = 0.490 STD of LBZD *(est. coef on LBZD*InstOwn 0.574 – est. coef on LBZD 0.140)]

transparency), these effects are significantly attenuated when they have a high level of institutional ownership. This suggests that institutional investors do enhance monitoring when they have high interests in the firm. Moreover, due to their scale (Jennings, 2005), expertise in analyzing financial statement information (Jiambalvo et al., 2002), and ability to protect minority shareholders (Abdul Wahab et al., 2007), intuitional investors do take an effective role in monitoring their investee firms.

Further analysis of column 3 reveals that many of the independent control variables remain qualitatively similar to column 1 of Table 6.7, after introducing the interaction term *LBZD*InstOwn*. The F-statistic continues to remain significant at the 1% level. The Adjusted-R^2 of 0.533 presents the explanatory power of the regression model. Finally, column 3 reveals that the average value for variance inflation factors (VIFs) is 2.19, indicating that multicollinearity is not a problem.

To further evaluate the impact of royal family directors and institutional ownership on the relationship between *LBZD* and *PERSIST*, in column 4 of Table 6.8. the interaction terms *LBZD*RoyDir* and *LBZD*InstOwn* are both entered into the same regression model. The results show that the coefficient estimates for the two-way interaction term *LBZD*RoyDir* become statistically insignificant in column 2 (0.082, $t = 1.105$, $p>0.1$). Meanwhile, the results show that the coefficient estimates for the two-way interaction term *LBZD*InstOwn* remain positive and statistically significant (0.438, $t = 2.884$, $p<0.01$). Overall, these results suggest that the moderating effects played by royal family board members on the association between *LBZD* and *PERSIST* is weaker than that played by institutional investors. Further analysis of column 4 reveals that many of the independent control variables remain qualitatively similar to column 1 of Table 6.7, after introducing the two-way interaction terms (that is, *LBZD*RoyDir* and *LBZD*InstOwn*). The F-statistic continues to remain significant at the 1% level. The Adjusted-R^2 of 0.541 presents the explanatory power of the regression model. Finally, column 4 reveals that the average value for variance inflation factors (VIFs) is 2.25, indicating that multicollinearity is not a problem.

Table 6.7. Multiple regression analysis of earnings persistence model

		Dependent variable = *PERSIST*				
Variable	Pred. sign	(1)	(2)	(3)	(4)	(5)
LBZD	−		-0.079**			-0.071*
			(-2.097)			(-1.916)
RoyDir	+			0.200***		0.174***
				(5.154)		(4.580)
InstOwn	+				0.353***	0.243**
					(3.041)	(2.165)
LnBoardSize	?	0.063	0.053	-0.043	0.033	-0.058
		(0.610)	(0.520)	(-0.420)	(0.326)	(-0.573)
BoardInd	+	-0.037	-0.024	-0.055	-0.015	-0.026
		(-0.314)	(-0.205)	(-0.484)	(-0.130)	(-0.230)
LnBoardMeet	+	0.110**	0.112**	0.090*	0.080*	0.074
		(2.372)	(2.439)	(1.963)	(1.694)	(1.591)
BIG4	+	0.100**	0.098**	0.119***	0.090**	0.108**
		(2.328)	(2.301)	(2.805)	(2.111)	(2.556)
LnSIZE	+	0.163***	0.167***	0.153***	0.153***	0.151***
		(9.857)	(10.077)	(9.395)	(9.120)	(9.100)
ManOwn	?	0.480***	0.492***	0.482***	0.569***	0.554***
		(3.147)	(3.256)	(3.461)	(3.635)	(3.862)
LOSS	−	-0.349***	-0.329***	-0.340***	-0.337***	-0.315***
		(-7.453)	(-6.905)	(-7.280)	(-7.256)	(-6.607)
LEV	−	-1.167***	-1.194***	-1.080***	-1.140***	-1.097***
		(-9.029)	(-9.004)	(-8.526)	(-8.868)	(-8.466)
ROE	?	0.012***	0.012***	0.010***	0.012***	0.011***

		(3.387)	(3.610)	(2.895)	(3.590)	(3.295)
MTB	?	0.003	0.004	0.004	0.003	0.004
		(1.057)	(1.276)	(1.249)	(0.856)	(1.291)
Constant	?	-0.772***	-0.742***	-0.576**	-0.684***	-0.514**
		(-2.979)	(-2.883)	(-2.224)	(-2.664)	(-2.003)
Observations		636	636	636	636	636
Industry & Year		YES	YES	YES	YES	YES
Adj. R^2		0.476	0.479	0.499	0.484	0.503
F-statistic		26.34	25.61	28.23	25.99	26.81
VIF mean		2.12	2.08	2.09	2.12	2.07

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $_{LnSIZEit}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a loss at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio, calculated as the market value of equity divided by the book value of equity for firm i at the time period t. Numbers in parentheses represent *t*-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

Table 6.8. The moderating effects of royal family directors and institutional investors on the negative relationship between *LBZD* and *PERSIST*

		Dependent variable = *PERSIST*			
Variable	Pred. sign	(1)	(2)	(3)	(4)
LBZD	−	-0.071*	-0.130***	-0.140***	-0.144***
		(-1.916)	(-2.746)	(-3.645)	(-3.012)
RoyDir	+	0.174***	0.107***		0.108***
		(4.580)	(2.967)		(3.087)
InstOwn	+	0.243**		0.122	0.069
		(2.165)		(0.948)	(0.576)
*LBZD*RoyDir*	+		0.182**		0.082
			(2.496)		(1.105)
*LBZD*InstOwn*	+			0.574***	0.438***
				(3.691)	(2.884)
LnBoardSize	?	-0.058	0.011	0.079	0.012
		(-0.573)	(0.117)	(0.848)	(0.125)
BoardInd	+	-0.026	0.129	0.175	0.154
		(-0.230)	(1.062)	(1.462)	(1.264)
LnBoardMeet	+	0.074	0.063	0.054	0.047
		(1.591)	(1.243)	(1.025)	(0.919)
BIG4	+	0.108**	0.056	0.040	0.054
		(2.556)	(1.603)	(1.115)	(1.528)
LnSIZE	+	0.151***	0.118***	0.116***	0.112***
		(9.100)	(6.853)	(6.865)	(6.538)
ManOwn	?	0.554***	0.362***	0.491***	0.451***

		(3.862)	(2.819)	(3.305)	(3.364)
LOSS	–	-0.315***	-0.606***	-0.598***	-0.597***
		(-6.607)	(-8.662)	(-8.592)	(-8.578)
LEV	–	-1.097***	-0.860***	-0.870***	-0.833***
		(-8.466)	(-7.122)	(-7.670)	(-7.069)
ROE	?	0.011***	-0.023***	-0.019**	-0.021**
		(3.295)	(-2.592)	(-2.132)	(-2.406)
MTB	?	0.004	-0.013*	-0.013*	-0.013*
		(1.291)	(-1.888)	(-1.960)	(-1.888)
Constant	?	-0.514**	-0.364	-0.501*	-0.368
		(-2.003)	(-1.340)	(-1.871)	(-1.360)
Observations		636	636	636	636
Industry & Year		Yes	Yes	Yes	Yes
Adj. R^2		0.503	0.535	0.533	0.541
F-statistics		26.81	20.38	21.8	21.51
VIF Mean		2.07	2.13	2.19	2.25

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; *LBZD*RoyDir* = Two-way interaction term between large book-zakat differences ($LBZD_{it}$) and royal family directors ($RoyDir_{it}$); *LBZD*InstOwn* = Two-way interaction term between large book-zakat differences ($LBZD_{it}$) and institutional ownership ($InstOwn_{it}$); $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio of firm i at the time period t. Numbers in parentheses represents t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively

6.6 Summary of chapter

Chapter 6 commences by tabulating basic descriptive statistics of the dependent variable, independent variables, and control variables, respectively. Subsequently, the correlation analysis is presented, followed by univariate tests of differences of means and medians. The next section focuses on the main empirical results by reporting and discussing the multivariate regression analysis of each hypothesis. Finally, a summary is presented at the end of the chapter.

CHAPTER 7: ADDITIONAL ANALYSIS AND ENDOGENEITY TESTS

7.1 Overview of chapter

Chapter 7 discusses the additional analyses and sensitivity tests performed to ascertain the robustness of the main results discussed in Chapter 6. Initially, alternative measures for each of the independent variables are introduced. Subsequently, the regression analysis of the main results are re-performed after excluding loss firms from the sample. Alternative scalars for earnings are presented next, followed by assessment of earnings persistence in the long term using two and three year ahead earnings. Alternative control variables and additional control variables are presented next. Finally, the two-stage Hackman and propensity score matching (PSM) sample selection tests are performed to overcome possible endogeneity associated with royal family board members, before the chapter concludes with a summary.

7.2 Alternative measures for large book-zakat differences (*LBZD*)

Alternative measures of book-zakat differences (*BZDs*) are introduced to ensure the robustness of the initial empirical results reported in Chapter 6. In the main analysis documented in Chapter 6, the first independent variable, (*LBZD*), was a dummy variable that takes the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise. In line with prior studies (e.g., Hanlon et al., 2012; Moore & Xu, 2018), however, in the additional analysis, I measure *BZDs* in terms of both (1) the absolute value of *BZDs*, scaled by the number of outstanding shares (*AbsBZD*), and (2) the natural log transformation of absolute book-zakat differences (*LnAbsBZD*). Columns 1 and 2 of Table 7.1 show that the directionality and magnitude of the coefficients for *AbsBZD* and *LnAbsBZD* are comparable to the estimated coefficient for the *LBZD* variable reported in column 2 of Table 6.7 in Chapter 6. The results in column 1 of Table 7.1 show that there is an inverse relationship between large book-zakat differences, as indicated by the variable *AbsBZD* and earnings persistence (*PERSIST*). The coefficient for *AbsBZD* is negative and statistically significant at the 1% level (−0.077, t = −5.049). Likewise, column 2 shows that this negative relationship continues to hold, as expressed by the negative and significant coefficient for *LnAbsBZD* at the 5% significance level (−0.091, t = −2.359). Overall, these results remain robust to each alternative specification. These results support hypothesis *H1*

and confirm the underlying results reported in Chapter 6. The results suggest that any unusual or large differences between a firm's book income and its zakatable income are indicative of lower earnings quality as captured by persistence. Relative to the regression model reported in column 2 of Table 6.7, the explanatory power of the regression models presented in Table 7.1 is higher (e.g., the adjusted R^2 is 47.9% compared to 59.4%). Finally, the VIF mean is less than 3 across all specifications, indicating that multicollinearity does not appear to be an issue.

Table 7.1. Regression results using alternative measures for *BZDs*

		Dependent variable = *PERSIST*	
Variable	Pred. sign	(1)	(2)
AbsBZD	−	-0.077***	
		(-5.049)	
LnAbsBZD	−		-0.091**
			(-2.359)
LnBoardSize	?	0.011	0.132
		(0.130)	(1.370)
BoardInd	+	0.300***	0.148
		(2.631)	(1.237)
LnBoardMeet	+	0.127***	0.083
		(2.762)	(1.555)
BIG4	+	0.007	0.034
		(0.201)	(0.963)
LnSIZE	+	0.158***	0.142***
		(9.995)	(7.994)
ManOwn	?	0.443***	0.366**
		(3.228)	(2.535)
LOSS	−	-0.521***	-0.607***
		(-10.114)	(-8.652)
LEV	−	-0.936***	-0.887***
		(-8.427)	(-7.755)
ROE	?	-0.018***	-0.021**
		(-3.073)	(-2.342)
MTB	?	0.009	-0.014**
		(1.423)	(-2.066)
Constant	?	-0.766***	-0.693**
		(-3.130)	(-2.531)
Observations		636	636
Industry & Year		YES	YES
Adj. R^2		0.594	0.516
F-Statistic		27.03	19.66
VIF mean		2.16	2.12

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$; $AbsBZD_{it}$ = Book-zakat differences in absolute value, scaled by the number of outstanding shares of firm i at the time period t; $LnAbSBZD_{it}$ = The natural log transformation of $AbsBZD$ it of firm i at the time period t; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio of firm i at the time period t. Numbers in parentheses represent t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

7.3 Alternative proxies for political connections of royal family directors

Apart from relying on a dummy variable to measure the political connections of royal family directors, one might argue that the strength of such connections also matters. As illustrated in Chapter 6, royal family directors' political connection was proxied by the presence of royal family members on firm boards (*RoyDir*), which was given a score of 1 if a firm had a royal family member on the board, and 0 otherwise. In addition to using a dummy variable in the main analysis of Chapter 6, the study also introduces alternative measures to ensure the robustness of the main results as well as to draw a distinction in the strength of the connections associated with royal family directors. Specifically, the study introduced the following three measures: (1) based on the actual number of royal directors on the board as a fraction of the total number of board members (*RoyNum*); (2) based on whether a royal family member is the firm's chairman (*RoyChair*), given the value of 1 if present, 0 otherwise; and (3) based on whether a royal family member holds ownership in the firm's equity (*RoyOwn*), given the value of 1 if present, 0 otherwise. These alternative measures have been used in prior studies on royal family board members in the GCC region (see for example (Al-Hadi et al., 2016; Al-Nasser, 2019: Houston et al., 2014).

Table 7.2 shows that each of the three alternative proxies yields qualitatively similar results to those reported in Column 3 of Table 6.7. Specifically, Column 1 shows that the estimated coefficient for *RoyNum* is positive and statistically significant (0.483, t= 2.447, p<0.05). Also, the estimated coefficient for *RoyChair* is positive and statistically significant (0.130, t= 3.401, p<0.01). Moreover, the estimated coefficient for *RoyOwn* is positive and statistically significant (0.081, t= 1.915, p<0.100). Overall, these results are consistent with the expectation that royal family directors serving on the firm boards are advantageous. Overall, these results remain robust to each alternative specifications. These results are in agreement with hypothesis *H2* and provide support to the underlying results reported in Chapter 6, indicating that firms with political connections report higher earnings persistence, indicating higher earnings quality, as opposed to non-connected firms. Relative to the regression model reported in column 3 of Table 6.7, the explanatory power of the regression models presented in Table 7.2 are closely matched (e.g., the adjusted R^2 is 49.9% compared to 51.6%). The VIF mean is less than 3 across all specifications, indicating that multicollinearity does not appear to be an issue.

Table 7.2. Regression results using alternative measures for royal family directorship

		Dependent variable= *PERSIST*		
Variable	Pred. sign	(1)	(2)	(3)
RoyNum	+	0.483**		
		(2.447)		
RoyChair	+		0.130***	
			(3.401)	
RoyOwn	+			0.081*
				(1.915)
LnBoardSize	?	0.095	0.075	0.091
		(0.976)	(0.760)	(0.934)
BoardInd	+	0.134	0.112	0.126
		(1.106)	(0.920)	(1.041)
LnBoardMeet	+	0.085	0.088*	0.091*
		(1.627)	(1.678)	(1.734)
BIG4	+	0.046	0.047	0.042
		(1.285)	(1.310)	(1.168)
LnSIZE	+	0.126***	0.125***	0.129***
		(7.234)	(7.223)	(7.312)
ManOwn	?	0.332**	0.302**	0.357***
		(2.434)	(2.321)	(2.597)
LOSS	−	-0.640***	-0.637***	-0.636***
		(-8.821)	(-8.811)	(-8.774)
LEV	−	-0.842***	-0.833***	-0.857***
		(-7.318)	(-7.273)	(-7.445)
ROE	?	-0.021**	-0.022**	-0.021**
		(-2.377)	(-2.422)	(-2.361)
MTB	?	-0.013*	-0.013**	-0.014**
		(-1.952)	(-1.965)	(-2.057)
Constant	?	-0.603**	-0.569**	-0.616**
		(-2.193)	(-2.057)	(-2.244)
Observations		636	636	636
Industry & Year		YES	YES	YES
Adj. R^2		0.516	0.519	0.515
F-Statistics		19.96	20.26	19.82
VIF mean		2.08	2.09	2.09

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta_0 + \beta_1 Earn_{it} + \varepsilon_{it}$; $RoyNum_{it}$ = The proportion of the number of royal directors on firm's board of firm i at the time period t; $RoyChair_{it}$ = A dummy variable assigned the value of 1 if a firm's chair is a royal family member, otherwise 0; $RoyOwn_{it}$ = A dummy variable assigned the value of 1 if a royal director has an ownership in the firm's equity shares, otherwise 0; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio of firm i at the time period t. Numbers in parentheses represent t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

7.4 Partitioning institutional investors by type

In the initial analysis of hypothesis *H3*, it is assumed that institutional investors are homogeneous in their objectives and/or the nature of their investments. Institutional investors come in a variety of forms and differ in terms of their size, legal and regulatory framework, and objectives (Abdul Wahab et al., 2009). For this reason, I partition institutional investors based on whether or they are controlled by the Saudi government into governmental institutions (*GovOwn*) and non-governmental (*NonGovOwn*). Table 7.3 column 1 shows the regression results of the impact of *GovOwn* on earnings persistence. The coefficient for *GovOwn* (0.296, t =2.341, $p<0.05$) is positively and statistically significant with *PERSIST*. Column 2 shows the regression results of the impact of *NonGovOwn* on earnings persistence. The coefficient for *NonGovOwn* (0.760, t = 4.568, $p<0.01$) is positively and statistically significant with *PERSIST*. In terms of the economic significance of the coefficient, an increase by one standard deviation in *GovOwn* is associated with a 12.3% increase in earnings persistence.[33] Meanwhile, an increase by one standard deviation in *NonGovOwn* is associated with a 19.5% increase in earnings persistence.[34] Generally, these results support the initial results reported in column 4 of Table 6.7 of Chapter 6. Interestingly, however, the estimated coefficient for the variable *NonGovOwn* is larger than that for the variable *GovOwn,* indicating that institutional investors are not homogeneous. The results show that non-government institutional investors play a greater role in monitoring their portfolio firms than do government institutional investors, suggesting that institutional investors' heterogeneity leads to varying levels of activism, as the literature suggests (Ryan & Schneider, 2002, 2003). Moreover, the variation of the economic significance can be attributed to the fact that government shareholdings commonly tend to gain social, political, and other short-term goals, rather than profit maximization (Shleifer & Vishny, 1993, 1994).

Additionally, I construct a dummy variable (*GovOwn>15%*) that is coded as 1 if total government ownership is more than 15% of the firm, 0 otherwise. Likewise, I construct a dummy variable (*NonGovOwn>15%)* that is coded as 1 if the total non-governmental ownership is more than 15%, 0 otherwise. The 15% threshold is selected because prior studies have argued that an equity ownership level ranging between 5%

[33] 12.3% = [(0.145 STD of *GovOwn*)* 0.296 (regression coefficient on *InstOwn*)/ 0.349) (mean of *PERSIST*)].
[34] 19.5% = [(0.089 STD of *NonGovOwn*)* 0.760 (regression coefficient on *InstOwn*)/ 0.349) (mean of *PERSIST*)].

and 20% is optimal for an effective institutional monitoring role in emerging markets (Lins, 2003). Column 3 shows that the coefficient for *GovOwn>15%* is positive but insignificant ($p>0.1$). However, the coefficient for *NonGovOwn>15%* (0.196, $t = 3.705$, $p<0.01$) is positive and statistically significant with *PERSIST*. These findings are consistent with those of Abdul Wahab et al. (2007), who finds that a significant level of ownership by institutional investors is associated with transparent corporate reporting. Finally, relative to the regression model reported in column 4 of Table 6.7, the explanatory power of the regression models presented in Table 7.3 is higher (e.g., the adjusted R2 is 48.4% compared to 51.6%). The VIF mean is less than 3 across all specifications, indicating multicollinearity does not appear to be an issue.

Table 7.3. Regression results partitioning institutional investors by type

		Dependent variable= *PERSIST*				
Variable	Pred. sign	(1)	(2)	(3)	(4)	(5)
GovOwn	?	0.296**				0.577***
		(2.341)				(2.741)
NonGovOwn	?		0.760***			0.630**
			(4.568)			(2.398)
GovOwn>15%	?			0.076		-0.161**
				(1.419)		(-1.973)
NonGovOwn>15%	?				0.196***	0.051
					(3.705)	(0.579)
LnBoardSize	?	0.124	0.058	0.115	0.115	0.086
		(1.284)	(0.611)	(1.190)	(1.204)	(0.922)
BoardInd	+	0.149	0.132	0.138	0.163	0.159
		(1.226)	(1.092)	(1.140)	(1.355)	(1.304)
LnBoardMeet	+	0.062	0.071	0.070	0.071	0.057
		(1.156)	(1.350)	(1.298)	(1.353)	(1.058)
BIG4	+	0.029	0.041	0.030	0.036	0.039
		(0.811)	(1.159)	(0.835)	(1.021)	(1.090)
LnSIZE	+	0.119***	0.121***	0.124***	0.125***	0.113***
		(6.702)	(6.917)	(7.024)	(7.124)	(6.321)
ManOwn	?	0.414***	0.427***	0.401***	0.417***	0.451***
		(2.839)	(3.014)	(2.731)	(2.903)	(3.091)
LOSS	−	-0.632***	-0.622***	-0.631***	-0.623***	-0.622***

		(-8.785)	(-8.613)	(-8.757)	(-8.658)	(-8.694)
LEV	–	-0.843***	-0.885***	-0.862***	-0.891***	-0.851***
		(-7.354)	(-7.696)	(-7.560)	(-7.689)	(-7.269)
ROE	?	-0.020**	-0.019**	-0.020**	-0.020**	-0.019**
		(-2.274)	(-2.183)	(-2.279)	(-2.305)	(-2.193)
MTB	?	-0.014**	-0.013*	-0.014**	-0.014**	-0.013*
		(-2.053)	(-1.951)	(-2.029)	(-2.098)	(-1.962)
Constant	?	-0.589**	-0.516*	-0.581**	-0.603**	-0.552**
		(-2.152)	(-1.919)	(-2.107)	(-2.237)	(-2.038)
Observations		636	636	636	636	636
Industry & Year		YES	YES	YES	YES	YES
Adj. R^2		0.516	0.523	0.514	0.520	0.525
F-statistics		20.12	20.35	19.72	19.83	19.49
VIF mean		2.11	2.1	2.09	2.08	2.5

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$; $GovOwn_{it}$ = The total equity shareholdings owned by a governmental institutional investor of firm i at the time period t; $NonGovOwn_{it}$ = The total equity shareholdings owned by a non-governmental institutional investor of firm i at the time period t; $GovOwn>15\%_{it}$ = A dummy variable assigned the value of 1 if the total government ownership is more than 15% in the firm, 0 otherwise; $NonGovOwn>15\%_{it}$ = A dummy variable assigned the value of 1 if the total non-governmental ownership is more than 15% in the firm, 0 otherwise; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio of firm i at the time period t. Numbers in parentheses represent t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

7.5 Excluding LOSS firms (*LOSS*)

Table 7.4 shows the regression analysis of the earnings persistence model after excluding loss firms. This exclusion results in the number of observations being 530 firm-year observations, while in the main analysis there were 636 firm-year observations. The objective of this test is to investigate whether the main results remain robust with the exclusion of loss firms.

Prior studies have suggested that losses have an impact on the persistence of earnings for a number of reasons. First, loss is immediately recognized in firms' income as opposed to profit by including unrealized losses in the current earnings and subsequently converting a series of future losses into a single transitory loss transaction (Basu, 1997). Second, losses can also arise from eliminating assets that generate such losses (Hayn, 1995). Third, losses can also arise from unexpected negative shocks such as natural disasters or technological developments (Frankel & Litov, 2009). In line with prior studies (e.g., Tang & Firth, 2012), to remove the effect of excluding loss firms on regression analysis, I re-rank the sample into five quintiles based on the number of the remaining 530 firm-year observations, in which the top two quintiles represent the *LBZD* subsample while the bottom three represent *SBZD* subsample.

Table 7.4 presents the regression analysis results after excluding loss firms. The coefficients for the independent tests variables *LBZD*, *RoyDir*, and *InstOwn* are of the same directionality as those for corresponding variables presented in Table 6.7, with closely matched statistical significance levels. Specifically, column 1 shows that the coefficient for *LBZD* is negative and statistically significant (−0.045, t = −1.706, $p < 0.1$). This result supports hypothesis *H1* and is consistent with the expectation that that large book-zakat differences indicate less quality and less persistent earnings. Column 2 shows that the coefficient for *RoyDir* is positive and statistically significant (0.111, t = 4.546, $p < 0.01$), providing support for hypothesis *H2* and consistent with the argument that the connections of royal family members provide beneficial effects to the firm, thereby improving the persistence of earnings. Moreover, column 3 reveals that the coefficient for *InstOwn* is positive and statistically significant (0.263, t = 2.887, $p < 0.01$), providing support for hypothesis *H3* and consistent with the argument that large shareholders (i.e., institutional investors) play a monitoring role, reduce agency costs, and thus improve the quality and persistence of earnings. Additionally, column 5 shows that the coefficient for the two-way interaction term *LBZD*RoyDir* continues

to remain positive but becomes statistically insignificant (0.076, t = 1.347, p > 0.1). Column 6 shows that the coefficient for the two-way interaction term *LBZD*InstOwn* is positive and statistically significant (0.425, t = 3.057, p< 0.01), providing support for hypothesis *H3A* and indicating that larger levels of institutional ownership weaken the negative association between *LBZD* and *PERSIST*. Overall (with the exception of the effect of the two-way interaction term *LBZD*RoyDir*), the results remain robust to this alternative specification and clearly support the primary results presented in Chapter 6.

Further review of Table 7.4 shows that the value of VIF is less than 3 across all specifications, meaning multicollinearity does not appear to be an issue. Additionally, compared to regression results reported in Tables 6.7 and 6.8 in Chapter 6, the explanatory power of the regression models reported in columns 1–7 of Table 7.4 (after excluding loss firms) are higher (e.g., the adj. R^2 ranges from 47.6% to 54.1% compared to 61.1% and 63.7%), suggesting that this exclusion adds explanatory power to the model.

Table 7.4. Regression results after excluding loss firms

		Dependent Variable = *PERSIST*						
Variable	Pred. sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LBZD	−	-0.045*			-0.033	-0.055*	-0.092***	-0.076***
		(-1.706)			(-1.300)	(-1.922)	(-3.432)	(-2.592)
RoyDir	+		0.111***		0.091***	0.084***		0.086***
			(4.546)		(3.697)	(3.065)		(3.148)
InstOwn	+			0.263***	0.213**		0.076	0.030
				(2.887)	(2.395)		(0.797)	(0.318)
*LBZD*RoyDir*	+					0.076		0.008
						(1.347)		(0.150)
*LBZD*InstOwn*	+						0.425***	0.402***
							(3.057)	(2.864)
LnBoardSize	?	-0.011	-0.055	-0.017	-0.063	-0.060	-0.026	-0.062
		(-0.165)	(-0.814)	(-0.255)	(-0.931)	(-0.881)	(-0.399)	(-0.922)
BoardInd	+	0.026	-0.003	0.064	0.026	-0.012	0.047	0.015
		(0.326)	(-0.037)	(0.798)	(0.322)	(-0.156)	(0.581)	(0.182)
LnBoardMeet	+	0.081**	0.071**	0.063*	0.055	0.067**	0.068**	0.063*
		(2.455)	(2.172)	(1.841)	(1.626)	(2.081)	(2.037)	(1.913)
BIG4	+	0.019	0.033	0.016	0.026	0.035	0.024	0.035
		(0.678)	(1.170)	(0.561)	(0.907)	(1.229)	(0.864)	(1.245)
LnSIZE	+	0.087***	0.080***	0.078***	0.074***	0.078***	0.073***	0.070***
		(6.670)	(6.389)	(6.396)	(6.127)	(6.255)	(6.397)	(5.998)
ManOwn	?	0.133	0.120	0.189**	0.177**	0.108	0.190**	0.167**

		(1.627)	(1.570)	(2.310)	(2.297)	(1.382)	(2.294)	(2.131)
LEV	–	-0.610***	-0.527***	-0.552***	-0.542***	-0.559***	-0.591***	-0.546***
		(-7.419)	(-6.967)	(-7.132)	(-6.743)	(-6.907)	(-7.283)	(-6.851)
ROE	?	1.812***	1.791***	1.846***	1.783***	1.769***	1.808***	1.778***
		(6.719)	(6.695)	(6.608)	(6.431)	(6.577)	(6.505)	(6.435)
MTB	?	-0.002	-0.001	-0.003	-0.001	-0.000	-0.001	-0.000
		(-0.543)	(-0.324)	(-0.772)	(-0.359)	(-0.098)	(-0.367)	(-0.112)
Constant	?	-0.209	-0.155	-0.252	-0.125	-0.098	-0.153	-0.089
		(-0.878)	(-0.664)	(-1.079)	(-0.521)	(-0.416)	(-0.645)	(-0.371)
Observations		530	530	530	530	530	530	530
Industry & Year		YES	YES	YES	YES	YES	YES	YES
Adj. R^2		0.611	0.624	0.618	0.629	0.625	0.629	0.637
F-Statistics		37.45	44.35	33.14	37.06	40.3	32.84	37.61
VIF Mean		2.89	2.9	3	2.89	2.87	2.97	2.96

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta + \beta_1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio of firm i at the time period t. Numbers in parentheses represent t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

7.6 Using alternative scalar

As an additional check, I also assess whether the primary results reported initially in Tables 6.7 and 6.8 in Chapter 6 hold using alternative scalar. The dependent variable in the main analysis, earnings persistence, was derived from scaling earnings by the number of outstanding shares. However, following prior literature (i.e., Hanlon, 2005; Dechow et al., 2010: Tang & Firth, 2020) I scale earnings by average total assets. Overall, Table 7.5 shows that the magnitude and the directionality of coefficients based on the alternative scalar are predominantly consistent with those reported in the main analysis, as presented in Tables 6.7 and 6.8 of Chapter 6. In particular, columns 1–3 of Table 7.5 show that the coefficients for (*LBZD*), *RoyDir*, and *InstOwn* are (negative) positive, and statistically significant for *PERSIST* at the 1% level (−0.109, t = −3.990; 0.144, t = 5.154; 0.254, t = 3.041 respectively). These results provide support for hypotheses *H1*, *H2*, and *H3*. Further, columns 5 and 6 of Table 7.5 show that the coefficients for the two-way interaction terms *LBZD*RoyDir* and *LBZD*InstOwn* remain positive and statically significant at the 10% and 1% levels (0.095, t =1.787, $p < 0.1$; 0.371 t = 2.844, $p< 0.01$ respectively). These results provide support for hypotheses *H2A* and *H3A*.

Further review of Table 7.5 reveals that the value of VIF is less than 3 across all specifications, meaning multicollinearity does not appear to be an issue. Additionally, the explanatory power of the regression models is high as indicated by the high value of the Adjusted R^2, which ranges between 48.9% and 51.5%.

Table 7.5. Regression results using alternative scalar for earnings

		Dependent variable = *PERSIST*						
Variable	Pred. sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LBZD	−	-0.109***			-0.097***	-0.124***	-0.150***	-0.138***
		(-3.990)			(-3.672)	(-3.984)	(-5.236)	(-4.359)
RoyDir	+		0.144***		0.113***	0.099***		0.099***
			(5.154)		(4.162)	(3.040)		(3.127)
InstOwn	+			0.254***	0.196**		0.097	0.034
				(3.041)	(2.416)		(0.890)	(0.332)
*LBZD*RoyDir*	+					0.095*		0.035
						(1.787)		(0.650)
*LBZD*InstOwn*	+						0.371***	0.313**
							(2.844)	(2.410)
LnBoardSize	?	0.039	-0.031	0.024	-0.037	-0.036	0.006	-0.045
		(0.538)	(-0.420)	(0.326)	(-0.506)	(-0.502)	(0.080)	(-0.626)
BoardInd	+	-0.022	-0.039	-0.011	-0.021	-0.038	-0.015	-0.031
		(-0.275)	(-0.484)	(-0.130)	(-0.266)	(-0.481)	(-0.182)	(-0.386)
LnBoardMeet	+	0.079**	0.065*	0.057*	0.051	0.063*	0.059*	0.055*
		(2.406)	(1.963)	(1.694)	(1.532)	(1.936)	(1.801)	(1.667)
BIG4	+	0.067**	0.086***	0.065**	0.073**	0.084***	0.065**	0.079***
		(2.203)	(2.805)	(2.111)	(2.398)	(2.742)	(2.145)	(2.597)
LnSIZE	+	0.117***	0.110***	0.111***	0.106***	0.109***	0.108***	0.105***
		(9.978)	(9.395)	(9.120)	(9.038)	(9.508)	(9.425)	(9.104)

ManOwn	?	0.366***	0.348***	0.410***	0.415***	0.352***	0.432***	0.403***
		(3.401)	(3.461)	(3.635)	(4.039)	(3.537)	(3.906)	(3.914)
LOSS	−	-0.230***	-0.245***	-0.243***	-0.221***	-0.229***	-0.221***	-0.223***
		(-6.842)	(-7.280)	(-7.256)	(-6.594)	(-6.880)	(-6.598)	(-6.642)
LEV	−	-0.914***	-0.778***	-0.822***	-0.842***	-0.859***	-0.906***	-0.856***
		(-9.480)	(-8.526)	(-8.868)	(-8.903)	(-9.018)	(-9.615)	(-9.126)
ROE	?	0.009***	0.007***	0.009***	0.008***	0.007***	0.010***	0.008***
		(3.912)	(2.895)	(3.590)	(3.640)	(3.202)	(4.362)	(3.671)
MTB	?	0.003	0.003	0.002	0.003	0.003	0.002	0.003
		(1.371)	(1.249)	(0.856)	(1.350)	(1.455)	(1.108)	(1.267)
Constant	?	-0.483***	-0.415**	-0.493***	-0.331*	-0.327*	-0.369**	-0.288
		(-2.630)	(-2.226)	(-2.666)	(-1.799)	(-1.760)	(-2.004)	(-1.542)
Observations		636	636	636	636	636	636	636
Industry & Year		YES	YES	YES	YES	YES	YES	YES
Adj. R^2		0.489	0.499	0.484	0.511	0.509	0.503	0.515
F-Statistics		26.81	28.23	25.99	27.3	26.69	27.07	26.8
VIF		2.09	2.09	2.12	2.07	2.12	2.16	2.21

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *loss* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio of firm i at the time period t. Numbers in parentheses represent t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

7.7 Using two and three years ahead earnings persistence

In the main analysis, the dependent variable (*PERSIST*) represents the slope coefficient ($\beta 1$) obtained by regressing future one-year earnings on current year earnings, as illustrated in Equation 1. As an additional check, following prior studies (e.g., Dichev & Tang, 2009) I re-estimate Equation (1) by regressing two and three year ahead earnings on current earnings to explore how quickly the productive power of current earnings deteriorates over a longer time horizon, as follows:

$$Earn_{t+,2,3} = \beta 0 + \beta 1 Earn_t + \varepsilon t$$

Table 7.6 reveals that the earnings persistence coefficient ($\beta 1$) drops from 0.919 in yeart+1 to 0.662 in yeart+3, while the adjusted R2 drops from 0.773 in yeart+1 to 0.366 in year yeart+3.[35] In line with prior studies (e.g., Dichev & Tang, 2009; Sloan, 1996), the persistence parameter ($\beta 1$) of current earnings is statistically significant and positive with future earnings, as presented in column 1. These results suggest that the earnings persistence has a varying prediction power for earnings in the longer term.

Table 7.6. The impact of current earnings on one, two, and three year ahead earnings

Variable	(1) $Earn_{t+1}$	(2) $Earn_{t+2}$	(3) $Earn_{t+3}$
Earnt	0.919***	0.844***	0.662***
	(46.494)	(28.518)	(19.152)
Constant	0.019	0.024	0.013
	(1.127)	(0.971)	(0.455)
Observations	636	636	636
Adj. R^2	0.773	0.561	0.366

Accordingly, Table 7.7, columns 1–8, presents the regression results of the impact of *LBZD*, *RoyDir*, and *InstOwn* on *PERSIST* after re-estimating earnings persistence coefficients using two and three year ahead earnings. The results are predominantly consistent with those reported earlier. The coefficients for (*LBZD*), *RoyDir*, and *InstOwn* are (negative) positive for *PERSIST* using two year ahead earnings (−0.073, t = −2.097, p< 0.05; 0.184, t = 5.154, p< 0.01; 0.324, t = 3.041, p< 0.01 respectively), and using three year ahead earnings (−0.057, t = −2.097, p < 0.05; 0.144, t =5.154, p < 0.01; 0.254, t = 3.041, p< 0.01 respectively). As expected, however, the magnitude of the coefficients declines as the time horizon increases.

[35] The coefficient 0.919 means each dollar of $year_t$ earnings is associated with 0.919 dollar in $year_{t+1}$ earnings.

Table 7.7. Regression results using 2 years and 3 years ahead earnings persistence

Variable	Pred. sign	(1) $PERSIST_{t+2}$	(2) $PERSIST_{t+3}$	(3) $PERSIST_{t+2}$	(4) $PERSIST_{t+3}$	(5) $PERSIST_{t+2}$	(6) $PERSIST_{t+3}$	(7) $PERSIST_{t+2}$	(8) $PERSIST_{t+3}$
LBZD	−	-0.073**	-0.057**					-0.066*	-0.051*
		(-2.097)	(-2.097)					(-1.916)	(-1.916)
RoyDir	+			0.184***	0.144***			0.160***	0.125***
				(5.154)	(5.154)			(4.580)	(4.580)
InstOwn	+					0.324***	0.254***	0.223**	0.175**
						(3.041)	(3.041)	(2.165)	(2.165)
LnBoardSize	?	0.049	0.038	-0.039	-0.031	0.031	0.024	-0.053	-0.042
		(0.520)	(0.520)	(-0.420)	(-0.420)	(0.326)	(0.326)	(-0.573)	(-0.573)
BoardInd	+	-0.022	-0.017	-0.050	-0.039	-0.014	-0.011	-0.024	-0.019
		(-0.205)	(-0.205)	(-0.484)	(-0.484)	(-0.130)	(-0.130)	(-0.230)	(-0.230)
LnBoardMeet	+	0.103**	0.081**	0.083*	0.065*	0.073*	0.057*	0.068	0.054
		(2.439)	(2.439)	(1.963)	(1.963)	(1.694)	(1.694)	(1.591)	(1.591)
BIG4	+	0.090**	0.071**	0.109***	0.086***	0.083**	0.065**	0.099**	0.078**
		(2.301)	(2.301)	(2.805)	(2.805)	(2.111)	(2.111)	(2.556)	(2.556)
LnSIZE	+	0.153***	0.120***	0.141***	0.110***	0.141***	0.111***	0.138***	0.109***
		(10.077)	(10.077)	(9.395)	(9.395)	(9.120)	(9.120)	(9.100)	(9.100)
ManOwn	?	0.452***	0.355***	0.443***	0.348***	0.523***	0.410***	0.509***	0.400***
		(3.256)	(3.256)	(3.461)	(3.461)	(3.635)	(3.635)	(3.862)	(3.862)
LOSS	−	-0.302***	-0.237***	-0.312***	-0.245***	-0.310***	-0.243***	-0.290***	-0.227***
		(-6.905)	(-6.905)	(-7.280)	(-7.280)	(-7.256)	(-7.256)	(-6.607)	(-6.607)
LEV	−	-1.096***	-0.861***	-0.991***	-0.778***	-1.047***	-0.822***	-1.007***	-0.791***
		(-9.004)	(-9.004)	(-8.526)	(-8.526)	(-8.868)	(-8.868)	(-8.466)	(-8.466)
ROE	?	0.011***	0.009***	0.009***	0.007***	0.011***	0.009***	0.010***	0.008***
		(3.610)	(3.610)	(2.895)	(2.895)	(3.590)	(3.590)	(3.295)	(3.295)
MTB	?	0.004	0.003	0.004	0.003	0.003	0.002	0.004	0.003

	(1.276)	(1.276)	(1.249)	(1.249)	(0.856)	(0.856)	(1.291)	(1.291)
Constant	-0.675***	-0.535***	-0.522**	-0.415**	-0.621***	-0.493***	-0.465**	-0.371**
	(-2.854)	(-2.885)	(-2.195)	(-2.226)	(-2.635)	(-2.666)	(-1.974)	(-2.005)
Observations	636	636	636	636	636	636	636	636
Industry & Year	YES	YES	YES	YES	YES	YES	YES	YES
Adj. R^2	0.479	0.479	0.499	0.499	0.484	0.484	0.503	0.503
F-statistics	25.61	25.61	28.23	28.23	25.99	25.99	26.81	26.81
VIF Mean	2.08	2.08	2.09	2.09	2.12	2.12	2.07	2.07

$PERSIST_{it+2,3}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+2,3} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with *AbsBZDs*, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0 ; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio of firm i at the time period t. Numbers in parentheses represents t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

7.8 Alternative control variables

As an additional check of the primary results in Chapter 6, the regression models are re-performed applying alternative control variables. The firm size (*LnSIZE*) is measured as the log transformation to total assets instead of firms total annual sales. The financial leverage (*LEV*) is calculated as total debt divided by total equity instead of total assets. Moreover, the performance variable is measured as return on assets (*ROA*) instead of return on equity (*ROE*). Table 7.8 presents the regression analysis results after adding the alternative control variables. The coefficients for the independent tests variables *LBZD*, *RoyDir*, and *InstOwn* are of the same directionality as that of corresponding variables presented respectively in columns 2, 3, and 4 of Table 6.7, with closely matched statistical significance levels. Specifically, column 1 shows that the coefficients on *LBZD* is negative and statistically significant (−0.092, $t = -2.344$, $p < 0.05$). This result supports hypothesis *H1* and is consistent with the expectations that large book-zakat differences will indicate less quality and persistent earnings. Column 2 shows that the coefficient for *RoyDir* is positive and statistically significant (0.205, $t = 4.688$, $p < 0.01$), providing support for hypothesis *H2* and consistent with the argument that the political connections of royal family directors are valuable to the firm, thereby improving the persistence of earnings. Moreover, column 3 reveals that the coefficient for *InstOwn* is positive and statistically significant (0.319, $t = 2.332$, $p < 0.05$). This result provides support for hypothesis *H3* and is consistent with the argument that large shareholders (i.e., institutional investors) play a monitoring role, reduce agency costs, and thus improve the quality and persistence of earnings.

Moreover, column 5 shows that the coefficient for the two-way interaction term *LBZD*RoyDir* continues to remain positive but becomes statistically insignificant (0.084, $t = 1.079$, $p > 0.1$). Further, column 6 shows that the coefficient for the two-way interaction term *LBZD*InstOwn* is positive and statistically significant (0.499, $t = 2.365$, $p< 0.05$), consistent with hypothesis *H3A* and indicating that higher levels of institutional ownership weaken the negative association between *LBZD* and *PERSIST*. The explanatory power across all regression models is comparable with that of the regression models reported in Tables 6.7 and 6.8, as implied by the value of the adjusted R^2. Moreover, the VIF mean values are less than 3 across all specifications, indicating that multicollinearity is not an issue.

Table 7.8. Regression results using alternative control variables

		Dependent variable = *PERSIST*						
Variable	Pred. sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LBZD	−	-0.092**			-0.083**	-0.102**	-0.154***	-0.122***
		(-2.344)			(-2.203)	(-2.364)	(-3.858)	(-2.713)
RoyDir	+		0.205***		0.181***	0.170***		0.099**
			(4.688)		(4.160)	(3.405)		(2.297)
InstOwn	+			0.319**	0.254*		0.116	0.012
				(2.332)	(1.923)		(0.656)	(0.082)
*LBZD*RoyDir*	+					0.084		-0.009
						(1.079)		(-0.122)
*LBZD*InstOwn*	+						0.499**	0.506***
							(2.365)	(2.616)
LnBoardSize	?	0.202*	0.101	0.187*	0.109	0.104	0.178	0.086
		(1.834)	(0.938)	(1.694)	(1.025)	(0.967)	(1.632)	(0.853)
BoardInd	+	-0.191	-0.218*	-0.181	-0.222*	-0.229*	-0.205	0.002
		(-1.479)	(-1.743)	(-1.380)	(-1.786)	(-1.844)	(-1.580)	(0.019)
LnBoardMeet	+	0.147***	0.134***	0.127***	0.121**	0.133***	0.131***	0.093**
		(3.074)	(2.792)	(2.638)	(2.513)	(2.782)	(2.735)	(2.037)
BIG4	+	0.147***	0.170***	0.142***	0.164***	0.173***	0.150***	0.066*
		(3.342)	(3.861)	(3.215)	(3.742)	(3.913)	(3.401)	(1.707)
LnSIZE	+	0.094***	0.079***	0.080***	0.060***	0.073***	0.069***	0.079***
		(4.532)	(4.049)	(3.850)	(2.823)	(3.635)	(3.342)	(4.348)

ManOwn	?	0.447***	0.418***	0.492***	0.465***	0.408***	0.496***	0.397***
		(2.771)	(2.780)	(2.986)	(3.057)	(2.720)	(3.028)	(2.942)
LOSS	−	-0.411***	-0.421***	-0.419***	-0.400***	-0.410***	-0.399***	-0.588***
		(-6.179)	(-6.315)	(-6.175)	(-6.043)	(-6.227)	(-5.975)	(-11.808)
LEV	−	-0.719***	-0.561***	-0.606***	-0.567***	-0.612***	-0.671***	-0.703***
		(-5.443)	(-4.527)	(-4.666)	(-4.486)	(-4.849)	(-5.097)	(-6.820)
ROA	?	0.812	0.782	0.812	0.783	0.778	0.802	1.051***
		(1.360)	(1.354)	(1.356)	(1.364)	(1.352)	(1.356)	(10.596)
MTB	?	0.017***	0.015***	0.015***	0.015***	0.016***	0.015***	0.002
		(3.963)	(3.793)	(3.568)	(3.733)	(3.889)	(3.629)	(0.511)
Constant	?	-1.979***	-1.638***	-1.753***	-1.216***	-1.440***	-1.428***	-1.470***
		(-4.578)	(-4.097)	(-4.261)	(-2.885)	(-3.468)	(-3.415)	(-3.556)
Observations		636	636	636	636	636	636	636
Industry & Year		YES	YES	YES	YES	YES	YES	YES
Adj. R2		0.428	0.446	0.428	0.451	0.448	0.439	0.584
F-Statistics		24.99	25.95	24.94	23.95	24.04	23.76	34.05
VIF Mean		2.14	2.15	2.19	2.15	2.18	2.24	2.28

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with $AbsBZD\ s$, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total assets of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total equity of firm i at the time period t; ROA_{it} = Return on Assets, measured as the ratio of net income to total assets of firm i at the time period t, and MTB_{it} = Market-to-book value ratio of firm i at the time period t. Numbers in parentheses represent t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

7.9 Additional control variables

To test the robustness of the main results, the main regression model is re-estimated with additional control variables. These control variables comprise three audit committee characteristics, namely audit committee size (*AC_SIZE*), audit committee independence (*AC_IND*), and audit committee meetings (*AC_MEET*). Prior literature shows that an audit committee improves earnings quality as it is charged with selecting auditors of higher quality, reviewing the implementation of adequate internal controls, supervising the internal audit function, and monitoring the overall financial reporting process (Srinidhi et al., 2011). The absence of an active internal audit committee may result in less transparent financial reporting and poor earnings quality (Doyle et al., 2007). Accordingly, the above audit committee attributes are controlled for.

Table 7.9 presents the regression results after including the additional control variables. The re-estimated regression models yield results consistent with those reported in the main regression analysis. That is, the coefficients for *LBZD*, *RoyDir*, and *InstOwn* are of the same directionality as for the corresponding variables presented in Table 6.7 and 6.8 of Chapter 6, with closely matched statistical significance levels. Specifically, column 1 shows that the coefficient for *LBZD* is negative and statistically significant (-0.100, $t = -2.677$, $p < 0.01$). This is consistent with hypothesis *H1* and the expectation that large book-zakat differences indicate less quality and persistent earnings. Column 2 shows that the coefficient for *RoyDir* is positive and statistically significant (0.211, $t = 5.557$, $p < 0.01$), which is consistent with hypothesis *H2* and the argument that political connections of royal family members are perceived as valuable to the firm, thereby improving the persistence of earnings. Moreover, column 3 reveals that the coefficient for *InstOwn* is positive and statistically significant (0.467, $t = 4.012$, $p < 0.01$). This result is consistent with hypothesis *H3* and the argument that large shareholders (i.e., institutional investors) play a monitoring role, mitigate agency costs, and thus improve the quality and persistence of earnings.

Moreover, column 5 shows that (albeit with reduced economic and statistical magnitude) the coefficient for the two-way interaction term *LBZD*RoyDir* continues to remain positive and statistically significant (0.136, $t = 1.805$, $p < 0.1$). This result support hypothesis *H2A* and indicates that royal family board members weaken the negative association between *LBZD* and *PERSIST*. Further, column 6 shows that the coefficient for the two-way interaction term *LBZD*InstOwn* is positive and

statistically significant (0.421, t = 2.199, p< 0.05), supporting hypothesis *H3A* and consistent with the view that institutional investors mitigate the negative association between *LBZD* and *PERSIST*. In summary, adding additional control variables as a robustness checks to the regression models clearly supports the primary results presented in Chapter 6. The explanatory power of the model is comparable with that of the regressions reported in Table 6.7 and 6.8. Moreover, the VIF mean values are less than 3 across all specifications, indicating that multicollinearity is not an issue.

Table 7.9. Regression results using additional control variables

		Dependent variable = *PERSIST*						
Variable	Pred. sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LBZD	−	-0.100***			-0.099***	-0.135***	-0.155***	-0.144***
		(-2.677)			(-2.718)	(-2.976)	(-3.851)	(-3.138)
RoyDir	+		0.211***		0.173***	0.158***		0.154***
			(5.557)		(4.714)	(3.525)		(3.530)
InstOwn	+			0.467***	0.368***		0.270*	0.186
				(4.012)	(3.268)		(1.659)	(1.240)
*LBZD*RoyDir*	+					0.136*		0.045
						(1.805)		(0.588)
*LBZD*InstOwn*	+						0.421**	0.309
							(2.199)	(1.605)
LnBoardSize	?	0.184*	0.091	0.162	0.082	0.087	0.154	0.083
		(1.721)	(0.866)	(1.527)	(0.787)	(0.828)	(1.457)	(0.799)
BoardInd	+	-0.086	-0.133	-0.066	-0.086	-0.128	-0.045	-0.087
		(-0.684)	(-1.090)	(-0.527)	(-0.694)	(-1.044)	(-0.351)	(-0.696)
LnBoardMeet	+	0.136***	0.112**	0.097**	0.092*	0.115**	0.102**	0.095**
		(2.791)	(2.330)	(1.986)	(1.881)	(2.405)	(2.109)	(1.972)
BIG4	+	0.113***	0.134***	0.104**	0.121***	0.135***	0.113***	0.130***
		(2.681)	(3.218)	(2.490)	(2.944)	(3.274)	(2.705)	(3.146)
LnSIZE	+	0.181***	0.167***	0.165***	0.165***	0.170***	0.169***	0.164***
		(10.730)	(9.956)	(9.737)	(9.885)	(10.316)	(10.243)	(9.916)
ManOwn	?	0.382**	0.375***	0.467***	0.455***	0.371***	0.488***	0.454***
		(2.519)	(2.659)	(2.994)	(3.192)	(2.664)	(3.192)	(3.197)
LOSS	−	-0.316***	-0.330***	-0.325***	-0.295***	-0.304***	-0.293***	-0.293***
		(-6.503)	(-6.998)	(-6.818)	(-6.077)	(-6.325)	(-6.041)	(-6.050)
LEV	−	-1.216***	-1.091***	-1.149***	-1.115***	-1.156***	-1.189***	-1.130***

		(-9.210)	(-8.632)	(-9.056)	(-8.680)	(-8.609)	(-9.219)	(-8.570)
ROE	?	0.011***	0.008**	0.011***	0.009***	0.008**	0.012***	0.010***
		(3.232)	(2.397)	(3.208)	(2.934)	(2.487)	(3.700)	(3.021)
MTB	?	0.004	0.003	0.002	0.003	0.003	0.003	0.003
		(1.151)	(1.047)	(0.597)	(1.071)	(1.161)	(0.950)	(1.066)
AC_Size	+	-0.550***	-0.542***	-0.610***	-0.646***	-0.579***	-0.642***	-0.634***
		(-4.910)	(-4.808)	(-5.371)	(-5.738)	(-5.219)	(-5.722)	(-5.648)
AC_Ind	+	0.116	0.142*	0.097	0.126*	0.163**	0.100	0.133*
		(1.444)	(1.812)	(1.258)	(1.668)	(2.074)	(1.304)	(1.742)
AC_Meet	+	0.064	0.066	0.056	0.071	0.067	0.063	0.069
		(1.263)	(1.328)	(1.124)	(1.433)	(1.366)	(1.278)	(1.398)
Constant	?	-0.668**	-0.539*	-0.520*	-0.375	-0.471	-0.480*	-0.390
		(-2.288)	(-1.848)	(-1.818)	(-1.315)	(-1.634)	(-1.688)	(-1.373)
Observations		636	636	636	636	636	636	636
Industry & Year		YES	YES	YES	YES	YES	YES	YES
Adj. R^2		0.498	0.518	0.505	0.528	0.523	0.516	0.530
F-Statistics		23.89	26.15	23.71	25.41	25.05	24.48	25.05
VIF Mean		2.05	2.06	2.08	2.05	2.1	2.16	2.22

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$; $LBZD_{it}$ = A dummy variable assigned the value of 1 if firm-year with $AbsBZDs$, scaled by the number of outstanding shares, is in the top two quintiles of all firm-years in the sample, and 0 otherwise; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $InstOwn_{it}$ = The percentage of shares of the firm i owned by institutional investors at the time period t; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t; MTB_{it} = Market-to-book value ratio of firm i at the time period t; AC_Size_{it} = The natural log transformation of number of audit committee members of firm i at the time period t; AC_Ind_{it} = The percentage of independent board members on the audit committee of firm i at the time period t; and AC_Meet_{it} = The natural log transformation of the number of audit committee meetings of firm i at the time period t. Numbers in parentheses represent t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

7.10 Tests of endogeneity

7.10.1 Heckman endogeneity tests of royal family directors

It is possible that the quality of reported earnings (i.e., earnings persistence) is determined by unobserved factors other than the presence of royal family members on the board of directors. Thus, treating royal family directors as an exogenous variable when it is endogenous may lead to biased findings. To overcome this concern, a Heckman (1979) two-stage self-selection model has been performed. In the first stage, the probit model is estimated by regressing the endogenous variable (*RoyDir*) on other independent variables, year, and industry effects to estimate the inverse Mills ratio (*IMR*), which will then be included in the second-stage regression to account for possible self-selection bias. Further, an instrument variable, namely *RoyFounder*, is included in the first stage probit model as an exclusion restriction.[36] See Equations (10) and (11) in Chapter 5 for the first stage (probit model) and the second stage (outcome equation).

The regression results of the two-stage Hackman model are presented in Table 7.9. The probit model reported in column 1 shows that pseudo R^2 is 22%. Importantly, the coefficient for the instrument variable *RoyFounder* is positive and large in magnitude in the first stage, indicating that this variable is a powerful instrument. Therefore, the Heckman model does not suffer from weak instrument issues. Column 2 reports the second stage in which the *IMR* is insignificant, indicating that self-selection bias is unlikely to be a problem in the regression (Ball & Shivakumar, 2005). The findings from the second stage are qualitatively similar to those reported earlier in the main regression analysis, as the coefficient for the variable of interest (*RoyDir)* remains positive and statistically significant at the 1% level (0.192, t = 4.925).

[36] There is no reason to expect that the instrumental variable ($RoyFounder_{it}$) would directly affect earnings persistence in any other way except indirectly through the royal family board members.

Table 7.10. Heckman self-selection model: endogeneity of Royal Family board directors

Variable	First stage - probit model	Second stage - outcome equation
RoyDir	-	0.192***
		(4.925)
LnBoardSize	1.698***	-0.089
	(4.536)	(-0.813)
BoardInd	0.315	-0.076
	(0.765)	(-0.668)
LnBoardMeet	0.361**	0.091*
	(2.275)	(1.952)
BIG4	-0.190	0.126***
	(-1.327)	(2.949)
LnSIZE	0.131***	0.147***
	(2.656)	(8.715)
ManOwn	-0.827*	0.495***
	(-1.673)	(3.606)
LOSS	0.072	-0.331***
	(0.332)	(-7.100)
LEV	-1.144***	-1.028***
	(-3.159)	(-7.793)
ROE	1.426**	0.008***
	(2.527)	(3.142)
MTB	0.001	0.006
	(0.108)	(1.597)
RoyFounder	1.254***	
	(7.479)	
IMR	-	-0.050
		(-1.448)
Constant	-5.142***	-0.410
	(-5.144)	(-1.416)
Observations	636	636
Industry effects	YES	YES
Year effects	YES	YES
Pseudo R^2	0.220	-
Adj. R^2	-	0.501

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it}$; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio of firm i at the time period t. $RoyFounder_{it}$ = A dummy variable equals to 1 if the firm with a royal family director was also founded by a royal family member, otherwise 0; *IMR* = The inverse Mills ratio. Numbers in parentheses represent t-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively.

7.10.2 Propensity score matching (PSM)

To further alleviate potential endogeneity problems, the study also employs propensity score matching (PSM). According to Armstrong et al. (2010), PSM is a superior econometric approach that reduces the likelihood of drawing a biased or erroneous conclusion due to selection bias (endogeneity) caused by confounding variables. Therefore, the study employs PSM to control for differences in firm-level characteristics between two groups by matching an observation from the treatment group (e.g., *RoyDir* = 1) with an observation from the control group (e.g., *RoyDir* = 0) based on the nearest propensity score (Rosenbaum & Rubin, 1983). In the first-stage logit regression, the propensity score is generated by regressing the endogenous variable (*RoyDir*) on all control variables. Without replacement (where each observation from the matched sample is used only one time), each firm with a royal family director (e.g., *RoyDir*=1) is then matched with a firm with no royal family director (e.g., *RoyDir*=0) based on the propensity score estimated in the first-stage regression.[37] As a result, the matching process results in a matched sample comprising 458 firm-year observations. Next, the dependent variable (*PERSIST*) is regressed on all control variables, using the matched sample only.

Table 7.11 presents the results of the univariate *t*-test of the mean differences between the treated group (*RoyDir* = 1) and the control group (*RoyDir* = 0). The mean difference between the two groups is statistically significant for none of the covariates (control variables), indicating that the matching is successful (Armstrong et al., 2010; Hardies et al., 2015). Conversely, the mean for earnings persistence is higher for firms with royal family directors than for firms without royal family directors (*PERSIST* = 0.678 versus 0.470, t-stat = 3.860, p=0.000). These results reveal that the covariates included in the model are sufficiently balanced between the two groups, indicating that these covariates are effective in estimating the average treatment effect (Armstrong et al., 2010). Table 7.12 presents the regression results of the first and second stages of the PSM model. Consistent with the primary analysis, the coefficient for *RoyDir* is positive and statistically significant at the 1% level in both models (0.145, t= 4.193;

[37] According to Armstrong et al. (2010), it is unclear whether matching with or without replacement provides better results.

0.168 t= 5.244). Overall, these results indicate that firms with royal family directors have a higher level of earnings persistence than firms without.[38]

Table 7.11. PSM Sample-Descriptive Statistics

Variable	Mean		Difference	t-stat	p-value
	RoyDir = 1	*RoyDir* = 0			
	(1)	(2)	(3)	(4)	(5)
PERSIST	0.678	0.470	0.209	3.860***	0.000
LnBoardSize	2.123	2.098	0.025	1.590	0.113
BoardInd	0.511	0.510	0.001	0.050	0.962
LnBoardMeet	1.650	1.613	0.037	1.090	0.276
BIG4	0.576	0.581	-0.004	-0.090	0.925
LnSIZE	5.713	5.645	0.068	0.420	0.677
ManOwn	0.071	0.072	-0.001	-0.060	0.955
LOSS	0.135	0.135	0.000	0.000	1.000
LEV	0.212	0.239	-0.027	-1.470	0.143
ROE	0.104	0.101	0.003	0.250	0.802
MTB	2.846	2.629	0.216	0.550	0.582
Observations	229	229			

[38] When matching with replacement is used the results remain unaffected, as shown in column 3 of Table 7.12.

Table 7.12. PSM sample – multivariate regression

Variable	First-stage regression	Second-stage regression	
		Without replacement	With replacement
	(1)	(2)	(3)
RoyDir	-	0.168***	0.145***
		(5.244)	(4.193)
LnBoardSize	2.658***	0.022	-0.066
	(4.430)	(0.202)	(-0.579)
BoardInd	0.261	-0.085	-0.080
	(0.396)	(-0.723)	(-0.596)
LnBoardMeet	0.450*	0.147***	0.156***
	(1.663)	(3.002)	(2.915)
BIG4	-0.545**	0.035	0.085*
	(-2.342)	(0.845)	(1.871)
LnSIZE	0.211**	0.117***	0.141***
	(2.511)	(7.760)	(8.707)
ManOwn	-0.400	0.171	0.184
	(-0.513)	(1.276)	(1.229)
LOSS	0.219	0.072	0.061
	(0.622)	(1.103)	(0.898)
LEV	-1.827***	-0.785***	-0.935***
	(-3.004)	(-7.137)	(-7.770)
ROE	2.363**	2.634***	2.406***
	(2.342)	(13.736)	(12.047)
MTB	-0.007	0.005	-0.001
	(-0.365)	(1.248)	(-0.327)
Constant	-7.167***	-0.685**	-0.493
	(-4.458)	(-2.366)	(-1.532)
Observations	636	458	458
Year effect	YES	YES	YES
Industry effect	YES	YES	YES
Pseudo R^2	0.1585	-	
Adj. R^2	-	0.686	0.656

$PERSIST_{it}$ = The slope coefficient, $\beta 1$, obtained from the following time series regression: $Earn_{it+1} = \beta 0 + \beta 1 Earn_{it} + \varepsilon_{it};$; $RoyDir_{it}$ = A dummy variable assigned the value of 1 if a royal family member is setting on the board of firm i at the time period t, otherwise 0; $LnBoardSize_{it}$ = The natural log transformation of the number of directors sitting on board of firm i at the time period t.; $BoardInd_{it}$ = The proportion of independent directors on the board firm i at the time period t; $LnBoardMeet_{it}$ = The natural log transformation of number of board meetings of firm i at the time period t; $BIG4_{it}$ = A dummy variable assigned the value of 1 if the firm is audited by one of the big four auditors, otherwise 0; $LnSIZE_{it}$ = The natural log transformation of total sales of firm i at the time period t; $ManOwn_{it}$ = The proportion of shares held by managers of firm i at the time period t; $LOSS_{it}$ = A dummy variable given the value of 1 if firm i reported a *LOSS* at time period t, otherwise 0; LEV_{it} = The ratio of total debt to total assets of firm i at the time period t; ROE_{it} = Return on equity, measured as the ratio of net income to total equity of firm i at the time period t and MTB_{it} = Market-to-book value ratio of firm i at the time period t. Numbers in parentheses represent t-statistics. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively

7.11 Summary of chapter

Chapter 7 discusses the validity and reliability of the primary results and finings presented in Chapter 6. First, I use alternative measures for each of the independent variables used in the regressions analysis. Second, I exclude firms with loss from the sample and re-estimate the regressions analysis to ensure that the main results are not driven by loss firms. Third, I scale the dependent variable — earnings persistence — by average total assets, as opposed to the number of outstanding shares employed in the main regression analysis. Fourth, I measure earnings persistence in the long horizon by regressing two and three year ahead earnings on current earnings (as opposed to the one-year ahead earnings used in the main analysis) to explore how quickly the productive power of current earnings deteriorates over longer time horizon. Further, I use alternative control variables followed by additional control variables. Finally, I perform two commonly used techniques to address selection bias concerns (endogeneity), namely Heckman and propensity score matching (PSM).

CHAPTER 8: IMPLICATIONS AND CONCLUSIONS

8.1 Overview of chapter

This chapter provides an overall summary of the thesis's background, objectives, findings, implications, limitations, and suggestions for future research. The next section briefly recaps the background of this research. Next, the main empirical results and findings are discussed. The research's implications are then highlighted. Next, the limitations are discussed before suggestions for future research conclude the thesis.

8.2 Study overview

This study is primarily motivated by the distinctive Saudi tax system (the Islamic zakat) influenced by Islamic teachings. Zakat is one of the five pillars of Islam, meant to narrow the gap between the rich and the needy. Fully Saudi-owned firms are obligated to prepare zakat returns to determine the amount of zakat owed to the government. To investigate the link between zakat payments and firm-reported earnings, this research adopts the book-tax differences approach commonly employed by tax studies. Therefore, the main objective of this research is to test whether *LBZD* firms have less persistent accounting earnings than *SBZD* firms. Further, this research is motivated by the distinctive political system, based on absolute monarchy, prevailing within the GCC context. Such a political system reinforces the superiority of royal family members over other individuals in society. This has led many firms to nominate royal family members as firm directors. Therefore, the second objective of this research was to examine whether Saudi firms with individual royal family members serving on boards will have higher earnings persistence than firms that do not have royal directors. Next, the study extends this objective by examining whether the presence of royal family directors mitigates the relationship between *LBZD* and earnings persistence. In addition, taking into account the highly concentrated ownership – especially by institutional investors – of Saudi firms, this study examined whether firms with a higher level of institutional investor ownership had more persistent earnings than firms with dispersed ownership (i.e., little to no institutional ownership). Next, the study extended this objective by examining whether institutional investors mitigate the relationship between *LBZD* and earnings persistence.

8.3 Major findings of the study

Table 8.1 summarizes the causal relationships for each testable hypothesis. Results from the main empirical regression analysis have been tabulated in Table 6.7 and 6.8 of Chapter Six. More specifically, Column 2 of Table 6.7 reports the multivariate analysis examining the relationship between *LBZDs* and earnings persistence. Column 3 of Table 6.7 reports the regression results of the association between royal family board directors and earnings persistence. Column 4 of Table 6.7 reports the regression results of the relationship between institutional investors and earnings persistence. Column 2 and 3 of Table 6.8 documents the impact of royal family board members and institutional investors, respectively, on the relationship between *LBZDs* and earnings persistence.

Table 8. 1. Summary of testable hypotheses

Hypothesis	Description	Supported/Rejected
H1	*Firms with large book-zakat differences (LBZDs) will exhibit less persistent earnings than firms with small book-zakat differences (SBZDs).*	Supported
H2	*Firms with royal family directors will have higher persistent earnings than firms without royal family directors.*	Supported
H2A	*The negative association between LBZDs and earnings persistence is weaker with the presence of royal directors on the firm's boards.*	Supported
H3	*There is a positive relationship between institutional investors and earning persistence.*	Supported
H3A	*The negative association between LBZDs and earnings persistence is weaker in firms with a high level of institutional investors.*	Supported

The primary objective of this thesis is to investigate the relationship between *BZDs* and earnings persistence. Most of the prior literature on the informativeness of BTDs have suggested that an increased level of BTDs may raise serious concerns about the persistence and quality of reported earnings (Phillips et al., 2003; Lev & Nissim, 2004; Hanlon, 2005; Blaylock et al., 2012; Tang & Firth, 2012). The argument underlying such concerns (e.g., increased BTDs are linked with less persistent earnings) is that financial accounting principles (i.e., GAAP) provide managers with more discretion over the accounting choices and accruals process than do the more conservative tax laws (i.e., IRC) (Hanlon, 2005; Mills & Newberry, 2001; Phillips et al., 2003; Hanlon at al., 2010). This discretion provides corporate managers with greater incentives to practice aggressive financial reporting (i.e., avoid reporting a loss or earnings decline) and/or tax reporting (i.e., increase tax savings) (Mills, 1998; Phillips et al., 2003). Following the above strand of literature and theoretical argument, the first hypothesis (H1) predicts that firms with large book-zakat differences (*LBZD* subsample) will exhibit less persistent earnings than firms with small book-zakat differences (*SBZD* subsample). Consistent with the hypothesized direction, empirical results (see Table 6.7 Column 2) document a negative and statistically significant relationship between *LBZD* and earnings persistence. Robust and sensitivity analysis (i.e., using alternative measures of *BZDs*) generally support the negative and statistically significant relationship between *BZDs* and earnings persistence documented in the main empirical results (see Column 1 and 2 of Table 7.1).

With regards to examining the relationship between royal family board directors and earnings persistence, hypothesis (H2) predicts that firms with royal family directors will have higher persistent earnings than firms without royal family directors. The argument for such prediction was based on the theoretical framework (agency theory and resource dependency theory) and the empirical results from prior political connections studies. One view of agency theory suggests that political connections of board directors can improve firms' governance practices and performance (Fisman, 2001; Faccio, 2006; Chen et al., 2017). Further, resource dependency theory contends that a firm's connected directors can secure valuable resources and, in parallel, reduce the risk or complexity linked to the firm's external environment (Pfeffer & Salancik, 1978). Empirical results are also consistent with the above theoretical views. For instance, Boubakri et al. (2012) find that connected firms enhance their performance in terms of return on assets and increase their leverage and liquidity in the first three years following the establishment of political connections.

Moreover, Goldman et al. (2009) find a positive relationship between abnormal stock return and the nomination of politically connected directors to the board. Lastly, Cooper et al. (2010) find a positive link between corporate political ties and firms' future earnings and returns. The empirical results from this thesis are consistent with H2's prediction (see Table 6.7 Column 3). More specifically, empirical results show that a positive and statistically significant relationship do exist between royal family directors' presence and earnings persistence. Using alternative proxies for royal family directors board membership (such as royal directors number denoted by *RoyNum;* whether a royal family member is the firm's chairman denoted by *RoyChair; and* whether a royal family member holds ownership in the firm's equity denoted by *RoyOwn*) yielded qualitatively similar results (see Column 1 – 3 Table 7.2). With regards to H2A, it was postulated that the negative relationship between *LBZD* and *PERSIST* will be mitigated (weaker) when royal family directors are present. The empirical results confirm such postulation (see Column 2 of Table 6.8).

With regards to examining the relationship between institutional investors' ownership and earnings persistence, hypothesis (H3) predicts that institutional investors' ownership is an effective monitoring mechanism in solving agency problems and promoting financial reporting quality. The argument for such prediction was formed based on the active monitoring hypothesis which predicts that due to their concentrated equity holdings and sophistication, institutional investors will play an active role in monitoring their investee companies (Jiambalvo et al., 2002; Velury & Jenkins, 2006), influencing and monitoring corporate managers (Chung et al., 2002), and protecting minority shareholders' interests (Daily et al., 2003; Abdul Wahab et al., 2007). Empirical results are consistent with H3's prediction (see Table 6.7 Column 4). More specifically, empirical results provide a positive and statistically significant coefficient for the association between institutional investors and earnings persistence. Additional analysis (such as partitioning institutional investors based on their type into government as denoted by the variable *GovOwn* versus non-government as denoted by the variable *NonGovOwn*) yielded a positive coefficient for each class (see Column 1 and 2 of Table 7.3).

Interestingly, however, the estimated coefficient for the variable *NonGovOwn* is larger than that for the variable *GovOwn,* indicating that institutional investors are not homogeneous. This finding indicates that non-government institutional investors play a greater role in monitoring their portfolio firms than do government institutional investors, confirming the notion that institutional investors' heterogeneity leads to varying levels of activism, as the

literature suggests (Ryan & Schneider, 2002, 2003). Finally, hypothesis (H3A) was introduced to investigate the impact of institutional ownership on the relationship between *LBZD* and *PERSIST*. It was argued in H3A that the negative association between *LBZD* and earnings persistence will be mitigated (weaker) in firms with a high level of institutional investors. Consistent with this argument, the empirical results (see Column 3 of Table 6.8) show that the negative association between *LBZD* and earnings persistence is less negative when institutional investors hold larger ownership in the firm. In other words, while *LBZD* firms exhibit less persistent earnings (low levels of transparency), these effects are significantly attenuated when they have a high level of institutional ownership. This suggests that institutional investors do enhance monitoring when they have high interests in the firm. Overall, these findings are robust to a number of additional analyses as well as tests of endogeneity.

8.4 Research implications

Findings from this research will have implications for a wide array of information users and market participants. The main finding of this thesis indicates that *BZDs* contain information about the firm's reported earnings. In particular, the analysis shows that firms exhibiting extreme *BZDs* have less persistent earnings than firms exhibiting smaller BZDs. This finding offers an important insight into understanding the *BZDs*/earnings persistence linkage. Implications inferred from this research can be used by the following users. First, this study will open a new avenue for zakat scholars and experts to build their discussion on evidence from empirically-based research. Second, policymakers, i.e., zakat and tax authorities, can adopt the book-zakat differences (*BZDs*) technique to understand or detect firms that manage their zakat provision opportunistically. Third, Islamic scholars from various Islamic countries may relate this research to their studies, notably when exploring datasets comprising Islamic banks or *Shariah*-compliant firms. Fourth, potential investors not familiar with the Saudi business environment may find the results of this research useful in making proper capital investment decisions, as they can distinguish firms having a sound reporting environment from those that do not (using the persistence attribute of earnings). Moreover, financial analysts may also benefit from this research in terms of forecasting firms' future performance based on prior earnings information. This is because earnings persistence captures the extent to which current earnings will persist in future periods (Dichev et al., 2013).

Additionally, examining the phenomenon of board political connections (e.g., presence of royal directors members) shows a highly significant relationship between the presence of royal family directors and firms' reported earnings persistence. This can provide tremendous

insights for firms' management concerning how nominations of politically connected directors to the board can increase firm value. Moreover, the thesis documents a positive link between the level of institutional investors' ownership and earnings persistence. This finding provides additional insight into the monitoring role and effectiveness of institutional investors. The extended analysis of the role of institutional investors also contributes to the clarification of the perception that some institutions are more active monitors than others due to their heterogeneity. Specifically, the extended analysis shows that government institutional investors are less active monitors than non-government institutional investors. This is consistent with the view that institutional investors' heterogeneity leads to varying levels of activism, as the literature suggests (Ryan & Schneider, 2002, 2003). Finally, by incorporating important board and audit committee characteristics (e.g., size, independence, and meeting) into the analysis, the findings can help Saudi firms identify the optimal composition and size for their boards and audit committee needed for improved governance.

8.5 Research limitations

First, due to time constraints, the sample was confined to a six-year period comprising the 2012–2017 financial years. This was because many of the variables relating to zakat, board composition, and ownership were hand-collected from the firms' annual reports. However, the observations from this time period are sufficient to meet the research objectives. Future research may opt for a longer timeframe. Another limitation of this research is that when examining corporate political connections of royal family, this research has assessed the firm as being politically connected only if members from the royal family are present on the board, similar to past GCC studies (i.e., Al-Hadi et al., 2016, 2017; Al-Nasser, 2019). However, other political connections, forms, or mechanisms also exist, such as firms having close ties to a government official, a large shareholder, a member with a degree in politics, or a member who has held a political position. Therefore, it is suggested that future research could include alternative forms of political connection. Third, due to the unavailability of data, the type of institutional investors in this research is limited to pension and sovereign wealth funds; other types of institutional investor (e.g., private equity firms, hedge funds, insurance companies, mutual funds) were not included. Fourth, although this research controlled for a number of variables that could be expected to influence the dependent variable of this research (earnings persistence), it is possible that other factors were not controlled for; this is known as omitted variables bias. Additionally, this research is meant to test neither simultaneity (where the explanatory variable and the outcome variables are simultaneously determined) nor reverse

causality (where the outcome variable may cause the explanatory variable). Rather, the main objective of this research was to examine the impact of three Saudi institutional factors (namely, book-zakat differences, royal family board directors, and institutional investors) on earnings quality as captured by persistence. Therefore, the effect of endogeneity (either omission or causality) is expected to be alleviated to an acceptable level. Overall, while the limitations of this research are acknowledged, the contribution and the significance of the findings are undiminished.

8.6 Suggestions for future research

There are many new avenues for future research. First, future research can investigate the relationship between *BZDs* and other measurements of earnings quality. This research examines the influence of BZDs and one single earnings quality measure (the earnings persistence). Second, this research measures BZDs in terms of absolute value, and thus future research may disaggregate BZDs into positive (book income in excess of zakatable income) and negative (zakatable income is greater than book income). In this regard, previous BTDs literature (e.g., Hanlon, 2005) shows that both positive and negative BTDs are negatively associated with earnings persistence. Third, political connections within the GCC context go beyond the royal family board directorship, and thus future research can investigate the impact of other forms of political connections in this distinct political environment such as the nomination of government officials to the board, the appointment of members from other rich families, or the impact of state ownership. Finally, due to time constraints and hand collection of data, observations used in this research were limited to a Six-year period from 2012 to 2017 and collected from non-financial firms. Future researchers may use a larger sample size with different time frames, and may incorporate financial firms into the investigation.

REFERENCES

AASB. (2013). *Australian Accounting Standards Board Framework (AASB CF 2013-1). Amendments to the Australian Conceptual Framework.* http://www.aasb.gov.au/admin/file/content105/c9/AASB_CF_2013-1_12-13.pdf

Abdul Rahman, R., & Ali, F. H. M. (2006). Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal*, *21*(7), 783–804.

Abdul Wahab, E. A., & Rahman, R. A. (2009). Institutional investors and director remuneration: do political connections matter? *Advances in Financial Economics*, *13*, 139–169.

Abdul Wahab, E. A., & Zain, M. M. (2013). Audit fees during initial engagement in Malaysia. *Managerial Auditing Journal*, *28*(8), 735–754.

Abdul Wahab, E. A., How, J. C. Y., & Verhoeven, P. (2007). The impact of the Malaysian code on corporate governance: compliance, institutional investors and stock performance. *Journal of Contemporary Accounting & Economics*, *3*(2), 106–129.

Abdul Wahab, E. A., How, J., & Verhoeven, P. (2008). Corporate governance and institutional investors: evidence from Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, *4*(2), 67–90.

Abdul Wahab, E. A., How, J., Park, J., & Verhoeven, P. (2018). Political patronage and analysts' forecast precision. *Journal of Contemporary Accounting and Economics*, *14*(3), 307–320.

Abdul Wahab, E. A., Pitchay, A. A., & Ali, R. (2015). Culture, corporate governance and analysts' forecast in Malaysia. *Asian Review of Accounting*, *23*(3), 232–255.

Abdul Wahab, E. A., Zain, M. M., & James, K. (2011). Political connections, corporate governance and audit fees in Malaysia. *Managerial Auditing Journal*, *26*(5), 393–418.

Abdul Wahab, E. A., Zain, M. M., James, K., & Haron, H. (2009). Institutional investors, political connection and audit quality in Malaysia. *Accounting Research Journal*, *22*(2), 167–195.

Abdul Wahab, N. S., & Holland, K. (2015). The persistence of book-tax differences. *British Accounting Review*, *47*(4), 339–350.

Agrawal, A., & Knoeber, C. R. (2001). Do some outside directors play a political role? *The Journal of Law and Economics*, *44*(4), 179–198.

Aguilera, R. V., & Jackson, G. (2010). Comparative and international corporate governance. *Academy of Management Annals*, *4*(1), 485–556.

Aguilera, R. V., Filatotchev, I., Gospel, H., & Jackson, G. (2008). An organizational approach to comparative corporate governance: costs, contingencies, and complementarities. *Organization Science*, *19*(3), 475–492.

Al Kahtani, F. S. (2014). Current board of directors' practices in Saudi corporate governance: *A Case for Reform* (pp. 299–338). Springer.

AL Nasser, Z. (2019). The effect of royal family members on the board on firm performance in Saudi Arabia. *Journal of Accounting in Emerging Economies*, *10*(3), 487–518.

Al-Ajmi, J., & Abo Hussain, H. (2011). Corporate dividends decisions: evidence from Saudi Arabia. *The Journal of Risk Finance*, *12*(1), 41–56.

Al-Ajmi, J., Abo Hussain, H., & Al-Saleh, N. (2009). Decisions on capital structure in a Zakat environment with prohibition of riba. *The Journal of Risk Finance*, *10*(5), 460–476.

Alamri, M. A. (2014). *Corporate Governance and the Board of Directors in Saudi-listed Companies*. Unpublished PhD thesis, University of Dundee.

Al-Angari, H. (2004). *Auditing in the Kingdom of Saudi Arabia*. Sarawat.

Al-Barrak, A. M. (2005). Initial public offerings in Saudi Arabia: motivations, barriers and effects. Unpublished PhD thesis, University of Newcastle upon Tyne.

Al-Bassam, W. M., Ntim, C. G., Opong, K. K., & Downs, Y. (2015). Corporate boards and ownership structure as antecedents of corporate governance disclosure in Saudi Arabian publicly listed corporations. *Business & Society*, *57*(2), 335–377.

Albrecht, W. D., & Richardson, F. M. (1990). Income smoothing by economy sector. *Journal of Business Finance & Accounting*, *17*(5), 713–730.

Alghamdi, S. (2012). *Investigation into Earnings Management Practices and the Role of Corporate Governance and External Audit in Emerging Markets: Empirical Evidence from Saudi Listed Companies*. Unpublished PhD thesis. Durham University.

Al-Hadi, A., Habib, A., Al-Yahyaee, K. H, & Eulaiwi, B. (2017). Joint audit, political connections and cost of debt capital. *International Journal of Auditing*, *21*(3), 249–270.

Al-Hadi, A., Taylor, G., & Al-Yahyaee, K. H. (2016). Ruling family political connections and risk reporting: evidence from the GCC. *International Journal of Accounting*, *51*(4), 504–524.

Ali, A., Chen, T. Y., & Radhakrishnan, S. (2007). Corporate disclosures by family firms. *Journal of Accounting and Economics*, *44*(1–2), 238–286.

Allami, A. W. (2015). *Principlizing Islamic Zakat as a System of Taxation.* Unpublished PhD thesis, Brunei Law School.

Al-Matari, Y. A., Al-Swidi, A. K., & Fadzil, F. (2012). Corporate governance and performance of Saudi Arabia listed companies. *British Journal of Arts and Social Sciences, 9*(1), 1–30.

Al-Moghaiwli, M. H. (2001). Accounting for zakat and earnings management in Saudi Arabia. *Journal of Accounting, Accountability and Performance*, *7*, 1–22.

Al-Qaradawi, Y. (1999). *Fiqh az-Zakah: A Comparative Study-The Rules, Regulations and Philosophy of Zakah in the Light of the Qur'an and Sunna.* Dar Al Taqwa.

Alsaeed, K. (2006). The association between firm-specific characteristics and disclosure: the case of Saudi Arabia. *Managerial Auditing Journal*, *21*(5), 476–496.

Alsehali, M. S. (2002). *The Value Relevance of Earnings and Earnings Components: The case of Saudi Arabia*. Unpublished PhD thesis, The University of Melbourne.

Al-Sehali, M., & Spear, N. (2004). The decision relevance and timeliness of accounting earnings in Saudi Arabia. *International Journal of Accounting*, *39*(2), 197–217.

Al-Shetwi, M., Ramadili, S. M., Chowdury, T. H. S., & Sori, Z. M. (2011). Impact of internal audit function (IAF) on financial reporting quality (FRQ): evidence from Saudi Arabia. *African Journal of Business Management*, *5*(27), 11189–11198.

Al-Turaiqi, A. (2008). *The Political System of Saudi Arabia*. Ghainaa Publications.

Al-Twaijry, A. A., Brierley, J. A., & Gwilliam, D. R. (2003). The development of internal audit in Saudi Arabia: an institutional theory perspective. *Critical Perspectives on Accounting*, *14*(5), 507–531.

Alzahrani, A. M., & Che-ahmad, A. (2015). Royal family members and firm performance: evidence from Kingdom of Saudi Arabia. *Accounting & Taxation*, *7*(2), 29–42.

Alzomaia, T. S., & Al-Khadhiri, A. (2013). Determination of dividend policy: the evidence from Saudi Arabia. *International Journal of Business and Social Science*, *4*(1), 181–192.

Ameziane Lasfer, M. (2006). The interrelationship between managerial ownership and board structure. *Journal of Business Finance and Accounting*, *33*(7–8), 1006–1033.

Anandarajan, A., Hasan, I., & McCarthy, C. (2007). Use of loan loss provisions for capital, earnings management and signalling by Australian banks. *Accounting & Finance*, *47*(3), 357–379.

Anderson, R. C., & Reeb, D. M. (2003a). Founding-family ownership and firm performance: evidence from the S&P 500. *The Journal of Finance*, *58*(3), 1301–1328.

Anderson, R. C., & Reeb, D. M. (2003b). Founding-family ownership, corporate diversification, and firm leverage. *The Journal of Law and Economics*, *46*(2), 653–684.

Anderson, R. C., Mansi, S. A., & Reeb, D. M. (2003). Founding family ownership and the

agency cost of debt. *Journal of Financial Economics*, *68*(2), 263–285.

Armstrong, C. S., Jagolinzer, A. D., & Larcker, D. F. (2010). Chief executive officer equity incentives and accounting irregularities. *Journal of Accounting Research*, *48*(2), 225–271.

Ashari, N., H., Koh, S. T., & Wong, W. (1994). Factors affecting income smoothing among listed companies in Singapore. *Accounting and Business Research*, *24*(96), 291–301.

Ashbaugh-skaife, H., Collins, D. W., Kinney JR, W. R., & Lafond, R. (2009). The effect of SOX internal control deficiencies on firm risk and cost of equity. *Journal of Accounting Research*, *47*(1), 1–43.

Ayers, B. C., Laplante, S. K., & McGuire, S. T. (2010). Credit ratings and taxes: the effect of book-tax differences on ratings changes. *Contemporary Accounting Research*, *27*(2), 359–402.

Baber, W. R., Kang, S.-H., & Kumar, K. R. (1998). Accounting earnings and executive compensation: the role of earnings persistence. *Journal of Accounting and Economics*, *25*(2), 169–193.

Baginski, S. P., Lorek, K. S., Willinger, G. L., & Branson, B. C. (1999). The relationship between economic characteristics and alternative annual earnings persistence measures. *The Accounting Review*, *74*(1), 105–120.

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics*, *39*(1), 83–128.

Balsam, S., Krishnan, J., & Yang, J. S. (2003). Auditor industry specialization and earnings quality. *Auditing: A Journal of Practice & Theory*, *22*(2), 71–97.

Banafea, W., & Ibnrubbian, A. (2018). Assessment of economic diversification in Saudi Arabia through nine development plans. *OPEC Energy Review*, *42*(1), 42–54.

Barclay, M. J., & Holderness, C. G. (1989). Private benefits from control of public corporations. *Journal of Financial Economics*, *25*(2), 371–395.

Barnea, A., Ronen, J., & Sadan, S. (1975). The implementation of accounting objectives: an application to extraordinary items. *The Accounting Review*, *50*, 58–68.

Bartels, L. M., & Brady, H. E. (2003). Economic behavior in political context. *American Economic Review*, *93*, 156–161.

Barton, J., & Simko, P. J. (2002). The balance sheet as an earnings management constraint. *The Accounting Review*, *77*(s-1), 1–27.

Bartov, E., Radhakrishnan, S., & Krinsky, I. (2000). Investor sophistication and patterns in stock returns after earnings announcements. *The Accounting Review*, *75*(1), 43–63.

Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics*, *24*(1), 3–37.

Bathke, A., Lorek, K. S., & Willinger, G. L. (1989). Firm size and the predictive ability of quarterly earnings data. *The Accounting Review*, *64*(1), 49–68.

Batta, G., Sucre Heredia, R., & Weidenmier, M. (2014). Political connections and accounting quality under high expropriation risk. *European Accounting Review*, *23*(4), 485–517.

Baysinger, B. D., & Butler, H. N. (1985). Corporate governance and the board of directors: performance effects of changes in board composition. *Journal of Law, Economics, & Organization*, *1*(1), 101–124.

Beasley, M. S. (1996). An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review*, *71*(4), 443–465.

Beaver, W., Kettler, P., & Scholes, M. (1970). The association between market determined and accounting determined risk measures. *The Accounting Review*, *45*, 654–682.

Beaver, W. (1998). *Financial Reporting: An Accounting Revolution*. 3rd ed. Prentice-Hall.

Becker, C. L., DeFond, M. L., Jiambalvo, J., & Subramanyam, K. R. (1998). The effect of audit quality on earnings management. *Contemporary Accounting Research*, *15*(1), 1–24.

Becker, C.L., Defond, M.L., Jiambalvo, J., & Subramanyam, K.R. (1998). The effect of audit quality on earnings management. *Contemporary Accounting Research*, *15*(1), 1–24

Behn, B. K., Choi, J.-H., & Kang, T. (2008). Audit quality and properties of analyst earnings forecasts. *The Accounting Review*, *83*(2), 327–349.

Beidleman, C. (1973). Income smoothing: the role of management. *The Accounting Review*, *48*(4), 653–667.

Ben-Nasr, H., Boubakri, N., & Cosset, J. C. (2015). Earnings quality in privatized firms: the role of state and foreign owners. *Journal of Accounting and Public Policy*, *34*(4), 392–416.

Berkman, H., Cole, R. A., & Fu, L. J. (2010). Political connections and minority-shareholder protection: evidence from securities-market regulation in China. *Journal of Financial and Quantitative Analysis*, *45*(6), 1391–1417.

Berle, A., & Means, G. (1932). *The Modern Corporation and Private Property*. MacMillan.

Bhattacharya, U., Daouk, H., & Welker, M. (2003). The world price of earnings opacity. *The Accounting Review*, *78*(3), 641–678.

Biddle, G. C., Hilary, G., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics*, *48*(2–3), 112–131.

Blaylock, B., Shevlin, T., & Wilson, R. J. (2012). Tax avoidance, large positive temporary book-tax differences, and earnings persistence. *The Accounting Review*, *87*(1), 91–120.

Botosan, C. A., & Plumlee, M. A. (2002). A re-examination of disclosure level and the expected cost of equity capital. *Journal of Accounting Research*, *40*(1), 21– 40.

Boubakri, N., Cosset, J. C., & Saffar, W. (2012). The impact of political connections on firms' operating performance and financing decisions. *Journal of Financial Research*, *35*(3), 397–423.

Braam, G., Nandy, M., Weitzel, U., & Lodh, S. (2015). Accrual-based and real earnings management and political connections. *International Journal of Accounting*, *50*(2), 111–141.

Bray, B., & Darlow, M. (2012). *Ibn Saud: The desert warrior who created the Kingdom of Saudi Arabia*. Skyhorse Publishing.

Bricker, R., Previts, G., Robinson, T., & Young, S. (1995). Financial analyst assessment of a company's earnings quality. *Journal of Accounting, Auditing & Finance*, *10*(3), 541–554.

Brickley, J. A., Lease, R. C., & Smith, C. W. (1988). Ownership structure and voting on antitakeover amendments. *Journal of Financial Economics*, *20*, 267–291.

Brous, P. A., & Kini, O. (1994). The valuation effects of equity issues and the level of institutional ownership: evidence from analysts' earnings forecasts. *Financial Management*, *23*(1), 33–46.

Bunkanwanicha, P., & Wiwattanakantang, Y. (2009). Big business owners in politics. *Review of Financial Studies*, *22*(6), 2133–2168.

Burton, F. G., Wilks, T. J., & Zimbelman, M. F. (2011). The impact of audit penalty distributions on the detection and frequency of fraudulent reporting. *Review of Accounting Studies*, *16*(4), 843–865.

Bushee, B. J. (1998). The influence of institutional investors on myopic R & D investment behavior. *The Accounting Review, 73*(3), 305–333.

Bushee, B. J. (2001). Do institutional investors prefer near-term earnings over long-run value? *Contemporary Accounting Research*, *18*(2), 207–246.

Bushee, B. J., Carter, M. E., & Gerakos, J. (2014). Institutional investor preferences for corporate governance mechanisms. *Journal of Management Accounting Research*, *26*(2), 123–149.

Bushman, R. M., & Piotroski, J. D. (2006). Financial reporting incentives for conservative accounting: the influence of legal and political institutions. *Journal of Accounting and*

Economics, *42*(1–2), 107–148.

Bushman, R. M., Piotroski, J. D., & Smith, A. J. (2004). What determines corporate transparency? *Journal of Accounting Research*, *42*(2), 207–252.

Call, A. C., Hewitt, M., Shevlin, T., & Yohn, T. L. (2016). Firm-specific estimates of differential persistence and their incremental usefulness for forecasting and valuation. *The Accounting Review*, *91*(3), 811–833.

Casson, M. (1999). The economics of the family firm. *Scandinavian Economic History Review*, *47*(1), 10–23.

Chaney, P. K., Faccio, M., & Parsley, D. (2011). The quality of accounting information in politically connected firms. *Journal of Accounting and Economics*, *51*(1–2), 58–76.

Chatterjee, S., & Hadi, A. S. (2015). *Regression Analysis by Example.* John Wiley & Sons.

Chen, C. J., Ding, Y., & Kim, C. (2010). High-level politically connected firms, corruption, and analyst forecast accuracy around the world. *Journal of International Business Studies*, *41*(9), 1505–1524.

Chen, C. R., Li, Y., Luo, D., & Zhang, T. (2017). Helping hands or grabbing hands? An analysis of political connections and firm value. *Journal of Banking and Finance*, *80*, 71–89.

Chen, G., Firth, M., Gao, D. N., & Rui, O. M. (2006). Ownership structure, corporate governance, and fraud: evidence from China. *Journal of Corporate Finance*, *12*(3), 424–448.

Chen, L. H., Dhaliwal, D. S., & Trombley, M. A. (2012). Consistency of book-tax differences and the information content of earnings. *Journal of the American Taxation Association*, *34*(2), 93–116.

Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are family firms more tax aggressive than non-family firms? *Journal of Financial Economics*, *95*(1), 41–61.

Choi, J.-S., Kwak, Y.-M., & Choe, C. (2014). Earnings management surrounding CEO turnover: evidence from Korea. *Abacus*, *50*(1), 25–55.

Christensen, J., Kent, P., & Stewart, J. (2010). Corporate governance and company performance in Australia. *Australian Accounting Review*, *20*(4), 372–386.

Christie, A. A., & Zimmerman, J. L. (1994). Efficient and opportunistic choices of accounting procedures: corporate control contests. *The Accounting Review*, *69*(4), 539–566.

Chung, R., Firth, M., & Kim, J. B. (2002). Institutional monitoring and opportunistic earnings management. *Journal of Corporate Finance, 8*(1), 29–48.

Claessens, S., Feijen, E., & Laeven, L. (2008). Political connections and preferential access to finance: the role of campaign contributions. *Journal of Financial Economics*, *88*(3), 554–580.

Coffee, J. C. (1991). Liquidity versus control: the institutional investor as a corporate monitor. *Columbia Law Review*, *91*(6), 1277–368.

Collins, D. W., & Kothari, S. P. (1989). An analysis of intertemporal and cross-sectional determinants of earnings response coefficients. *Journal of Accounting and Economics*, *11*(2–3), 143–181.

Conger, J. A., Finegold, D., & Lawler, E. E. (1998). Appraising boardroom performance. *Harvard Business Review, 76*, 136–164.

Cooper, M. J., Gulen, H., & Ovtchinnikov, A. V. (2010). Corporate political contributions and stock returns. *The Journal of Finance*, *65*(2), 687–724.

Cornett, M. M., Marcus, A. J., Saunders, A., & Tehranian, H. (2007). The impact of institutional ownership on corporate operating performance. *Journal of Banking & Finance*, *31*(6), 1771–1794.

Correia, M. M. (2014). Political connections and SEC enforcement. *Journal of Accounting and Economics*, *57*(2–3), 241–262.

Crystal, J. (1995). *Oil and Politics in the Gulf: Rulers and Merchants in Kuwait and Qatar.* Cambridge University Press.

Daily, C. M., Dalton, D. R., & Cannella, A. A. (2003). Corporate governance: decades of dialogue and data. *Academy of Management Review*, *28*(3), 371–382.

Dalton, D. R., Daily, C. M., Johnson, J. L., & Ellstrand, A. E. (1999). Number of directors and financial performance: a meta-analysis. *Academy of Management Journal*, *42*(6), 674–686.

Davis, P. E. (1996). The role of institutional investors in the evolution of financial structure and behaviour. *The Future of the Financial System*, *33*, 49–99.

Dechow, P. (1994). Accounting earnings and cash flows as measures of firm performance the role of accounting accruals. *Journal of Accounting and Economics*, *18*(18), 3–42.

Dechow, P., & Schrand, C. (2004). *Earnings Quality*. The Research Foundation of CFA Institute.

Dechow, P., & Skinner, D. J. (2000). Earnings management: reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons*, *14*(2), 235–250.

Dechow, P., Dichev, I. (2002). The quality of accruals and earnings: the role of accrual

estimation errors. *The Accounting Review*, *77*(1), 35–59.

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: a review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, *50*(2–3), 344–401.

Dechow, P., Kothari, S. P., & Watts, R. L. (1998). The relation between earnings and cash flows. *Journal of Accounting and Economics*, *25*(2), 133–168.

Dechow, P., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *The Accounting Review*, *70*(2), 193–225.

Dechow, P., Sloan, R. G., & Sweeney, A. P. (1996). Causes and consequences of earnings manipulation: an analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research*, *13*(1), 1–36.

DeFond, M. L. (2010). Earnings quality research: Advances, challenges and future research. *Journal of Accounting and Economics*, *50*(2–3), 402–409.

Demb, A., & Neubauer, F.-F. (1992). The corporate board: confronting the paradoxes. *Long Range Planning*, *25*(3), 9–20.

Demsetz, H., & Lehn, K. (1985). The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*, *93*(6), 1155–1177.

Desai, M. A. (2003). The divergence between book income and tax income. *Tax Policy and the Economy*, *17*(January), 169–206.

Desai, R. M., & Olofsgård, A. (2011). The costs of political influence: firm-level evidence from developing countries. *Quarterly Journal of Political Science*, *6*(2), 137–178.

Dhaliwal, D. S., Lee, H. S. (Grace), Pincus, M., & Steele, L. B. (2017). Taxable income and firm risk. *Journal of the American Taxation Association*, *39*(1), 1–24.

Dichev, I. D., & Tang, V. W. (2009). Earnings volatility and earnings predictability. *Journal of Accounting and Economics*, *47*(1–2), 160–181.

Dichev, I. D., Graham, J. R., Harvey, C. R., & Rajgopal, S. (2013). Earnings quality: evidence from the field. *Journal of Accounting and Economics*, *56*(2–3), 1–33.

Doyle, J. T., Ge, W., & McVay, S. (2007). Accruals quality and internal control over financial reporting. *The Accounting Review*, *82*(5), 1141–1170.

Droms, W. G. (1992). Fiduciary responsibilities of investment managers and trustees. *Financial Analysts Journal*, *48*(4), 58–64.

Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics*, *48*(1), 35–54.

Elamin, A. M., & Alomaim, N. (2011). Does organizational justice influence job satisfaction

and self-perceived performance in Saudi Arabia work environment? *International Management Review*, *7*(1), 38–49.

Eliwa, Y., Haslam, J., & Abraham, S. (2016). The association between earnings quality and the cost of equity capital: evidence from the UK. *International Review of Financial Analysis*, *48*, 125–139.

Eng, L. L., & Mak, Y. T. (2003). Corporate governance and voluntary disclosure. *Journal of Accounting and Public Policy*, *22*(4), 325–345.

Ewert, R., & Wagenhofer, A. (2015). Economic relations among earnings quality measures. *Abacus*, *51*(3), 311–355.

Faccio, M. (2006). Politically connected firms. *American Economic Review*, *96*(1), 369–386.

Faccio, M., Masulis, R. W., & Mcconnell, J. J. (2006). Political connections and corporate bailouts. *Journal of Finance*, *61*(6), 2597–2635.

Falgi, I. (2009). *Corporate Governance in Saudi Arabia: A Stakeholder Perspective*. Unpublished PhD thesis, University of Dundee.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics*, *26*(2), 301–325.

Fan, J. P., & Wong, T. (2002). Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of Accounting and Economics*, *33*(3), 401–425.

Finger, C. A. (1994). The ability of earnings to predict future earnings and cash flow. *Journal of Accounting Research*, *32*(2), 210.

Fisman, R. (2001). Estimating the value of political connections. *American Economic Review*, *91*(4), 1095–1102.

Francis, J. R., Maydew, E. L., & Sparks, H. C. (1999). The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice & Theory*, *18*(2), 17–34.

Francis, J., LaFond, R., Olsson, P., & Schipper, K. (2004). Costs of equity and earnings attributes. *The Accounting Review*, *79*(4), 967–1010.

Francis, J., LaFond, R., Olsson, P., & Schipper, K. (2005). The market pricing of accruals quality. *Journal of Accounting and Economics*, *39*(2), 295–327.

Francis, J., Nanda, D., & Olsson, P. (2008). Voluntary disclosure, earnings quality, and cost of capital. *Journal of Accounting Research*, *46*(1), 53–99.

Frankel, R., & Litov, L. (2009). Earnings persistence. *Journal of Accounting and Economics*, *47*(1–2), 182–190.

Gales, L. M., & Kesner, I. F. (1994). An analysis of board of director size and composition in

bankrupt organizations. *Journal of Business Research*, *30*(3), 271–282.

Ghosh, A., & Moon, D. (2010). The effect of CEO ownership on the information content of reported earnings. *Review of Quantitative Finance and Accounting*, *35*(4), 393–410.

Gillan, S. L., & Starks, L. T. (2000). Corporate governance proposals and shareholder activism: the role of institutional investors. *Journal of Financial Economics*, *57*(2), 275–305.

Gilson, R. J., & Gordon, J. N. (2003). Controlling controlling shareholders. *University of Pennsylvania Law Review*, *152*(2), 785–843

Goldman, E., Rocholl, J., & So, J. (2009). Do politically connected boards affect firm value? *Review of Financial Studies*, *22*(6), 2331–2360.

Gomez-Mejia, L. R., Nunez-Nickel, M., & Gutierrez, I. (2001). The role of family ties in agency contracts. *Academy of Management Journal*, *44*(1), 81–95.

Graham, J. R., Raedy, J. S., & Shackelford, D. A. (2012). Research in accounting for income taxes. *Journal of Accounting and Economics*, *53*(1–2), 412–434.

Greenberg, R. R., Johnson, G. L., & Ramesh, K. (1986). Earnings versus cash flow as a predictor of future cash flow measures. *Journal of Accounting, Auditing & Finance*, *1*(4), 266–277.

Greene, W. (2007). *Econometric Analyses*. 7th ed. Prentice-Hall.

Guedhami, O., Pittman, J. A., & Saffar, W. (2014). Auditor choice in politically connected firms. *Journal of Accounting Research*, *52*(1), 107–162.

Gul, F. A. (2006). Auditors' response to political connections and cronyism in Malaysia. *Journal of Accounting Research*, *44*(5), 931–963.

Habbash, M., & Alghamdi, S. (2015). The perception of earnings management motivations in Saudi public firms. *Journal of Accounting in Emerging Economies*, *5*(1), 122–147.

Habtoor, O. S., & Ahmad, N. (2017). The influence of royal board of directors and other board characteristics on corporate risk disclosure practices. *Corporate Ownership and Control*, *14*(2).

Hadani, M., Goranova, M., & Khan, R. (2011). Institutional investors, shareholder activism, and earnings management. *Journal of Business Research*, *64*(12), 1352–1360.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1995). *Multivariate Data Analysis*. 4th ed. Prentice Hall.

Haniffa, R., & Hudaib, M. (2007). Locating audit expectations gap within a cultural context: the case of Saudi Arabia. *Journal of International Accounting, Auditing and Taxation, 16*(2), 179–206.

Hanlon, M. (2005). The persistence and pricing of earnings, accruals, and cash flows when firms have large book-tax differences. *The Accounting Review*, *80*(1), 137–166.

Hanlon, M., Krishnan, G. V., & Mills, L. F. (2012). Audit fees and book-tax differences. *The Journal of the American Taxation Association*, *34*(1), 55–86.

Hanna, J. D. (2002). *Conservatism and Accounting Measurement*. Working paper, University of Chicago.

Hardies, K., Breesch, D., & Branson, J. (2015). The female audit fee premium. *Auditing: A Journal of Practice & Theory, 34*(4), 171–195.

Hartzell, J. C., & Starks, L. T. (2003). Institutional investors and executive compensation. *The Journal of Finance*, *58*(6), 2351–2374.

Hartzell, J. C., Sun, L., & Titman, S. (2014). Institutional investors as monitors of corporate diversification decisions: Evidence from real estate investment trusts. *Journal of Corporate Finance*, *25*, 61–72.

Hashim, H. A., & Devi, S. S. (2012). Institutional monitoring and earnings quality in Malaysia. *Procedia - Social and Behavioral Sciences*, *65*(ICIBSoS), 419–426.

Hayn, C. (1995). The information content of losses. *Journal of Accounting and Economics*, *20*, 125–153.

Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica*, *47*(1), 153–161.

Henry, C. M., & Springborg, R. (2010). *Globalization and the Politics of Development in the Middle East*. Cambridge University Press.

Hertog, S. (2012). *How the GCC did it: formal and informal governance of successful public enterprise in the Gulf Co-operation Council countries. Towards new arrangements for state ownership in the Middle East and North Africa*.

Hillman, A. J., & Dalziel, T. (2003). Boards of Directors and Firm Performance: Integrating Agency and Resource Dependence Perspectives. *Academy of Management Review*, *28*(3), 383–396.

Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource Dependence Theory: A Review. *Journal of Management*, *35*(6), 1404–1427.

Houston, J. F., Jiang, L., Lin, C., & Ma, Y. (2014) Political connections and the cost of bank loans. *Journal of Accounting Research*, *52*(1), 193–243.

Hsu, G. C.-M., & Koh, P.-S. (2005). Does the presence of institutional investors influence accruals management? Evidence from Australia. *Corporate Governance: An International Review*, *13*(6), 809–823.

Huang, D.-F., & Wang, C.-L. (2013). Book-tax differences and earnings quality for the banking industry: evidence from Taiwan. *Pacific Accounting Review*, *25*(2), 145–164.

Hui, K. W., Matsunaga, S., & Morse, D. (2009). The impact of conservatism on management earnings forecasts. *Journal of Accounting and Economics*, *47*(3), 192–207.

Hussainey, K., & Al-Nodel, A. (2008). Corporate governance online reporting by Saudi listed companies. *Research in Accounting in Emerging Economies, 8*, 39–64.

Jackson, A., & Wang., K. (2013). *The Timeliness of Assets' Earnings Forecasts and the Cost of Capital*. UNSW Australian School of Business Research Paper No. 2013 ACCT 02.

Jad Alha, H. (1993). The development of Saudi accounting profession. *Institute of Public Administration Journal*, *14*, 49–67.

Jaggi, B., Leung, S., & Gul, F. (2009). Family control, board independence and earnings management: Evidence based on Hong Kong firms. *Journal of Accounting and Public Policy*, *28*(4), 281–300.

Jebaraj Benjamin, S., Mat Zain, M., & Abdul Wahab, E. A. (2016). Political connections, institutional investors and dividend payouts in Malaysia. *Pacific Accounting Review*, *28*(2), 153–179.

Jennings, W. W. (2005). Further evidence on institutional ownership and corporate value. *Advances in Financial Economics*, *11*(04), 167–207.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360.

Jiambalvo, J., Rajgopal, S., & Venkatachalam, M. (2002). Institutional ownership and the extent to which stock prices reflect future earnings. *Contemporary Accounting Research*, *19*(1), 117–145.

Jiang, J., Petroni, K. R., & Yanyan Wang, I. (2010). CFOs and CEOs: who have the most influence on earnings management? *Journal of Financial Economics*, *96*(3), 513–526.

Jiraporn, P., & DaDalt, P. J. (2009). Does founding family control affect earnings management? *Applied Economics Letters*, *16*(2), 113–119.

Johnson, S., & Mitten, T. (2003). Cronyism and capital controls: evidence from Malaysia. *Journal of Financial Economics*, *67*(2), 351–382.

Johnson, W. B., Magee, R. P., Nagarajan, N. J., & Newman, H. A. (1985). An analysis of the stock price reaction to sudden executive deaths: implications for the managerial labor market. *Journal of Accounting and Economics*, *7*(1–3), 151–174.

Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, *29*(2), 193.

Jung, K., & Kwon, S. Y. (2002). Ownership structure and earnings informativeness. *The International Journal of Accounting*, *37*(3), 301–325.

Kane, G. D., & Velury, U. (2004). The role of institutional ownership in the market for auditing services: an empirical investigation. *Journal of Business Research*, *57*(9), 976–983.

Karamanou, I., & Vafeas, N. (2005). The association between corporate boards, audit committees and management earnings forecast: an empirical analysis. *Journal of Accounting Research*, *43*(3), 453–486.

Katz, S. P. (2009). Earnings quality and ownership structure: the role of private equity sponsors. *The Accounting Review*, *84*(3), 623–658.

Khurana, I. K., & Moser, W. J. (2013). Institutional shareholders' investment horizons and tax avoidance. *Journal of the American Taxation Association, 35*(1), 111–134.

Kim, O. (1993). Disagreements among shareholders over a firm's disclosure policy. *The Journal of Finance*, *48*(2), 747–760.

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, *33*(3), 375–400.

Koh, P. (2003). On the association between institutional ownership and aggressive corporate earnings management in Australia. *The British Accounting Review*, *35*(2), 105–128.

Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, *39*(1), 163–197.

LaFond, R., & Watts, R. L. (2008). The information role of conservatism. *The Accounting Review*, *83*(2), 447–478.

Lang, M. H., & Lundholm, L. (1996). Corporate disclosure policy and analyst behavior. *The Accounting Review*, *71*(4), 467–493.

Lee, B., & Choi, B. (2002). Company size, auditor type, and earnings management. *Journal of Forensic Accounting*, *3*(1), 27–50.

Lerner, J., Leamon, A., & Dew, S. (2017). *The CMA and the Saudi Stock Market Crash of 2006*. Avaialble at https://cma.org.sa/en/Market/Documents/CMA_Cras*H2*006_en.pdf

Leuz, C. (2006). Cross listing, bonding and firms' reporting incentives: a discussion of Lang, Raedy and Wilson (2006). *Journal of Accounting and Economics*, *42*(1–2), 285–299.

Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings management and investor protection: an international comparison. *Journal of Financial Economics*, *69*(3), 505–527.

Lev, B. (1989). On the usefulness of earnings and earnings research: lessons and directions

from two decades of empirical research. *Journal of Accounting Research*, *27*(27), 153.

Lev, B., & Nissim, D. (2004). Taxable income, future earnings, and equity values. *The Accounting Review*, *79*(4), 1039–1074.

Lev, B. (1983). Some economic determinants of time-series properties of earnings. *Journal of Accounting and Economics*, *5*(31–48).

Lev, B. (1988). Toward a theory of equitable and efficient. *The Accounting Review*, *63*(1), 1–22.

Levitt, A. (1998). *The Numbers Game.* Working Paper. York University Center for Law and Business.

Lewis, M. K. (2001). Islam and accounting. *Accounting Forum*, *25*(2), 103–127.

Li, V. (2019). The effect of real earnings management on the persistence and informativeness of earnings. *British Accounting Review*, *51*(4), 402–423.

Lins, K. V. (2003). Equity ownership and firm value in emerging markets. *The Journal of Financial and Quantitative Analysis*, *38*(1), 159.

Lipe, R. (1990). The relation between stock returns and accounting earnings given alternative information. *The Accounting Review*, *65*(1), 49–71.

Lipton, M., & Lorsch, J. W. (1992). A modest proposal for improved corporate governance. *The Business Lawyer*, 59–77.

Liu, Q., & Lu, Z. (Joe). (2007). Corporate governance and earnings management in the Chinese listed companies: a tunneling perspective. *Journal of Corporate Finance*, *13*(5), 881–906.

Manzon, Jr., G. B., & Plesko, G. A. (2002). The relation between financial and tax reporting measures of income. *Tax Law Review*, *55*(2), 175–214.

Martin, S. (1988). Market power and/or efficiency. *Review of Economics and Statistics*, *70*(May), 331–335.

Mazaheri, N. (2013). The Saudi monarchy and economic familism in an era of business environment reforms. *Business and Politics*, *15*(3), 295–321.

McConnell, J. J., & Servaes, H. (1990). Additional evidence on equity ownership and corporate value. *Journal of Financial Economics*, *27*(2), 595–612.

McGee, R. (2009). *Corporate Governance in Developing Countries. Country Studies of Africa, Asia and Latin America*. Springer.

Mcgee, R. W. (1998). The ethics of tax evasion in Islam: a comment. *Journal of Accounting, Ethics & Public Policy*, *1*, 162–169.

Michaelson, S. E., Jordan-Wagner, J., & Wootton, C. W. (1995). A market based analysis of

income smoothing. *Journal of Business Finance and Accounting*, *22*(4), 1179–1194.

Mills, L. F. (1998). Book-tax differences and Internal Revenue Service adjustments. *Journal of Accounting Research*, 343–356.

Mills, L. F., & Newberry, K. J. (2001). The influence of tax and non-tax costs on book-tax reporting differences: public and private firms. *The Journal of the American Taxation Association*, *23*(1), 1–19.

Mills, L., & Newberry, K. (2005). Firms' off-balance sheet and hybrid debt financing: evidence from their book-tax reporting differences. *Journal of Accounting Research*, *43*(2), 251–282.

Molyneux, P., & Iqbal, M. (2005). *Banking and Financial Systems in the Arab World*. Palgrave Macmillan.

Moore, J. A., & Xu, L. (2018). Book-tax differences and costs of private debt. *Advances in Accounting*, *42*, 70–82.

Morck, R. K., Stangeland, D., & Yeung, B. (1998). *Inherited Wealth, Corporate Control and Economic Growth: The Canadian Disease*. National Bureau of Economic Research Working Paper

Moses, D. O. (1987). Income smoothing and incentives: empirical using accounting changes. *The Accounting Review*, *62*(2), 358–377.

Myers, J. N., Myers, L. A., & Skinner, D. J. (2007). Earnings momentum and earnings management. *Journal of Accounting, Auditing and Finance*, *22*(Spring), 249–284.

Naser, K., & Nuseibeh, R. (2003). Quality of financial reporting: evidence from the listed Saudi nonfinancial companies. *International Journal of Accounting*, *38*(1), 41–69.

Noga, T. J., & Schnader, A. L. (2013). Book-tax differences as an indicator of financial distress. *Accounting Horizons*, *27*(3), 469–489.

O'Connell, V. (2007). Reflections on stewardship reporting. *Accounting Horizons*, *21*(2), 215–227.

Oehmichen, J., Braun, D., Wolff, M., & Yoshikawa, T. (2017). When elites forget their duties: the double-edged sword of prestigious directors on boards. *Journal of Management Studies*, *54*(7), 1050–1078.

Oei, R., Ramsay, A., & Mather, P. (2008). Earnings persistence, accruals and managerial share ownership. *Accounting and Finance*, *48*(3), 475–502.

OPEC. (2018). *Annual Statistical Bulletin*.

Pástor, Ľ., & Veronesi, P. (2013). Political uncertainty and risk premia. *Journal of Financial*

Economics, *110*(3), 520–545.

Patton, A., & Baker, J. (1987). Why do directors not rock the boat? *Harvard Business Review*, *65*(6), 10–18.

Peasnell, K. V., Pope, P. F., & Young, S. (2005). Board monitoring and earnings management: do outside directors influence abnormal accruals? *Journal of Business Finance and Accounting, 32*(7–8), 1311–1346.

Penman, S. H., & Zhang, X.-J. (2002). Accounting conservatism, the quality of earnings, and stock returns. *The Accounting Review*, *77*(2), 237–264.

Perotti, P., & Wagenhofer, A. (2014). Earnings quality measures and excess returns. *Journal of Business Finance and Accounting*, *41*(5–6), 545–571.

Petersen, M. A. (2009). Estimating standard errors in finance panel data sets: comparing approaches. *Review of Financial Studies*, *22*, 435–480.

Pfeffer, J., & Salancik, G. R. (1978). *The External Control of Organizations: A Resource Dependence Perspective*. Harper & Row.

Phillips, J., Pincus, M., & Rego, S. O. (2003). Earnings management: new evidence based on deferred tax expense. *The Accounting Review*, *78*(2), 491–521.

Piesse, J., Strange, R., & Toonsi, F. (2012). Is there a distinctive MENA model of corporate governance? *Journal of Management and Governance, 16*(4), 645–681.

Pincus, M., Rajgopal, S., & Venkatachalam, M. (2007). The accrual anomaly: international evidence. *The Accounting Review*, *82*(1), 169–203.

Polsiri, P., & Jiraporn, P. (2012). Political connections, ownership structure, and financial institution failure. *Journal of Multinational Financial Management*, *22*(1–2), 39–53.

Porter, M. E. (1992). Capital choices: changing the way America invests in industry. *Journal of Applied Corporate Finance*, *5*(2), 4–16.

Pucheta-Martínez, M. C., & García-Meca, E. (2014). Institutional investors on boards and audit committees and their effects on financial reporting quality. *Corporate Governance: An International Review*, *22*(4), 347–363.

Qian, M., Pan, H., & Yeung, B. Y. (2011). *Expropriation of Minority Shareholders in Politically Connected Firms*. Finance and Corporate Governance Conference 2011.

Rajan, R. G., & Zingales, L. (1998). Which capitalism? Lessons from the east Asian crisis. *Journal of Applied Corporate Finance*, *11*(3), 40–48.

Rajgopal, S., Venkatachalam, M., & Jiambalvo, J. J. (1999). Is institutional ownership associated with earnings management and the extent to which stock prices reflect future

earnings? *SSRN Electronic Journal*.

Ramady, M. (2010). *The Saudi Arabian Economy: Policies, Achievements, and Challenges.* Springer Science & Business Media.

Reed, J. (2007). *The Saudi Royal Family*. Infobase Publishing.

Revsine, L., Collins, D., & Johnson, B. (1999). *Financial Reporting and Analysis*. Prentice-Hall.

Richardson, S. A., Sloan, R. G., Soliman, M. T., & Tuna, I. (2005). Accrual reliability, earnings persistence and stock prices. *Journal of Accounting and Economics*, *39*(3), 437–485.

Ronen, J. and Yaari, V. (2008). *Earnings Management: Emerging Insights in Theory, Practice, and Research*. Springer.

Rosenbaum, P., & Rubin, D. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, *70*(1), 45–55.

Ryan, L. V., & Schneider, M. (2002). The antecedents of institutional investors activism. *The Academy of Management Journal*, *27*(4), 554–573.

Ryan, L. V., & Schneider, M. (2003). Institutional investor power and heterogeneity. *Business & Society*, *42*(4), 398–429.

Sabri, S. (2001). *The House of Saud in Commerce: A Study of Royal Entrepreneurship in Saudi Arabia*. I.S. Publications Pvt. Ltd.

Sakaki, H., Jackson, D., & Jory, S. (2017). Institutional ownership stability and real earnings management. *Review of Quantitative Finance and Accounting*, *49*(1), 227–244.

Saudi Arabian Monetary Authority (SAMA). (2018). *54th Annual Report.* Available at https://www.sama.gov.sa/en-US/EconomicReports/AnnualReport/Fifty%20Fourth%20Annual%20Report.pdf

Saudi Arabian Monetary Authority (SAMA). (2020). *Budget Statement.* Available at https://www.mof.gov.sa/en/financialreport/budget2020/Documents/Bud-Eng2020.pdf

Schipper, K., & Vincent, L. (2003). Earnings quality. *Accounting Horizons, 17, 97–110*

Schneider, M. (2000). When financial intermediaries are corporate owners: an agency model of institutional ownership. *Journal of Management and Governance*, *4*(3), 207–237.

Shiller, R. J., & Pound, J. (1989). Survey evidence on diffusion of interest and information among investors. *Journal of Economic Behavior & Organization*, *12*(1), 47–66.

Shleifer, A, & Vishny, R. W. (1997). A survey of corporate governance. *The Journal of Finance*, *52*(2), 737–783.

Shleifer, A., & Vishny, R, W. (1986). Large shareholders and corporate control. *Journal of*

Political Economy, *94*(3), 461–488.

Shleifer, A., & Vishny, R. W. (1993). Corruption. *The Quarterly Journal of Economics*, *108*(3), 599–617.

Shleifer, A., & Vishny, R. W. (1994). Politicians and firms. *The Quarterly Journal of Economics*, *November*, 995–1025.

Siregar, S. V., & Utama, S. (2008). Type of earnings management and the effect of ownership structure, firm size, and corporate-governance practices: evidence from Indonesia. *The International Journal of Accounting*, *43*(1), 1–27.

Skinner, D. J., & Sloan, R. (2002). No earnings surprises, growth expectations, and stock returns. *Review of Accounting Studies*, *7*, 289–312.

Sloan, R. G. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings? *The Accounting Review*, *71*(3), 289–315.

Srinidhi, B., Gul, F. A., & Tsui, J. (2011). Female directors and earnings quality. *Contemporary Accounting Research*, *28*(5), 1610–1644.

Stein, J. C. (1989). Efficient capital markets, inefficient firms: a model of myopic corporate behavior. *The Quarterly Journal of Economics*, *104*(4), 655.

Tadawul. (2018). *Monthly Stock Market Ownership and Trading Activity Report*. https://www.Tadawul.com.sa/wps/portal/Tadawul/markets/reports-%26-publications/periodical-publications

Tadawul. (2018). *Tadawul – Annual Statistics and Financial Indicators Report*. https://www.Tadawul.com.sa/wps/portal/Tadawul/markets/reports-%26-publications/periodical-publications

Tang, T., & Firth, M. (2012). Earnings persistence and stock market reactions to the different information in book-tax differences: evidence from China. *The International Journal of Accounting*, *47*(3), 369–397.

Tee, C. M. (2017). Political connections, institutional investors monitoring and stock price synchronicity. *Managerial Finance*, *43*(11), 1236–1253.

Tee, C. M. (2019). Political connections and stock price crash risk: evidence of institutional investors' heterogeneous monitoring. *Spanish Journal of Finance and Accounting*, *48*(1), 50–67.

Tosi, H., & Gomez-Mejia, L. (1989). The decoupling of CEO pay and performance: an agency theory perspective. *Administrative Science Quarterly*, *34*, 169–189.

Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, *53*(1), 113–142.

Van Johnson, E., Khurana, I. K., & Reynolds, J. K. (2002). Audit-firm tenure and the quality of financial reports. *Contemporary Accounting Research*, *19*(4), 637–660.

Velury, U., & Jenkins, D. S. (2006). Institutional ownership and the quality of earnings. *Journal of Business Research*, *59*(9), 1043–1051.

Wang, D. (2006). Founding family ownership and earnings quality. *Journal of Accounting Research*, *44*(3), 619–656.

Warfield, T. D., Wild, J. J., & Wild, K. L. (1995). Managerial ownership, accounting choices, and informativeness of earnings. *Journal of Accounting and Economics*, *20*(1), 61–91.

Watts, R. L, & Zimmerman, J. L. (1990). Positive accounting theory: a ten-year perspective. *The Accounting Review*, *65*, 131–156.

Watts, Ross L. (2003). Conservatism in accounting, Part I: explanations and implications. *Accounting Horizons*, *17*(3), 207–221.

Watts, Ross L., & Zimmerman, J. L. (1986). *Positive Accounting Theory*. Prentice Hall.

Weber, D. P. (2009). Do analysts and investors fully appreciate the implications of book-tax differences for future earnings? *Contemporary Accounting Research*, *26*(4), 1175–1206.

William Ruland, S. T. and N. E. G. (1990). Factors associated with the disclosure of managers' forecasts. *The Accounting Review*, *65*(3), 710–721.

Wilson, R. J. (2009). An examination of corporate tax shelter participants. *The Accounting Review*, *84*(3), 969–999.

World Bank. (2019). *Gross domestic product (GDP)*. Available at https://databank.worldbank.org/data/download/GDP.pdf

Xie, B., Davidson, W. N., & Dadalt, P. J. (2003). Earnings management and corporate governance: The role of the board and the audit committee. *Journal of Corporate Finance*, *9*(3), 295–316.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics*, *40*(2), 185–211.

Zhao, Y., & Chen, K. H. (2009). Earnings quality effect of state antitakeover statutes. *Journal of Accounting and Public Policy*, *28*(2), 92–117.

APPENDIX 1. Example of zakat disclosure on financial statements of Saudi-listed firms

Etihad Etisalat Company (A Saudi Joint Stock Company)
Consolidated statement of profit or loss
(All amounts in Saudi Riyals thousands unless otherwise stated)

	Notes	31 December 2018	31 December 2017
Revenue	27	**11,864,912**	11,351,301
Cost of sales	28	**(5,282,709)**	(4,820,994)
Gross profit		**6,582,203**	6,530,307
Selling and marketing expenses	29	**(1,286,397)**	(1,234,103)
General and administrative expenses	30	**(747,384)**	(1,449,872)
Impairment loss on accounts receivable	11	**(111,528)**	(233,896)
Depreciation and amortization	8,9	**(3,809,478)**	(3,626,355)
Impairment loss on property and equipment	8	**(118,333)**	-
Other income		**93,809**	33,190
Operating profit		**602,892**	19,271
Share in results of joint venture		**755**	-
Finance expenses	31	**(799,239)**	(678,443)
Finance income	14	**35,282**	11,641
Loss before zakat		**(160,310)**	(647,531)
Zakat	22	**37,644**	(61,410)
Loss for the year		**(122,666)**	(708,941)
Loss per share:			
Basic and diluted loss per share (in SR)	32	**(0.16)**	(0.92)

APPENDIX 2. Re-estimating the regression without the variable return on equity (*ROE*).

The objective of this analysis is to show that the inclusion/exclusion of the variable *ROE*, which was highly correlated with the dependent variable *PERSIST*, does not impact the overall results. The following table shows that after excluding the variable *ROE* from the regression, the results remain largely unchanged.

Dependent variable = *PERSIST*						
Variables	Pred. sign	(1)	(2)	-3	-4	-5
LBZD	−	-0.142***			-0.167***	-0.198***
		(-3.776)			(-3.879)	(-4.991)
RoyDir	+		0.204***		0.143***	
			(5.246)		(3.182)	
InstOwn	+			0.347***		0.135
				(2.969)		(0.847)
*LBZD*RoyDir*	+				0.135*	
					(1.834)	
*LBZD*InstOwn*	+					0.486***
						(2.599)
LnBoardSize	?	0.058	-0.034	0.048	-0.050	0.014
		(0.573)	(-0.337)	(0.464)	(-0.495)	(0.142)
BoardInd	+	-0.040	-0.062	-0.024	-0.066	-0.028
		(-0.350)	(-0.550)	(-0.209)	(-0.601)	(-0.246)
LnBoardMeet	+	0.107**	0.087*	0.077	0.084*	0.079*
		(2.336)	(1.892)	(1.632)	(1.872)	(1.728)
BIG4	+	0.098**	0.122***	0.094**	0.121***	0.096**
		(2.315)	(2.872)	(2.186)	(2.857)	(2.262)
LnSIZE	+	0.160***	0.151***	0.151***	0.149***	0.148***
		(9.872)	(9.327)	(8.994)	(9.368)	(9.238)
ManOwn	?	0.505***	0.479***	0.563***	0.484***	0.595***
		(3.356)	(3.428)	(3.577)	(3.498)	(3.849)
LOSS	−	-0.323***	-0.339***	-0.337***	-0.321***	-0.309***
		(-6.931)	(-7.276)	(-7.267)	(-6.966)	(-6.674)
LEV	?	-1.253***	-1.069***	-1.130***	-1.173***	-1.237***
		(-9.392)	(-8.495)	(-8.827)	(-8.954)	(-9.499)
MTB	?	0.003	0.003	0.002	0.004	0.003
		(1.153)	(1.101)	(0.647)	(1.307)	(0.920)
Constant	?	-0.629**	-0.548**	-0.655**	-0.412	-0.485*
		(-2.454)	(-2.119)	(-2.550)	(-1.600)	(-1.892)
Observations		636	636	636	636	636
Industry & year		FE	FE	FE	FE	FE
Adj. R^2		0.485	0.497	0.481	0.507	0.499

Numbers in parentheses represent *t*-statistics based on robust standard errors clustered at the firm level. *, **, and *** denotes significance level at 10%, 5%, and 1% based on two-tailed test, respectively. All variables are defined in Table 5.2