

أثر حوكمة الشركات على جودة التقارير المالية والأداء المالي في الشركات

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مهارات بحثية 3



سوف نستعرض معكم مجموعة من
الدراسات السابقة المتعلقة بحوكمة الشركات
وتأثيرها في الأداء المالي وجودة التقارير المالية.



Chapter 03

مقدمة:

تعد الدراسات السابقة من الركائز الأساسية في البحث العلمي، إذ تسهم في توضيح المفاهيم العلمية المرتبطة بموضوع الدراسة، وتساعد في بناء الإطار النظري للبحث.

وفي هذا العرض سيتم استعراض مجموعة من الدراسات السابقة المتعلقة بحوكمة الشركات وتأثيرها في الأداء المالي وجودة التقارير المالية، وذلك من خلال عرض دراسات تناولت كل متغير على حدة، ثم عرض دراسة تناولت العلاقة بين المتغيرين.

عنوان الدراسة المقترح:

أثر حوكمة الشركات على جودة التقارير المالية والأداء المالي في الشركات
متغيرات الدراسة:

المتغير المستقل - حوكمة الشركات

المتغير التابع - جودة التقارير المالية والأداء المالي

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دراسات تناولت حوكمة الشركات

عنوان الدراسة الاولى:

حوكمة الشركات في المملكة العربية السعودية: نظرة عامة ودراسة تجريبية
فكرة الدراسة:

تناولت هذه الدراسة مفهوم حوكمة الشركات في المملكة العربية السعودية، وركزت على تحليل واقع تطبيق مبادئ الحوكمة في الشركات المدرجة في السوق المالي السعودي، إضافة إلى دراسة دور الحوكمة في تعزيز الشفافية والرقابة داخل الشركات.
المنهج:

اعتمدت الدراسة على المنهج الوصفي التحليلي، حيث قامت بتحليل تطبيق مبادئ الحوكمة في الشركات السعودية من خلال البيانات المتاحة والتقارير المالية.

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دراسات تناولت حوكمة الشركات

أم نتائج الدراسة الاولى:

- حوكمة الشركات في المملكة العربية السعودية: نظرة عامة ودراسة تجريبية
- تسهم حوكمة الشركات في تعزيز الشفافية والمساءلة داخل الشركات.
- تساعد الحوكمة في تحسين الرقابة على الإدارة.
- يؤدي تطبيق الحوكمة إلى تحسين الثقة في الشركات والأسواق المالية.

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عنوان الدراسة الثانية:

آليات الإفصاح المحاسبي وحوكمة الشركات في المملكة العربية السعودية

فكرة الدراسة:

هدفت الدراسة إلى تحليل العلاقة بين آليات الإفصاح المحاسبي وتطبيق مبادئ حوكمة الشركات، ودورها في تحسين مستوى الشفافية في التقارير المالية للشركات.

المنهج:

استخدمت الدراسة المنهج الوصفي التحليلي من خلال تحليل التقارير المالية للشركات المدرجة.

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دراسات تناولت حوكمة الشركات

أهم نتائج الدراسة الثانية:

- آليات الإفصاح المحاسبي وحوكمة الشركات في المملكة العربية السعودية
- وجود علاقة إيجابية بين تطبيق الحوكمة ومستوى الإفصاح المحاسبي.
- تسهم الحوكمة في رفع مستوى الشفافية في التقارير المالية.
- يساعد الإفصاح المحاسبي الجيد في تعزيز مصداقية المعلومات المالية.

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دراسات تناولت الأداء المالي وجودة التقارير المالية

عنوان الدراسة الاولى:

أثر جودة التقارير المالية في تحسين الأداء المالي للشركات
فكرة الدراسة:

تناولت الدراسة دور جودة التقارير المالية في دعم عملية اتخاذ القرار داخل الشركات، وأثر ذلك في
تحسين الأداء المالي وزيادة ثقة المستثمرين.

المنهج:

المنهج الوصفي التحليلي من خلال تحليل البيانات المالية للشركات.

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دراسات تناولت الأداء المالي وجودة التقارير المالية

أهم نتائج الدراسة الاولى:

- أثر جودة التقارير المالية في تحسين الأداء المالي للشركات
- تسهم جودة التقارير المالية في تحسين كفاءة اتخاذ القرارات المالية.
- تساعد المعلومات المالية الدقيقة في تعزيز ثقة المستثمرين.
- تؤدي التقارير المالية عالية الجودة إلى تحسين الأداء المالي للشركات.

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عنوان الدراسة الثانية:

دور الإفصاح المالي في تحسين الأداء المالي للشركات

فكرة الدراسة:

هدفت الدراسة إلى تحليل أثر الإفصاح المالي في تعزيز الأداء المالي للشركات من خلال توفير معلومات مالية دقيقة وشفافة للمستثمرين وأصحاب المصالح.

المنهج:

اعتمدت الدراسة على تحليل البيانات المالية للشركات باستخدام المنهج الوصفي التحليلي.

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دراسات تناولت الأداء المالي وجودة التقارير المالية

أهم نتائج الدراسة الثانية:

دور الإفصاح المالي في تحسين الأداء المالي للشركات

- يسهم الإفصاح المالي في تحسين مستوى الشفافية داخل الشركات.
- يؤدي الإفصاح المالي إلى تعزيز الثقة في الأسواق المالية.
- تؤدي التقارير المالية عالية الجودة إلى تحسين الأداء المالي للشركات.

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- يسهم الإفصاح المالي في تحسين مستوى الشفافية داخل الشركات.
- يؤدي الإفصاح المالي إلى تعزيز الثقة في الأسواق المالية.
- تؤدي التقارير المالية عالية الجودة إلى تحسين الأداء المالي للشركات.

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دراسة تناولت العلاقة بين المتغيرين

عنوان الدراسة:

أثر آليات حوكمة الشركات على ممارسات إدارة الأرباح في الشركات السعودية المدرجة
(2006–2017)

فكرة الدراسة:

هدفت الدراسة إلى تحليل تأثير آليات حوكمة الشركات مثل مجلس الإدارة ولجنة المراجعة وهيكل الملكية في الحد من ممارسات إدارة الأرباح في الشركات المدرجة في السوق المالي السعودي.
المنهج:

اعتمدت الدراسة على تحليل البيانات المالية للشركات المدرجة خلال الفترة (2006–2017)،
باستخدام مؤشرات لقياس مستوى الحوكمة وممارسات إدارة الأرباح.

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03

دراسة تناولت العلاقة بين المتغيرين

أهم نتائج الدراسة :

- أثر آليات حوكمة الشركات على ممارسات إدارة الأرباح في الشركات السعودية المدرجة
- تسهم آليات الحوكمة في الحد من ممارسات إدارة الأرباح.
- يؤدي تطبيق الحوكمة إلى تحسين جودة التقارير المالية.
- تساعد الحوكمة في تعزيز الشفافية والمصداقية في المعلومات المالية.

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الاستنتاج العام

تشير نتائج الدراسات السابقة إلى أن حوكمة الشركات تمثل أحد أهم الأدوات التي تسهم في تعزيز الشفافية والرقابة داخل الشركات. كما توضح الدراسات أن تطبيق مبادئ الحوكمة يسهم في تحسين جودة التقارير المالية والحد من الممارسات المحاسبية غير السليمة مثل إدارة الأرباح، مما ينعكس إيجاباً على الأداء المالي للشركات ويعزز ثقة المستثمرين في الأسواق المالية.

شاكر لكم جهودكم .. والسلام عليكم ورحمة الله وبركاته



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University
of Glasgow

**The Effect of Corporate Governance
Mechanisms on Earnings Management
Practices in Saudi Listed Companies**

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**Submitted in Fulfilment of the Requirements
for the Degree of Doctor of Philosophy in
Accountancy**

**Adam Smith Business School
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ABSTRACT

The main objective of this thesis is to examine the impact of corporate governance mechanisms on earnings management practices in Saudi Arabia. To achieve this aim, the study first analyses the relationship between the level of compliance with the Saudi Corporate Governance Code (SCGC) and earnings management practices by employing a self-constructed corporate governance index (i.e., the compliance-index model), derived mainly from the 2017 Saudi Corporate Governance Code. Second, the study examines the association between a number of individual corporate governance mechanisms (i.e., the equilibrium-variable model) and earnings management practices in Saudi listed firms. Third, it examines the influence of family ownership on the association between corporate governance mechanisms (measured by a comprehensive governance index) and earnings management practices in Saudi listed firms. Through use of a sample of 112 Saudi listed firms between 2006 and 2017 (i.e., 994 firm-year observations) together with insights from agency theory, the compliance index model produces results showing a statistically significant and negative association between the Saudi Corporate Governance Index (SCGI) and the level of earnings management practices. However, this result does not hold for firms with high family ownership, since the results reveal that the effectiveness of corporate governance (measured by the SCGI) in constraining earnings management is reduced in Saudi firms with high family ownership. In a series of sensitivity analyses, this evidence is robust to (i) alternative earnings management models, (ii) endogeneity, and (iii) alternative proxy for family control.

Regarding the equilibrium-variable model, the results indicate that Saudi firms are likely to have lower levels of earnings management practices if they have a high percentage of strictly independent directors on the boards, a larger board size, and audit committees that meet more often. Additionally, the results show that Saudi firms with higher government ownership, institutional ownership and family ownership have lower levels of earnings management practices. In contrast, the current study did not find any evidence that the strict independence of audit committee index, percentage of directors with multiple directorships, percentage of family directors on the board and percentage of blockholders ownership have any significant relationship with the extent of earnings management practices in the Saudi firms. Also, the study found that non-strict board/audit independence is not effective in

reducing earnings management practices in Saudi firms. These results are moderately robust to (i) alternative earnings management models, (ii) endogeneity, and (iii) alternative proxies for strict board independence. Finally, the findings of this study indicate the effectiveness of the governance provisions provided in the 2017 Saudi Corporate Governance Code in improving governance practices in the Saudi context.

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AUTHOR'S DECLARATION

“I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.”

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Signature: 

LIST OF ABBREVIATIONS

Abbreviation	Definition
CGQ	Corporate Governance Quotient
CLSA	Credit Lyonnais Security Asia
CMA	Capital Markets Authority
GA	General Assembly
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
GICS	Global Industry Classification Standard
GMI	Governance Metrics International
IFRS	International Financial Reporting Standards
IPO	Initial public offering
IRRC	Investors Responsibility Research Centre
ISS	Institutional Shareholder Services
M&A	Mergers and acquisitions
MENA	Middle East and North Africa
MSCI	Morgan Stanley Capital International
	Organization for Economic Cooperation and
OECD	Development
OLS	Ordinary least squares
	Organization of the Petroleum Exporting
OPEC	Countries
PCA	Principal component analysis
SAMA	Saudi Arabian Monetary Agency
SEC	Securities and Exchange Commission
	Saudi Organization for Certified Public
SOCPA	Accountants
SOX Act	Sarbanes-Oxley Act
Tadawul	Saudi Stock Exchange

CHAPTER ONE

Introduction

1 Introduction

Over the past two decades, a number of giant public corporations, such as Enron and WorldCom, have collapsed due to the involvement in fraudulent financial reporting (Ravisankar et al., 2011). Studies show that these aggressive accounting practices stem from earnings management practices (Rahman et al., 2016; Persons, 2005; Hasnan et al., 2013). However, the collapse of these companies has damaged their reputation and raised the shareholders' and stakeholders' concerns about the transparency and credibility of the financial information disclosed by the companies (Katmon & Farooque, 2017). Therefore, to restore the confidence of the stakeholders in capital markets and to minimise earnings management practices, regulatory bodies have imposed corporate governance rules after the occurrence of the corporate financial scandals.

For example, in the US, after the collapse of Enron and other high-profile American companies, the Sarbanes-Oxley Act of 2002 was introduced and applied to all listed companies in the US (Persons, 2005). Likewise, in the Saudi context, corporate governance reforms were established in the wake of the 2006 Saudi stock market crisis (Al-Faryan, 2020). Due to this crisis, the Saudi Capital Market Authority (CMA) in 2006 issued the first corporate governance code in Saudi Arabia to alleviate the negative implications of the Saudi stock market crash. The crisis resulted in the Saudi stock market losing about 50% of its market capitalisation at that time.(Gerged & Agwili, 2020). Therefore, the Saudi policymakers introduced the new governance regulations to restore investors' confidence in the Saudi capital market and address the issues that contributed to the Saudi market crash. These issues included the absence of solid governance regulations, weak legal framework, lack of accountability, weak investor protections, and lack of disclosure and transparency in the financial reporting of Saudi listed firms (Bahrawe et al., 2016; Al Nasser, 2020; Al Otaibi, 2019).

Although the introduction of the 2006 Saudi corporate governance code has improved the governance and the disclosure practices of Saudi listed firms (e.g., Al-Janadi et al., 2016; Al-Bassam et al., 2015), the Saudi stock market has witnessed several corporate accounting scandals in recent years (e.g., Mobily)¹ (Zerban, 2018). These accounting scandals have raised public awareness regarding the need for more credible and transparent financial disclosure and the necessity of further improvements in the existing governance regulations in the Saudi market (Algoere & Ali, 2019). Therefore, CMA responded to these issues by introducing a new Saudi corporate governance code in 2017, which replaced the previous corporate governance code issued in 2006 (Algoere & Ali, 2019; Rizvi & Hussain, 2022).

Following the emergence of several accounting scandals worldwide, the topic of corporate governance and earnings management practices has attracted the attention of a significant number of authors and researchers, which manifested in the publication of numerous studies that examine the effectiveness of corporate governance mechanisms in constraining earnings management practices (Abdou et al., 2020; Feng & Huang, 2020; Al-Okaily et al., 2020; Saona et al., 2020; Wan Mohammad & Wasiuzzaman, 2019; Suyono & Farooque, 2018; Katmon & Farooque, 2017; Baatour et al., 2017; Sáenz González & García-Meca, 2014). This literature has been guided by agency theory, which suggests that the divergence of interests between shareholders (the principal) and the managers (the agent) in the public companies causes an agency problem (Jensen and Meckling, 1976). This agency problem stems from several inherent factors in the modern corporation, such as the separation between the management functions and ownership, expensive enforceable contracts, and the information asymmetry between insiders of the firms and shareholders (Hoque, 2006; Jensen and Meckling, 1976). These shortcomings in the agency relationship between managers and absentee owners might induce the managers to involve themselves in earnings management practices (Davidson et al., 2005). Managers might utilise the information asymmetry between insider and outside investors to hide the actual financial information of the firms (Healy & Wahlen, 1999), or they might exercise their discretion on the firms' earnings to meet their interests. For instance, managers might use earnings management practices to

¹ In 2014, Mobily, one of Saudi Arabia's largest telecommunication companies, was reported as a corrupt firm. The investigations conducted by CMA revealed that the company had recorded premature revenue from wholesale broadband leases and mobile promotional campaigns. Therefore, Mobily was required to restate 27 months of earnings, which reduced its profit by 1.76 billion riyals (\$469 million) (Zerban, 2018).

increase the firm's reported earnings to obtain higher compensation value (Healy, 1985; Healy & Wahlen, 1999).

However, such opportunistic behaviours by the managers obviously contradict the company's primary objective, which is maximising the shareholders' wealth. Therefore, to mitigate the agency problem in the modern firms and to prevent opportunistic managerial behaviours, firms should employ an effective monitoring system such as corporate governance mechanisms (Hoque, 2006; Fama and Jensen, 1983; Haniffa and Hudaib, 2006; Bonazzi and Islam, 2007; Peasnell et al., 2005; Abdul Rahman and Haneem Mohamed Ali, 2006). For instance, the presence of the board of directors in the firms as a form of governance mechanism is expected to provide effective monitoring of the managers' activities, the board of directors has oversight of the activities of the firm and is seen as the highest level of decision control systems in the company. Additionally, the board is responsible for monitoring the practices of the top management and overseeing the daily operation of the company (Fama and Jensen, 1983). In the same vein, the presence of the audit committee within the firm's governance system is expected to constrain earnings management practices (Be´dard et al., 2004; Saona et al., 2020; Sharma and Kuang, 2014), since the responsibilities of the audit committee include supervising the process of the financial reporting, evaluating the firm's internal control systems, and ensuring that the external auditor is capable of detecting any manipulation in the financial reporting (Felo et al., 2005; Klein, 2002). Hence, internal corporate governance mechanisms are expected to enhance the integrity and the reliability of the financial reporting process by establishing an effective control system that, in turn, will constrain the opportunistic behaviours of the managers (Katmon & Farooque, 2017; Feng & Huang, 2020; Lehmann, 2016).

Based on this theoretical view, a large and growing body of literature has investigated the effectiveness of corporate governance mechanisms on constraining earnings management practices (Abdou et al., 2020; Feng & Huang, 2020; Al-Okaily et al., 2020; Saona et al., 2020; Wan Mohammad & Wasiuzzaman, 2019; Suyono & Farooque, 2018; Katmon & Farooque, 2017; Baatour et al., 2017; Sáenz González & García-Meca, 2014; Qamhan et al., 2018; Alshetwi, 2016). Although prior studies reveal competing views concerning the effectiveness of corporate governance in constraining earnings management practices, they generally provide supporting evidence for the constraining role of corporate governance on earnings management practices in both developed and emerging markets.

The majority of prior studies in the literature examine the influence of corporate governance mechanisms on earnings management practices by using either the individual corporate governance mechanisms such as board independence, board size, audit independence, and board meetings (Sáenz González & García-Meca, 2014; Rahman & Ali, 2006; Jamaludin et al., 2015; Peasnell et al., 2005; Saona et al., 2020) or by using corporate governance indices to proxy for the corporate governance mechanisms in the companies (Larcker et al., 2007; Bowen et al., 2008; Lehmann, 2016). However, limited studies combine the two approaches (e.g., Elghuweel et al., 2016; Feng & Huang, 2020). Prior studies have used different approaches to proxy for corporate governance mechanisms due to the absence of a unifying theory in the corporate governance literature that guides researchers in constructing corporate governance measures (Al-Najjar & Al-Najjar, 2017; Baker & Anderson, 2010b; Scholtz & Smit, 2015; Brown et al., 2011). Nevertheless, there is no one approach that is superior to the other since both approaches have deficiencies and strengths (Brown et al., 2011; Schnyder, 2012; Baker & Anderson, 2010; Daines et al., 2010). For instance, individual corporate governance measures have limited ability to capture the multidimensional aspects of a corporate governance system (which might correlate with each other), and they cannot reflect on their own the overall quality of corporate governance in the companies (Bekiris and Doukakis, 2011; Brown et al., 2011; Larcker et al., 2007). Consequently, using individual corporate governance measures in the empirical analysis to proxy for a complex concept like corporate governance might induce the risk of correlated omitted variables bias (Larcker et al., 2007; Schnyder, 2012). Unlike individual corporate governance mechanisms, corporate governance indices are broader in the scope as they incorporate several individual corporate governance measures into one index (Elghuweel et al., 2016; Agrawal and Knoeber, 1996; Pergola and Joseph, 2011). This, in turn, might make the governance index capture better the quality of the firms' governance mechanism than individual corporate governance characteristics do. However, despite this advantage of the governance index, computing the governance index might induce higher measurements error than computing individual corporate governance characteristics (Baker & Anderson, 2010; Daines et al., 2010). For instance, measuring a single governance characteristic such as a board's stock ownership involves recording one value leading to lower measurement error (Baker & Anderson, 2010). In contrast, the governance index has numerous provisions covering different governance aspects. Therefore, the probability of making mistakes in recording these values when computing the governance index score is higher than in a single governance characteristic (Baker & Anderson, 2010). Consequently, using such a governance proxy (i.e., governance index) that involves considerable governance measures might lead the statistical analysis to misspecify the relationship between corporate

governance and any economic outcome (Baker & Anderson, 2010). Hence, based on the discussion above, the inherent limitations in constructing corporate governance measures (i.e., single governance mechanisms or governance index) produce governance measures that suffer from low reliability and construct validity (Larcker et al., 2007; Black et al., 2017). Larcker et al. (2007) argue that such governance measures might explain the inconsistency of the results of studies that examine the association between corporate governance and various accounting and economic outcomes.

To overcome the inherent limitations of corporate governance measures, the current study seeks to extend and contribute to the existing literature by first investigating how corporate governance mechanisms influence earnings management practices, using both the compliance-index model (composite governance index is the main independent variable in the model) and the equilibrium-variable model (individual corporate governance characteristics are the main independent variables in the model). Employing both approaches in this study will help capture more precisely the quality of corporate governance in Saudi firms since each approach will offset the limitations of the other². Therefore, the study's findings regarding the effect of corporate governance on earnings management practices will be more conclusive than the findings of prior studies that measure corporate governance by using either the individual corporate governance characteristics or governance index.

Second, the current study contributes to the literature that examine the association between board independence and earnings management practices by developing a comprehensive measure to proxy for strict board independence. The measure contains 11 formal independence criteria extracted from the 2017 Saudi Corporate Governance Code to evaluate the independence of each declared independent director on the board and audit committee of Saudi firms. By using this measure for board and audit independence, this study addresses the limitations of previous studies that used the percentage of independent directors on the board as a proxy for board independence (e.g., Park and Shin, 2004; Peasnell et al., 2005; Saona et al., 2020; Suyono and Farooque, 2018). These studies could be criticised for not considering the quality of the directors' independence when computing the ratio of the independent directors on the board (Crespí-Cladera and Pascual-Fuster, 2014; García-Meca and Sánchez-Ballesta, 2009). Accordingly, their findings regarding the effectiveness of the independent directors in constraining earnings management practices might be questionable.

² Please see section 2.2.1 in the literature review chapter and section 1.5 in this chapter for further discussion on this issue.

However, the developed measure in this study is expected to provide an accurate evaluation of the board independence in the Saudi firms. Therefore, by using this measure, this study is expected to provide accurate and reliable results regarding the effectiveness of board independence in constraining earnings management practices.

Third, this study contributes to the body of literature by examining the influence of family ownership on the association between corporate governance mechanisms (measured by using a comprehensive governance index) and earnings management practices in Saudi listed firms. According to the researcher's knowledge, no single study exists in the literature that examines the effectiveness of corporate governance in reducing earnings management practices in family firms by constructing a comprehensive governance index. Hence, this study is distinct from prior studies that only examined the effectiveness of individual corporate governance mechanisms (e.g., board independence and audit independence) in constraining earnings management practices in family firms (e.g., Prencipe and Bar-Yosef, 2011; Jaggi and Leung, 2007; Jaggi et al., 2009; Wan Mohammad and Wasiuzzaman, 2019). Therefore, the findings of this study are expected to be more convincing since the corporate governance index will be better able to capture the quality of the governance mechanism in the firms than the individual corporate governance characteristics. Therefore, the conclusion of the current study regarding the effectiveness of corporate governance in family firms will not be limited to specific components of corporate governance, such as audit committee characteristics or board composition (Bekiris and Doukakis, 2011).

In the Saudi context, this study makes a number of distinctive contributions. (i) unlike prior Saudi studies that examine the effect of the limited number of individual corporate governance characteristics on earnings management practices (e.g., Alshetwi, 2018; Baatour et al., 2017; Al Nasser, 2021; Habbash, 2012), this study extends these studies by examining the effect of seven individual corporate governance mechanisms (i.e., strict board independent, strict audit committee independent, board size, board meeting, audit meeting, multiple directorships and family members on the board) and four ownership types (i.e., government, institutional, family, and blockholders' ownership) on constraining earnings management practices in Saudi listed companies. Hence, this study can be considered broader in scope than previous Saudi studies. Additionally, it will help expand the current understanding regarding the effectiveness of these governance mechanisms in the Saudi context, which has institutional environments remarkably different from the US or UK.

(ii) Previous Saudi studies (e.g., Alshetwi, 2018; Baatour et al., 2017; Al Nasser, 2021; Althuneibat, 2016; Habbash, 2012) suffer from methodological deficiencies such as ignoring the endogeneity problem and employing a smaller sample size and shorter time scale. Therefore, this study overcomes these limitations by using the instrumental variable approach to address the possible endogeneity which may exist between internal governance mechanisms and earnings management. In addition, this study uses a larger sample size and longer time scale than prior Saudi studies. This, in turn, will allow the researcher to capture more precisely the effects of both cross-sectional and time-series changes in governance mechanisms on earnings management and improve the generalisation of the results (Omar & Simon, 2011; Ntim et al., 2012).

(iii) This study can be considered innovative in the Saudi context since it employs the largest self-constructed SCGI that contains 142 governance provisions. Additionally, this study will provide evidence for the first time on the level of compliance with the 2017 Saudi Corporate Governance Code achieved by Saudi firms.

In a sample of 112 Saudi listed firms from 2006-2017, first, the results of the compliance index model show a statistically significant and negative association between the SCGI and the level of earnings management practices. This implies that Saudi listed firms with better corporate governance standards tend to have lower earnings management practices. However, this result does not hold for firms with high family ownership since the results reveal that the effectiveness of corporate governance (measured by SCGI) in constraining earnings management is reduced in Saudi firms with high family ownership. In a series of sensitivity analyses, the evidence of the study is robust to (i) alternative earnings management models, (ii) endogeneity, and (iii) alternative proxy for the family control.

Second, regarding the equilibrium-variable model, the results indicate that Saudi firms are likely to have lower levels of earnings management if they have a large proportion of strict independent directors on the boards, larger board size, and their audit committees meet more often. Additionally, the results show that Saudi firms with higher government ownership, institutional ownership and family ownership have lower levels of earnings management practices. These results are moderately robust to (i) alternative earnings management models; (ii) endogeneity; and (iii) alternative proxy for strict board independence.

1.1 Research problem

During the past couple of decades, several giant public firms in the western world, such as Enron and WorldCom, have collapsed due to their involvement in fraudulent financial reporting (Ravisankar et al., 2011). Prior studies (Rahman et al., 2016; Persons, 2005; Hasnan et al., 2013) show that these aggressive accounting practices stem from earnings management practices. Similar to western firms, accounting scandals have made their way to the Saudi market in which several Saudi companies have engaged in aggressive accounting practices, resulting in CMA reporting them as corrupt firms (e.g., Mobily and Al-Mojil Group). In addition to these scandals, the Saudi market witnessed a serious market crisis in 2006, which resulted in the Saudi stock market losing about 50% of its market capitalisation at that time (Gerged & Agwili, 2020). These incidents have shaken investor's confidence in the Saudi capital market and raised the shareholders' and stakeholders' concerns regarding the quality of firms' governance mechanisms and the credibility of the financial information disclosed by the companies (Algoere & Ali, 2019). Thus, to restore the confidence of the stakeholders in the Saudi capital markets, Saudi regulatory bodies have reformed corporate governance rules by introducing the Saudi corporate governance code for the first time in 2006 and updating it comprehensively in 2017. The main aim of this reform was to address the factors that led to the Saudi market crash and the occurrence of accounting scandals in Saudi firms. These factors included the absence of solid governance regulations, weak legal framework, lack of accountability, weak investor protections, and lack of disclosure and transparency in the financial reporting of Saudi-listed firms (Bahrawe et al., 2016; Al Nasser, 2020; Al Otaibi, 2019).

Due to the importance of the new governance code to the Saudi market, this study is conducted to investigate whether the new governance code that put forward by CMA is effective in limiting the practices of earnings management, which was the leading cause of the accounting scandals in the Saudi firms (e.g., Mobily and Al-Mojil Group). Furthermore, the current study fills the gap and provides unique contribution to the Saudi governance literature by investigating the effectiveness of this new governance regulation in Saudi Arabia since, according to the researcher's knowledge, no single study provides evidence regarding the efficiency of the new governance regulations in constraining earnings management practices in the Saudi firms. Therefore, this study examines the efficiency of the new governance regulation by first analysing the relationship between the level of compliance of Saudi firms with the Saudi Corporate Governance Code (SCGC) and earnings

management practices by using a self-constructed corporate governance index (i.e., the compliance-index model), that derived mainly from the 2017 Saudi Corporate Governance Code. Second, this study examines the association between several individual corporate governance mechanisms (i.e., the equilibrium-variable model) and earnings management practices in Saudi-listed firms. Third, this study examines the influence of family ownership on the association between corporate governance mechanisms (measured by a comprehensive governance index) and earnings management practices in Saudi-listed firms. Finally, the findings of this study are expected to enhance the current understanding of investors, policymakers and regulatory bodies in Saudi Arabia, such as CMA, the Ministry of Commerce and Tadawul regarding the efficiency of the new governance regulations since this study provides an empirical assessment of the effectiveness of the 2017 Saudi Corporate Governance Code in constraining earnings management practices in Saudi firms.

1.2 Motivation of the Study

First, the researcher is motivated to examine the governance practices in the Saudi context due to raised concern by shareholders regarding the quality of corporate governance practices in the Saudi firms after the collapse of the Al-Mojil Group in 2012 and the occurrence of the accounting scandal of Mobily in 2014 (Algoere & Ali, 2019). Regulatory bodies in Saudi Arabia have responded to this concern by reforming corporate governance regulations to strengthen corporate governance practices and increase the credibility and transparency of financial disclosure in Saudi firms (Al-Faryan, 2020). Specifically, CMA introduced a new Saudi corporate governance code in 2017, which replaced the previous corporate governance code issued in 2006 (Algoere & Ali, 2019; Rizvi & Hussain, 2022). According to the researcher's knowledge, there is no single study in the Saudi governance literature that investigate the effectiveness of this new governance regulation in Saudi Arabia. Thus, this study is motivated to fill this gap by examining the relationship between the level of compliance of Saudi firms with the Saudi Corporate Governance Code (SCGC) and earnings management practices using a self-constructed corporate governance index (i.e., the compliance-index model), that derived mainly from the 2017 Saudi Corporate Governance Code. In addition, this study provides evidence for the first time regarding the efficiency of the new independence criteria provided by the 2017 Saudi Corporate Governance Code to assess the quality of the independence of independent directors on the board of Saudi firms. It is worth mentioning that earnings management practices are selected

Table 5.13: Variance Inflation Factor (VIF) for independent variables in the equilibrium-variable model

Variables	VIF	1/VIF
FSZ	2.71	0.369
FAMMB	2.019	0.495
ROA	1.999	0.5
LEV	1.961	0.51
FAMOWN	1.807	0.553
GOVOWN	1.776	0.563
LOSS	1.634	0.612
INSTOWN	1.517	0.659
BRDSIZE	1.424	0.702
BIG4	1.382	0.724
INTERLOCK	1.324	0.755
AUDINDEX	1.229	0.814
AUDMEET	1.226	0.816
BRDMEET	1.18	0.848
STRIND	1.163	0.86
BLOCKOWN	1.145	0.874
Mean VIF	1.593	.

In addition, this study executed the variance inflation factor (VIF) test to check for the multicollinearity between the variables of the equilibrium-variable model. The VIF test in Table 5.13 indicates that no value is greater than 10, which confirm the non-multicollinearity in the equilibrium-variable model. Hence, the results of the Pearson correlations and (VIF) test confirm that multicollinearity does not appear to be a problem in the equilibrium-variable model.

5.6.4 Heteroscedasticity

It has been assumed in the OLS model that the variance of the error term should be constant, which refers to the assumption of Homoscedasticity (Brooks, 2008). In contrast, if the error term exhibits inconstant variance, it indicates the presence of Heteroscedasticity in the model (Brooks, 2008). Field and Field (2018) state that Heteroscedasticity occurs when the residuals have inconstant variance at each point of the independent variables. The consequence of having Heteroscedasticity in the model is that it will bias the standard error of the estimates (Brooks, 2008). This, in turn, will bias the statistics tests and the confidence intervals of the coefficients and lead to misleading inference. However, the presence of Heteroscedasticity will not affect OLS estimators. They will still produce unbiased and consistent coefficient estimates (Brooks, 2008). The study has inspected Heteroscedasticity in both the compliance-index and the equilibrium-variable model by performing the Breusch-Pagan test, as suggested by Cooke (1998) and Heij et al. (2004). The null hypothesis of this test states that the error term in both models has constant variance (Homoscedasticity).

Table 5.14: Breusch-Pagan / Cook-Weisberg test for Heteroscedasticity in the Compliance-Index Model and the equilibrium-variable model

	The Compliance-Index Model	The Equilibrium-variable model
Chi2(1) =	43.19	49.26
Prob> chi2 =	0.0000***	0.0000***
Ho: Constant variance		
Variables: fitted values of EMJ		

*** p<0.01, ** p<0.05, * p<0.1

It appears from Table 5.14 that the p-value is highly significant at the 1% level in both the compliance-index and the equilibrium-variable model. Therefore, the null hypothesis is rejected, implying that the compliance-Index and the equilibrium-variable model suffer from the Heteroscedasticity problem (Gujarati, 2003).

5.6.5 Independent Errors (Autocorrelation)

In order to run OLS regression, the error terms of the regression should be uncorrelated (Field & Field, 2018). In other words, the covariance between the error terms of the regression should be zero (Brooks, 2008). However, Autocorrelation occurs in the regression model when the residuals of the two observations are correlated (Field & Field, 2018). Similar to the Heteroscedasticity issue, the presence of Autocorrelation in the OLS model will not bias the coefficient estimates of the OLS, but they will become inefficient, in which case the statistical significance of the coefficient regression will be misleading (Brooks, 2008). Therefore, an incorrect inference might be drawn as to whether a certain independent variable acts as a real determinant of the variation of dependent variables in the regression model (Brooks, 2008). This study ran several tests to check for Autocorrelation, the Breusch-Godfrey LM test and the Durbin-Watson test, as suggested by Field and Field (2018).

Table 5.15: Durbin-Watson test for Autocorrelation in the Compliance-Index Model and the equilibrium-variable model

	Lags (p)	chi2	Df	Prob > chi2
The Compliance-Index Model	1	18.027	1	0.0000***
The Equilibrium-variable model	1	10.821	1	0.001***
H0: no serial correlation				

*** p<0.01, ** p<0.05, * p<0.1

The Durbin–Watson test is used to test the relationship between the error term of the regression and its lagged value (Gujarati, 2003). Therefore, the null hypothesis of the Durbin-Watson test implies that the error terms at the time t-1 and t are uncorrelated with each other. Table 5.15 presents the results of the Durbin-Watson test for the Compliance-Index Model and equilibrium-variable model. As demonstrated in Table 5.15, the Chi2 values for the Compliance-Index Model and equilibrium-variable model are 18.027 and 10.821, respectively. These Chi2 values are high and significant at 1%, indicating the rejection of the null hypothesis of no serial correlation. Hence, both the Compliance-Index Model and equilibrium-variable models suffer from a serial correlation problem.

The limitation of the Durbin-Watson test is that it can only detect the serial correlation of one period lag (one year). However, the Breusch-Godfrey test can detect autocorrelation up to any period lag (Brooks, 2008). Therefore, the Breusch-Godfrey test was run on 12-period lags (12 years), which is the time period of the sample of this study.

Table 5.16: Breusch-Godfrey LM test for autocorrelation for 12-period lag (12 years)

	lags(p)	chi2	Df	Prob > chi2
The Compliance-Index Model	12	38.658	12	0.0001***
The Equilibrium-variable model	12	25.397	12	0.013**
H0: no serial correlation				

*** p<0.01, ** p<0.05, * p<0.1

Table 5.16 reveals that the results of the Breusch-Godfrey LM test for 12-period lag (12 years) indicate that the Compliance-Index Model and equilibrium-variable model suffer from serial correlation. Since the Chi2 values for Compliance-Index Model and equilibrium-variable model are 38.658 and 25.397, respectively, these Chi2 values are high and significant at 1%, indicating the rejection of the null hypothesis of no serial correlation. In conclusion, the results of the Breusch-Godfrey LM test and Durbin-Watson test confirm the presence of the Autocorrelation problem in both the Compliance-Index Model and equilibrium-variable model.

To sum up, the results of the OLS tests show that the data of the study has met only the linearity and multicollinearity assumptions. However, regarding the remaining assumptions, First, the results show that all of the study's variables do not follow the normal distribution. Thus, all the continuous variables in this study are winsorised up to the 5th and beyond the 95th percentiles to mitigate the issue of the non-normalities. Second, the compliance-index model and the equilibrium-variable model show evidence of heteroscedasticity and serial correlation thus. This study used random- effects model based on Generalised Least Squares (GLS) To account for the problem of heteroscedasticity and autocorrelation presented in the compliance-index model as suggested by prior studies (Alzoubi, 2017; Brooks, 2008; Sáenz González & García-Meca, 2014; Shen & Chih, 2007). Regarding the issues of the heteroscedasticity and autocorrelation in the equilibrium-variable model, this study follows prior studies (Masliza et al., 2011; Kouaib & Jarboui, 2016; Mayur & Saravanan, 2017) that use Feasible Generalised Least Squares (FGLS) regression proposed by (Wooldridge, 2001) to account for these issues. Sections 5.7.1 and 5.7.2 provide justifications of the selection of these models to account for the problems of heteroscedasticity and autocorrelation in this study.

5.7 Empirical results and discussion

Following the discussion on the OLS assumptions in Section 5.6, this section presents a discussion of the results of the compliance-index model and the equilibrium-variable model. The compliance-index model aims to examine the relationship between SCGI and earnings management practices, while the equilibrium-variable model investigates the relationship between individual corporate governance characteristics and earnings management.

5.7.1 Empirical Results and discussion of the compliance index model

Since the data of this study combined both time series and cross-section observations, they represent panel data (Gujarati, 2003). Thus, similarly to Al-Okaily et al. (2020) and Setia-Atmaja et al. (2011) Breusch and Pagan Lagrangian multiplier test was conducted first to ascertain whether OLS or random effect model is better suited for the data of this study. The null hypothesis of the test states that there is no random effect in the data (Setia-Atmaja et al., 2011).

Table 5.17: Breusch and Pagan Lagrangian multiplier test for random effects

chibar2(01)	Prob > chibar2
95.05	0.0000***

***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

As shown in Table 5.17, the value of chibar is (95.05) and the $p=0.00$, which indicates rejecting the null hypothesis of no random effect at 1% level of significance. Thus, these results of the Breusch and Pagan Lagrangian (LM) test in Table 5.17 support the use of the random effect model (i.e., panel data regression).

Second, in order to determine whether the random-effect model is the model that best fits the data, Hausman's (1978) specification test was conducted following prior studies that used the Hausman test to determine whether to run fixed or the random-effect model (Setia-Atmaja et al., 2011; Sáenz González & García-Meca, 2014; Gujarati, 2003; Brooks, 2008).

The null hypothesis of the Hausman (1978) test states that there is no significant difference between fixed and random effect models (Gujarati, 2003). Besides, the Hausman test examined whether there is any correlation between the error term (u) and the independent

variables in the model, which refers to exogeneity (Alzoubi, 2017). If no correlation exists, the random-effects model should be used; however, if correlation exists, the fixed-effects model should be used (Alzoubi, 2017).

Table 5.18: Hausman (1978) specification test

	Coef.
Chi-square test value	6.84
P-value	0.3358

The non-significant results obtained from the Hausman test (Chi-square 6.84, $p=0.36$) in Table 5.18 indicates that there are no significant differences between fixed and random effect models, and the error term (u) is not correlated with independent variables. Hence, the random effect model should be used in this study (Gujarati, 2003). The random effect requires the assumption of no correlation between the error term (u) and the independent variables. Also, it assumes that the error term should have zero mean, constant variance, and independence from the other individual error terms in the data (autocorrelation) (Brooks, 2008). The random-effect model used in this study has met the assumption of no correlation between the error term (u) and the independent variables, since the Hausman test results confirmed this case.

As shown in Section 5.6 the OLS model suffers from heteroscedasticity and autocorrelation issues. Thus, using OLS in this study will render the OLS estimates to be inefficient (Brooks, 2008). To account for the problem of heteroscedasticity and autocorrelation, this study used random-effects based on Generalised Least Squares (GLS)²⁷ as suggested by prior studies (Alzoubi, 2017; Brooks, 2008; Sáenz González & García-Meca, 2014; Shen & Chih, 2007).

²⁷ In the previous section, the researcher mentioned the random-effects model as suggested by the Hausman test. However, here the researcher runs In STATA software random-effects based on Generalised Least Squares (GLS) because GLS is a remedy for heteroscedasticity and autocorrelation issues.

Table 5.19: Random effects (GLS) findings of the compliance-index model based on the modified Jones Model (1995)

Dependent variable	Coef.	z-value
EMJ		
Independent variables		
SCGI	-0.0002171**	-2.18
Control Variables		
FSZ	-0.0079818***	-5.06
LEV	0.0452864 ***	4.46
ROA	0.0426423*	1.77
BIG4	0.000727	0.73
LOSS	0.0132902***	3.29
Constant	0.1556693***	7.30
Number of obs.	994	
R-squared	18%	
Chi-square	54.367***	
Prob > chi2	0.000	

Notes: Variables are defined as follows: Earnings management (EMJ): The absolute value of discretionary accrual represents the firm level of earnings management practices as measured by Modified Jones Model (1995). Saudi Corporate Governance Index (SCGI): Corporate Governance compliance and disclosure index, consisting of (142) Provisions. Governance provisions extracted mainly from 2017 Saudi corporate governance code. A value of 1 is given to each corporate governance provision disclosed by the firms and 0 otherwise; the index scaled to the value between 0% and 100%. Firm Size (FSZ): Measure as the natural logarithm of the total assets of the firm. Leverage (LEV): Measure as the book value of total debt scaled by total assets. Profitability (ROA): Measure as the ratio of net income to total assets. Audit Quality (BIG4): The dummy variable that takes the value of 1 if the firms employ one of the big 4 audit firms in the time t to perform their audit services or zero otherwise. Loss (LOSS): The dummy variable that takes the value of 1 if the firm reports losses or zero otherwise. ***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

Table 5.19 presents the results of Random effects (GLS) regression for the total sample of firms. The EMJ is included as a dependent variable and the SCGI as an independent variable to examine whether corporate governance mechanisms plays a role in constraining earnings management practices. The study also controls for several factors where prior literature has suggested a link either with corporate governance or with earnings management. These include return on assets, firm size, leverage and audit quality (Watts & Zimmerman, 1986; Sáenz González & García-Meca, 2014; Bartov et al., 2000; Cormier et al., 2013; García Lara et al., 2017).

For the total sample, the result indicates that the SCGI is negatively associated with the absolute value of earnings management. This is consistent with the hypothesis H1, which states that there is a significant and negative relationship between firm-level corporate governance and earnings management practices. Table 5.19 shows that the coefficient of SCGI is negative (b=-0.0002171) and statistically significant at 5% level even after controlling for several factors that have been shown to affect the level of earnings

management. Hence, H1 cannot be rejected. Overall, the findings suggest that higher levels of corporate governance score are associated with lower levels of earnings management. In other words, better corporate governance structure (as measured by the higher corporate governance index score) seems to constrain earnings management practices, leading to higher earnings quality. Hence, this result is consistent with the argument of agency theory which suggests that employing a governance system in the firm will help in implementing well-established control and incentive mechanisms to constrain opportunistic behaviours in the company and increase the integrity and reliability of the financial reporting (Jensen and Meckling, 1976).

Similar to this study, other studies have documented the effectiveness of the corporate governance index in limiting earnings management practices. For instance, Bekiris & Doukakis (2011) examine the association between CG mechanism and earnings management by constructing a CG index consisting of 55 individual CG provisions. Their results show a negative relationship between the level of CG mechanism and earnings management. Also, Jiang et al. (2008) find that higher levels of corporate governance score are associated with lower absolute discretionary accruals and higher quality of earnings. Unlike prior studies that limit their investigations of the effectiveness of corporate governance mechanisms to individual governance attributes such as board independence or board size (e.g., Sáenz González & García-Meca, 2014; Rahman & Ali, 2006; Jamaludin et al., 2015; Peasnell et al., 2005; Saona et al., 2020), this study shows that the multi-dimensional characteristics of the CG index approach provide convincing evidence regarding the collective effect of internal corporate governance mechanisms on reducing earnings management practices.

As discussed above, in line with this study's expectation, corporate governance mechanisms that stem from the Saudi corporate governance code seem to effectively mitigate agency problems and improve the quality of the financial reporting in Saudi firms. Thus, this result has confirmed the effectiveness of the newly implemented governance code in improving the governance practices in Saudi firms. Despite the effectiveness of the SCGC, the magnitude of the SCGI coefficient is very low ($b = -0.0002171$), suggesting that the contextual factors in Saudi Arabia, such as the priority of informal arrangements like family tribal relationships and the dominance of family members in Saudi firms, might affect the ability of the corporate governance mechanisms in constraining earnings management

practices in the Saudi firms²⁸. Hence, Saudi policymakers are encouraged to introduce regulations that restrict the participation of family members in the firms. Also, they are encouraged to make all the governance provisions in SCGC mandatory for Saudi firms, thereby enhancing the compliance of Saudi firms with the corporate governance provisions of SCGC.

Regarding the control variables, the coefficient of leverage (LEV) is positive and significant at 1% level. This result implies that firms that have high leverage engage significantly more in earnings management practices. This result might be attributed to the debt covenant hypothesis discussed by Watts & Zimmerman (1986). According to Watts & Zimmerman (1986), under positive accounting theory, managers of firms that have debt contracts may use income increasing earnings management if the firms are close to breaching accounting-based covenants. This is because lenders tend to use specific accounting numbers in the debt contracts in order to restrict the managers' ability to take decisions that may reduce the value of the firms. For example, some debt contracts required the working capital value to be above a certain level. This type of covenant used accounting numbers, such as current assets and current liabilities. Thus, due to these types of accounting-based covenants, the managers have an incentive to adopt accounting choices that lead to an increase in reported earnings to avoid violations of the debt covenants. This is because breach of debt covenants is considered a default. In this case, lenders will have the right to take action against the firms, such as seizure of collateral.

The results of Table 5.19 show that return on assets (ROA) has a positive and significant association with earnings management practices. This result is similar to the findings of Sáenz González & García-Meca's (2014) study, which documented that return on assets was positively associated with earnings management practices. As suggested by Healy (1985) and Degeorge et al. (1999), managers might tend to increase the income of the firm by using income increasing earnings management practices in order to obtain high compensation value. Thus, earnings management practices might be positively associated with return on assets.

Table 5.19 also demonstrates that firm size (FSZ) has a negative relationship with earnings management practices, which means that as the firm gets bigger, the earnings management practices decrease. In explaining this relationship, Kim et al. (2003), Cormier et al. (2013),

²⁸ see sections 5.7.3 and 5.7.4.4 for further evidence and discussion on this matter.

and Sáenz González & García-Meca (2014) argue that larger firms tend to have a well-established internal control system and more highly skilled internal auditors than small firms, which in turn contributes to the quality of the disclosed financial information. Kim et al. (2003) add that larger firms may engage less in earnings management than small companies due to the high reputation cost that larger companies might face if they engaged in these practices. Since, larger companies might already have built up their credibility both in the business community and in the sphere of social responsibility (Kim et al. 2003). In addition, Kim et al. (2003) and Sáenz González & García-Meca (2014) assumed that larger companies might engage less in earnings management because they are under greater scrutiny from media, financial analysts and investors than smaller firms. Empirically, Jiang et al. (2008) examine the effect between the level of corporate governance and earnings quality, based on a sample of 4,311 firms observed in the USA in the years 2002-2004. The study controlled for firm size along with the level of corporate governance variables that were assumed to affect earnings management practices. Their study found that the coefficient of the firm's size was negative and significant at 1% level.

Regarding audit quality, previous empirical studies documented that firms that employ big four auditors to perform their audit services tend to report lower earnings management practises (Alzoubi, 2016) lower accounting fraud (Lennox & Pittman, 2010) and lower accounting restatements (Eshleman & Guo, 2014) than firms that employ non-big four auditors. However, the results of this study show that the coefficient of the BIG4 is positively correlated with earnings management practises and is not significant. This result might occur because the effectiveness of the audit firms is examined in developing countries like Saudi Arabia. Khalil & Ozkan (2016) question the theoretical argument states that large audit firms have an incentive to provide high-quality audit to protect their reputation and avoid litigation risk in developing countries. Khalil & Ozkan (2016) claim that this argument might not be applicable in developing country settings where the litigation is less likely to occur due to weak enforcement by the law and weak investor protection in these countries. This, in turn, might cause large audit firms to provide low-quality audit for firms in developing countries. In line with the findings of the study, Habbash & Alghamdi (2016) found no significant association between audit quality and earnings management practices in the sample of Saudi listed companies from 2006 to 2009. Habbash & Alghamdi (2016) state that the ineffective role of audit quality in reducing earnings management practices may be attributed to the low performance of the large audit firms in Saudi companies. According to Habbash & Alghamdi (2016), big 4 audit firms are not working effectively in Saudi Arabia because it is attached to local auditors. Those auditors do not face rigorous rules if they fail

to protect shareholders' interests because there is an absence of strong protection of investors' interests in most developing countries including Saudi Arabia. Also, these big 4 auditors do not face the risk of reputational damage if they fail in their role, because this failure will be attributed to the local auditors.

Regarding the loss variable, Table 5.19 also show that the coefficient of LOSS is positive and significant at 1% level of significance. This result indicates that firms that experience losses engaged more in earnings management practices. According to Kim et al. (2003), firms adopt earnings management practices in order to avoid reporting losses in their financial statements; several other studies reported similar results (Crespí-Cladera & Pascual-Fuster, 2014; García Lara et al., 2017).

5.7.2 Empirical Results and discussion of the Equilibrium-Variable Model

Since the data of this study combined both time series and cross-section observations, they represent panel data (Gujarati, 2003). Thus, similarly to Al-Okaily et al. (2020) and Setia-Atmaja et al. (2011) Breusch and Pagan Lagrangian multiplier test was conducted first to ascertain whether OLS or random effect model is better suited for the data of this study. The null hypothesis of the test states that there is no random effect in the data (Setia-Atmaja et al., 2011).

Table 5.20: Breusch and Pagan Lagrangian multiplier test for random effects

chibar2(01)	Prob > chibar2
51.63	0.0000***

***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

In Table 5.20 the value of chibar is (51.63) and $p=0.00$, which indicates rejection of the null hypothesis of no random effect at 1% level of significance. Thus, these results of the Breusch and Pagan Lagrangian (LM) test in Table 5.20 support the use of the random effect model.

Second, in order to determine whether the random-effect model is the best model to fit the data, the Hausman (1978) specification test was conducted. The null hypothesis of the Hausman (1978) specification suggests that there are no significant differences between the fixed and random effect models (Gujarati, 2003).

Table 5.21: Hausman (1978) specification test

	Coef.
Chi-square test value	51.63
P-value	0.000***

***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

In Table 5.21 the significant results obtained from the Hausman test (Chi-square 51.63, $p=0.00$) indicate that there are significant differences between the fixed and random effect models, and the error term (u) is correlated with independent variables. Hence, the fixed-effect model should be used in this study (Gujarati, 2003).

However, since the OLS model for the Equilibrium-Variable Model suffers from heteroscedasticity and autocorrelation issues (see Section 5.6), the OLS becomes inefficient. In order to account for the heteroscedasticity and autocorrelation problem, this study follows prior studies (Masliza et al., 2011; Kouaib & Jarboui, 2016; Mayur & Saravanan, 2017) that use Feasible Generalised Least Squares (FGLS) regression proposed by (Wooldridge, 2001) to account for the issues of heteroscedasticity and autocorrelation.

Table 5.22: FGLS regression findings of the equilibrium-variable model (EVM) based on the Modified Jones Model (1995)

Dependent variable	Coef.	z-value
EMJ		
Independent variables		
STRIND	-0.0115822***	-2.92
AUDINDEX	-4.92e-07	-0.00
BRDSIZE	-0.0024588***	-5.37
BRDMEET	0.0014476***	3.46
AUDMEET	-0.0007**	-2.56
INTERLOCK	-0.0026444	-0.94
FAMMB	-0.0018325	-0.30
GOVOWN	-0.0002793***	-4.52
INSTOWN	-0.0001971***	-3.65
FAMOWN	-0.0000901*	-1.65
BLOCKOWN	-0.0004015	-1.47
Control Variables		
FSZ	-0.0059545***	-5.78
LEV	0.0414319***	7.29
ROA	0.0335956***	2.67
BIG4	0.0063868***	3.98
LOSS	0.0100754***	4.24
Constant	0.1368032***	10.17
Number of obs.	993	
Chi-square	2609.989***	
Prob > chi2	0.0000	

Note: This table presents the estimated (FGLS) coefficients for the model that examined the effect of individual corporate governance mechanisms on earnings management practices in Saudi listed firms. Variables are defined as follows: Earnings management (EMJ): The absolute value of discretionary accrual represents the firm level of earnings management practices as measured by Modified Jones Model (1995). Strict Independent Directors (STRIND): The proportion of strict independent directors to total board members who meet all the independence criteria in the 2017 SCGC. Audit Independent Index (AUDINDEX): Independent disclosure index for the independent directors in the audit committee, consisting of the 11 independence criteria in the 2017 SCGC. A value of 1 is given if the independent member meets one of the 11 independence criteria and 0 otherwise. Board Size (BRDSIZE): The number of directors on the board. Board Meeting (BRDMEET): The number of board meetings held annually by the board of directors. Audit Meeting (AUDMEET): The number of audit committee meetings. Directors with Multiple Directorships (INTERLOCK): The proportion of directors on the board having at least one additional directorship in another company. Family Members on the Board (FAMMB): The proportion of family members on the board to total board members. Government Ownership (GOVOWN): Percentage of shares held by government shareholders. Institutional Ownership (INSTOWN): Percentage of shares held by institutional shareholders. Family Ownership (FAMOWN): Percentage of shares held by family shareholders. Blockholders Ownership (BLOCKOWN): Percentage of shares held by individual shareholders who own more than 5% of the total shares of the firm. Firm Size (FSZ): Measure as the natural logarithm of the total assets of the firm. Leverage (LEV): Measure as the book value of total debt scaled by total assets. Profitability (ROA): Measure as the ratio of net income to total assets. Audit Quality (BIG4): The dummy variable that takes the value of 1 if the firms employ one of the big 4 audit firms in the time t to perform their audit services or zero otherwise. Loss (LOSS): The dummy variable that takes the value of 1 if the firm reports losses or zero otherwise. ***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

The results of (FGLS) regression in Table 5.22 indicate that the coefficient of the strict board independence (STRIND) is negative and significant at 1% level of significance which is **in line with the second hypothesis of this study**. The second hypothesis states that there is a negative and significant relationship between the proportion of strict independent directors and earnings managing practices. The result in Table 5.22 indicates that the independent directors on the board of Saudi firms who meet all the criteria of independence are effective in monitoring and reducing the practices of earnings management. Thus, H2 is accepted. This result is in line with agency theory perspective as Fama & Jensen (1983) consider the board of directors the highest level of decision control systems in the company and it responsible for monitoring management decision processes. Fama and Jensen (1983) state that the board of directors should include outside independent directors to increase the board's effectiveness and decrease the agency problem in the public firms (Fama & Jensen, 1983).

Unlike this study, there are some studies in the literature that evaluate the independence of the independent directors on the board based on only one independent criterion, and they report similar findings to those of this study. For example, Setia-Atmaja et al. (2011) excluded in their measure of board independence all independent directors who had previously worked as executives in the firms. Then, the study found that the proportion of those independent directors had a negative and significant relationship with earnings management practices measured by long and current discretionary accrual. Similarly, by using a subsample of 420 listed Australian firms for the year 2000, Davidson et al. (2005) excluded in their measure of board independence all the outside directors who engaged in transactions with the firms. Then, Davidson et al. (2005) examined the role of these independent directors in relation to earnings management practices. Their findings indicated that board independence is negatively associated with earnings management practices.

Contrary to the results of this study, Katmon & Farooque (2017) reported that the proportion of independent directors did not have a significant effect on constraint of earnings management in UK listed firms. While, Park and Shin (2004) found that the proportion of independent directors is not effective in reducing income increasing earnings management practices that are used by managers to avoid reporting losses and decline in the earnings in Canadian listed firms.

However, these mixed results reported above might be attributed to the use of an inaccurate measure to proxy for board independence. Since using merely the percentage of independent

directors as proxy for the board's independence might not be an accurate measure because not all independent directors have a similar level of independence (Baker & Anderson, 2011). Hence, a broad measure of board independence is needed.

As mentioned above, the findings of this study indicate the effectiveness of strict board independence in reducing earnings management practices in Saudi firms. Hence, this result proved the efficiency of the independence criteria set out in the 2017 SCGC for independent directors on the Saudi corporate board. Thus, Saudi firms should consider applying these independent criteria in selecting independent board directors.

The third hypothesis H3 anticipates that the greater the compliance of Saudi firms with Saudi governance independence requirements for independent directors on the audit committee, the less they engage in earnings management practices. However, the coefficient of the variable AUDINDEX (-4.92e-07) is negative, as the hypothesis predicted, but insignificant. Thus, H3 is rejected. This result is contradicted by the agency theory perspective, which suggests that independent directors strengthen the monitoring practices of the board (Fama & Jensen, 1983; Jensen & Meckling, 1976).

Unlike this study, most studies have measured the independence of the audit committee by computing the proportion of independent directors on the audit committee (Baxter & Cotter, 2009; Kusnadi et al., 2016). Similar to the current study, those studies reported insignificant results for the audit committee's independence in reducing earnings management practices (Kusnadi et al., 2016; Baxter & Cotter, 2009). For example, Baxter & Cotter (2009) studied the effect of audit committee independence on improving earnings quality in Australian listed companies before implementing the compulsory audit committee requirements. The study observed that the ratio of independent directors on the audit committee was negative but exhibited insignificant association with earning management practices as measured by the Modified Jones Model (1995). Similarly, Crespí-Cladera & Pascual-Fuster (2014) analysed the effect of non-strict independent directors sitting on the audit committee on earnings management practices in Spanish-listed firms. The study defined 'non-strict independent directors' as those independent directors who violate at least one of the eight criteria of 'independence' stated in international and Spanish governance codes. The results showed no effect of non-strict independent directors on the audit committee in constraining earnings management practices. However, other studies documented a positive impact of independent directors of the audit committee in curbing earnings management practices (Sharma & Kuang, 2014; Klein, 2002). For example, based on US data, Klein (2002)

documented that the coefficient of the percentage of independent directors on the audit committee was associated negatively with earnings management practices.

This insignificant result of the AUDINDEX variable in this study might be attributed to the fact that some of the independent directors on the audit committee may not be genuinely independent, as recommended by the Saudi Corporate Governance Code. In this study, the independence of the audit committee directors was measured by computing the Audit committee independence index score, which includes 11 independence criteria for independent directors. On average, Saudi firms comply with 7 independent criteria out of 11. Also, only 30% of the Saudi firms in the sample of the study comply with all 11 independence criteria.²⁹ These statistics indicate that the majority of the Saudi firms have independent directors on the audit committee who are not strictly independent. In principle, the independent directors might be classified by the firm as such, but in practice they might not be genuinely independent since they violate at least one or more of the independence criteria recommended by the Saudi Corporate Governance Code. For instance, almost half of the Saudi firms in the study sample have at least one independent director on the audit committee who represents a legal person holding five percent or more of the shares of the company³⁰. Saudi firm classified this independent director who represents a legal person holding five percent or more of the company's shares as an independent director, although Saudi Corporate Governance Code considers this a serious violation of the independence criteria. Consequently, this independent director should not be classified by Saudi firms as an independent director since his independence could be compromised by his representation of a legal person that holds a large stake of shares in the firm.

Another reason that leads to an insignificant result might be the existence of family members as directors on the board. Saudi firms are dominated by family members in which on average 22% of directors' seats on Saudi firms' boards being occupied by family members (see Table 5.2). Thus, it is expected that the independence of the independent directors on the audit committee might be compromised. This is because controlling shareholders, such as family owners or directors, may be involved in the appointment of independent directors. In this regard, Jaggi et al. (2009) argue that independent directors are less likely to question the practices of family shareholders in the firms, particularly if the latter sit on the board, because the independent directors' reappointment might be at those shareholders' discretion. Thus,

²⁹ Please see Table 5.2 and Table 5.3 for these statistics.

³⁰ Please see Table 5.4 for these statistics.

the presence of independent directors who are not independent enough, as suggested by the independence criteria of the Saudi Corporate Governance Code, might reduce the effectiveness of the audit committee in detecting earnings management practices in Saudi firms. Jaggi & Leung (2007) empirically observed a reduction in the effectiveness of the audit committee in detecting earnings management practices in firms with a board dominated by family members.

As discussed above, the compliance of Saudi firms with independence criteria for independent directors on the audit committee is ineffective in reducing earnings management practices. Thus, CMA needs to monitor the appointment of independent directors on the audit committee. Also, CMA needs to introduce additional independence criteria for independent directors on the audit committee to enhance the quality of their independence. In addition, As noticed in Table 5.2, the majority of Saudi firms have independent directors on the audit committee who violate at least one or more of the independence criteria, thus CMA are encouraged to introduce some financial penalties for Saudi firms that appoint independent directors that violate at least one or more of the independence criteria recommended by SCGC. These practices are expected to increase the compliance of the Saudi firms with 11 independence criteria.

The fourth hypothesis predicted that a large board size is associated negatively with earnings management practices. The coefficient of the variable board size BRDSIZE ($b = -0.0024588$) shows an anticipated sign, and it is statistically significant at the 1 percent level. Consequently, H4 cannot be rejected. From an agency theory point of view, larger board will be more vigilant in capturing any agency problems that may arise because of the large number of members observing managers' activities (Kiel & Nicholson, 2003). In this same vein, Beasley & Salterio (2001) argue that larger boards provide more effective monitoring functions, because larger boards increase the possibility of the company having more members with varied experience of financial reporting issues. This argument is confirmed by B Xie et al. (2003) and Abed et al. (2012), who provide evidence showing that larger boards are more effective in reducing earnings management practices because they have more members who share their different experiences in dealing with this matter. But despite the advantages of the large board size, it might have a number of disadvantages. Jamaludin et al. (2015) state that a larger board might be affected by bureaucracy and conflict of views between its members. Haniffa & Hudaib (2006) found that a larger board could be costly to the company since it needs to pay more compensation to the larger number of members. Also, a larger board could encourage members to shirk their duties (Haniffa & Hudaib,

2006). Larger boards might be associated with the free-riding problem (Cheng et al., 2008). This is because the cost of lack of effective monitoring will be distributed across a large number of directors (Cheng et al., 2008). Thus, a large board may encourage members of the board to free-ride on other directors' decisions.

The Saudi Corporate Governance Code suggests that the number of board members should be between three and at most eleven directors. Table 5.2 shows that the average number of board members in Saudi firms is eight, and some firms have gone over the requirement by having a board that comprises 13 members. Hence, Saudi firms are recommended to increase the size of their board since large board sizes in Saudi-listed firms are proven to be effective in reducing earnings management practices.

The fifth hypothesis states that an increase in the number of board meetings leads to a decrease in earnings management practices. Contrary to this study's predictions, the coefficient of BRDMEET reveals an unexpected sign, and is statistically significant at 1%. This result indicates that when the board meets more frequently, it leads to an increase in the practices of earnings management. Accordingly, H5 is rejected. In this regard, Ebrahim (2007) and Vafeas (1999) argue that firms might be active and meet more frequently during times of crisis. Hence, the increase in the number of the board meetings could be a response from the board to challenging business practices, such as earnings management. If this theoretical argument is valid, Saudi firms might need to consider creating flexible board meeting arrangements that address their unique concerns. For instance, the firms might increase the frequency of the board meetings when they suspect earnings manipulation or when they need to fight hostile takeovers. In contrast, board meetings can be reduced when the firms do not experience significant problems in their operational activities (Ntim & Oseir, 2011).

Another explanation for the ineffectiveness of the board meetings in reducing earnings management practices is that independent directors might not be able to take advantage of the board meeting and provide effective monitoring. This could be attributed to the underlying difficulties that face outside directors in reality and reduce their monitoring effectiveness. For example, outside directors on the board are at a significant disadvantage compared to managers in terms of the information they have about the firms (Williamson, 2007), particularly if the CEO holds the position of chairman on the board. This is because the CEO/chairman is a full-time employee who has long service and participates in the firm's

day-to-day management, which enables him to gain broader knowledge of the firm (Lorsch Jay W. & Young, 1990). The CEO/chairman might control the board, and this control entails setting the board agenda, running the board meeting and controlling the amount and type of information disclosed to directors, as well as the discussion in the boardroom (Jensen, 1993).

In contrast to reality, management is often not expected to provide relevant and unbiased information about the firms to the directors (Williamson, 2007). Also, it is costly for independent directors to gather this information by themselves (Williamson, 2007). In the same vein, Brennan (2006) reports that there is an expectation gap between what stakeholders expect from the board of directors and what the board's role is in practice. Brennan (2006) argues that information asymmetry between management and independent directors is considered one of the difficulties that hinder the monitoring role of independent directors. That is, incompetent managers might decide not to disclose accurate information, in order to hide their poor performance. In this situation, even an expert independent director will not be able to exercise proper monitoring, given the lack of information provided by the management (Brennan, 2006).

In addition, the chairman of the board in practice has great influence on the selection of directors (Lorsch Jay W. & Young, 1990). Likewise, Stiles (2001) argues that management is often involved in the selection of the board of directors and controls their compensations, which makes the independent directors less likely to criticise management practices during the meeting.

Furthermore, the majority of independent directors on the board are part-timers who hold directorship positions in other firms (Baird & Rasmussen, 2007). They only meet a few times a year (Lorsch Jay W. & Young, 1990). Given this circumstance, directors might not have sufficient time to investigate all the firm's issues that arise in the meetings; in this case, they might accept the management's justifications of the firms' problems, due to their limited knowledge and time for dealing with such complex issues (Lorsch Jay W. & Young, 1990).

These obstacles that face the independent directors during the meeting might be present in Saudi firms, rendering frequent board meetings to be ineffective in reducing earnings management practices. That is, the data in the study sample show that in 50% of Saudi firms the position of chairman is occupied by a family member. Also, 45% of Saudi firms have a

chairman who is a controlling shareholder, holding more than 5% of the firm's shares³¹. Given this situation, it is expected that the outside directors' independence might be compromised, making them less likely to question the practices of the management during the board meetings.

There are several studies in the literature that document similar results to this study's findings (Ebrahim, 2007; Obigbemi et al., 2016). For example, Ebrahim (2007) observed a positive association between a board meeting and earnings management practices in a sample of manufacturing firms in the US. Ebrahim (2007) interpreted this finding as indicating that the board tends to meet more frequently when the firm is experiencing failure in its performance. Also, based on a sample of Saudi-listed firms, Habbash (2012) found that the frequency of board meetings is ineffective in reducing earnings management practices. Habbash (2012) interprets this result as meaning that the board meeting might not be effective due to the limited time and knowledge available to the directors to enable them to deal with the firm's issues. However, The positive association between board meetings and earnings management practices documented in this study is inconsistent with the findings of those that report negative associations between board meetings and earnings management practices (Chen et al. ,2006 ; Sáenz González and García-Meca ,2014).

The sixth hypothesis suggests that the audit committee meeting is associated negatively with earnings management practices. The coefficient of the AUDMEET ($b=-0.0007$, $z\text{-value} = -2.56$) is negative and significant at 5% level. Consequently, H6 cannot be rejected. This means that the more frequently the audit committee meets, the less the firm manages its earnings. This finding is consistent with the theoretical assumption suggesting that a diligent audit committee increases the level of control, resulting in better financial reporting quality (Alhossini et al., 2021).

Similar to the findings of this study, the effectiveness of the frequency of audit committee meetings in constraining earnings management practices has been documented in prior studies. (Biao Xie et al., 2003; Soliman & Ragab, 2013). For example, based on a sample of US firms, Biao Xie et al. (2003) reported that audit committee meeting frequency is associated negatively with current discretionary accrual (a proxy of short-term earnings management). In contrast, several studies (Sharma & Kuang, 2014; Yang & Krishnan, 2005) did not find any association between the number of audit committee meetings and earnings

³¹ Please see Table 5.3 for these statistics.

management practices. However, Since the audit committee meeting is a proxy for its level of activity (Klein, 2002). Saudi firms meet on average four times a year (4.71) which is the required number of meetings suggested by the Saudi Corporate Governance Code (See Table 5.2). This means that the audit committee in Saudi firms has a high level of activity.

In addition, this study argues that the composition of the audit committee in Saudi firms might contribute to the effectiveness of its meetings in constraining earnings management practices. The governance index data show that 91% of Saudi firms comply with governance provision no. 35, which states that the Chairman of the Board shall not be a member of the audit committee. Additionally, 74% of Saudi firms in the study's sample do not include executive directors among the members of their audit committee (governance provision no. 36)³². These results indicate substantial compliance of Saudi firms with the recommendations of the Saudi Corporate Governance Code in terms of the audit committee. As discussed previously, the presence of the controlling Chairman or managers on the board might negatively affect the independence of the outside directors, and this could reduce the quality of the discussion during meetings, particularly if chairman was family member or controlling shareholder. In line with this argument, He & Yang (2014) empirically documented that the presence of CEO directors on the audit committee could lead to an increase in the practices of earnings management in firms that belong to unregulated industries. Yet, the fact that audit committee in most Saudi firms does not include a chairman and executive directors among its members. This situation, in turn, is likely to make independent directors effective and free from undue pressure. Consequently, this practice will strengthen the effectiveness of the audit meeting in Saudi firms.

The seventh hypothesis states that there is a significant and negative relationship between the proportion of directors who have multiple directorships and earnings management practices. The coefficient of the variable INTERLOCK is negative ($b = -0.0026444$) but insignificant. Hence, H7 is rejected. The busyness hypothesis can explain this result (Jian Zhou, 2004; Alshetwi, 2016; Jiraporn et al., 2008). This hypothesis suggests that holding several directorships decrease the effectiveness of the directors in monitoring the company since they will be too busy to serve each firm effectively (Jian Zhou, 2004; Alshetwi, 2016; Jiraporn et al., 2008). This situation may reduce the directors' ability to detect earnings management practices (Alshetwi, 2016). In line with this argument, several studies suggest that directors' multiple directorships may negatively affect their performance. For instance,

³² For brevity reasons, these statistics are not reported in this study but are available upon request.

several authors argue that individuals with cross-directorship positions are more likely to allocate less time and effort to monitoring each company they serve (Beasley, 1996; Jian Zhou, 2004; Lipton & Lorsch, 1992; Lorsch Jay W. & Young, 1990). This obviously will affect their performance, since monitoring the behaviour of top managers requires much time and effort (Morck et al., 1988). In addition, the large number of directorships held by directors may lead them to neglect the role of leadership of the board they serve. This in turn results in directors adopting rent-seeking behaviour, which means that the presence of such directors may actually add no meaningful value to the board of directors (Jamaludin et al., 2015).

The Saudi Corporate Governance Code recommended that a member of the board of directors must not occupy more than five directorships on the boards of listed firms. The data of the study sample show that 95% of Saudi listed firms' directors do not hold more than five directorship positions on the boards of other listed firms³³. Also, on average half of the directors of Saudi firms (54%) hold multiple directorship positions on other listed firms (see Table 5.2).

However, the results of the study indicate that the proportion of directors holding multiple directorships is not effective in reducing earning management practices. Several studies in the literature provide similar results (Alshetwi, 2016; Hashim & Abdul Rahman, 2006). For example, Alshetwi (2016) examined the association between the proportion of audit committee members who hold several directorship seats and the level of earnings management practices. The study used a sample of 98 Saudi non-financial listed firms in the year 2013. Alsheti (2016) found that audit committee members with multiple directorship positions are not effective in reducing the practices of earnings management. However, other studies provide evidence that proves the effectiveness of directors holding multiple directorships in reducing earnings management practices (e.g., Be'dard et al., 2004; Masulis & Mobbs, 2011).

The eighth hypothesis suggests that the presence of family members on the board has a positive association with earnings management practices. The coefficient of the variable FAMMB was negative but not significant ($B = -0.0018325$), ($z\text{-value} = -0.30$). Thus, H8 is rejected. This result indicates that earnings management practices in Saudi firms appeared

³³ For brevity reasons, these statistics are not reported in this study but are available upon request.

to be unaffected by the presence of family firms on the board. This result is in line with the entrenchment hypothesis that suggests that controlling family members might be motivated to engage in opportunistic behaviour at the cost of minority shareholders; that is, to obtain personal benefits that are not distributed to other minority shareholders (Wang, 2006; Shleifer & Vishny, 1997). The entrenchment hypothesis is in line with the agency problem type II which occurs due to the conflict of interests between controlling shareholders and minority shareholders in the firms rather than between managers and owners (Setia-Atmaja et al., 2011; Jaggi et al., 2009). Since controlling family shareholders/directors might control the board and the management of their firms. Also, they might make decisions at the expense of less powerful shareholders by using their positions and privileged access to superior information (Ali et al., 2007; Al-Okaily et al., 2020).

Similar to the study's finding, Jaggi & Leung (2007) found that the coefficient of the percentage of family directors on the board has a negative but insignificant effect on both earnings management practices, as measured by the Modified Jones Model (1995), and the absolute value of performance-adjusted current discretionary accruals in Hong Kong firms. Although these results indicate that the presence of family members on the board does not have a direct effect on earnings management practices, prior studies (e.g., Prencipe & Bar-Yosef, 2011; Jaggi & Leung, 2007; Jaggi et al., 2009; Wan Mohammad & Wasiuzzaman, 2019) including the current study show that the presence of family members on the board have indirect effect on earnings management practices through reducing the effectiveness of corporate governance mechanisms in constraining earnings management practices. For instance, the presence of the family members on the board weaken the monitoring effectiveness of the board of directors, since controlling families can interfere with the structure of the board of directors and influence the process of electing and nominating the independent directors on the board (Jaggi et al., 2009; Al-Okaily et al., 2020). Accordingly, those independent director will be less likely to question the practices of family members because their appointment and reappointment on the board might depend on the discretion of controlling family members (Bao and Lewellyn, 2017 ;Eng et al., 2019). Also, the presence of family members on the board might increase the risk of collusion between the independent directors and those family members on the board (Prencipe & Bar-Yosef, 2011). Thus, family directors might involve in earnings management practices and obtain private benefit at the cost of minority shareholders without being affected by any governance mechanism (e.g., appointing independent directors) that might employed by minority shareholders to alleviate their opportunistic practices (Anderson & Reeb, 2004)

In the study's sample, almost half of the Saudi firms have at least more than two family member occupied seats on the board (see Table 5.27). Consequently, this might give them the power to engage in earnings management practices particularly when there is a lack of proper monitoring from the board of directors. Hence, this study suggests that the increase in the number of family members on the board is not effective in reducing earnings management practices as family directors tend to weaken the effectiveness of corporate governance mechanisms in the companies. Thus, based on this result, this study recommends that Saudi policymakers to introduce rules that restrict the participation of family directors on the board of Saudi-listed firms.

In line with the expectations of this study regarding the ninth hypothesis, the coefficient of government ownership GOVOWN is negative ($b=-0.0002793$) and highly significant at 1% level of significance. Hence, H9 cannot be rejected. This result implies that the existence of government ownership in Saudi firms is effective in constraining earnings management practices. This finding can be explained by the following argument. According to Guo & Ma (2015), government ownership is usually concentrated in big firms representing important industries and these types of firms often dominate production or services in their industry. Also, such firms receive support from the government, enabling them to gain access to financial resources and obtain tax benefits which will increase the value of the firm. This, in turn, may put less pressure on the managers of these firms to engage in earnings management so as to meet financial targets and thus secure these benefits (Guo & Ma, 2015). This theoretical view applies to the Saudi context since the Saudi government provides generous financial support to their firms, especially in challenging times (Al-Dakhil, 2017). For instance, during the COVID 19 pandemic, the Saudi government announced in April 2020 a large set of government packages to support the private sector and ease the negative impact of the pandemic on the Saudi economy (Saudi government measures, 2020). The government support package includes paying 60% of the salaries of Saudi employees in the private sector and injecting the banking sector with \$13.3 billion to improve the liquidity of banking and help the banks provide credit facilities for the private sector. Accordingly, it is expected that managers of Saudi firms with high level of government ownership are less likely to engage in earnings management practices as they do not have pressure to improve the firms' earnings to secure financial benefits as the Saudi government play this role on their behalf. Despite the effectiveness of the presence of government ownership in Saudi firms, the data of the study sample showed that Saudi firms have a low level of Government ownership (GOVOWN) in which they hold, on average, 7.46% of total outstanding shares of Saudi firms(see Table 5.2). Thus, Saudi policymakers such as CMA must encourage Saudi

firms to increase government ownership in their firms to improve the quality of financial reporting.

Consistent with this study's findings, Wang & Yung (2011) documented the effectiveness of state ownership in constraining earnings management practices, as measured by the Modified Jones Model (1991), based on a sample of Chinese listed firms. In a similar institutional environment to that of Saudi firms, Elghuweel et al. (2016) found that Omani listed firms which have government ownership tend to engage significantly less in earnings managements practices compared to firms that do not have government ownership. In contrast to these results, Gaio and Pinto (2018) find that public state-owned firms have higher earnings management practices than non-state public firms.

Consistent **with the tenth hypothesis of this study**, the coefficient of institutional ownership is negative ($b=-0.0001971$) and significant at 1% level of significance. Thus, H10 cannot be rejected. This result implies that institutional shareholders in Saudi firms play an important role in constraining earnings management practices. This finding suggests that institutional shareholders in Saudi firms might act as a complementary corporate governance mechanism in reducing such practices.

This result can be interpreted by agency theory. According to agency theory, the separation between ownership and control in a modern corporation gives rise to agency cost due to the conflict of interest between shareholders and managers (Jensen & Meckling, 1976). This cost becomes more expensive for diffuse shareholders, as it is more difficult for them to monitor the managers (Koh, 2003). However, the institutional investors in Saudi firms have large ownership in which the mean of the percentage of the outstanding shares held by institutional shareholders is 10%. Due to the concentration of institutional ownership in a small number of shareholders, collective action by institutional investors becomes less costly. As they are a small number of shareholders, they can easily form a homogeneous group (Koh, 2003). This, in turn, will enable them to undertake the monitoring role and share the monitoring expense as well. Furthermore, the high percentage of shares they hold gives them a further incentive to monitor the managers' practices (Koh, 2003).

Additionally, the effectiveness of the institutional shareholders in the Saudi context could be attributed to the fact that majority of them are domestic investors. Since foreign investors are minority investors in Saudi as they own only 12% of the shares in the Saudi Market (Foreign ownership, 2020). According to Liu et al. (2018), domestic investors are expected

to provide superior monitoring, since domestic institutional investors are better acquainted with local regulations, accounting standards, the local language, firm culture, and business model of the firm. These factors together might give domestic institutional investors an advantage in reducing their monitoring cost and thus facilitate their discovery of earnings manipulations (Liu et al., 2018). Based on the above discussion, institutional shareholders in Saudi firms have the ability and the incentive to monitor managers' practices, which leads to a reduction in earnings management practices.

However, similarly to the findings of this study, Alzoubi (2016) examined the effect of several ownership types, including institutional ownership, on earnings management practices, by using a sample of 62 Jordanian firms. They concluded that institutional ownership has a significant impact on reducing the magnitude of discretionary accrual (earnings management practices). In contrast to these results, Bao & Lewellyn (2017) and Sáenz González & García-Meca (2014) found that institutional ownership has no impact on constraining earnings management practices. This result might be attributed to the fact that corporate governance mechanisms might be substituted for each other. For example, if the independence of the board of directors or market for corporate control is effective in the companies, there might be less dependence on other internal corporate governance mechanisms like institutional ownership in the monitoring process.

The eleventh hypothesis states that family ownership has a negative association with the practices of earnings management. The results in Table 5.22 are consistent with the predicted hypothesis in which the coefficient of family ownership is negative ($b = -0.0000901$) and significant at 10% level of significance. Therefore, H11 cannot be rejected. This result indicates that family ownership has an influence on reducing earnings management practices in Saudi firms. This finding can be interpreted by the alignment effect hypothesis which implies that family firms are less likely to be involved in earnings management practices because these practices might destroy the family's reputation, wealth and long-term performance (Wang, 2006). Therefore, Family shareholders have an incentive to monitor managers' behaviours and reduce their opportunities to engage in earnings management practices.

Wang (2006) empirically confirmed the alignment effect in his study by examining the impact of several measures of family ownership on earnings management practices. The study documented that founding family ownership increases the quality of earnings significantly. Likewise, based on a sample of 12 European countries that have a different

institutional environment, Mengoli et al. (2020) reported that family firms report higher earnings quality than non-family firms. Also, the study documented that family firms in countries that have weak regulations and financial systems (insider-oriented countries) have higher earnings quality than non-family firms. These findings indicate that family ownership in the firms can replace the weak regulations in insider-oriented countries.

In contrast to these findings that support the alignment effect, several studies in the literature reported empirical evidence that family ownership is not effective in reducing earnings management practices. These results support the entrenchment effect hypothesis for family firms (Bonacchi et al., 2018; Yang, 2010; Chen et al., 2020). For instance, Bonacchi et al. (2018) examined whether family listed firms manage earnings through their non-listed subsidiaries. Based on a sample of 644 Italian family listed firms and their non-listed subsidiaries between the years 2003 and 2014, the study found that family firms engage more than non-family firms in earnings management practices. It reported that listed family firms manage their earnings through non-listed subsidiaries in order to avoid reporting losses in their financial reports. Chen et al. (2020) examined whether family firms in the US take advantage of the weakness of the internal control system in order to conduct accounting manipulation. The study also examined whether the SOX 404 public disclosure requirements related to internal control effectiveness reduced these practices in family firms. Chen et al. (2020) found that in the years prior to the introduction of SOX 404, family firms that had weak internal control systems tended to engage more in entrenchment activities such as misstatements, frauds, and related party transactions than non-family firms. However, in the year of the adoption of internal control disclosure, family firms reported fewer misstatement cases. This means that the adoption of SOX 404 has improved the internal control system in family firms, which helps in mitigating their entrenchment practices.

However, in the Saudi context, it seems that the alignment hypothesis is dominant in the firms that have family ownership. This is expected as Saudi Arabia is characterised by having a solid hierarchical social structure (Al-Twajjry et al., 2002; Haniffa & Hudaib, 2006), whereby the social ties between families and tribes are solid in the society (Al-Bassam et al., 2015; Hussainey & Al-Nodel, 2008; Al Nasser, 2020). Hence, these cultural characteristics might induce family shareholders to protect their firms. Since family owners see their firms as valuable assets; thus, they are interested in preserving the family legacy to pass on the firms to the forthcoming generations (Boubaker et al., 2013). Thus, they will be motivated to reduce earnings management practices, since such practices might eventually damage the firm's reputation and destroy the family's wealth (Wang, 2006).

The twelfth hypothesis predicted that blockholders ownership reduces the practices of earnings management. In contrast to this expectation, the coefficient of the blockholders ownership is negative but insignificant. Thus, H12 is rejected. Theoretically, the insignificant effect of blockholders ownership on reducing earnings management practices is contrary to the agency theory perspective, which suggests that the presence of a block holder in the firms can ease the principal-agent problem inherent in modern corporations, which is the conflict of interests is between shareholders and managers (Jensen & Meckling, 1976). Since blockholders usually own a significant stake in the firms, that motivates them to actively monitor managers and serve as a corporate governance mechanism to constrain the opportunistic behaviours of the managers (Shleifer & Vishny, 1997; Dou et al., 2018).

The insignificant effect of blockholders in reducing earnings management in Saudi firms could be attributed to the fact that the ability of blockholders to govern and exercise their voting rights as influential large shareholders depends on the degree of the legal protection of shareholders' voting rights in the country (Shleifer & Vishny, 1997). Saudi Arabia is a developing country with a civil law system with low legal protection of minority shareholders' rights. Hence, the stockholders might be unable to exercise their voting right effectively in Saudi firms, resulting in an insignificant effect on earnings management practices.

In line with this study's result, Peasnell et al. (2005) found that blockholders ownership has a positive but insignificant effect on earnings management practices in UK firms. In contrast with this result, report a negative link between block ownership and earnings management practices (e.g., Lai and Tam ,2017 ; Alzoubi ,2016 ; Dou et al. ,2018).

In conclusion, Table 5.23 presents a summary of all hypotheses and findings for the compliance-index model and equilibrium-variable model.

Table 5.23: A summary of all hypotheses and findings for the compliance-index model and equilibrium-variable model

Dependent Variable		Earnings management estimated by Modified Jones Model (1995) (EMJ)				
Explanatory variable		No. Hypothesis	Expected sign	Finding sign	Finding significance	Hypothesis status
Saudi Corporate governance Index		1	–	–	Significant at the 5% level	Accepted
Board of Directors' Characteristics						
Strict Independent Directors		2	–	–	Significant at the 1% level	Accepted
Audit committee Independent Index		3	–	–	Insignificant	Rejected
Board Size		4	–	–	Significant at the 1% level	Accepted
Board Meeting		5	–	+	Significant at the 1% level	Rejected
Audit Meeting		6	–	–	Significant at the 5% level	Accepted
Directorships of the Board members		7	–	–	Insignificant	Rejected
Family Members on The Board		8	+	–	Insignificant	Rejected
Ownership structure						
Government Ownership		9	–	–	Significant at the 1% level	Accepted
Institutional Ownership		10	–	–	Significant at the 1% level	Accepted
Family Ownership		11	–	–	Significant at the 10% level	Accepted
Blockholders Ownership		12	–	–	Insignificant	Rejected
Control Variables						
Firm Size			-/+	–	Significant at the 1% level	Accepted
Leverage			-/+	+	Significant at the 1% level	Accepted
Profitability			–	+	Significant at the 10% level	Rejected
Audit Quality			–	+	Insignificant	Rejected
Loss			+	+	Significant at the 1% level	Accepted

5.7.3 Empirical results and discussion of the role of family ownership in the relationship between corporate governance mechanisms and earnings management practices

The third research question examines the impact of family ownership on the relationship between corporate governance mechanisms and earnings management practices. The study split the full sample based on the level of family ownership. One subsample consists of firms that have high family ownership (more than 30% of the shares of the firm), and the other subsample consists of firms that have low family ownership (less than 30% of the firms' shares). The figure of 30% was used as a cut-off point to distinguish between high and low family ownership because Saudi corporate governance defines a controlling interest as that of shareholders who own 30% of the voting rights of the company (One-share-one-vote rule). Accordingly, they can influence the decisions and actions of the firm.

Table 5.24: Regression results of the effect of family ownership on the relationship between SCGI and EMJ

Panel A: high family ownership level (Family ownership % $\geq$ 30 %)			Panel B: low family ownership level (Family ownership % $<$ 30 %)	
Model (1) Random effects (GLS) regression			Model (2) Random effects (GLS) regression	
EMJ Modified Jones Model (1995)	Coefficient	z-value	Coefficient	z-value
SCGI	0.0010618***	3.43	-0.0003252***	-3.11
FSZ	-0.0002547	-0.05	-0.004791**	-2.39
LEV	0.0202706	0.89	0.0419158***	3.56
ROA	0.1841237***	3.31	0.0373933	1.37
BIG4	0.0103263***	1.55***	-0.000558	-0.17
LOSS	0.025398**	1.98**	0.0116657***	2.73
Constant	-0.0545593	-0.70	0.1249444***	4.74
Number of obs	173		821	
R-squared	55%		30%	
Chi-square	43.815		70.289	
Prob > chi2	0.00		0.000	
Breusch-Godfrey LM test	21.769**		33.985***	
Breusch-Pagan test	5.35**		52.34***	
Hausman (1978) specification test	4.31		3.43	

Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

Table 5.24 presents the results of the subsample of high/low family ownership under the headings Panel A and Panel B. The two models mentioned in Table 5.24 utilise random-effects (GLS) regression because the results of the Hausman (1978) specification test is not significant for models 1 and 2. This suggests using the random effect model for the analysis. Also, the OLS model suffers from heteroscedasticity and autocorrelation issues as the test of heteroscedasticity (Breusch-Pagan test) is significant in both models. This result indicates rejecting the null hypothesis that the model has a constant variance (homoscedasticity). In terms of autocorrelation, the Breusch-Godfrey LM test is significant, which suggests rejecting the null hypothesis of no serial correlation in the model. Since the two models suffer from heteroscedasticity and autocorrelation issues, the use of OLS becomes inefficient. Therefore, following the suggestions of prior studies (Alzoubi, 2017; Brooks, 2008; Sáenz González & García-Meca, 2014; Shen & Chih, 2007), this study accounts for the problem of heteroscedasticity and autocorrelation by applying random-effects

Generalised Least Squares (GLS) regression. Then, random-effects GLS regressions was conducted on each sub-sample applied to Equation 7.

In reference to H13a, this hypothesis suggests that in firms with low family ownership, there is a significant and negative relationship between firm-level corporate governance measured by (SCGI) and earnings management practices. Thus, it is expected that the coefficient of the SCGI will be negative and significant for firms that have low family ownership. On the other hand, H13b states that in firms with high family ownership, the effectiveness of corporate governance mechanisms measured by (SCGI) in constraining earnings management practices will be reduced. The results in Table 5.24 Panel B show that for the firms that have low family ownership (less than 30% of the shares of the firms) the coefficient of SCGI is negative ($b = -0.0003252$) and highly significant at 1% level of significance ($z\text{-value} = -3.11$). Hence, hypothesis H13a cannot be rejected. However, these results indicate that strong compliance with corporate governance provisions is effective in constraining earnings management practices in firms that have low family ownership. On the other hand, the results in Table 5.24 Panel A show that the coefficient of SCGI is positive ($b = 0.0010618$) and significant ($z\text{-value} = 3.43$). This indicates that for firms with high family ownership, the increase in the level of compliance with corporate governance provisions is not effective in constraining the practices of earnings management. Thus, hypothesis H12b cannot be rejected.

The effect of corporate governance in constraining earnings management practices in the family ownership context can be explained by the alignment and entrenchment hypotheses. However, a closer inspection of Table 5.24 shows that for Saudi firms, the behaviour of family owners under the alignment or the entrenchment effect seems to be contingent on the level of their ownership. When the family members own more than 30% of the firm's shares, they act under the entrenchment hypothesis. Thus, the relationship between corporate governance practices is positively associated with earnings management. However, when the family shareholders own less than 30% of the shares of the firms, family owners tend to act under the alignment effect, and the corporate governance becomes effective in constraining earnings management practices. Similar findings were documented by Wang (2006), who found that the entrenchment and the alignment effect occur at a certain level of family ownership, where the relationship of earnings quality and family ownership showed an inverted U-shape. Wang (2006) shows that when family ownership reached the level of 67.44%, family firms reported lower earnings management practices than non-family firms. However, when the family ownership level rose above 67.44%, family firms engaged more

in earnings management practices than non-family firms. Wang (2006) concluded that when family members own a highly significant number of shares of the firm, they tend to behave according to the entrenchment hypothesis. However, a low family ownership level causes family owners to act under the alignment hypothesis.

The entrenchment hypothesis suggests that family ownership can induce earnings management practices at the expense of minority shareholders and obtain private benefits that cost other minority shareholders (Wang, 2006). The entrenchment hypothesis is in line with the agency problem type II which occurs due to the conflict of interests between controlling shareholders and minority shareholders in firms rather than between managers and owners (Setia-Atmaja et al., 2011; Jaggi et al., 2009).

However, there are several reasons that explain why family members in Saudi firms behave under the entrenchment effect when they hold more than 30% of the firm's shares. First, owning 30% of the firm's shares enables the shareholders to influence the firm's decisions and actions, since they control 30% of the voting rights of the company (One-share-one-vote rule). As a consequence, controlling families can interfere with the structure of the board's directors. For instance, they can influence the process of electing and nominating the independent directors on the board (Jaggi et al., 2009; Al-Okaily et al., 2020). Those independent directors will be less objective and independent because their appointment and reappointment on the board might depend on the discretion of controlling family members (Bao & Lewellyn, 2017). Second, the independent directors might have an implicit relationship with the firms' controlling families (Prencipe & Bar-Yosef, 2011). Thus, their independence is likely to be compromised. In line with this argument, Eng et al. (2019) argue that the independent directors in family firms might be less likely to question and challenge the practices of the controlling family, particularly if the family members sit on the board as directors or executive members (Prencipe & Bar-Yosef, 2011). The lack of independence of the directors and the familiarity of the directors with the controlling family might give rise to the risk of collusion between the controlling families and the board members (Prencipe & Bar-Yosef, 2011). This, in turn, will reduce the effectiveness of the board in monitoring the decisions taken by the family owners in relation to accounting policies, including earnings management practices (Prencipe & Bar-Yosef, 2011). Also, such board will be less likely discipline controlling family shareholders (Anderson & Reeb, 2003).

Based on this discussion, it is expected that the board of directors in Saudi firms would not be effective and would suffer from all the problems mentioned above. This is because the

board of directors of Saudi firms includes family members, who, on average, make up 22% of the board's membership (See Table 5.2). Also, half of Saudi firms in the study sample (50%) have the position of chairman occupied by a family member (See Table 5.3), while almost a third of Saudi firms have at least one family member appointed as an independent director on the board (See Table 5.4). Given these facts, it can be concluded that the board of directors in Saudi firms is heavily dominated by family members. Thus, corporate governance mechanisms are not effective in constraining earnings management practices when the family ownership is high. Based on this discussion, Saudi regulators such as CMA should introduce regulations that prevent family members from owning more than 30% of the firm's shares since the current study shows that this threshold triggers the entrenchment practices of family members in Saudi firms. Also, CMA is encouraged to introduce governance regulations that aim to restrict the influence of family members in Saudi firms. Currently, there are no regulations in the SCGC, listing rules or Companies Act related to the participation of family members in the listed Saudi firms.

In line with this study's findings, several studies provide evidence that support the entrenchment hypothesis, documenting that in family-controlled firms, the corporate governance mechanism is not effective in reducing earnings management practices (Prencipe & Bar-Yosef, 2011; Jaggi & Leung, 2007; Jaggi et al., 2009). For example, Jaggi et al. (2009) examined whether the effectiveness of independent directors in constraining earnings management practices is reduced in family controlled firms. Using a sample of listed firms in Hong Kong, the results show that a higher proportion of independent directors on corporate boards is associated with lower earnings management practices. However, the effectiveness of the independent directors in constraining earnings management practices declines when a family controls the firms via both ownership concentration and the presence of family board members. Likewise, based on a sample of Italian listed firms, Prencipe & Bar-Yosef (2011) tested the effectiveness of the board's independent directors and CEO duality in reducing the practices of earnings management as measured by abnormal working accrual. First, the study found that the independent directors and CEO duality was effective in constraining earnings management practices for the full sample of family and non-family-controlled firms. However, in family-controlled firms, the presence of independent directors on the board significantly increased the practices of earnings management. This result indicated that the governance mechanism becomes ineffective in family-controlled firms.

Yet, the current study found that the corporate governance mechanism is effective in constraining earnings management practices in Saudi listed firms with low family ownership

(less than 30% of the firm's shares). It is worth mentioning that family shareholders who own less than 30% might not have a strong influence on the firms' decisions as shareholders who own more than 30% of the shares of the firm. Therefore, in this case, the family owners cannot control the board of directors or affect the policies and practices of the firms. The effectiveness of the corporate governance mechanism in constraining earnings management practices in Saudi listed firms that have low family ownership can be explained by the alignment effect hypothesis. From the alignment effect perspective, family firms are less likely to involve themselves in earnings management practices because these practices might destroy the family's reputation, wealth, and long-term performance (Wang, 2006). Thus, family owners will be less motivated to engage in earnings management practices since their interests align with those of minority shareholders. According to Jaggi et al. (2009), managers in family firms might not be motivated to engage in earnings management practices as they face less pressure to meet short-term earnings goals. This is because family shareholders often focus on long-term objectives of their firms. Besides, family members might be involved in the management of the firms (Stockmans et al., 2013). Therefore, they have the ability to monitor managers' behaviour and reduce their opportunities to engage in earnings management practices (Yang, 2010). Since earnings management is not in the family's interest, family shareholders might be motivated to strengthen the corporate governance system in order to constrain earnings management practices in the firms. In this regard, several studies have provided empirical evidence of the effectiveness of corporate governance mechanisms in reducing earnings management practices in family-controlled firms (Setia-Atmaja et al., 2011; Stockmans et al., 2013). For instance, Setia-Atmaja et al. (2011) evaluated the effect of board independence in constraining earnings management practices in family-controlled firms listed on the Australian Securities Exchange (ASX). The findings indicated that the proportion of independent directors significantly reduces the practice of two types of earnings management in family firms, namely current and long discretionary accrual. Also, they found that the presence of an independent chairman is effective in family firms only when there are effective independent directors who support him on the board. Hence, the study concluded that board independence is effective in mitigating the type II agency problem and the entrenchment effect, which is a common problem in family-controlled firms. In line with this finding, Stockmans et al. (2013) found that the proportion of independent directors and CEO duality is effective in limiting the practices of earnings management in family firms that face the type II agency problem, where there is a conflict of interest between controlling family shareholders and minority shareholders. However, the study did not find that these board characteristics are effective

in limiting earnings management practices in private family firms which did not suffer from an agency problem.

5.7.4 Robustness tests

5.7.4.1 Robustness tests for the compliance index model using alternative earnings management models

Earnings management models may involve several limitations (Dechow et al., 2010). Thus, it is essential to check whether the results of the study are robust to the alternative measure of discretionary accrual. Also, to assess the stability of the results, alternative earnings management models were used. Therefore, the model in Equation 7 was re-estimated using the absolute values of discretionary accrual estimated by Kothari (2005) and working capital accrual of the Modified Jones Model (1995).

As discussed in Section 4.5.1.2.3.2 and Section 4.5.1.2.3.3, several studies such as Dechow et al. (1995) and Kothari et al. (2005) found that the Modified Jones Model was not well specified when applied to companies that experience extreme performance, in which case it was found that the model yielded a significant proportion of Type I error. Thus, Kothari et al. (2005) attempted to mitigate this problem by controlling for performance through the introduction of return on assets (ROA) into the Modified Jones Model as an additional regressor.

Hence, this study will use Kothari et al.'s (2005) model to ensure that the magnitude of discretionary accrual that is estimated by the use of the Modified Jones Model in the primary test is not affected by the extreme performance of the companies. In addition, this study follows several studies in the literature that used Kothari et al.'s (2005) model to examine the robustness of their results (e.g., Elghuweel et al., 2016; Chen et al., 2008; Black et al., 2017; F. Bekiris & Doukakis, 2011).

This study also chose to employ the working capital accrual of the Modified Jones Model (1995), following the suggestions of prior studies. For instance, several researchers such as Peasnell et al. (2000) and Atieh & Hussain (2012) argue that working capital accrual is a short-term accrual which in turn makes it subject to short-term managers' forecasts and managerial manipulation more than long-term total operating accrual. This is because working capital accrual incorporates accounts that require higher managerial judgement,

such as the estimation of provision of bad debt, inventory obsolescence and warranties (Peasnell et al., 2000). Also, working capital accrual is expected to be reversed within one year or less (Larson et al., 2018). Unlike short-term accrual, the manipulation in long-term accrual is more likely to attract the attention of auditors and investors. For example, Beneish (1998) and Young (1999) argue that earnings management is less likely to occur via depreciation, which is a component of long-term accrual. This is because changing the depreciation policy such as amending the useful life of the assets or altering the depreciation methods (e.g., switching from the straight-line method to the declining balance method) cannot occur without disclosure in financial reports, which will attract the attention of auditors and investors. Thus, Beneish (1998) and Young (1999) expected that managers would not resort primarily to depreciation to manipulate reported earnings. Therefore it is likely that working capital accrual will involve more frequent manipulation than total operating accrual (Atieh & Hussain, 2012). Hence, working capital accrual might be more effective in measuring earnings management than total operating accrual since it is more likely to reflect the discretionary behaviour of the managers (Peasnell et al., 2000; Peasnell et al., 2005; Atieh & Hussain, 2012).

Table 5.25: Random GLS Model regression results for the compliance index based on three earnings management measures: Modified Jones Model (1995), Kothari (2005) and working capital accrual of Modified Jones Model (1995).

Dependent variable	Model (1) Modified Jones Model (1995). (EMJ)	Model (2) Kothari (2005) (EMKOTH)	Model (3) working capital accrual (WCAEM)
Independent Variables			
SCGI	-0.0002171**(-2.18)	-0.0001861**(-2.11)	-0.0010704***(-6.58)
Control Variables			
FSZ	-0.0079818***(-5.06)	-0.0054867***(-4.11)	0.0019026(1.05)
LEV	0.0452864 *** (4.46)	0.0262622*** (3.00)	-0.0386805***(-2.89)
ROA	0.0426423*(1.77)	0.0086487(0.41)	-0.0172678(-0.53)
BIG4	0.0021099(0.73)	0.0055172** (2.19)	0.0090608 ** (2.16)
LOSS	0.0132902*** (3.29)	0.0025758 (0.72)	0.0177212 *** (2.83)
Constant	0.1556693*** (7.30)	0.1201127 *** (6.65)	0.1017438*** (4.11)
Number of obs	994	994	994
R-squared	18%	17%	15%
Chi-square	54.367***	30.670***	61.689***
Prob > chi2	0.000	0.000	0.000

Note: Z -value between parentheses. ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

Table 5.25 reports the results for the alternative earnings management models, which are Kothari (2005) and working capital accrual. The results are similar to the main findings of the Modified Jones Model (1995) presented in model (1). The coefficient of SCGI in models (2) and (3) remain negative and significant across in all three models. Hence, the results correspond with H1, which suggest that a higher level of corporate governance disclosure is effective in reducing earnings management practices conducted via long- and short-term discretionary accrual.

However, the degree of significance of the SCGI coefficient in model (3) is higher than the coefficients of SCGI in models (1) and (2), in which in the former it is negative and significant at 1% (B= -0.0010704) (z- value =-6.58) and in the latter is significant at 5%. This result indicates that compliance with corporate governance provisions seems to be more effective in reducing short-term earnings management practices (working capital accrual) than long-term accrual which is estimated by Kothari (2005) and the Modified Jones Model (1995). However, based on the above results, it can be concluded that the results of this study are robust and not derived from misspecifications of particular earnings management models.

5.7.4.2 Robustness tests for the equilibrium-variable model (EVM) using alternative earnings management models

In order to check the stability of the results in the equilibrium-variable model (EVM), alternative earnings management models were used. The model in Equation 8 was re-estimated using the absolute values of discretionary accrual estimated by Kothari (2005) (EMKOTH), and discretionary working capital accrual of the Modified Jones Model (1995) (WCAEM) as a dependent variable. Table 5.26 shows that some of the results of the variables in (EVM) are in line with those presented in Model (1), estimated by the Modified Jones Model (1995) (EMJ). The coefficient of the proportion of the strict independent directors (STRIND) has a negative and significant relationship with EMKOTH and EMJ, which consider the estimation of long-term discretionary accrual. Unlike these results in Model (3), the coefficient of STRIND is negative but has an insignificant effect on discretionary working capital accrual (WCAEM). This indicated that independent directors are only effective in constraining earnings management practices that affect the reported earnings in the long run (i.e., long-term discretionary accrual). This is because independent directors are more likely to detect earnings management practices that conducted via long-term discretionary accrual, as this type of manipulation cannot be conducted without being disclosed in the financial reports (Beneish, 1998; Young, 1999). As a consequence, long-term discretionary accrual might be brought more promptly to the attention of auditors and investors (Beneish, 1998; Young, 1999). Hence, independent directors might have the ability to spot these practices and mitigate them. In contrast, discretionary working capital accrual (WCAEM) is a short-term earnings manipulation, its effect on the reported earnings is likely to be reversed within one year or less (Larson et al., 2018). Thus, it might be very difficult for independent directors to detect them.

Table 5.26: FGLS regression findings of the equilibrium-variable models based on three earnings management models (EMJ, EMKOTH and WCAEM)

Dependent variable	Model (1) Modified Jones Model (1995) EMJ	Model (2) Kothari (2005) EMKOTH	Model (3) Working capital accrual WCAEM
Independent Variables			
STRIND	-0.0115822***(-2.92)	-0.0095799***(-2.62)	-0.0005214 (-0.08)
AUDINDEX	-4.92e-07 (-0.00)	0.0001964 (1.10)	-0.000778**(-2.03)
BRDSIZE	-0.0024588*** (-5.37)	-0.0017855***(-3.66)	0.0010155(0.87)
BRDMEET	0.0014476*** (3.46)	0.0007185**(2.13)	0.0020121*** (2.78)
AUDMEET	-0.0007** (-2.56)	-0.0007087***(-2.78)	-0.0032792***(-5.66)
INTERLOCK	-0.0026444 (-0.94)	-0.0042167(-1.62)	-0.0130436 ***(-3.99)
FAMMB	-0.0018325 (-0.30)	0.0001253 (0.02)	-0.026267***(-3.59)
GOVOWN	-0.0002793*** (-4.52)	-0.0001111* (-1.95)	-0.0000404(-0.26)
INSTOWN	-0.0001971*** (-3.65)	-0.0000575*(-1.86)	0.0000421(0.45)
FAMOWN	-0.0000901* (-1.65)	-0.0000297 (-0.54)	-0.0000393(-0.48)
BLOCKOWN	-0.0004015 (-1.47)	-8.30e-06 (-0.04)	0.0002836(0.78)
Control Variables			
FSZ	-0.0059545*** (-5.78)	-0.0043288*** (-5.34)	-0.0043282***(-2.14)
LEV	0.0414319*** (7.29)	0.0267365*** (4.86)	-0.002391(-0.20)
ROA	0.0335956*** (2.67)	0.0031439 (0.27)	0.0583756*** (2.05)
BIG4	0.0063868*** (3.98)	0.0101353*** (7.35)	0.0058404* (1.71)
LOSS	0.0100754*** (4.24)	0.001134 (0.50)	0.0097024* (1.93)
Constant	0.1368032*** (10.17)	0.1080119*** (10.18)	0.1307795*** (5.14)
Number of obs	993	993	993
Chi-square	2609.989***	488.779***	7888.380***
Prob > chi2	0.0000	0.0000	0.0000

Note: Z -value between parentheses. ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

As shown in Table 5.26 the coefficient of strict Audit Independent Index AUINDEX has insignificant influence in constraining earnings management practices via long-term discretionary accrual as measured by EMJ and EMKOTH in Models (1) and 2 respectively. Yet, in Model (3) the coefficient of AUINDEX is negative and significantly associated with WCAEM. This result implies that the more the Saudi firms comply with the independent criteria for the independent directors on the audit committee, the lower short-term earnings management practices they have. These results indicate that compliance with the independence criteria is effective only in reducing earnings management practices conducted via short-term discretionary accrual.

The results for board meeting BRDMEET and audit meeting AUDMEET remain the same across all three models in Table 5.26 in which the coefficient BRDMEET has a positive

influence on earnings management practices, while the coefficient of audit meeting AUDMEET shows a negative and significant relationship with earnings management practices.

The coefficient of INTERLOCK shows a negative sign with earnings management practices but is significant only on WCAEM. This result implies that directors who have multiple directorships in other firms are effective only in reducing short-term earnings management practices. Similarly to INTERLOCK, the presence of family members on the board (FAMMB) is effective only in reducing short-term earnings management practices (WCAEM).

In term of ownership variables, it appears from the results in Table 5.26, Model (1) and (2) that government and institutional ownership is effective in constraining earnings management practices conducted via long-discretionary accrual EMJ and EMKOTH, in which the coefficients of GOVOWN and INSTOWN were negative and significant at 1% and 10% level of significance respectively. However, none of them has an impact on reducing short-term earnings management practices in Model (3).

In Models (2) and (3), the coefficient of family ownership FAMOWN is not significant on EMKOTH and WCAEM. However, FAMOWN is effective only in reducing earnings management practices estimated by EMJ. In Table 5.26, blockholders' ownership is not effective in lowering earnings management practice across the three models.

In terms of control variables, the results of firm size and audit quality on Models (2) and (3) are similar to the results presented in the main Model (1). Larger firm size is effective in constraining earnings management practices conducted via long-and-short discretionary accrual. In addition, higher audit quality seems to increase the practices of earnings management, since the coefficient of BIG4 is positively and significantly associated with all three earnings management models.

5.7.4.3 Robustness tests for subsamples of firms that have high and low family ownership using alternative earnings management models

In order to answer the third research question, which aimed to examine the impact of family ownership on the relationship between corporate governance mechanism and earnings management practices, the study split the full sample based on the level of family ownership. One subsample consists of firms with high family ownership (more than 30% of the shares of the firm) and the other subsample contains the firms with low family ownership (less than 30% of the firm's shares). Then, regression was conducted on each sample applied to Equation 7.

However, to alleviate concerns that results might be driven by the misspecifications of earnings management models, the two regressions for each subsample were re-estimated by using alternative earnings management models: namely, the absolute values of discretionary accrual estimated by Kothari (2005) (EMKOTH) and the working capital accrual of the Modified Jones model (1995) (WCAEM). Table 5.27 reports the results for the alternative earnings management models, EMKOTH and WCAEM. The results are qualitatively similar to the main findings of the Modified Jones Model (1995) presented in Table 5.27. In Panels B and D, the coefficient of SCGI for firms that have low family ownership remains negative and significant for regression estimated on the basis of EMKOTH and WCAEM. Therefore, this supports hypothesis H13a, which states that corporate governance is effective in reducing earnings practices in firms that have low family ownership. However, hypothesis H13b expected the coefficient of SCGI to be insignificant or positive for the subsample of firms with high family ownership. Table 5.27 Panel A shows that in firms with high family ownership, the coefficient of SCGI is positively and significantly ($b=0.0008412$) ($z\text{-value} = 3.14$) associated with EMKOTH. This result is in line with the findings of the model based on EMJ in Table 5.27 Panel A. However, in Table 5.27 Panel C the coefficient of SCGI for a subsample of firms that have high family ownership shows a negative but insignificant relationship with WCAEM. Thus, the results of Panels C and D indicate that in firms that have high ownership, the corporate governance mechanism does not constrain earnings management. Overall, it can be concluded that the results of the subsamples of family ownership are robust for alternative earnings management and are not derived from misspecifications of the earnings management models.

Table 5.27: Regression results for subsamples of firms that have high and low family ownership using alternative earnings management models

Panel A: high family ownership level (Family ownership % $\geq$ 30 %)			Panel B: low family ownership level (Family ownership % < 30 %)		Panel C: high family ownership level (Family ownership % $\geq$ 30 %)		Panel D: low family ownership level (Family ownership % < 30 %)	
Model (1) Random effects (GLS) regression Dependent variable: EMKOTH			Model (2) Random effects (GLS) regression EMKOTH		Model (3) Fixed effects regression WCAEM		Model (4) Fixed effects regression WCAEM	
	Coefficient	z-value	Coefficient	z-value	Coefficient	t-value	Coefficient	t-value
SCGI	0.0008412***	3.14	-0.0002251**	-2.46	-0.0006687	-0.89	-0.0011576 ***	-5.51
FSZ	0.0012958	0.27	-0.0023781*	-1.80	0.0296568	1.38	-0.0275003 **	-2.46
LEV	0.0032038	0.16	0.0210831	2.38	-0.0439329	-0.63	0.0191897	0.63
ROA	0.2078738***	4.32	-0.0170762**	-0.81	0.3161036**	2.16	0.1154408*	1.95
BIG4	0.013508**	2.35	0.0025948	1.01	-0.0139132	-0.78	0.0012925	0.20
LOSS	0.0111856	1.01	0.0006165	0.17	-0.0153002	-0.68	0.0172365**	2.09
Constant	-0.0626874	-0.93	0.0819803***	4.37	-0.3303956	-1.17	0.51631***	3.38
Number of obs	173		821		173		821	
R-squared	73%		37%		8.8%		13%	
Chi-square	69.248		80.487		F-test 2.183		F-test 2.26	
Prob > chi2	0.000		0.000		Prob > F 0.001		Prob > F 0.0000	
Breusch-Godfrey LM test	31.44***		34.047***		11.063		52.593***	
Breusch-Pagan test	8.41***		29.97***		7.19***		45.99***	
Hausman (1978) specification test	3.186		2.979		11.529*		38.08***	
Breusch and Pagan Lagrangian multiplier test for random effects	15.36***		11.52***		—		—	

Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

5.7.4.4 Robustness test for a subsample of firms that have high and low family ownership using an alternative proxy for family control

In section 5.7.3, the study examined the impact of family ownership on the relationship between corporate governance mechanism and earnings management practices by splitting the full sample based on the percentage of family ownership. One subsample consists of firms with high family ownership (more than 30% of the shares of the firm) and the other subsample contains firms with low family ownership (less than 30% of the firm's shares) applied to Equation 7. The figure 30% was used as a cut-off point for distinguishing high and low family ownership because Saudi corporate governance defines controlling interest as that held by shareholders who own 30% of the voting rights of the company (One-share-one-vote rule). Accordingly, they can influence the decisions and actions of the firms.

In order to examine the stability of the results presented in Table 5.24, the study used another proxy for family control, which is the number of family members on the board, following Jaggi's et al. (2009) and Jaggi & Leung's (2007) studies. According to Jaggi et al. (2009), the board of directors is considered to be under the control of the family if two or more family members sit on the board. This assumes that more than two family members on the board can influence the decisions of the board. Thus, the study divided the sample based on the number of family members on the board. One subsample consists of firms that have more than two family members sitting on the board, and the other subsample consists of firms that have fewer than two family members appointed to the board. Two Random-effects (GLS) regressions were conducted on each subsample using Equation 7. Referring to hypothesis H13a, it is expected that the coefficient of the SCGI will be strongly negative for firms that have few family members on the board and insignificant or positive for the subsample of firms that have large numbers of family members on the board (H13b). The results in Table 5.28 Panels A and B are consistent with the results of the subsample that is divided based on the level of family ownership presented in Panels C and D. The results in Table 5.28 Panel A show that the governance mechanism is not effective in reducing earnings management practices in firms that have a board controlled by family members, since the coefficient of SCGI is positive and insignificant. Hence, hypothesis (H13b) cannot be rejected. However, the results reported in Panel B show that the increase in compliance with corporate governance provisions is effective in reducing earnings management practices in the firms that have fewer than two family members on their boards. Hence, hypothesis H13b cannot be rejected. It can be concluded that the results of the subsample of firms that have high and low family ownership are robust for an alternative proxy for family control.

Table 5.28: Regression results for subsamples of family-controlled board and Non-Family-Controlled board

Panel A: Number of family members on board ≥ 2			Panel B: Number of family members on board < 2		Panel C: high family ownership level (Family ownership $\% \geq 30\%$)		Panel D: low family ownership level (Family ownership $\% < 30\%$)	
Model (1) Random effects (GLS) regression			Model (2) Random effects (GLS) regression		Model (3) Random effects (GLS) regression		Model (4) Random effects (GLS) regression	
EMJ	Coefficient	z-value	Coefficient	z-value	Coefficient	z-value	Coefficient	z-value
SCGI	0.0000877	0.63	- 0.0003961***	-2.64	0.0010618***	3.43	-0.0003252***	-3.11
FSZ	- 0.0079843***	-4.22	-0.0003961	-0.29	-0.0002547	-0.05	-0.004791**	-2.39
LEV	0.0592783***	4.73	0.0167625	1.10	0.0202706	0.89	0.0419158***	3.56
ROA	0.0686181**	2.55	0.0323866	0.83	0.1841237***	3.31	0.0373933	1.37
BIG4	0.0075613**	2.26	-0.0055439	-1.19	0.0103263***	1.55	-0.000558	-0.17
LOSS	0.022226***	4.18	0.0070661	1.18	0.025398**	1.98**	0.0116657***	2.73
Constant	0.1267793***	4.87	0.0825951**	2.56	-0.0545593	-0.70	0.1249444***	4.74
Number of obs	572		422		173		821	
R-squared	43%		26%		55%		30%	
Chi-square	108.058		36.91		43.815		70.289	
Prob > chi2	0.000		0.0001		0.00		0.000	
Breusch-Godfrey LM test	29.569***		20.424*		21.769**		33.985***	
Breusch-Pagan test	60.48***		22.43***		5.35**		52.34***	
Hausman (1978) specification test	2.21		3.27		4.31		3.43	
Breusch and Pagan Lagrangian multiplier test for random effects	21.48***		12.53***		-	-		

Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

5.7.5 Additional tests

5.7.5.1 Results of non-strict independent directors and alternative measure for strict Board independence

In section 5.7.2, the study examined the effectiveness of strict board independent directors STRIND and strict audit independence index AUDINDEX in constraining earnings management practices. However, in this section, the effect of the non-strict independent director will be examined to see whether there are differences between strict and non-strict independent directors in constraining earnings management practices. In order to do this, the study will first examine the effect of non-strict independent directors in reducing earnings management practices and compare the results with strict independent directors . Second, it will examine alternative measures for strict board independence.

For this purpose, the study conducted four regressions, all of which were estimated as Equation 8 with some modifications. First, in Equation 9, strict independent directors STRIND was replaced with non-strict board independent directors BRDIND, which measures as the proportion of independent directors declared by the firms in their annual reports as independent directors to total board members. Second, in Equation 10, STRIND was replaced by Board independence index INDIINDEX as an alternative measure of board independence. INDIINDEX is a disclosure independence index constructed for the independent directors on the board based on the 11 independence criteria recommended by the 2017 Saudi Corporate Governance Code. A value of 1 is assigned if the independent member meets one of the 11 independence criteria and 0 otherwise. The index score ranges from 1 to 11.

Also, in Equation 10 the audit independence index AUDINDEX was replaced by the independence of the audit committee variable AUDIND, measured by the proportion of independent directors on the audit committee as declared by the firms in their annual reports to total audit committee members. Third, in Equation 11, AUDINDEX was replaced by strict audit committee independent directors STRAUDIND, which measures the proportion of strict independent directors who meet all the independence criteria recommended by the 2017 SCGC on the audit committee to total audit committee members. Also, in Equation 11, STRIND was replaced by INDIINDEX to avoid possible collinearity between STRIND and STRAUDIND. Fourth, in equation (12), STRIND was replaced by BRDINDUM, which is measured as a dummy variable that takes the value of 1 if all the independent directors on

the board meet all the 11 independence criteria recommended by the 2017 Saudi Corporate Governance Code and 0 otherwise. Also, AUDINDEX was replaced by AUDIND to avoid collinearity between AUDINDEX and BRDINDUM.

$$\begin{aligned}
 EM_{it} = & \alpha_0 + \beta_1 BRDIND_{it} + \beta_2 AUDINDEX_{it} + \beta_3 BRDSIZE_{it} + \beta_4 BRDMEET_{it} + \\
 & \beta_5 AUDMEET_{it} + \beta_6 INTERLOCK_{it} + \beta_7 FAMMB_{it} + \beta_8 GOVOWN_{it} + \\
 & \beta_9 INSTOWN_{it} + \beta_{10} FAMOWN_{it} + \beta_{11} BLOCKOWN_{it} + \beta_{12} FSZ_{it} + \beta_{13} LEV_{it} + \\
 & \beta_{14} ROA_{it} + \beta_{15} BIG4_{it} + \beta_{16} LOSS_{it} + \varepsilon_{it}
 \end{aligned}
 \tag{9}$$

$$\begin{aligned}
 EM_{it} = & \alpha_0 + \beta_1 INDINDEX_{it} + \beta_2 AUDIND_{it} + \beta_3 BRDSIZE_{it} + \beta_4 BRDMEET_{it} \\
 & + \beta_5 AUDMEET_{it} + \beta_6 INTERLOCK_{it} + \beta_7 FAMMB_{it} + \beta_8 GOVOWN_{it} \\
 & + \beta_9 INSTOWN_{it} + \beta_{10} FAMOWN_{it} + \beta_{11} BLOCKOWN_{it} + \beta_{12} FSZ_{it} \\
 & + \beta_{13} LEV_{it} + \beta_{14} ROA_{it} + \beta_{15} BIG4_{it} + \beta_{16} LOSS_{it} \\
 & + \varepsilon_{it}
 \end{aligned}
 \tag{10}$$

$$\begin{aligned}
 EM_{it} = & \alpha_0 + \beta_1 INDINDEX_{it} + \beta_2 STRAUDIND_{it} + \beta_3 BRDSIZE_{it} + \beta_4 BRDMEET_{it} \\
 & + \beta_5 AUDMEET_{it} + \beta_6 INTERLOCK_{it} + \beta_7 FAMMB_{it} + \beta_8 GOVOWN_{it} \\
 & + \beta_9 INSTOWN_{it} + \beta_{10} FAMOWN_{it} + \beta_{11} BLOCKOWN_{it} + \beta_{12} FSZ_{it} \\
 & + \beta_{13} LEV_{it} + \beta_{14} ROA_{it} + \beta_{15} BIG4_{it} + \beta_{16} LOSS_{it} \\
 & + \varepsilon_{it}
 \end{aligned}
 \tag{11}$$

$$\begin{aligned}
 EM_{it} = & \alpha_0 + \beta_1 BRDINDUM_{it} + \beta_2 AUDIND_{it} + \beta_3 BRDSIZE_{it} + \beta_4 BRDMEET_{it} + \\
 & \beta_5 AUDMEET_{it} + \beta_6 INTERLOCK_{it} + \beta_7 FAMMB_{it} + \beta_8 GOVOWN_{it} + \\
 & \beta_9 INSTOWN_{it} + \beta_{10} FAMOWN_{it} + \beta_{11} BLOCKOWN_{it} + \beta_{12} FSZ_{it} + \beta_{13} LEV_{it} + \\
 & \beta_{14} ROA_{it} + \beta_{15} BIG4_{it} + \beta_{16} LOSS_{it} + \varepsilon_{it}
 \end{aligned}
 \tag{12}$$

Table 5.29: FGLS regression findings of the equilibrium-variable model for non-strict independent directors and alternative measures for Board independence

Model (1) EMJ	Coef.	Model (2) EMJ	Coef.	Model (3) EMJ	Coef.	Model (4) EMJ	Coef.
BRDIND	-0.0020194 (-0.50)	INDINDEX	-0.0004089 (-1.15)	INDINDEX	-0.0001321 (-0.38)	BRDINDUM	-0.0030854*(-1.74)
AUDINDEX	-0.0001732 (-0.83)	AUDIND	-0.0003342 (-0.14)	STRAUDIND	-0.0071612**** (-2.81)	AUDIND	-0.001624 (-0.64)
BRDSIZE	-0.0023502**** (-4.87)	BRDSIZE	-0.0023129**** (-4.78)	BRDSIZE	-0.0021731**** (-4.51)	BRDSIZE	-0.0023715**** (-5.23)
BRDMEET	0.0017038 *** (4.06)	BRDMEET	0.0016236 *** (3.91)	BRDMEET	0.0015573*** (3.58)	BRDMEET	0.0016271*** (3.79)
AUDMEET	-0.0006286** (-2.38)	AUDMEET	-0.0005967** (-2.28)	AUDMEET	-0.0006529** (-2.44)	AUDMEET	-0.0006785** (-2.48)
INTERLOCK	-0.0038176 (-1.35)	INTERLOCK	-0.0034086 (-1.18)	INTERLOCK	-0.00388 (-1.36)	INTERLOCK	-0.0038089 (-1.34)
FAMMB	-0.0021788 (-0.36)	FAMMB	-0.0024026 (-0.40)	FAMMB	-0.0038515 (-0.62)	FAMMB	-0.0044223 (-0.71)
GOVOWN	-0.0002922**** (-4.65)	GOVOWN	-0.0002686**** (-4.35)	GOVOWN	-0.0002892**** (-4.74)	GOVOWN	-0.0002573**** (-3.71)
INSTOWN	-0.0001891 (-3.62)	INSTOWN	-0.0001813**** (-3.55)	INSTOWN	-0.0001821**** (-3.62)	INSTOWN	-0.0001739**** (-4.46)
FAMOWN	-0.0000989* (-1.79)	FAMILIY	-0.0000792 (-1.42)	FAMILIY	-0.000079 (-1.43)	FAMILIY	-0.0000615 (-1.05)
BLOCKOWN	-0.0003254 (-1.20)	BLOCKOWN	-0.0003635 (-1.38)	BLOCKOWN	-0.0004267 (-1.52)	BLOCKOWN	-0.0002997 (-1.14)
FSZ	-0.0062222**** (-5.95)	FSZ	-0.0063182**** (-6.09)	FSZ	-0.0062348**** (-5.90)	FSZ	-0.0061219**** (-6.01)
LEV	0.0432126**** (7.39)	LEV	0.0427374**** (7.31)	LEV	0.0421177**** (7.31)	LEV	0.0425296**** (7.41)
ROA	0.032694 *** (2.66)	ROA	0.0298491** (2.38)	ROA	0.0330751*** (2.66)	ROA	0.0340411*** (2.66)
BIG4	0.006696*** (3.95)	BIG4	0.006684*** (4.15)	BIG4	0.0063914*** (3.95)	BIG4	0.0064515*** (4.22)
LOSS	0.0083174*** (3.59)	LOSS	0.0081548*** (3.42)	LOSS	0.0089941*** (3.89)	LOSS	0.0094202*** (3.94)
Constant	0.1384572*** (10.12)	Constant	0.1409141*** (10.51)	Constant	0.1386157*** (10.16)	Constant	0.1365084*** (10.34)
Number of obs	993		993		993		993
Wald chi2(16)	3317.48***		5043.19***		3508.73***		1658.51***
Prob > chi2	0.0000		0.0000		0.0000		0.0000

Notes: Variables are defined as follows: non-strict board independent directors (BRDIND): measured as the proportion of independent directors declared by the firms in their annual reports as independent directors to total board members. Strict Board of directors' independence index (INDINDEX): a disclosure independence index constructed for the independent directors on the board based on the 11 independence criteria recommended by the 2017 Saudi Corporate Governance Code. A value of 1 is assigned if the independent member meets one of the 11 independence criteria and 0 otherwise. The index score ranges from 1 to 11. Non-strict Audit committee independent directors (AUDIND): measured by the proportion of independent directors declared by the firms in their annual reports as independent directors to total audit committee members. Strict Audit committee independent directors (STRAUDIND): the proportion of strict independent directors who meet all the independence criteria recommended by the 2017 SCGC to total audit committee members. (BRDINDUM) a dummy variable that takes the value of 1 if all the independent directors on the board meet all the 11 independence criteria recommended by the 2017 Saudi Corporate Governance Code and 0 otherwise. Chapter Four provides a detailed definition of the measurement of the remaining variables used for the estimation. Z -value between parentheses. ***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

Table 5.29 presents the results of non-strict board and audit independent directors and strict audit independent directors. Also, Table 5.29 presents the results of the alternative measures for strict board independence. In Table 5.29 Model (1), the coefficient of non-strict board independent BRDIND is negative but insignificant ($b=-0.0020194$) ($z\text{-value} = -.050$). This result indicates that the presence of independent directors who violate the independent criteria of the Saudi Corporate Governance Code is not effective in constraining earnings management practices. Also, this result is in line with this study's argument that measuring the independence of the board of directors by merely computing the percentage of independent directors declared by the firms might not reflect the actual status of their independence. Likewise, in Model (2), the coefficient of non-strict audit independent directors AUDIND is associated negatively but insignificantly with earnings management practices. This result indicates that independent directors on the audit committee who did not meet one of the 11 independence criteria are not effective in reducing earnings management practices. Similarly to these findings, Crespí-Cladera & Pascual-Fuster (2014) examined the effect of the proportion of non-strict independent directors on the board and non-strict independent directors on the audit committee (who do not meet the eight criteria of independence of their studies) on earnings management practices. The study found that none of these variables has a significant effect on reducing earnings management practices.

In addition, in Model (2), the coefficient of INDINDEX is negative but not significant for earnings management practices. This means that firms that have a high level of compliance with the independence criteria are not effective in reducing earnings management practices.

The results in Table 5.29 Model (3) show that the coefficient of strict audit independent directors STRAUDIND is negative and highly significant at 1% of significance. This result suggests that the proportion of independent directors on the audit committee who meet all the independence criteria is effective in constraining earnings management practices. Also, in Model (4), the coefficient BRDINDUM is negative ($b=-0.0030854$) and significant ($z\text{-value} -1.74$) at 10% level of significance. This result indicates that firms that have a board in which all its independent directors meet all 11 independence criteria are effective in reducing earnings management practices.

Overall, these results indicate that the proportion of strict independent directors on the board and audit committee is effective in monitoring opportunistic managerial discretion (i.e. earnings management practices). These findings prove the effectiveness of the 11

independence criteria recommended by the Saudi Corporate Governance Code in evaluating the independence of the independent director. Nevertheless, this result does not hold when the independence of the board is measured by the independence index.

5.7.5.2 The effect of the Corporate Governance Index on earnings management based on the direction of earnings management

In order to obtain more details of how the corporate governance mechanism affects earnings management practices and to investigate whether corporate governance plays a role in constraining both income increasing and income decreasing earnings management, the study's sample was split based on the direction of the earnings manipulation. Thus, the Saudi Corporate Governance Index was regressed separately on income increasing and income decreasing earnings management practices.

Table 5.30: Results of the Relation between the Corporate Governance Index and earnings management by the direction of earnings management

Panel A: Model (1) FGLS regression			Panel B: Model (2) FGLS regression	
Income-increasing			Income-decreasing	
EMJ Modified Jones Model (1995)	Coefficient	z-value	Coefficient	z-value
SCGI	-0.000193**	-2.13	0.0003003***	4.75
FSZ	-0.0093629***	-10.63	0.006366***	6.64
LEV	0.0620743***	10.16	0.0016252	0.24
ROA	0.086397***	4.33	0.0688328***	4.09
BIG4	-0.0014168	-0.97	-0.0037661 **	-2.02
LOSS	-0.0032618	-1.22	-0.0184512***	-6.22
Constant	0.1732956***	15.57	-0.1536704***	-11.74
Number of obs	489		476	
Chi-square	283.22		288.874	
Prob > chi2	0.000		0.00	
Breusch-Godfrey LM test	27.094***		33.228***	
Breusch-Pagan test	45.24***		29.78***	
Hausman (1978) specification test	12.75**		15.61**	

Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

The results in Table 5.30 Panel A suggest that SCGI seems effective in constraining income increasing earnings management practices. The coefficient of SCGI is negative ($b = -0.000193$) and significant ($z\text{-value} = -2.13$) at 5% level of significance in relation to income increasing earnings management practices. Income increasing earnings management is considered an aggressive financial reporting practice as described by Bekiris & Doukakis (2011). This is because firms engage in income increasing earnings management to avoid the negative consequences of decreasing the reported profit. For example, DeFond & Jambalvo (1994) empirically documented that managers of firms with high leverage are motivated to engage in income increasing earnings management practices in order to avoid violation of debt covenants. The results in Panel A suggest the effectiveness of the corporate governance system in Saudi firms in constraining aggressive earnings management practices. Similarly to this finding, Bekiris & Doukakis (2011) found a negative and significant association between corporate governance provisions and income increasing earnings management practices.

On the other hand, the results in Table 5.30 Panel B show that the SCGI has a significant and positive ($B = 0.0003003$) ($Z\text{-value} = 4.75$) relationship with income decreasing earnings management practices; the coefficient is significant at 1% level of significance. The result implies that firms having strong corporate governance systems tend to engage more in income decreasing earnings management practices. Bekiris & Doukakis (2011) attributed this effect to the fact that income decreasing earnings management practices might be classified as a conservative accounting practice³⁴. Therefore, when the firm has strong CG mechanisms, they tend to be conservative in reporting profit and avoid causing any inaccurate inflation in the profit, which may lead to manipulation. There is a wide range of evidence in the literature demonstrates that the CG mechanism increases the use of conservative accounting practices of (Lim, 2011; García Lara et al., 2009). In line with this argument, García Lara et al. (2009) documented that strong governance firms (measured by a governance index) show significantly higher levels of accounting conservatism. Also, they find that well-governed firms appear to use income decreasing earnings management practices to notify investors about bad news in a timelier manner.

³⁴ Conservative accounting practices imply adopting accounting practices that lead to a decrease in the reported profit and taking into consideration any possible risk that may affect the profitability of the company (Lim, 2011).

5.7.6 Endogeneity Problem

Endogeneity is considered a serious problem in econometrics (Baltagi, 2008). It occurs when one of the independent variables (x) or all of them in the regression are correlated with the error term (e) (Baltagi, 2008). From a statistical perspective, the correlation between the independent variables (x) and the error term (e) in the model means that the random variation of x and e are correlated with each other, and both are affecting y (the dependent variable) at the same time (Heij et al., 2004). Consequently, it would be difficult to isolate the effect of x on the outcome of dependent variable y because the variation of independent variable x is affecting the variation of dependent variable y from two directions (Baltagi, 2008; Heij et al., 2004). This happens first, directly through the changes of the x , and second, indirectly through the variations of the error term (Heij et al., 2004). Thus, the endogeneity problem affects the estimates of the parameters of the usual OLS model, making them inconsistent (Heij et al., 2004). There are several factors that give rise to the endogeneity problem, such as variables omission, measurement error and simultaneity (Baltagi, 2008; Saona et al., 2020).

First, several studies in the governance literature have pointed out the problem of omission of essential and relevant governance factors in measuring and constructing a governance index (Larcker et al., 2007; B. Black et al., 2017; Black et al., 2012). This might occur due to the unavailability of data or the difficulty of proxying for a certain governance provision (B. Black et al., 2017). For example, studies usually tend to proxy for the independence of the board of directors by computing the percentage of independent directors who sit on the board (Saona et al., 2020; Rahman & Ali, 2006; Katmon & Farooque, 2017). In this regard, Baker & Anderson (2011) argue that this measure might not be accurate since not all independent directors have a similar level of independence; their independence might be negatively affected by other factors in the firms. In the same vein, Black et al. (2006) argue that managers might appoint independent directors merely to signal to the outside investors that they adopt good governance practices that in line with the investors' interests. However, in practice, those independent directors might not provide effective monitoring and disciplining of the managers (Black et al., 2006). In this case, the concept of board independence will be incorrectly measured and will suffer from omitted variables bias since an important factor, namely the managerial intentions in appointing the independent directors, was not included in the proxy of the board's independence. This might be due to the difficulty of finding a proper measurement for it. Given this, the Saudi Corporate Governance Index (SCGI) that is used in this study might also suffer from omitted variable

bias since there are governance factors that might correlate with the current governance provisions in the index but have not been accounted for by the researcher. This might increase the possibility of the SCGI becoming an endogenous variable.

Second, another problem that might cause endogeneity is the measurement error of the governance variables. Baker & Anderson (2010) and Daines et al. (2010) claim that the governance index is expected to contain more measurement error than a single governance variable. According to Baker & Anderson (2010), using single governance characteristics such as the board's stock ownership might contain lower measurement error because it involves recording one value. However, the governance index has numerous governance provisions which cover different governance aspects. Hence, the chance of making mistakes in recording these values is higher than in single governance provision. Consequently, higher measurement error affects the accuracy of the calculation of the overall proxy of the governance practices (Baker & Anderson, 2010). Thus, it will render the measure of the governance index invalid.

Nevertheless, the measurement error in the governance index is not only related to mistakes in recording the governance values. Schnyder (2012) argues that the measurement error could also arise from the inherent limitations of constructing a governance index. First, this measurement error could be occurred due to including any governance provision in the index without theoretical justification for including them (Brown et al., 2011; Schnyder, 2012) since the literature lacks a theory in this regard (Al-Najjar & Al-Najjar, 2017; Baker & Anderson, 2010b; Scholtz & Smit, 2015; Brown et al., 2011). Second, the weighting of each provision in the index is not justified due to the absence of a theoretical guide (Brown et al., 2011; Schnyder, 2012). Therefore, as this study used a governance index that contained 142 provisions and collected the governance data manually, there is a high possibility that a measurement error may occur. This, in turn, might make the SCGI variable endogenous.

Third, simultaneity arises when the independent variables are also determined by the dependent variable (Baltagi, 2008). In the context of this study, the earnings management practice could drive the variations of the governance variables. For example, Ye (2014) argues that firms involved in earnings management practices might appoint more experienced independent directors in the board in order to mitigate the negative effect of earnings management practices as well as the information asymmetry between the managers and the outside shareholders. Lee & Hwang (2019) hold the same view, arguing that when earnings management practices become prevalent in the firms, the compensation committee

reacts to this by designing a compensation structure with more inside debt compensation, on the ground that inside debt is effective in constraining earnings management practices. Hence, it is expected that the SCGI could be determined by the dependent variables, that is, the earnings management practices.

In order to address the endogeneity problem in this research, this study applied two-stage least squares (G2SLS) regression and an instrumental variable for the compliance index model. This technique has been widely used in the governance literature by prior studies (Ntim, Opong, & Danbolt, 2012; Ntim et al., 2013; Elghuweel et al., 2016; Katmon & Farooque, 2017). For the equilibrium-variable model (EVM), the Lagged Structure model was applied to address the problem of endogeneity.

5.7.6.1 Results of the Compliance-Index Model based on two-stage least squares (G2SLS) regression and Instrumental Variable (IV)

As discussed in section 5.7.6, this study addresses the endogeneity problem in this research by applying two-stage least squares (G2SLS) regression and an instrumental variable for the compliance index model. The researcher has built an instrument for the Compliance-Index Model because the Saudi Corporate Governance Index (SCGI) is the main interest of this study.

In line with prior studies (Katmon & Farooque, 2017; Al-Okaily et al., 2020; Ntim, Opong, & Danbolt, 2012; Ntim et al., 2013), the Durbin-Wu-Hausman exogeneity test was applied first to test for the existence of an endogenous relationship between SCGI and EM, as applied to Equation 7.

The significant results of the Durbin-Wu-Hausman exogeneity test in Table 5.31 indicate that the null hypothesis of no endogeneity is rejected at 5% level of significance. This implies that SCGI variable is endogenous variable, and the findings from the main GLS random effect model presented in in Table 5.19 might be biased and inconsistent. Hence, G2SLS random-effect Instrumental variable regression should be adopted for the analysis.

Table 5.31: The Durbin-Wu-Hausman test for endogeneity for the compliance index model

Durbin (score) chi2(1)	4.65523** (p = 0.0310)
Wu-Hausman F (1,986)	4.63949** (p = 0.0315)

***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

Hence, the Instrumental variable for endogenous variables (SCGI) in Equation 7 was done in the first stage based on theoretical and empirical prior research (Roberts et al., 2005; Fama & Jensen, 1983; Jensen & Meckling, 1976; Elmagrhi et al., 2016; Carcello et al., 2002; Ntim, Opong, Danbolt et al., 2012; Ali et al., 2007). This study assumed that SCGI is determined by eight governance mechanisms and five control variables. The governance factors are the strict independence of board members (STRIND), strict independence of audit committee members (STAUDIND), board size (BRDSIZE), board meeting (BRDMEET), audit meeting (AUDMEET), family ownership (FAMOWN), government ownership (GOVOWN), and institution ownership (INSTOWN). The control variables are firm size (FSZ), leverage (LEV), return on assets (ROA), audit quality (BIG4) and loss (LOSS). In the following section, the effect of each governance variable on the disclosure of the corporate governance index (SCGI) will be discussed.

Strict independent directors (STRIND)

Agency theory is built on the assumption that managers are opportunistic, and their self-serving behaviour will result in divergence of interests in the principal-agent relationship. Thus, agency theory suggests that the corporate governance mechanism might be an effective monitoring strategy which helps in curbing the opportunistic behaviour of the agent and mitigating the agency problem (Hoque, 2006; Fama & Jensen, 1983; Haniffa & Hudaib, 2006; Bonazzi & Islam, 2007; Peasnell et al., 2005; Abdul Rahman & Haneem Mohamed Ali, 2006). This is because corporate governance mechanisms provide a monitoring role over management activities. According to Samaha et al. (2012), disclosure of the governance practices by the firms will help in decreasing the agency cost and the information asymmetry between investors and managers. Also, it will make the financial reports more credible to investors. Cormier et al. (2010) support this argument and have empirically documented that governance disclosure complements the governance mechanism in the firms, and they collectively work to reduce the information asymmetry between managers and investors.

Thus, agency theory suggests that the board of directors should be independent from the management in order to provide adequate monitoring and prevent managerial opportunism (Roberts et al., 2005; Fama & Jensen, 1983; Jensen & Meckling, 1976). In this regard, it is expected that independent board members would increase compliance with CG provisions in Saudi firms, and therefore, that STRIND will be positively associated with SCGI (Elmagrhi et al., 2016).

Strict independence of audit committee members (STAUDIND)

From the agency theory perspective, the audit committee might contribute to reducing the agency cost, particularly if it includes independent directors among its members (Samaha et al., 2012). This stems from the role of the audit committee in the governance structure of the company. The role of the audit committee is to supervise the process of financial reporting, evaluate the internal control systems of the firm, and ensure that the external auditor is capable of detecting any manipulation in financial reporting (Felo et al., 2005; Klein, 2002). Therefore, the presence of independent audit committee members can enhance the level of corporate governance disclosure (Carcello et al., 2002). This study hypothesised a positive association between the strict independence of audit committee members STAUDIND and compliance with Saudi corporate governance provisions SCGI.

Audit meeting (AUDMEET) and Board meeting (BRDMEET)

According to Klein (2002), monitoring of financial reporting by the audit committee can be achieved by conducting frequent meetings with the internal financial managers and external auditors in order to review the external audit procedures, financial statements and internal control statute in the firms. Therefore, it is expected that Audit meeting AUDMEET and Board meeting BRDMEET will be associated positively with the disclosure of governance practices SCGI.

Board size (BRDSIZE)

According to B Xie et al. (2003) and Abed et al. (2012), larger boards are expected to provide effective monitoring functions. This is because larger boards increase the possibility of the company having more members with varied experience of financial reporting issues (Beasley & Salterio, 2001). Also, from an agency theory point of view, the larger board will

be more vigilant in capturing any agency problem that may arise, because a high number of members will be observing managers' activities (Kiel & Nicholson, 2003). Ntim, Opong, Danbolt et al. (2012) documented that firms with larger board size have a high level of voluntary governance disclosure. Therefore, it is expected that a larger board size BRDSIZE will associate positively with the level of compliance with the provisions of the Saudi Corporate Governance Code (SCGI).

Family ownership (FAMOWN)

The entrenchment hypothesis suggests that controlling family ownership have incentives to engage in opportunistic behaviour at the cost of minority shareholders to obtain private benefits that are not distributed to other minority shareholders (Wang, 2006; Shleifer & Vishny, 1997). Thus, family ownership may reduce the disclosure of governance practices (Vural, 2018). In this regard, Ali et al. (2007) found that family firms in the US are less likely to disclose their governance practices in order to reduce the ability of outside shareholders to interfere in the firm. On the basis of this discussion, this study hypothesised that there is a negative relationship between family ownership FAMOWN and SCGI.

Government Ownership (GOVOWN)

The Saudi government provides financial support to listed firms (AL-Dakhil, 2017). According to Al-Bassam et al. (2015), Saudi firms that have substantial government ownership might improve their governance practices in order to gain government support. Yet, in line with Saudi Vision 2030, one of the aims of which is to develop the financial sector in Saudi, established several incentives programs to facilitate the operations of the listed firms, and also to encourage private firms to be listed on the Saudi stock exchange (Tadawul.com,2020). For example, the Saudi Industrial Development Fund has increased the limits of loans granted to listed firms (Tadawul.com,2020). Therefore, Saudi firms that have government ownership might increase their compliance with the Saudi Corporate Governance Code in order to obtain government support. Al-Bassam et al. (2015) found that government ownership affects positively the compliance with voluntary corporate governance disclosure in Saudi firms. Thus, this study predicts that government ownership GOVOWN will be associated positively with SCGI.

Institutional ownership (INSTOWN)

Institutional shareholders have the ability and incentive to effectively monitor the practices of the management. Due to the high number of shares that they own, collective action by institutional investors becomes less costly. As they are a small number of shareholders, they can easily form a homogeneous group (Koh, 2003). This, in turn, will enable them to undertake the monitoring role and share the monitoring expenses as well (Koh, 2003). In addition, institutional shareholders are a sophisticated group of shareholders who possess wider skills and financial experience. Thus, they tend to require a large amount of information from the managers of the firms (Donnelly & Mulcahy, 2008). Elmagrhi et al. (2016) found that the presence of institutional shareholders in the firms increases corporate governance disclosure. Hence, the study predicts a positive effect of institutional shareholders INSTOWN on SCGI.

Firm size (FSZ)

Larger firms are more likely to provide more transparent corporate governance disclosure (Samaha et al., 2012). This is because larger firms are more likely to be subject to financial and political costs (Watts & Zimmerman, 1986). Also, larger firms tend to have well-established internal control systems and more skilled internal auditors than small firms, which in turn contributes to the quality of the disclosed information (Kim et al., 2003; Cormier et al., 2013; Sáenz González & García-Meca, 2014). Hence, the study predicts that firm size FSZ will correlate positively with SCGI.

Leverage (LEV)

Creditors of the firms, such as banks, consider one of the methods of governance (Shleifer & Vishny, 1997). As the creditors finance the firm, they are motivated to supervise the behaviour of the managers in order to ensure that firms maintain payment of the principal and the interest (Jensen C., 1986). In addition, creditors mitigate the agency problem in the firms by constraining the availability of cash flow to the managers, since the cash flow will be directed towards paying the debts (Jensen C., 1986). However, creditors supervise the firms by establishing a debt covenant (Jensen & Meckling, 1976). For instance, they tend to use specific accounting numbers in the debt contracts in order to restrict the managers' ability to take decisions that may reduce the value of the firms. For example, some debt contracts

require the firms to maintain working capital above a certain level (Watts & Zimmerman, 1986; Jensen & Meckling, 1976). Breach of debt covenants is considered a default. In this case, lenders will have the right to take action against the firms, such as seizure of collateral (Watts & Zimmerman, 1986). Creditors might also have the right to take the firms to bankruptcy court if they fail to pay off their debts (Jensen C., 1986). Since debt can be used as a governance method, empirically Perez de Toledo & Bocatto (2012) found that they can be used as a substitute governance method for other governance arrangements that could be complex or costly for the firm. Thus, it is expected that firms with high leverage will comply less with recommendations of the governance code. In this regard, Cormier et al. (2010) argue that when the firms have financial difficulties (have a high debt ratio), they might not benefit from increasing the disclosure of their governance practices. Several studies in the literature report a negative relationship between leverage and disclosure of governance practices (Eng & Mak, 2003; Sharif & Ming Lai, 2015; Perez de Toledo & Bocatto, 2012). Hence, this study predicts that the coefficient of leverage LEV will be associated negatively with disclosure of governance practices in Saudi firms SCGI.

Return on assets (ROA) and loss (LOSS).

Kusumawati (2006) and Abdur Rouf (2011) found that the level of financial performance is associated negatively with disclosure of governance practices. Kusumawati (2006), interpreting this result, by stating that that this occurs because firms that have experienced a reduction in revenue tend to disclose more about their governance practices to the public. This is to distract the attention of outside investors from the firm's poor performance and to signal to them that it is still well-governed. These findings are also in line with 'light and shadow management theory' (Jackson & Carter, 1995), which states that that managers shed light on their corporate governance practices by increasing their disclosure in order to hide their low financial performance in the shadows. In line with this argument, firms that experience losses might also increase their governance disclosure practices in order to cover up their reported losses. Hence, according to this discussion, the study hypothesised that financial performance ROA and LOSS variables will negatively affect disclosure of governance practices in Saudi firms.

Audit quality (BIG4)

Firms that have high audit quality services are expected to provide more transparent information (Al-Janadi et al., 2013; Han et al., 2012). This is because large audit firms (a proxy of audit quality) spend generously on building their brand names, lowering the litigation risk and protecting their reputation (Palmrose, 1988). The reason for this is that audit firms gain their value from the expectations of the users of the financial statement that the audit firms could detect and report any material misstatements and omissions in the company's financial statements. Yet, if the audit firms do not meet this expectation, the result is audit failure. The audit failure will affect the users of the financial statements, possibly leading them to take legal action against the audit firms (litigation) (Palmrose, 1988). Palmrose (1988) and DeAngelo (1981) suggest that large audit firms have an incentive to avoid the risk of litigation by providing high-quality audit services, because litigation is very costly for them. Therefore, due to the possible loss (i.e., litigation risk and reputation loss) that large audit firms may face if they have not provided proper audit services, it is expected that firms employing one of the big 4 accounting firms will have high-quality governance disclosure. Empirically, several studies in the literature provide evidence that audit quality improves disclosure of governance practices (Al-Janadi et al., 2013; Han et al., 2012). For instance, based on a sample of 87 Saudi listed firms, Al-Janadi et al. (2013) reported that several governance mechanisms such as non-executive directors, board size and audit quality significantly improve voluntary disclosure. Hence, this study anticipated that audit quality (BIG4) will be positively associated with disclosure of governance practices in Saudi firms SCGI.

Therefore, the first stage regression is estimated as follows:

$$\begin{aligned} SCGI_{it} = & \alpha_0 + \beta_1 STRIND_{it} + \beta_2 STAUDIND + \beta_3 BRDSIZE_{it} + \beta_4 BRDMEET_{it} + \\ & \beta_5 AUDMEET_{it} + \beta_{10} FAMOWN_{it} + \beta_8 GOVOWN_{it} + \beta_9 INSTOWN_{it} + \beta_{12} FSZ_{it} + \\ & \beta_{13} LEV_{it} + \beta_{14} ROA_{it} + \beta_{15} BIG4_{it} + \beta_{16} LOSS_{it} + \varepsilon_{it} \end{aligned} \quad (13)$$

The variables of Equation 13 are defined in Table 5.22. and Table 5.29.

Table 5.32: First stage OLS regression

Dependent variable	Coef.	St. Err.	t-value
SCGI			
Independent variables			
STRIND	15.77194***	2.051	7.69
STAUDIND	3.966883**	1.868	2.12
BRDSIZE	0.6706057 *	0.345	1.94
BRDMEET	0.2283246	0.195	1.17
AUDMEET	2.312388***	0.132	17.55
FAMOWN	- 0.1081599**	0.045	-2.39
GOVOWN	0.3317329	0.022	1.50
INSTOWN	-0.1563131***	0.054	-2.88
Control variables			
FSZ	14.51468***	1.197	12.13
LEV	-19.58353***	3.522	-5.56
ROA	-32.79071***	7.071	-4.64
BIG4	-0.4795163	0.768	-0.62
LOSS	0.0328828	1.004	0.03
Constant	-163.0433***	16.628	-9.81
Adj.R-squared	57%		
Number of obs	994		
F-test	89.898***		

Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

As can be seen from Table 5.32, the majority of the coefficients are statistically significant and consistent with the study's prediction. This means that most of the variables selected in the model work as determinants of governance disclosure in Saudi firms.

Table 5.32 shows positive coefficients of SCGI on STRIND, STAUDIND, BRDSIZE, AUDMEET and FSZ, whereas the coefficient of SACGI is negatively associated with FAMOWN, LEV and ROA. Most of the coefficients are in line with the predicted sign and the regression shows good regression diagnostics, including high Adj.R-squared value (57%) and the F-test (89.898) (Gujarati, 2003). Hence, it can be suggested that the P_SCGI (i.e., the instrumented part of SCGI) is an appropriate instrument for SCGI.

However, Larcker & Rusticus (2010) criticise previous studies in accounting literature because they did not report the over-identifying restriction test for the instrumental variables used in their studies. Larcker & Rusticus (2010) states that not performing the over-identifying restriction test makes the assessment of the instrument's validity very difficult. Hence, the study followed prior studies (Ye, 2014; Choi et al., 2013; Baltagi, 2008; Heij et al., 2004) and conducted the Sargan test to examine whether the instrument of this study is valid and correctly specified. The null hypothesis of the test states that the instrument is exogenous and valid (Heij et al., 2004). In Table 5.33, the results of the Sargan test are not significant, which confirms the acceptance of the null hypothesis. Thus, the instrument used in this study is valid and well specified.

Table 5.33: Test of overidentifying restrictions

Sargan-Hansen statistic	Chi-sq(7) 9.159, P-value = 0.2414
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Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively.

After estimating the first step regression model in Equation 13, the predicted value P_SCGI (the instrumental variable) is obtained. Then $SCGI$ in the main regression model in Equation 7 is replaced by P_SCGI . In the second step, the main model Equation 7 is re-estimated using the instrumental variable P_SCGI instead of $SCGI$ as follows:

$$EMJ_{it} = \alpha_0 + \beta_1 P_SCGI_{it} + \beta_2 FSZ_{it} + \beta_3 LEV_{it} + \beta_4 ROA_{it} + \beta_5 BIG4_{it} + \varepsilon_{it} \quad (14)$$

All the variables remain the same as defined in Equation 7 except the predicted value (P_SCGI), which comes from Equation 13 as an instrument for $SCGI$.

Table 5.34: Regression results of the estimated instrumental variable for the compliance-index model (Modified Jones Model, 1995)

Independent variables	Panel A: Second stage G2SLS random-effect instrumental variable (IV) regression EMJ	Panel B: Main GLS random- effect model EMJ
P_SCGI	-0.0002589* (-169)	-----
SCGI	----	-0.0002171** (-2.18)
FSZ	-0.0077616*** (-4.31)	-0.0079818*** (-5.06)
LEV	0.0458848*** (4.27)	0.0452864*** (4.46)
ROA	0.0444647* (1.74)	0.0426423* (1.77)
BIG4	0.0013799 (0.47)	0.0021099 (0.73)
LOSS	0.0134265*** (3.29)	0.0132902*** (3.29)
Constant	0.1550799*** (6.52)	0.1556693*** (7.30)
R-squared	0.18	0.18
Number of obs	994	994
Chi-square	46.972***	54.367***
Prob > chi2	0.0000	0.0000

Note: Z -value between parentheses ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

Table 5.34 compares the results of the main random-effect GLS regression for compliance index model and the regression of G2SLS random-effect instrumental variable (IV) regression. The G2SLS findings in Panel A are consistent with the random-effect GLS findings documented previously (Panel B). Accordingly, endogeneity does not seem to excessively impact on the findings of this study. The coefficients of the Saudi governance index (SCGI and P_SCGI) in both regressions in Panel A and B are negative and significant. This indicates that a higher level of corporate governance compliance (as measured by the governance index score) is associated with a lower level of earnings management practices measured by the Modified Jones Model (1995). However, there is a slight difference in the significance degree between the SCGI coefficient and the instrumented variable P_SCGI, in which the former is significant at 5% while the latter is significant at 10%. However, this does not affect the results, as both of them are significant and their predicted signs, are in line with the hypothesis of this study. In addition, the slight increase in the magnitude of the coefficient of the instrument variable P_SCGI (-0.0002589) in Table 5.34 Panel A compared with the coefficient of the SCGI (-0.0002171) in the main random-effect GLS random regression in Panel B is generally in line with prior findings of Ntim et al. (2012) and Elghuweel et al. (2016), which show that the instrumented part of the corporate governance

variable is stronger in predicting the outcome variable in the model than the original corporate governance variable (i.e. un-instrumented part).

The results of the control variables in the main random-effect GLS model Panel B are very similar to the findings of the control variables in G2SLS model in Panel A. The coefficients of the control variables FSZ, LEV, BIG4 and ROA show a similar direction and the same degree of significance as the coefficients of control variables in G2SLS regression panel A. Also, both regressions have the same R-squared value (18%).

Table 5.35: Results of the Compliance-Index Model based on two-stage least squares (G2SLS) regression and Instrumental Variable (IV) estimated based on alternative earnings management models (EMKOTH, WCAEM)

Independent variables	Panel A: Second stage G2SLS random-effect instrumental variable (IV) regression Dependent Variable: EMKOTH	Panel B: The GLS random- effect model EMKOTH	Panel C: Second stage G2SLS random- effect instrumental variable (IV) regression WCAEM	Panel D: The GLS random- effect model WCAEM
	Coef. z-value	Coef. z-value	Coef. z-value	Coef. z-value
P_SCGI	-0.0002711** -1.99	-----	-0.0011085*** -4.28	---
SCGI	-----	-0.0001861** -2.11	-----	-0.0010704*** -6.58
FSZ	-0.0051025*** -3.41	-0.0054867*** -4.11	0.0018956 0.95	0.0019026 1.05
LEV	0.0252131*** 2.73	0.0262622*** 3.00	-0.0370573*** -2.61	-0.0386805*** -2.89
ROA	0.0038609 0.17	0.0086487 0.41	-0.0074093 -0.21	-0.0172678 -0.53
BIG4	0.0049299* 1.92	0.0055172** 2.19	0.0080858* 1.86	0.0090608 ** 2.16
LOSS	0.0022606 0.63	0.0025758 0.72	0.0172228*** 2.70	0.0177212 *** 2.83
Constant	0.1205653*** 6.08	0.1201127 *** 6.65	0.103965*** 3.77	0.1017438*** 4.11
R-squared	17%	17%	13.34%	15%
Number of obs	994	994	994	994
Chi-square	26.069***	30.670***	34.478***	61.689***

Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

5.7.6.2 Results of the Compliance-Index Model based on two-stage least squares (G2SLS) regression and Instrumental Variable (IV) estimated based on alternative earnings management models

In order to test whether endogeneity affects the stability of the results based on different earnings management models, the instrumental variable two-stage regression (G2SLS) for SCGI was applied to the alternative earnings management models. Table 5.35 presents the results of the main Random-effect GLS regression for the compliance index model and the regression of G2SLS Random-effect instrumental variable (IV) regression where earnings management (dependent variables) is estimated by Kothari (2005) (EMKOTH) and working

capital accrual of the Modified Jones Model (1995) (WCAEM). Noticeably, the results of two-stage regression G2SLS in Panels A and C are generally similar to the findings of the main GLS Random-effect regressions in Panels B and D. In Panels A and B when the two regressions are estimated by EMKOTH, the coefficient of the instrument variable P_SCGI in Panel A remains negative and significant (-0.0002711) (z-value =-1.99), similar to the coefficient of SCGI of the main GLS Random-effect model in Panel B. Moreover, in Panel C, the coefficient P_SCGI in G2SLS regression estimated by WCAEM is negative and highly significant, similar to the coefficient of SCGI in the main Random-effect GLS model in Panel D. Hence, it can be concluded that the effect of the corporate governance (SCGI) on constraining earnings management is robust for alternative earnings management measures .

5.7.6.3 Results of the equilibrium-variable model estimated based on Lagged Structure

Following prior studies (Katmon & Farooque, 2017; Al-Okaily et al., 2020; Ntim, Opong, & Danbolt, 2012; Ntim et al., 2013), to ensure that the endogeneity problem is present in the equilibrium-variable model, the Durbin-Wu-Hausman exogeneity test was conducted to examine whether there is an endogenous relationship between corporate governance variables and earnings management applied to Equation 8.

Table 5.36: the Durbin–Wu–Hausman test for endogeneity for the equilibrium-variable model

Durbin (score) chi2(16)	30.6462 ** (p =0.0149)
Wu–Hausman F (16,848)	1.91009 ** (p = 0.0167)

Note: ***, ** and * denote significance at 1%, 5% and 10% levels

The results in Table 5.36 show that the null hypothesis of no endogeneity is rejected at 5% level of significance. This result indicates that all the governance and control variables in the equilibrium-variable model are endogenous. Thus, the study solves the endogeneity in the equilibrium-variable model between corporate governance variables and earnings management by regressing Equation 8 as a lagged structure. The lag structure is used because previous year corporate governance practices might influence current earnings management practices. In line with this argument, Ye (2014) empirically provides evidence that previous year independent director cash pay is positively associated with current earnings management practices.

However, in order to estimate the lag model, a one-year lag is included between EMJ and all corporate governance variables and control variables as well, in which the current year's earnings management practices depend on the previous year's corporate governance practices. Therefore, this sample excluded 2006 as the first year, thereby reducing the entire sample from 993 to 871 observations.

Hence, the lag structure model is specified as follows:

$$\begin{aligned}
 EM_{it} = & \alpha_0 + \beta_1 STRIND_{it-1} + \beta_2 AUDINDEX_{it-1} + \beta_3 BRDSIZE_{it-1} + \\
 & \beta_4 BRDMEET_{it-1} + \beta_5 AUDMEET_{it-1} + \beta_6 INTERLOCK_{it-1} + \\
 & \beta_7 FAMMB_{it-1} + \beta_8 GOVOWN_{it-1} + \beta_9 INSTOWN_{it-1} + \beta_{10} FAMOWN_{it-1} + \\
 & \beta_{11} BLOCKOWN_{it-1} + \beta_{12} FSZ_{it-1} + \beta_{13} LEV_{it-1} + \beta_{14} ROA_{it-1} + \beta_{15} BIG4_{it-1} + \\
 & \beta_{16} LOSS_{it-1} + \varepsilon_{it-1}
 \end{aligned} \tag{15}$$

All the variables in Equation 15 are defined in Table 5.22.

Table 5.37: FGLS regression findings of the equilibrium-variable model (EVM) estimated as lagged structure

Dependent variable	Panel A Lagged structure regression		Panel B Un-lagged structure regression	
EMJ	FGLS regression findings of EVM based on Modified Jones Model (1995)		FGLS regression findings of the EVM based on Modified Jones Model (1995)	
Independent variables	Coef.	z-value	Coef.	z-value
STRIND	-0.0088291**	-2.50	-0.0115822***	-2.92
AUDINDEX	0.0005395***	2.85	-4.92e-07	-0.00
BRDSIZE	-0.0016501***	-3.31	-0.0024588***	-5.37
BRDMEET	0.0008957*	1.79	0.0014476***	3.46
AUDMEET	-0.0003674	-0.95	-0.0007**	-2.56
INTERLOCK	-0.0126538***	-3.93	-0.0026444	-0.94
FAMMB	0.0123434**	2.07	-0.0018325	-0.30
GOVOWN	-0.0002162***	-3.92	-0.0002793***	-4.52
INSTOWN	-0.0002104***	-4.46	-0.0001971***	-3.65
FAMOWN	-0.0000966**	-1.97	-0.0000901*	-1.65
BLOCKOWN	-0.0000569	-0.22	-0.0004015	-1.47
FSZ	-0.0051906***	-6.28	-0.0059545***	-5.78
LEV	0.0383001***	7.93	0.0414319***	7.29
ROA	0.0045613	0.40	0.0335956***	2.67
BIG4	0.0109389***	6.67	0.0063868***	3.98
LOSS	0.0073309***	3.30	0.0100754***	4.24
Constant	0.1145993***	11.17	0.1368032***	10.17
Chi-square	553.581***		2609.989***	
Number of obs	871		993	

Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

Table 5.37 Panels A and B compare the results of the lagged and the unlagged structure of the FGLS regression model; the results across the two models are relatively constant. Regarding governance variables, the coefficient of the strict independence of board members (STRIND) is negative and significant in both lagged and unlagged structure models. Also, board size BRDSIZE and board meeting BRDMEET show the similar predicted sign and level of significance. Surprisingly, in the lagged structure model Panel A, the independence of the audit committee AUDINDEX shows opposite hypothesised signs and is statistically significant. Also, in the lagged structure model Panel A, the coefficient of the INTERLOCK is significant and negative in relation to earnings management practices. All the results for ownership and control variables in the lagged regression were generally similar to those reported for unlagged structure in Panel A, thereby indicating that the results of the equilibrium-variable model are robust for estimating it as a lagged structure.

5.7.6.4 Results of the role of family ownership in the relationship between SCGI and EM for the Compliance-Index Model based on two-stage least squares (G2SLS) regression and Instrumental Variable (IV)

Since the coefficient of corporate governance index SCGI is endogenous (see section 5.7.6.1), the study utilised G2SLS random-effect regression. Then, the predicted value P_SCGI from the first stage regression in Equation 13 was used as an instrument for SCGI, in order to solve the issue of endogeneity for the random GLS regressions which were conducted for each subsample that divided based on the level of family ownership in the Saudi firms.

Table 5.38: Regression results of subsamples of family-controlled firms based on two-stage least squares (G2SLS) regression and Instrumental Variable (IV)

	Panel A: High family ownership level (Family ownership %>= 30%) Second stage G2SLS random-effect instrumental variable (IV) Regression with the Modified Jones Model (1995)		Panel B: High family ownership level (Family ownership %>=30%) Main GLS random-effect model with the Modified Jones Model (1995)	
EMJ	Coefficient	z-value	Coefficient	z-value
P_SCGI	0.0015426***	3.17	----	----
SCGI	----	-----	0.0010618***	3.43
FSZ	-0.0009293	-0.13	-0.0002547	-0.05
LEV	0.0221326	0.82	0.0202706	0.89
ROA	0.221902***	3.31	0.1841237***	3.31
BIG4	0.0115784	1.50	0.0103263***	1.55
LOSS	0.0311022**	2.40	0.025398**	1.98
Constant	-0.079524	-0.87	-0.0545593	-0.70
R-squared	55%		55%	
Number of obs	173		173	
Chi-square	32.55***		43.815***	
Prob > chi2	0.0006		0.00	

Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

Table 5.38 compares the results obtained from G2SLS random-effect instrumental variable (IV) model and main GLS random-effect model for subsample of firms that have high family ownership. The results show an enormous similarity between the two models. In a subsample of high-level family ownership, the coefficient of the SCGI in Panel B and the instrument P_SCGI in Panel A are both positive and significant. This indicates that after controlling for endogeneity bias when firms have a high level of family ownership, the increase in compliance with Saudi corporate governance provisions leads to an increase in the practices of earnings management. The coefficients of the control variables also had similar predicted signs and degrees of significance.

Table 5.39: Regression results of subsamples of family-controlled firms based on two-stage least squares (G2SLS) regression and Instrumental Variable (IV)

	Panel A: Panel A: low family ownership level (family ownership % <30%), Second stage G2SLS random-effect instrumental variable (IV) regression with Modified Jones Model (1995).		Panel B: Panel A: low family ownership level (family ownership % <30%) Main GLS random-effect model with Modified Jones Model (1995).	
	Coefficient	z-value	Coefficient	z-value
EMJ				
P_SCGI	-0.0003843**	-2.43	-----	-----
SCGI	-----	-----	-0.0003252***	-3.11
FSZ	-0.004561**	-2.30	-0.004791**	-2.39
LEV	0.0411834***	3.54	0.0419158***	3.56
ROA	0.0335545	1.23	0.0373933	1.37
BIG4	-0.0005522	-0.17	-0.000558	-0.17
LOSS	0.0115847***	2.72	0.0116657***	2.73
Constant	0.1255439***	4.92	0.1249444***	4.74
R-squared	29%		29%	
Number of obs	821		821	
Chi-square	70.17***		70.289***	
Prob > chi2	0.0000		0.000	

Note: ***, ** and * denote significance at 1%, 5% and 10% levels, respectively. Chapter Four provides a detailed definition of the measurement of all the variables used for the estimation.

Table 5.39 compares the results obtained from G2SLS random-effect instrumental variable (IV) and main random-effect GLS model for a subsample of firms that have low family ownership. The results are highly comparable. The coefficient of SCGI in Panel B and its instrument part P_SCGI in Panel A are both negative and significant. This indicates that for firms that have low family ownership, the governance mechanism is effective in reducing the practices of earnings management. Moreover, the results of the control variables in the G2SLS regression are similar to those presented in the main GLS random-effect model in Panel B. In addition, all the coefficients of the control variables have similar predicted signs and degrees of significance. Hence, it can be concluded that the evidence provided in this study in relation to the influence of family ownership on the association between corporate governance and earnings management is robust after controlling for endogeneity. Given these outcomes, the GLS random-effect model is an appropriate estimation technique for the study's data.

5.8 Summary of empirical findings and discussion chapter

This chapter reported and discussed the empirical results of this study. This chapter began by presenting the descriptive statistics of the variables used in the regression analysis of this study. Then the chapter discussed the OLS assumptions to determine whether the OLS regression is an appropriate estimation method for the study's primary analysis. The results of the OLS tests showed that the study's data had met only the linearity and multicollinearity assumptions. However, regarding the remaining assumptions, First, the results show that all of the study's variables did not follow the normal distribution. Thus, all the continuous variables in this study are winsorised up to the 5th and beyond the 95th percentile to mitigate non-normalities. Second, the compliance-index model and the equilibrium-variable model show evidence of heteroscedasticity and serial correlation thus. This study used a random-effects model based on Generalised Least Squares (GLS) to account for the problem of heteroscedasticity and autocorrelation presented in the compliance-index model as suggested by prior studies (Alzoubi, 2017; Brooks, 2008; Sáenz González & García-Meca, 2014; Shen & Chih, 2007). Regarding the issues of heteroscedasticity and autocorrelation in the equilibrium-variable model, this study follows prior studies (Masliza et al., 2011; Kouaib & Jarboui, 2016; Mayur & Saravanan, 2017) that use Feasible Generalised Least Squares (FGLS) regression proposed by Wooldridge,(2001) to account for these issues.

This chapter discussed the results of the compliance-Index model, which examines the relationship between firm-level corporate governance and earnings management practices. The result showed a statistically significant and negative association between the Saudi Corporate Governance Index (SCGI) and the level of earnings management practices. However, this result does not hold for firms with high family ownership since the results reveal that the effectiveness of corporate governance (measured by the SCGI) in constraining earnings management is reduced in Saudi firms with high family ownership.

Regarding the equilibrium-variable model, the results indicate that Saudi firms are likely to have lower levels of earnings management practices if they have a high percentage of strictly independent directors on the boards, a larger board size, and audit committees that meet more often. Additionally, the results show that Saudi firms with higher government ownership, institutional ownership and family ownership have lower levels of earnings management practices. In contrast, the current study did not find any evidence that the strict

independence of the audit committee index, percentage of directors with multiple directorships, percentage of family directors on the board and percentage of blockholders ownership have any significant relationship with the extent of earnings management practices in the Saudi firms. Also, the study found that non-strict board/audit independence is ineffective in reducing earnings management practices in Saudi firms.

Finally, this chapter presented the robustness tests and examined the existence of potential endogeneity problems. The results showed that the findings of the compliance-Index model were stable across all three earnings management models. Specifically, this result indicated that a higher level of corporate governance disclosure is effective in reducing earnings management practices conducted via long- and short-term discretionary accrual. The endogeneity examinations show that the effect of corporate governance (SCGI) on constraining earnings management is robust for alternative earnings management measures after controlling for the endogeneity problem. Also, the findings of the impact of family ownership on the relationship between corporate governance mechanism and earnings management practices were stable across all three earnings management models after controlling for endogeneity and were robust to alternative proxy for family control. Regarding the findings of the equilibrium-variable model, the results were moderately robust to (i) alternative earnings management models, (ii) endogeneity, and (iii) alternative proxies for strict board independence.

CHAPTER SIX

SUMMARY AND CONCLUSIONS

6 Introduction

The main aim of this chapter is to discuss the conclusion of the thesis. Thus, to achieve this aim, this chapter first summarises the entire research in section 6.1. Second, section 6.2 summarises the findings obtained from the compliance-index model and the equilibrium-variable model used in this study to investigate the nexus between corporate governance mechanisms and EM practices. Third, a summary of the research contribution is presented in the section 6.3. Fourth, this chapter highlights the implications and recommendations of the findings for Saudi policymakers and investors in the section 6.4. Finally, this chapter discusses the study's limitations and offers suggestions for future studies in section 6.5.

6.1 Brief Summary of the research

The main objective of the current study was to examine how a broad composite SCGI and other corporate governance variables can explain the observable changes in firm-level earnings management practices in Saudi firms. To achieve this aim, this study adopted the compliance-index model to examine the relationship between SCGI and earnings management practices. While the equilibrium-variable model was used to investigate the relationship between individual corporate governance characteristics and earnings management. Based on a sample of 112 Saudi-listed firms between 2006 and 2017, the results of the compliance-index model show a negative and significant relationship between the Saudi corporate governance index and earnings management practices. This result indicates the efficiency of the new Saudi corporate governance code in improving the governance practices in Saudi firms since the results show that the more the firms comply

with governance provisions of the Saudi governance code, the fewer earnings management practices conducted in their firms.

Nonetheless, this result did not hold for firms with high family ownership/ board dominated by family members since the results revealed that the effectiveness of corporate governance (measured by the SCGI) in constraining earnings management is reduced in these Saudi firms. Thus, this result indicates that the presence of controlling family members in firms weakens the effectiveness of the corporate governance mechanisms in Saudi firms. This finding is in line with the entrenchment hypothesis that suggests that controlling family owners are motivated to engage in opportunistic behaviour at the expense of minority shareholders to obtain personal benefits that are not distributed to other minority shareholders (Wang, 2006; Shleifer & Vishny, 1997). Hence, they might intend to weaken the governance structure in their firms to facilitate their opportunistic behaviours.

The results of the equilibrium-variable model indicate that Saudi firms are likely to have lower levels of earnings management if they have a large proportion of strict independent directors on the boards, a larger board size, and their audit committees meet more often. Additionally, the results show that Saudi firms with higher government ownership, institutional ownership and family ownership have lower levels of earnings management practices. Additionally, the findings indicate the effectiveness of strict board/audit independence in reducing earnings management practices in Saudi firms. In contrast, this study did not find evidence that supports the efficacy of non-strict board/audit independence in reducing earnings management practices in Saudi firms. These results prove the efficiency of the independence criteria set out in the 2017 SCGC. Finally, the results of the current study have confirmed the effectiveness of the newly implemented governance code in Saudi firms and facilitated the evaluation of the efficiency of the new governance regulations in the Saudi context.

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**Accounting Disclosure and Corporate Governance Mechanisms
in Kingdom of Saudi Arabia**

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Abstract

In recent decades, high-profile business failures such as that of World.com and Enron, as well as the financial crash witnessed in Kingdom of Saudi Arabia (KSA) in 2006 and 2008 prompted a call for an investigation into the cause of these failures and their consequences to avoid the occurrence of further financial crises. One of the most common problems identified by researchers is the lack of transparency, low level of corporate disclosure and corporate governance (CG) mechanisms. Moreover, market regulators and authorities in many nations consider CG and disclosure as the two main, inseparable tools for the functioning of capital markets and investor protection.

The objectives of this research are first to measure the level of mandatory (MD) and voluntary disclosure (VD) in the annual reports of KSA-listed firms and its development over time; and second to investigate whether there is a significant association between CG mechanisms (board characteristics and ownership structure) and the level of MD and VD in the annual reports of KSA-listed firms.

The sample selected for this study consists of data from the annual reports of 120 non-financial listed firms from 2015 to 2017. Using the content analysis technique, the MD and VD extent is measured by two self-constructed disclosure indices (MD and VD indices). To identify any significant changes in MD and VD levels during the period studied, MD and VD levels are analysed year by year; the data are also analysed using the Wilcoxon signed-ranks and Friedman ranked tests. This study applies two multivariate regression techniques to identify the relationship between the dependant (MD and VD) and independent variables (ownership structure and board characteristics): ordinary least square and censored regression (Tobit). Moreover, a number of additional analyses are used to ensure the robustness of the main findings: weighted index, partial compliance, lagged-effects, fixed-effects, 2SLS and cross-sectional regression techniques.

In terms of the level of MD in annual reports, the overall average MD index score for the study period (2015–17) is 72.75%, with a maximum of 88% and minimum of 53%. In addition, with regard to the extent of VD in annual reports, the average VD extent during 2015–17 is 36.49%, with a range of 16–70%. Moreover, the Wilcoxon and Friedman ranked tests confirmed that

the extent of MD and VD provided by KSA-listed firms increased significantly from 2015 to 2016, and again from 2016 to 2017.

The evidence indicates that some factors, including foreign ownership, state ownership, family ownership and the size of the board of directors have a significant positive influence on the extent of MD. In contrast, the CEO role duality and the presence of a member of the ruling family on the board have a negative association with the extent of MD. The study does not, however, find any evidence to suggest that the presence of an independent director, the audit firm type or gender diversity have any significant association with the extent of MD in the annual reports of KSA-listed firms.

Moreover, the evidence shows that some factors, including foreign ownership, state ownership, gender diversity and audit firm type have a significant positive effect on the extent of VD. In contrast, the findings suggest that having an independent director, CEO role duality and the presence of a member of the ruling family on the board have a negative association with the extent of VD. The research study does not, however, find any significant relationship between family ownership and the size of the board of directors, with the extent of VD. The study results are generally robust to alternative measures and potential endogeneity problems.

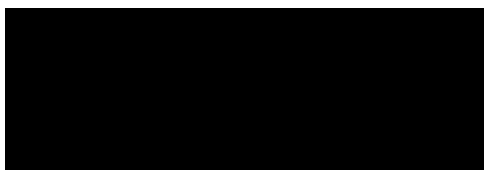
The study findings have implications for regulators, professional accounting bodies and policymakers as they contribute to debate around encouraging and developing compliance with both MD requirements and VD practice. The evidence also has implications for attempts to derive a full understanding of the drivers of corporate disclosure practices in the emerging economy environment, and how these differ from behaviour in the world's developed economies.

The study contributes to the literature in the area in two main ways. First, as compliance with MD requirements in developed markets is total (or near to total) in most cases, it has been the subject of little empirical enquiry. By focusing instead on a developing nation, particularly one that has adopted many economic reforms in the previous 5 years, the analysis facilitates the provision of novel evidence regarding both the nature and determinants of failure to follow disclosure rules. Second, this study is one of the first empirical efforts to investigate the association between CG mechanisms and both VD and MD in an emerging economy by explicitly relying on a multi-theoretical framework within a longitudinal research setting. Moreover, all data were collected manually and specifically for this research.

Declaration of Authenticity

I, Abdulrahman Alqahtani declare that the PhD thesis entitled *Accounting Disclosure and Corporate Governance Mechanisms in Kingdom of Saudi Arabia (KSA)* is no more than 100,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Signature



Date: 21/10/2019

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Chapter 1: Introduction

1.1 Background

In recent decades, the financial scandals involving Enron, WorldCom and Countrywide have been attributed to issues regarding the quality and extent of financial disclosure and transparency of such firms (Pucheta-Martínez et al. 2018). It is important that corporate accounting disclosures are properly executed because of their positive effect on the functions of the capital market. In fact, high-quality financial disclosures are known to reduce the problems faced by agencies and the asymmetry of information (Martínez-Ferrero et al. 2017). Issues of disclosure and transparency also raise concerns about future scandals, which may have far-reaching consequences that extend beyond an institution's capacity to manage them. Therefore, many emerging capital markets have initiated reform programs to prevent the occurrence of these issues. Such programs are led by international capital providers, the World Bank and the International Finance Corporation (Kolsi and Kolsi 2017).

However, in developing countries, such as the Kingdom of Saudi Arabia (KSA), issues regarding the quality and extent of disclosures have been identified as major challenges hindering the enforcement of corporate governance (CG) (Okpara 2011). In the case of the Asian financial crisis in the 1990s/2000s, the low level of disclosure by firms was cited as one of the contributors to the crisis; it also hindered economic recovery in the region (Battaglia and Gallo 2015; Gul and Leung 2004).

Enforcement bodies in developing markets have expressly considered these issues through their regulators and governments. In a bid to declare their legitimacy, the governments of countries with emerging markets have announced plans to improve CG and levels of corporate accounting disclosures in their reform programs. As a result, regulations and principles have been established and some subsequently modified. For instance, domestic CG codes based on Organization for Economic Cooperation and Development (OECD) principles have been issued in many developing markets, such as Turkey in 1961, Slovenia in 2010 and Lithuania in 2018. However, the relevance of Western concepts is now being questioned since emerging markets do not exhibit features resembling those of the developed markets. Nonetheless, it is essential that the extent of corporate disclosure in developing markets is properly evaluated. Consequently, the primary objective of this study is to explore the extent of accounting

disclosure (voluntary [VD] and mandatory [VD]) and its determinants in the developing stock market of the KSA.

1.2 Motivation for the Study

Financial crashes witnessed in Saudi stock markets in 2006 and 2008, as well as the global market in 2008/2009 have been attributed to poor transparency, disclosure practices and CG (Avgouleas 2009; Capital Market Authority 2017a; Elmagrhi et al. 2016; Haniffa and Hudaib 2006). In addition, the scandals involving large firms such as Enron and WorldCom have been attributed to weak CG practices (Samaduzzaman et al. 2015). In recent times, the attention of researchers and policymakers has been drawn to the issue of corporate reforms and the extent of information disclosure by firms. Moreover, firms are opting for different ways to raise capital in domestic and global money markets. This may be accomplished by attracting creditors, financial institutions and investors (both domestic and overseas), by disclosing financial statements. This disclosed information is considered very important for a variety of users because they form the basis for major economic decisions. Therefore, the primary objective of this study is to explore the extent of accounting disclosure, as well as the determinants of the CG sought in the KSA, for the reasons outlined below.

First, it has been observed that institutional, regulatory and contextual principles in the KSA are similar to those obtainable in other emerging Islamic and Arab states (Piesse et al. 2012). However, some differences have been observed when comparisons are made with other emerging or developed states regarding contextual, institutional and regulatory aspects. Specifically, the KSA is an Islamic state where Islamic law is promulgated (Judge 2011). The KSA government confirms that the constitution of the KSA is based on Islamic regulations. In addition, most of the formal statutory principles are strictly based on Islamic rules (CMA 2017b). Therefore, the regulations in the KSA are influenced by Islamic principles, especially in areas such as business, law, economics and politics (Abu-Tapanjeh 2009); (Kamla and Alsoufi 2015). As a corollary, the adoption of Islamic basics is reflected in a firm's financial operations, leading to challenges in the CG, disclosure practices and issues faced by agencies. Thus, the findings of studies in other developing countries may not apply to Islamic countries (Ahmed et al. 2019). Therefore, it is crucial to study the mechanisms of CG that affect the extent of corporate disclosure in the KSA.

Second, Baydoun et al. (2012) pointed out that the ownership of KSA-listed firms is highly concentrated. This may worsen the issues faced by agencies because of the blurred distinction between the control and ownership of firms (Jensen and Meckling 1976). Baydoun et al. (2012) proposed that issues regarding the concentration of ownership are caused by preferential treatment given to friends, relatives and family who are appointed to top positions and corporate boards, which tends to hinder board independence in Middle Eastern firms. The World Bank presented a report on the observance of standards and codes regarding CG practices, which revealed that the ownership of KSA-listed firms tends to be concentrated in family holdings and state ownership (The World Bank 2009); (Berg et al. 2011). A number of aspects distinguish the KSA from other countries. The ruling family controls most of the board seats of listed firms, receiving the highest rank among the top ten families in terms of the number of board seats held by one family (Habtoor et al. 2019). This may deter investment interest from developing institutions and discourage foreign participation in the KSA stock market (Chen et al. 2017). There may also be a negative effect on market efficiency, which will weaken the stock market and corporate control, and reduce the extent of corporate disclosure (Jensen and Meckling 1976).

Third, the KSA is a significantly developing economy (Sherif and Sumpio 2015): its stock market comprises around 75% of the total Gulf Cooperation Council (GCC) market capitalization; around 44% of the Arab market; and around 26% of the total Arab Gross Domestic Product (GDP) (The World Bank 2018b). Since 2009, the KSA has steadily been elevated in the economic sense, with the achievement of an important economic position at the international level as a member of the world's 20 largest economies (G20) (Al-Matari et al. 2012); (Nurunnabi 2017b). Moreover, the KSA is reputedly one of the largest producers of oil and is a member of the Organization of the Petroleum Exporting Countries (OPEC). The KSA was responsible for 32% of the total OPEC oil production in 2017. The country also controls 22% of the world's oil reserves (OPEC 2018). Most of the KSA's income derives from oil, and the role of the private sector in diversifying the economy remains weak, since it depends heavily on government spending (Banafea & Ibnrubbia 2017). However, it is the largest capital market in the MENA region, which makes it a unique country. Moreover, the KSA embraces wide foreign investment and invests significantly in both emerging and developed markets. It is, therefore, crucial to prevent the failure of CG in the KSA, which would have extensive repercussions for stakeholders throughout the Middle East and in developing economies. For instance, the prevalence of poor CG practices will lead to large losses suffered by domestic and

foreign shareholders. In addition, a weakened CG regime may exacerbate information asymmetry and the extent of accounting disclosure, which will discourage potential investors from investing in the country. Baydoun et al. (2012) indicated that aside from measuring the value of the GCC countries, which are the main producers of oil and led by the KSA, there has been minimal effort to study their commercial and financial activities. Moreover, the Saudi government has thus adopted various economic reforms, referred to collectively as “Saudi Vision 2030”, to reduce the country’s heavy dependence on oil and to create and develop new sources of revenue (Al-sasi, Taylan & Demirbas 2017). Accordingly, the Saudi Stock Market Authority has implemented a number of financial reforms including: (i) adopting the International Financial Reporting Standards (IFRS) in 2015; (ii) updating the corporate governance code in 2016; and (iii) opening the Saudi Stock Exchange to foreign investors in 2016 (Saudi Capital Market Authority 2017; Nurunnabi 2017). Moreover, more recently the country’s leaders have recognised the need to diversify the economy and make it more future-proof by allowing the world’s most profitable company (Saudi Aramco) to go public.

Fourth, few studies have investigated the level of corporate disclosure (MD and VD) and the determinants of CG mechanisms for VD and MD in the KSA, namely, Alsaeed (2006); Al-Janadi et al. (2012) and Al-Janadi et al. (2013). The Alsaeed (2006) study covered the period 2002–03 and investigated the influence of firm characteristics on VD in the banking sector; the indices used included 20 items and 40 firm–year observations. Al-Janadi et al. (2012) and Al-Janadi et al. (2013) covered the period 2006–07 and examined CG’s influence on VD; the indices used in Al-Janadi’s studies included 21 items and 87 firm–year observations. The current study focuses on a more recent and longer period (2015–17) than those of Al-Janadi et al. (2012), Al-Janadi et al. (2013) and Alsaeed (2006). Further, those studies used only 20 and 21 disclosure items, while the current study uses 452 disclosure items. Also, Alsaeed (2006) and Al-Janadi et al. (2012) and (2013) used only 40–87 firm–year observations. Finally, unlike Al-Janadi et al. (2012) and (2013) and Alsaeed (2006), which focused on the financial sector, the current study focuses on the nonfinancial sector.

In addition, Al-Janadi et al. (2012) published some concerning facts regarding financial disclosure in the KSA stock market compared with the United Arab Emirates (UAE) market. According to Al-Janadi et al.’s (2012) report, the extent of financial disclosure within Saudi firms is noticeably low, especially in the category of general and financial information. Moreover, Al-Janadi et al. (2013) stated that audit committees in Saudi firms are not effective

in providing quality reports. This raises questions about the quality of audit committee opinions when firms did not fully comply with all mandatory disclosure requirements. However, no recent study has focused on corporate disclosure and its factors and effects in the KSA such as corporate board characteristics.

1.3 Research Aims and Objectives

Accounting disclosure behaviour is affected not only by business environmental factors (e.g. the economy, the capital market and accounting and regulatory frameworks) but also by CG determinants (e.g. corporate, board and ownership characteristics). In many countries, therefore, academic researchers have attempted to investigate the influence of corporate determinants on the level of MD and VD. These researchers have conducted many empirical studies of accounting disclosure and its association with CG determinants, but most have focused on developed countries; studies of companies in developing countries, such as the KSA, have been sparse according to Hussainey and Al-Najjar (2011), Nalband and Al-Amri (2013), Aljifri et al. (2014a) and Juhmani (2017). Moreover, the existence of regulators and enforcement bodies is the major reason for improvement in the level of disclosure in GCC countries. However, these enforcement bodies in the KSA stock market are still in the developmental stage, thus there are concerns about the effectiveness of these bodies in promoting compliance with disclosure requirement (Mihret et al. 2017).

Thus, this study aims to measure the extent to which KSA-listed firms have provided voluntary and mandatory information disclosures in their annual reports; and determine whether the level of VD and MD is associated with any CG mechanisms (board characteristics and ownership structure). This is of particular interest given significant corporate reform in the KSA, the announcement of International Financial Reporting Standards (IFRS) adoption in 2013 (Nurunnabi 2017a), the issuing of a CG code in 2008 (Baydoun et al. 2012), the updating of the CG code in 2015 (CMA 2017c) and the Saudi Stock Exchange opening to foreign investment in 2015 (Nurunnabi 2017a). The objectives of this study are as follows:

- Objective 1: To measure the extent of mandatory and voluntary disclosure in the annual reports of KSA-listed firms in the period 2015–17.
- Objective 2: To investigate whether there was any significant change in the levels of voluntary and mandatory disclosure provided in the annual reports of KSA-listed firms in the period 2015–17.

- Objective 3: To investigate whether there is any important association between corporate governance mechanisms (ownership structure and board characteristics) and the extent of mandatory and voluntary disclosure in the annual reports of KSA-listed firms.

1.4 Research Questions

- Q1: To what extent have KSA-listed firms voluntarily and mandatorily disclosed information in their annual reports?
 - o SQ1: Were there any significant changes in the extent of voluntary and mandatory disclosures in the period 2015–17?
- Q2: Is there any association between the extent of voluntary and mandatory information disclosure by KSA-listed firms and corporate governance mechanisms (ownership structure and board characteristics)?

1.5 The Contribution of the Study

This study is distinguished from previous studies in the following areas.

The study contributes to two aspects of the literature, corporate disclosure and CG, by presenting updated empirical evidence regarding the relationship between the extent of accounting disclosure and the features of CG in the KSA as a Middle Eastern country that is also a G20 member; studies focused on accounting disclosure in this context are limited compared with the contexts of the developed countries and the emerging markets in Asia (Ali et al. 2017); (Juhmani 2017). According to the literature, no empirical study of accounting disclosure and its association with CG in the KSA stock market has been reported. The current study, then, is arguable a source of new evidence derived from a country regarded as representative of Arabic and oil-dependent industrial countries and from a country in which most financial statutory principles are based on Islamic rules.

The study contributes to previous arguments regarding whether listed firms controlled by affluent families permit more disclosure or limited disclosure (e.g., Chau and Gray (2010); Rouf and Harun (2011); Haddad et al. (2015); Khlif et al. (2017). It explores the effect of royal family members on companies' boards of directors and how their presence affects the VD and MD practices in the annual reports of KSA-listed firms.

This study also contributes two self-constructed disclosure indices: an MD index that includes 370 items required by the IAS/IFRS; and a VD index that includes 82 voluntary items. A variety of users (e.g. regulators, financial analysts and investors) can use these indices to evaluate the level of financial disclosure provided by public KSA companies. The indices can also be updated by adding new MD and VD items as appropriate. This makes the indices (a comprehensive MD and VD indices) appropriate barometers for regulators, researchers and other users; they may be used in future studies, especially those focusing on GCC or MENA countries that have similar corporate environments and economic changes as those in the KSA.

This study examines disclosure practices in accounting during a period of considerable corporate reform, particularly in the stock market. The period of this study is characterised by significant corporate reforms in the KSA stock market, including the adoption of IFRS in 2013, the issuing of a CG code in 2006, the updating of the CG code in 2015, the Saudi Stock Exchange opening to foreign investment in 2015 and the new *Saudi Company Act* established in 2015.

The study represents a longitudinal study undertaken from 2015 to 2017, given that previous studies examined the extent of corporate disclosure for only 1 year. The longitudinal nature of the study strengthens and supports the literature on accounting disclosure by analysing the implications of modifying the disclosure environment in accordance with the rapidly developing stock market in the KSA. Employing a longitudinal approach facilitates discovering the reasons for trends and sequences in a social phenomenon because of its cross-sectional and time-series characteristics, which make it easier to identify dynamic connections and examine the effect of change (Hsiao 2014). Longitudinal studies permit the researcher to evaluate trends in different factors by identifying their contribution to changes in VD over past years, as suggested by Huafang and Jianguo (2007). Thus, this study contribute immensely to the corporate disclosure literature by considering how VD and MD have evolved and changed recently in the KSA

This study includes the use of more advanced statistical analysis techniques than those used in previous disclosure studies, which employed only nonparametric tests such as generalised linear models. In this study, a number of statistical techniques were used, such as the parametric ordinary least squares (OLS) regression and nonparametric Tobit regression tests, to investigate relationships. Moreover, to extend the econometric robustness of its statistical techniques, this study employed many quantitative methods such as weighted index, partial compliance,

lagged-effects, fixed-effects, 2SLS and cross-sectional regression techniques to investigate the effects of corporate governance mechanism, ownership structure and firm characteristics on VD and MD among KSA listed companies. In addition, this study applies a range of theories, including agency, stewardship, signalling, legitimacy, stakeholder and political cost theory, to provide an explanation for the results derived.

The study is crucial for promoting an understanding of corporate disclosure in the annual reporting of firms in the KSA. It examines and identifies the factors that influence accounting disclosure in KSA-listed firms with a view to enhancing the legislation and rules of disclosure in the KSA's commercial sector. However, the Saudi market has the largest stock exchange in the GCC and Arab region; it is characterized by weak legislation and rules that dictate accounting and auditing professional operations in the KSA. In addition, most of the enforcement and regulatory bodies are still in development.

This study focuses on two types of disclosure indices: a MD index and a VD index. Accordingly, this study investigates accounting disclosure in greater depth than previous studies such as Alsaeed (2006), Al-Janadi et al. (2012) and Al-Janadi et al. (2013). Both indices are imperative for users (e.g., academics, practitioners, financial analysts and investors) as tools to measure the extent of VD and MD in KSA firms before and after various corporate reforms were enacted, such as complying with IFRS. Moreover, for future studies, those two indices will provide fundamental measurement tools by updating and adding new items subject to MD and VD, as appropriate for Saudi firms. Thus, these two indices may act as a benchmark for users, regulators and researchers in future evaluation and analysis.

1.6 Methodology of the Study

The research methodology and methods are discussed in detail in Chapter 5. A quantitative method is used to achieve its aims, test hypotheses and answer the study questions; this determined how the data for the study were collected. The KSA government has thus adopted various economic reforms, referred to collectively as "Saudi Vision 2030", to reduce the country's heavy dependence on oil and to create and develop new sources of revenue (Al-sasi, Taylan & Demirbas 2017). Accordingly, the Saudi Stock Market Authority has implemented a number of financial reforms including: (i) adopting the International Financial Reporting Standards (IFRS) in 2015; (ii) updating the corporate governance code in 2016; and (iii) opening the Saudi Stock Exchange to foreign investors in 2016 (Saudi Capital Market

Authority 2017; Nurunnabi 2017). Moreover, more recently the country's leaders have recognised the need to diversify the economy and make it more future-proof by allowing the world's most profitable company (Saudi Aramco) to go public. Thus, the sample used for this study consists of data from the annual reports of KSA nonfinancial firms from 2015 to 2017. The primary data sources (annual reports) were obtained from the Saudi Stock Exchange website (www.tadawul.com.sa). At the end of 2015, the KSA stock market consisted of 120 nonfinancial listed firms.

Two unweighted disclosure indices were developed to analyse the MD and VD firms' annual reports to measure the extent of MD and VD. The indices in this study are self-constructed, whereas there is no published disclosure index in KSA. Moreover, the indices have been constructed in the light of the KSA regulatory requirements as discussed in chapter 5. The indices are based on six sources: the KSA code of corporate governance (CG) as updated in 2015, the Organisation for Economic Co-operation and Development's principles of CG, the new IAS/IFRS adopted in KSA stock market in 2015, the KSA firms' governance practices as published in their annual reports, new KSA Companies Law as published 2014/15, and prior studies that addresses accounting disclosure.

The MD index includes disclosure and assessment components for a total of 370 items based on the 27 International Accounting Standards (IAS) or IFRS that were applied to KSA-listed firms during the period 2015–17. The VD index includes 82 items of VD information divided into five categories: (1) corporate strategy (CS), (2) financial performance and capital markets (FPCM), (3) future information (FI), (4) directors and senior management (DSM) and (5) corporate social responsibility (CSR). The extent of MD and VD information in each category from 2015 to 2017 is analysed using descriptive statistics. Further, to determine whether there were any significant changes in MD and VD levels during the studied period, MD and VD levels are analysed year by year; the data are also analysed using Wilcoxon signed-rank and Friedman ranked tests.

To investigate whether there is any significant association between CG mechanisms and the extent of MD and VD, nine hypotheses were formulated based on previous disclosure studies, the KSA business environment and the proposed theoretical framework. These hypotheses were divided into two categories: those addressing corporate board characteristics and those addressing factors related to ownership structure. Factors related to ownership structure include foreign ownership, state ownership and family ownership; while board characteristics include

independent directors, board of director size, gender diversity, chief executive officer (CEO) role duality, the presence of a member of the ruling family on the board, and auditing firm type. The hypotheses are tested using a number of statistical tools, including univariate (Pearson and Spearman correlation) and multivariate analyses (OLS and Tobit regression models).

1.7 Structure of the Study

As shown in Figure 1.1, this thesis includes eight chapters investigating corporate accounting disclosure and its determinants in the KSA stock market, arranged as follows.

Chapter 1 presents the study objectives, addresses the background to the study, articulates the major motivation for the research, outlines the study questions, and explains the research contributions and scope of this study.

Chapter 2 provides a brief overview of the KSA environment, including reporting regulations and laws, and discusses the roles of enforcement bodies in the KSA context. Moreover, the chapter provides an overview of KSA economic conditions, its stock markets and the development of its CG code.

Chapter 3 reviews the empirical and theoretical literature related to this study. This includes MD and VD indices in both developed and developing countries, and their determinants. In addition, it builds the hypotheses tested in the study.

Chapter 4 provides the theoretical framework for accounting disclosure, as used in this study. It outlines various theories that may explain mandatory and voluntary practices.

Chapter 5 presents the study methodology and methods. It explains the choice between qualitative and quantitative methods, the data collection and the methods. Moreover, the chapter describes how VD and MD are measured in this study.

Chapter 6 presents the first part of the empirical analyses in this study including the results and discussion related to the first research question and sub-question.

Chapter 7 presents the second part of the empirical analyses and provides the results and discussion related to the second research question.

Chapter 8 provides a summary of the findings and contributions of the study. Moreover, it explains the limitations of the study and offers recommendations for future research.

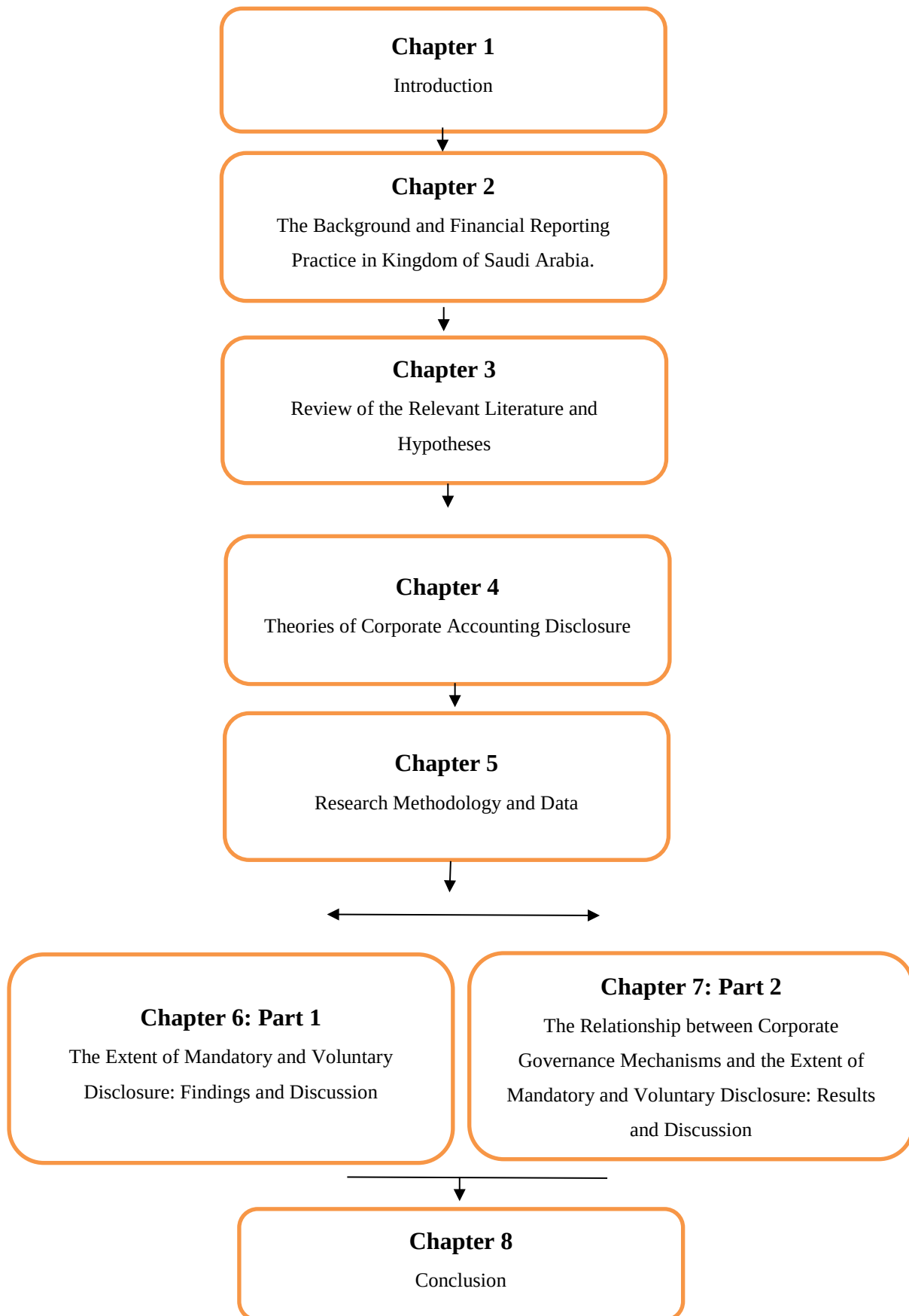


Figure 1.1: The structure of the thesis



FACULTY OF
BUSINESS & LAW

School of Accounting & Finance

**CORPORATE GOVERNANCE IN SAUDI
ARABIA: OVERVIEW AND EMPIRICAL
INVESTIGATION**

A Thesis Submitted for the Degree of

DOCTOR OF PHILOSOPHY

At
Victoria University

By

KHALID HAMAD AL-TURKI

BSc. In Accounting, King Saud University (Saudi Arabia)
MAcc (Master of Accountancy), Gonzaga University (U.S.A.)

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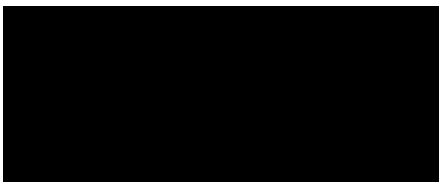
**BSc. In Accounting, King Saud University (Saudi Arabia)
MAcc (Master of Accountancy), Gonzaga University (U.S.A)**

2006

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree. This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged giving explicit references. A bibliography is appended.

Signed

A black rectangular box redacting the signature of the candidate.

(Khalid Al-turki – Candidate)

Date

15-11-06

DEDICATION

**This Thesis Is Dedicated With All My Love And Respect
To My Parents, My Brother, My Sisters, My Wife And My
Beloved Children, Tala, Hamad and Alwaleed**

ACKNOWLEDGEMENT

I am grateful to Allah almighty for his guidance and blessings of my efforts during the course of this study.

Then, I wish to express my special appreciation to a number of individuals and organizations that have invaluable contributed to this thesis.

First, special thanks go to my supervisor, Professor Robert Clift, to whom I owe greatly for his sustained interest and help as well as friendly encouragement during my study at Victoria University, Melbourne.

Second, I would like to extend my deepest gratitude to the government of Saudi Arabia for the financial assistance provided by King Saudi University (Al-Qassim University, hereafter) without which this thesis would never have been written.

Third, I would like to stress my gratitude to all members of the College of Economics and Administration (my home college) for their continuous support. Sincere thanks go to Dr Obaid Al-Motairy, Head of Accounting Department, for his kindly support and encouragement, and all members of the Accounting Department.

Fourth, special thanks go to all those who helped me in the course of my fieldwork in Saudi Arabia to gather the needed data for this study.

Most importantly, I would like to emphasise the heartfelt debt I owe to my mother and father for their love, prayer, encouragement and support, and to all my family members in Saudi Arabia for their encouragement and moral support.

Very lovely thanks are due to my beloved family here with me in Australia, to my lovely wife for her care, patience and understanding. She sacrificed a great deal and worked so hard to provide the right environment for the success of my research. My love also goes to my children, Tala, Hamad and Alwaleed, who gave me enormous joy and pleasure by just being here.

ABSTRACT

The primary objectives of this thesis are: (i) to review the ongoing practices of corporate governance in six developed and emerging markets that represent a broad and diverse sample that varies in terms of historical, legal, economic and cultural systems; (ii) to assess comprehensively the effectiveness of corporate governance in a unique developing country, Saudi Arabia; and (iii) to identify whether there are significant differences in the perceptions among the involved four samples (board of directors' members, chief executive officers 'CEOs', audit committee members and shareholders) towards the four mechanisms of corporate governance investigated in this study, namely: shareholders' rights; board of directors; audit committees and internal audit; and disclosure and transparency.

A mail-out questionnaire methodology was used. The populations in this study have been divided into two categories: (i) the entire board of directors' members, chief executive officers and audit committee members of the 71 listed Saudi joint stock companies; and (ii) 400 randomly selected shareholders.

Saudi joint stock corporations generally were found to be doing relatively well in allowing shareholders to exercise some shareholders' rights such as secure registration, sharing in profits and participating in general meetings. Minority shareholders, however, seem to encounter difficulties in understanding their rights, calling special shareholders' meetings, putting issues on meeting agendas, obtaining timely information and taking little part in the process of selecting directors. The size and composition of boards varied widely among Saudi joint stock corporations. The boards were generally weak in performing some of their functions and the independence of independent directors was questionable. They also tend not to have independent board committee for remuneration and nomination. Although the existence of an audit committee was mandatory in all listed Saudi corporations, the number of members in those committees was less than four. Virtually all the audit committees had accounting or finance specialists; are chaired by an independent director; take minutes of committee meetings; and had written rules governing the overall audit function. Audit committees, however, were weak in approving the appointment and replacement of the internal audit head and in discussing with him related matters; reporting on audit committee's activities provided at annual shareholder meeting; and accessing relevant information. Sample firms performed relatively poorly in the areas of information disclosure and transparency, particularly in relation to matters such as disclosing material foreseeable risk factors, providing channels for disseminating information for fair, timely and cost-efficient access to relevant information by users, disclosing governance structures, disclosing the remuneration of the board members and disclosing the financial and operating results of the company in the English language. Firms also were not yet making full use of web sites to disclose information in a timely fashion and to enhance transparency.

The mean values of the responses obtained from the first two samples (board of directors and CEOs) were higher than the mean values of the responses obtained from the last two samples (audit committee members and shareholders). That was a clear indication that the board of directors' members and the chief executive officers were more confident about the effectiveness of corporate governance in Saudi joint stock corporations than the audit committee members and the shareholders.

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Table 8-7 Mean and Variance Differences with respect to Educational Specialization

SAMPLE	GROUP	SUB-GROUP	N	Mean	Diff. In Means	Levene's test for equality of variances		t-test for equality of means	
						F	Sig.	t	Sig.
Board of Director Members	SHRs	Busi. related	20	3.98	-0.09	6.61	* .014	-0.57	.571
		Non-Busi.	24	4.07					
	BDs	Busi. related	20	3.98	-0.09	6.61	* .014	-0.57	.571
		Non-Busi.	24	4.07					
	AC&IA	Busi. related	20	4.07	0.47	0.10	.757	3.81	* .000
		Non-Busi.	24	3.60					
	D&T	Busi. related	20	4.19	0.39	0.11	.738	2.61	* .013
		Non-Busi.	24	3.80					
	Overall	Busi. related	20	4.07	0.24	0.06	.803	2.20	* .034
		Non-Busi.	24	3.83					
Chief Executive Officers	SHRs	Busi. related	9	3.97	-0.35	0.61	.448	-1.66	.121
		Non-Busi.	6	4.32					
	BDs	Busi. related	9	3.97	-0.35	0.61	.448	-1.66	.121
		Non-Busi.	6	4.32					
	AC&IA	Busi. related	9	3.68	-0.37	0.01	.934	-1.65	.124
		Non-Busi.	6	4.06					
	D&T	Busi. related	9	3.95	-0.39	0.22	.645	-1.91	.078
		Non-Busi.	6	4.33					
	Overall	Busi. related	9	3.84	-0.38	0.30	.592	-2.62	* .021
		Non-Busi.	6	4.22					
Audit Committee Members	SHRs	Busi. related	30	3.48	-0.35	0.27	.608	-2.11	* .039
		Non-Busi.	24	3.83					
	BDs	Busi. related	30	3.48	-0.35	0.27	.608	-2.11	* 0.39
		Non-Busi.	24	3.83					

	AC&IA	Busi. related	30	3.73	0.13	2.34	.132	0.84	.406	
		Non-Busi.	24	3.60						
	D&T	Busi. related	30	3.60	-0.03	0.59	.447	-0.19	.844	
		Non-Busi.	24	3.63						
	Overall	Busi. related	30	3.60	-0.08	0.27	.607	-0.56	.576	
		Non-Busi.	24	3.68						
Sharehold ers	SHRs	Busi. related	56	3.67	0.11	0.96	.328	0.95	.344	
		Non-Busi.	67	3.56						
	BDs	Busi. related	56	3.67	0.11	0.96	.328	0.95	.344	
		Non-Busi.	67	3.56						
	AC&IA	Busi. related	56	3.75	0.32	0.97	.326	3.50	*	
		Non-Busi.	67	3.43						
	D&T	Busi. related	56	3.74	0.34	12.3	*	2.80	*	
		Non-Busi.	67	3.40						
	Overall	Busi. related	56	3.71	0.25	4.84	*	2.70	*	
		Non-Busi.	67	3.46						
	Overall Samples	SHRs	Busi. related	115	3.70	-0.05	7.14	*	-0.65	.519
Non-Busi.			121	3.75						
BDs		Busi. related	115	3.70	-0.05	7.14	*	-0.65	.519	
		Non-Busi.	121	3.75						
AC&IA		Busi. related	115	3.79	0.26	1.12	.291	3.97	*	
		Non-Busi.	121	3.53						
D&T		Busi. related	115	3.79	0.22	14.8	*	2.68	*	
		Non-Busi.	121	3.57						
Overall		Busi. related	115	3.75	0.14	6.74	*	2.14	*	
		Non-Busi.	121	3.61						
Note	*		Significant at 0.05							
	N		Number of People in Each Group							
	SHRs		Group 1: Shareholders' Rights							
	BDs		Group 2: Board of Directors							
	AC&IA		Group 3: Audit Committee and Internal Audit							
	D&T		Group 4: Disclosure and Transparency							

There is no doubt that being a member of a board, a chief executive officer, an audit committee member or a shareholder means that you must have a good deal of financial and business literacy because those people are always dealing with numbers and financial statements. Davidson and Ebersole (2000) argued that the audit committee's understanding of accounting matters and internal controls over financial reporting (its financial literacy) is strongly related to effectiveness. Hurtt et al (1999) claimed that financial literacy for company players consists of "the ability to read and understand fundamental financial statements, including a company's balance sheet, income statement, and cash flows statement" (pp. 124). The Blue Ribbon Committee (1999) suggested that members of the audit committee with limited familiarity with finance could achieve financial literacy through company-sponsored training programmes. This level of literacy can also be achieved through completion of a basic financial accounting course such as those taught in most MBA programmes at colleges and universities (Hurtt et al, 1999). Financially literate participants with business related educational qualifications were thought to be more likely to meet their responsibilities, understand their business matters, effectively play their expected roles in their companies and finally be more effective in enhancing the effectiveness of corporate governance.

The number of board members with business-related educational qualifications as shown in Table 8-7 was 20 and the non-business-related qualified members were 24. The business-educated board members' responses to the first and second groups (shareholder rights and board of directors) were less in mean average (3.98 and 3.98, respectively) than the non-business-educated members (4.07 and 4.07, respectively), and their responses to the third and fourth groups (audit committee and internal audit and disclosure and transparency) were more in mean value (4.07 and 4.19, respectively) than the non-business-educated members (3.60 and 3.80, respectively). The highest difference in the mean values between business-related and non-business-related board members was the one regarding audit committee and internal audit group, 0.47. The business-educated board members were highly more confident than the non-business-educated members towards this group, C. The Levene's F-values of the first two groups/mechanisms of corporate governance (SHRs and BDs) were significant at 0.05 level, so the homogeneity of variance assumption was violated and the normal t-test based on equal variances has been replaced with the

t-test based on unequal variance for these two group. The other two groups (AC&IA and D&T) were significant, so the heterogeneity of variance assumption was violated and the homogeneity of variance assumption was not violated, therefore, the normal t-test based on equal variances has been adopted. The p-values of the t-test for these last two groups (AC&IA and D&T) were significant, so the difference in the mean values between the business educated board members and the non-business educated members was significant.

The insignificant p-values of the t-test for Equality of Means of the second sample, chief executive officers, in Table 8-7 indicate that the difference in mean values between the two sub-groups (business-related and non-business-related qualifications) were not significant. That, in different words, means that the business-educated chief executive officers and those with non-business qualifications had almost always the same perspectives towards the effectiveness of corporate governance in Saudi joint stock corporations.

The final two samples, audit committee members and shareholders, were almost the same. The significant two p-values of the first two groups (SHRs and BDs) in sample 3 (audit committee members) indicate that the business-educated audit committee members were significantly more negative than the non-business-educated audit committee members in regards of these two groups, SHRs and BDs. The differences in the mean values of the last two groups (AC&IA and D&T) in sample 4 (shareholders) were significant, so the business-educated shareholders were significantly more positive in their evaluation to the effectiveness of the last two mechanisms of corporate governance than the non-business-educated shareholders.

The overall results shown in the last row of the last section in Table 8-7 give an impression that the business-related qualified participants were significantly more positive in their evaluation the effectiveness of the mechanisms of corporate governance than the non-business-related qualified participants. That could be seen by the fact that the difference in the mean values between the business and non-business sub-groups was 0.14 and the p-value of the t-test (.033) was significant.

Therefore, it could be concluded that the findings of this study indicated that the business-qualified participants were more positive in their evaluation of the

effectiveness of corporate governance in Saudi joint stock corporations than the participants with non-business-related qualifications.

8.3.1.3. Differences between Members Who Achieved their Highest Level of Education from Saudi Arabia and those from Somewhere Else

Table 8-8 presents the results of the independent-samples t-test that was run to investigate whether there are significant differences in mean values and variations (heterogeneity and homogeneity of variance) between the participants' responses to the four mechanisms of corporate governance (shareholders' rights, board of directors, audit committee and internal audit and disclosure and transparency) with respect to the country of highest education achieved. In different words, the Table presents the differences between members who received their highest level of education from Saudi Arabia and those who received their highest education from other countries (e.g. U.S.A, U.K., Australia, etc.).

Table 8-8 Mean and Variance Differences with Respect to Country of Highest Level of Education Achieved

SAMPLE	GROUP	SUB-GROUP	N	Mean	Diff. In Means	Levene's test for equality of variances		t-test for equality of means	
						F	Sig.	t	Sig.
Board of Director Members	SHRs	Saudi Arabia	24	4.25	0.49	0.19	.733	3.47	* .001
		Other	20	3.76					
	BDs	Saudi Arabia	24	4.25	0.49	0.19	.733	3.47	* .001
		Other	20	3.76					
	AC&IA	Saudi Arabia	24	3.76	-0.11	0.03	.862	-0.79	.431
		Other	20	3.87					
	D&T	Saudi Arabia	24	4.03	0.11	0.63	.431	0.72	.475
		Other	20	3.91					
	Overall	Saudi Arabia	24	4.01	0.15	1.14	.291	1.34	.188
		Other	20	3.86					

Chief Executive Officers	SHRs	Saudi Arabia	7	4.28	0.31	0.01	.940	1.46	.169
		Other	8	3.97					
	BDs	Saudi Arabia	7	4.28	0.31	0.01	.940	1.46	.169
		Other	8	3.97					
	AC&IA	Saudi Arabia	7	3.89	0.10	0.39	.542	0.42	.681
		Other	8	3.78					
	D&T	Saudi Arabia	7	4.03	-0.14	0.04	.836	-0.63	.542
		Other	8	4.17					
	Overall	Saudi Arabia	7	4.03	0.07	0.76	.399	0.41	.686
		Other	8	3.96					
Audit Committee Members	SHRs	Saudi Arabia	34	3.58	-0.16	22.4	*	-1.11	.274
		Other	20	3.73					
	BDs	Saudi Arabia	34	3.58	-0.16	22.4	*	-1.11	.274
		Other	20	3.73					
	AC&IA	Saudi Arabia	34	3.45	-0.60	0.45	.507	-4.24	*
		Other	20	4.05					
	D&T	Saudi Arabia	34	3.47	-0.38	30.6	*	-2.95	*
		Other	20	3.85					
	Overall	Saudi Arabia	34	3.49	-0.38	11.2	*	-3.51	*
		Other	20	3.87					
Sharehold ers	SHRs	Saudi Arabia	83	3.53	-0.24	9.70	*	-2.31	*
		Other	40	3.77					
	BDs	Saudi Arabia	83	3.53	-0.24	9.70	*	-2.31	*
		Other	40	3.77					
	AC&IA	Saudi Arabia	83	3.43	-0.44	1.44	.233	-4.71	*
		Other	40	3.87					
	D&T	Saudi Arabia	83	3.38	-0.52	43.9	*	-5.22	*
		Other	40	3.90					
	Overall	Saudi Arabia	83	3.44	-0.41	20.3	*	-5.17	*
		Other	40	3.85					
Overall Samples	SHRs	Saudi Arabia	148	3.69	-0.08	27.3	*	-1.14	.257
		Other	88	3.78					
	BDs	Saudi Arabia	148	3.69	-0.08	27.3	*	-1.14	.257
		Other	88	3.78					

	AC&IA	Saudi Arabia	148	3.51	-0.39	1.99	.159	-5.91	*
		Other	88	3.90					
	D&T	Saudi Arabia	148	3.54	-0.38	48.9	*	-5.13	*
		Other	88	3.92					
	Overall	Saudi Arabia	148	3.57	-0.29	25.0	*	-5.06	*
		Other	88	3.87					
Note	*		Significant at 0.05						
	N		Number of People in Each Group						
	SHRs		Group 1: Shareholders' Rights						
	BDs		Group 2: Board of Directors						
	AC&IA		Group 3: Audit Committee and Internal Audit						
	D&T		Group 4: Disclosure and Transparency						

In a general comparison, it seems that the board members and the chief executive officers (CEOs) who achieved their highest level of education from Saudi Arabia were more positive in their evaluation to the effectiveness of corporate governance in Saudi Arabia than those who received their highest level of education from another country because the differences between the two sub-groups (Saudi Arabia and other) were positive in three groups and negative in just one group. The members who achieved their highest level of education from Saudi Arabia in the other two samples (the audit committee members and the shareholders), however, were less confident about the effectiveness of corporate governance than the members who achieved their highest level of education from somewhere else since all the differences in the mean values between the two sub-samples were negative for all groups.

The p-values of the t-test for equality of means of the second sample, the chief executive officers, were not significant in all groups, whereas the p-values of the fourth sample, the shareholders, were significant in all groups. That suggests that the differences in the mean values between the two sub-groups were significant in the second samples and were insignificant in the fourth sample. In different words, the chief executive officers who achieved their highest level of education in Saudi Arabia had no different opinion towards the effectiveness of corporate governance than those who got their highest education somewhere else. The significant differences,

however, in the mean values between the two sub-samples of the fourth sample suggest that the shareholders had different perspectives regarding corporate governance. It also could be noticed that the mean values of the shareholders' responses to the groups of corporate governance were in general less than the mean values of the other participants' responses. That means that the shareholders' evaluation to the effectiveness of corporate governance not only fluctuated between the two sub-samples (Saudi Arabia and other) but also was less confident than the evaluation of the participants in the other three samples.

The last row in Table 8-8 (overall groups) in the last section (overall samples) gives an overall look at the difference between the two sub-samples with respect to all samples. The value of the difference in the mean was -0.29 which means that the participants who achieved their highest level of education from Saudi Arabia were less confident about the effectiveness of the four mechanisms of corporate governance than the participants who achieved their highest level of education from different countries. The p-value of 0.000 of the t-test means that this difference is highly significant. Why do the two sub-groups have a significantly high difference? It is difficult to answer this question and to interpret the reason why the difference exists and why it is significant. That could be by chance or it could be because the participants who achieved their highest education from Saudi Arabia had different views of corporate governance than those who received their highest education from another country. It might be due to the understanding of corporate governance or the understanding of the importance of the four mechanisms in developing and enhancing corporate governance. The Saudi educated participants may be more cautious than the other participants.

8.3.1.4. Differences between Members with 11+ Years Experience and those with 10 Years or Less

Table 8-9 presents the results of the independent-samples t-test that was run to investigate whether there are significant differences in mean values and variations between the participants' responses to the four mechanisms of corporate governance (shareholders' rights, board of directors, audit committee and internal audit and disclosure and transparency) with respect to the experience of those participants. In

different words, the Table presents the differences between members with 11-year experience and members with 10 years or less experience in their current jobs.

Table 8-9 Mean and Variance Differences with Respect to Experience

SAMPLE	GROUP	SUB-GROUP	N	Mean	Diff. In Means	Levene's test for equality of variances		t-test for equality of means	
						F	Sig.	t	Sig.
Board of Director Members	SHRs	≥ 11 years	28	4.10	0.21	4.25	* .045	1.13	.272
		≤ 10 years	16	3.89					
	BDs	≥ 11 years	28	4.10	0.21	4.25	* .045	1.13	.272
		≤ 10 years	16	3.89					
	AC&IA	≥ 11 years	28	3.92	0.31	0.77	.386	2.21	* .033
		≤ 10 years	16	3.62					
	D&T	≥ 11 years	28	4.08	0.29	0.25	.621	1.82	.076
		≤ 10 years	16	3.79					
	Overall	≥ 11 years	28	4.05	0.28	1.53	.224	2.55	* .015
		≤ 10 years	16	3.76					
Chief Executive Officers	SHRs	≥ 11 years	13	4.18	0.55	0.46	.509	1.84	.089
		≤ 10 years	2	3.63					
	BDs	≥ 11 years	13	4.18	0.55	0.46	.509	1.84	.089
		≤ 10 years	2	3.63					
	AC&IA	≥ 11 years	13	3.93	0.77	0.32	.580	2.64	* .021
		≤ 10 years	2	3.17					
	D&T	≥ 11 years	13	4.13	0.23	2.34	.150	0.72	.482
		≤ 10 years	2	3.90					
	Overall	≥ 11 years	13	4.05	0.43	3.21	.097	1.84	.089
		≤ 10 years	2	3.62					
Audit	SHRs	≥ 11 years	28	3.84	0.42	0.94	.337	2.64	* .011
		≤ 10 years	26	3.42					

Committee Members	BDs	≥ 11 years	28	3.84	0.42	0.94	.337	2.64	*
		≤ 10 years	26	3.42					
	AC&IA	≥ 11 years	28	3.73	0.12	4.71	*	0.77	.446
		≤ 10 years	26	3.61					
	D&T	≥ 11 years	28	3.73	0.26	7.12	*	1.60	.116
		≤ 10 years	26	3.48					
	Overall	≥ 11 years	28	3.77	0.28	5.58	*	2.15	*
		≤ 10 years	26	3.49					
Sharehold ers	SHRs	≥ 11 years	78	3.71	0.26	0.02	.894	2.18	*
		≤ 10 years	45	3.45					
	BDs	≥ 11 years	78	3.71	0.26	0.02	.894	2.18	*
		≤ 10 years	45	3.45					
	AC&IA	≥ 11 years	78	3.64	0.17	3.16	.078	1.75	.082
		≤ 10 years	45	3.47					
	D&T	≥ 11 years	78	3.64	0.24	2.08	.152	1.88	.063
		≤ 10 years	45	3.40					
	Overall	≥ 11 years	78	3.65	0.22	0.48	.492	2.23	*
		≤ 10 years	45	3.44					
Overall Samples	SHRs	≥ 11 years	147	3.85	0.33	2.13	.146	3.98	*
		≤ 10 years	89	3.52					
	BDs	≥ 11 years	147	3.85	0.33	2.13	.146	3.98	*
		≤ 10 years	89	3.52					
	AC&IA	≥ 11 years	147	3.74	0.21	4.34	*	2.82	*
		≤ 10 years	89	3.53					
	D&T	≥ 11 years	147	3.79	0.28	7.13	*	3.20	*
		≤ 10 years	89	3.50					
	Overall	≥ 11 years	147	3.78	0.27	4.60	*	4.03	*
		≤ 10 years	89	3.51					
Note	*		Significant at 0.05						
	N		Number of People in Each Group						
	SHRs		Group 1: Shareholders' Rights						
	BDs		Group 2: Board of Directors						
	AC&IA		Group 3: Audit Committee and Internal Audit						
	D&T		Group 4: Disclosure and Transparency						

The experience of the board members, chief executive officers, audit committee members and shareholders is perceived to be a critical component of effective corporate governance (Beasley and Salterio, 2001; DeZoort, 1997; General Accounting Office, 1991). More experienced participants are more likely to have a better understanding of corporate governance and be able to give a better evaluation of how effective corporate governance is in their corporations.

Unlike the previous Tables, 8-6, 8-7 and 8-8, all the mean differences in all samples and all groups were positive in Table 8-9. That, in fact, confirms that the experienced participants (≥ 11 years) had more positive impressions about the effectiveness of corporate governance in Saudi joint stock corporations than the less experienced participants (≤ 10 years).

The last section in Table 8-9 (Overall Samples) gives the average responses of the four participating samples towards the effectiveness of the four mechanisms of corporate governance (SHRs, BDs, AC&IA and D&T). The differences between the experienced and less experienced participants were positive for all groups as mentioned above and the p-values of the t-test for equality of means were also significant for all groups. Therefore, the differences are positive and significant which indicates that the experienced participants (board members, chief executive officers, audit committee members and shareholders) were more confident about the effectiveness of corporate governance in Saudi Arabia. That is really important since the experienced participants are more likely to understand their corporations and give more accurate evaluations of the mechanisms of corporate governance.

Although the differences in the mean values between the two sub-groups (Saudi Arabia and other) were positive in all samples, the average mean values of the responses are less in the last two samples (audit committee members and shareholders) than the first two samples (board of directors and chief executive officers) which means that the participants in the last two samples were less confident about the effectiveness of corporate governance than the participants in the first two samples. In different words, the experienced audit committee members and shareholders were less satisfied about corporate governance in their corporations than the experienced board members and chief executive officers. The reason might be that the board members and the chief executive officers are in the position of regulating

and monitoring corporate governance, whereas the audit committee members are in the position of implementing the decisions made by the management. This reality may lead the board members and the chief executive officers to give a good picture of what they are responsible for, corporate governance.

8.3.1.5. Differences between Members Who are 56+ Years Old and those Who are Younger

Table 8-10 presents the results of the independent-samples t-test that was run to investigate whether there are significant differences in mean values and variations between the participants’ responses to the four mechanisms of corporate governance (shareholders’ rights, board of directors, audit committee and internal audit and disclosure and transparency) with respect to the age of those participants. In different words, the Table presents the differences between members who are 56 year old or older and members who are 55 years old or younger.

Table 8-10 Mean and Variance Differences with Respect to Age

SAMPLE	GROUP	SUB-GROUP	N	Mean	Diff. In Means	Levene's test for equality of variances		t-test for equality of means	
						F	Sig.	t	Sig.
Board of Director Members	SHRs	≤ 55 years	24	3.91	-0.26	1.77	.190	-1.65	.107
		≥ 56 years	20	4.17					
	BDs	≤ 55 years	24	3.91	-0.26	1.77	.190	-1.65	.107
		≥ 56 years	20	4.17					
	AC&IA	≤ 55 years	24	3.92	0.23	1.16	.287	1.67	.102
		≥ 56 years	20	3.69					
	D&T	≤ 55 years	24	4.03	0.11	1.41	.242	0.72	.475
		≥ 56 years	20	3.91					
	Overall	≤ 55 years	24	3.97	0.05	0.63	.430	0.46	.647
		≥ 56 years	20	3.91					

Chief Executive Officers	SHRs	≤ 55 years	12	4.01	-0.50	0.76	.399	-2.00	.067
		≥ 56 years	3	4.51					
	BDs	≤ 55 years	12	4.01	-0.50	0.76	.399	-2.00	.067
		≥ 56 years	3	4.51					
	AC&IA	≤ 55 years	12	3.74	-0.43	2.35	.149	-1.54	.148
		≥ 56 years	3	4.18					
	D&T	≤ 55 years	12	4.06	-0.21	1.16	.302	-0.75	.466
		≥ 56 years	3	4.27					
	Overall	≤ 55 years	12	3.90	-0.46	8.67	*	-5.14	*
		≥ 56 years	3	4.36					
Audit Committee Members	SHRs	≤ 55 years	46	3.59	-0.31	0.29	.593	-1.32	.192
		≥ 56 years	8	3.90					
	BDs	≤ 55 years	46	3.59	-0.31	0.29	.593	-1.32	.192
		≥ 56 years	8	3.90					
	AC&IA	≤ 55 years	46	3.70	0.20	2.91	.094	0.92	.362
		≥ 56 years	8	3.50					
	D&T	≤ 55 years	46	3.61	-0.03	1.66	.203	-0.12	.904
		≥ 56 years	8	3.63					
	Overall	≤ 55 years	46	3.63	-0.04	7.38	*	-0.47	.641
		≥ 56 years	8	3.67					
Shareholders	SHRs	≤ 55 years	95	3.50	-0.49	0.11	.745	-3.71	*
		≥ 56 years	28	3.99					
	BDs	≤ 55 years	95	3.50	-0.49	0.11	.745	-3.71	*
		≥ 56 years	28	3.99					
	AC&IA	≤ 55 years	95	3.54	-0.14	3.47	.065	-1.22	.225
		≥ 56 years	28	3.68					
	D&T	≤ 55 years	95	3.44	-0.47	8.31	*	-3.84	*
		≥ 56 years	28	3.91					
	Overall	≤ 55 years	95	3.49	-0.36	4.96	*	-3.88	*
		≥ 56 years	28	3.85					
	SHRs	≤ 55 years	177	3.61	-0.45	0.08	.778	-4.98	*
		≥ 56 years	59	4.06					

Overall Samples	BDs	≤ 55 years	177	3.61	-0.45	0.08	.778	-4.98	*	
		≥ 56 years	59	4.06						.000
	AC&IA	≤ 55 years	177	3.65	-0.03	8.26	*	.004	-0.51	.611
		≥ 56 years	59	3.68						
	D&T	≤ 55 years	177	3.61	-0.29	5.49	*	.020	-3.34	*
		≥ 56 years	59	3.89						
	Overall	≤ 55 years	177	3.62	-0.26	5.50	*	.020	-3.99	*
		≥ 56 years	59	3.87						
Note	*		Significant at 0.05							
	N		Number of People in Each Group							
	SHRs		Group 1: Shareholders' Rights							
	BDs		Group 2: Board of Directors							
	AC&IA		Group 3: Audit Committee and Internal Audit							
	D&T		Group 4: Disclosure and Transparency							

Koontz (1967) and Juran et al. (1975) said that many corporate boards had too many older, less productive, board members. Research conducted by Cohran, Warwick and Wood (1984) showed a positive correlation, albeit a very weak one, between younger boards of directors and financial performance. Vance (1983), however, argued that a positive correlation exists between financial performance and the average age of directors as a result of greater experience. Research to date on the issue of age, however, is still inconclusive. Therefore, age is an important factor to be investigated alongside other factors such as members experience, education and skills.

It could be noticed from Table 8-10 that the total number of participants who were 55 years old or younger was three times (177) the participants who were 56 years old or older (59). About 45 per cent (20/44) of board of directors, 20 per cent (3/15) of chief executive officers, 15 per cent (8/54) of audit committee members and 23 per cent (28/123) of shareholders aged 56 years or more. The results, therefore, confirm the findings of Koontz (1967) and Juran et al. (1975) that many board of directors had too many older board members (45%), whereas the percentage of older members in the management and the audit committee were much less. Older members, however, do not always mean less productivity, but it could mean more experience.

Although most of the differences in the mean value between the older and younger participants were negative, most of these negative differences were not significant. The negative differences indicate that the participants who were 55 years old or younger were less confident about the effectiveness of corporate governance in Saudi joint stock corporations than those who were 56 years old or older.

In the last section of Table 8-10 (Overall Samples) the p-values of the t-test were negative and significant in three groups (SHRs, BDs and D&T) and negative and insignificant in just one group (AC&IA). That indicates that the younger participants were significantly less confident about the effectiveness of three mechanisms of corporate governance, which are the rights of shareholders, board of directors and disclosure and transparency.

Why were the mean values of the answers obtained from the younger participants always less than the mean values of the answers obtained from the older participants? Does that mean that older participants are just more optimistic about corporate governance and their opinion does not always reflect the reality? Are they less cautious than younger participants which may effect their evaluation? Or their evaluation comes from more experienced people, so it is more reliable? These questions are hard to answer with the collected data, however, further research may be of importance to cover such issues.

8.4. SUMMARY

The main objective of this study was to evaluate the effectiveness of corporate governance in Saudi joint stock corporations by comparing actual practices with best practices. The other objective was to identify whether there are significant differences between the four selected samples, namely: board of directors members; chief executive officers; audit committee members; and shareholders, towards the four mechanisms of corporate governance, namely: the rights of shareholders; board of directors; audit committee members and internal audit; and disclosure and transparency.

These objectives were achieved in this chapter by providing some confirmatory (inferential) data analysis that goes beyond mere description of the data

collected and ends up with inferences regarding the hypotheses for which the sample data were obtained. ANOVA tests were run to determine whether the differences observed in the mean scales of the four categories of participants (board of directors' members, chief executive officers, audit committee members and shareholders) – with respect to the four mechanisms of corporate governance (Shareholder rights, board of directors, audit committees and internal audit and disclosure and transparency) – were statistically significant or not in Saudi joint stock corporations.

The Analysis of Variance (ANOVA) was carried out to investigate whether there were differences between the four samples towards the evaluation of the effectiveness of corporate governance in Saudi Arabia. It had the distinct advantage of being applicable when more than two means were being compared. Usually when rejecting the null hypothesis, the exact areas of differences need to be exactly pinpointed. To do this, multiple comparison procedures, the Scheffe test, were followed.

Finally tests of the differences in the means and variances (heterogeneity and homogeneity of variance) between responses to the corporate governance data with respect to the demographic questions were run to investigate whether there were significant differences between means of different characteristics of board members, chief executive officers, audit committee members and shareholders such as educational qualification, experience and age.

CHAPTER NINE:

CONCLUSION AND

RECOMMENDATIONS

9.1. INTRODUCTION

It has been seen that corporate governance has been a major policy of concern for many developed and developing countries following the financial crises in Asia, Russia and America. The collapse of Enron suggests that even highly industrialized countries such as the U.S.A. are not immune from the destruction caused by bad corporate governance. Studies have shown that poor corporate governance standards raise cost of capital, lower operating performance of industry and impede the flow of investment (Daily et al., 1992; Agrawal et al., 1996; Himmelberg et al., 2001). Regulators in many countries have embarked on plans to strengthen the protection of the interests of investors through the revision or amendment of laws or regulations on corporate governance.

The objectives of this chapter are threefold: first, to provide a summary of the proceeding chapters together with an overview to the principal findings of the study; second, to provide some recommendations to improve corporate governance practices in the Saudi corporate sector based on the findings of this study and on the lessons learned from the experiences of other countries; and third, to provide suggestions for future research to develop the issue of corporate governance in Saudi Arabia and to improve the effectiveness of corporate governance in Saudi joint stock corporations.

9.2. THESIS OVERVIEW

The primary objectives of this study were to explore and investigate the effectiveness of corporate governance in Saudi joint stock corporations and to explore whether there are differences in the perceptions of the four selected samples

comprising of board of directors members, chief executive officers, audit committee members and shareholders. There was also an aim to examine whether the agreement between each respective sample towards specific statements is significant or not.

The introductory chapter provided a brief summary to the background, justification, objectives, research methodology and limitations of the study. Chapter 2 provided an overview of corporate governance. The chapter commenced by providing the following definition to corporate governance.

Corporate governance refers to that blend of law, regulation, and appropriate voluntary private-sector practices that enable the corporation to attract financial and human capital, perform efficiently, and thereby perpetuate itself by generating long-term economic value for its shareholders, while respecting the interests of stakeholders and society as a whole (Gregory, 2001: pp. i).

It is then emphasised that the corporate failures in Asia, Russia and the U.S.A., amongst others, have shown that a lack of regard for core values of corporate governance does have a negative impact globally. Markets and companies that have not been able to survive or that have fared badly in a crisis have one thing in common: poor corporate governance standards (Keong, 2002). To illustrate the trend of corporate governance has been in the last two decades, six countries (the United States of America, United Kingdom, France, Germany, Korea and Malaysia) have been investigated in order to benefit from those countries in the development of the Saudi's corporate governance rules and codes of good governance practice.

In Chapter 3, it was pointed out that corporate governance in a particular country reflects its history, culture, regulatory structures and capital market characteristics (Keong, 2002). Therefore, when studying corporate governance in Saudi Arabia, it is obviously essential to consider the country's history, culture, regulatory structures, economy, capital market characteristics, etc. The Saudi constitution was introduced in this chapter, which was the Qur'an and the Sunnah, the teachings and deeds, of the prophet Mohammed, God's prayers and peace be upon him. It was then mentioned that the Saudi government, through five-year development plans, has sought to allocate its petroleum income to transform its relatively undeveloped, oil-based economy into that of a modern industrial state while maintaining the kingdom's traditional Islamic values and customs. The major

elements and characteristics of these plans were discussed and an outlook to the Saudi economy and to the financial system and its major components was presented. A modern financial system plays an important role in allocating resources in a productive manner.

The question of ‘who regulates corporate governance in Saudi Arabia’ was also investigated. Corporate governance practices in Saudi Arabia are governed by four bodies: the Ministry of Commerce, the Saudi Arabian Monetary Agency (SAMA), the Saudi Stock Exchange (Tadawul) and some professional bodies. A general outlook into the adoption of the four mechanisms of corporate governance (shareholder rights, board of directors, audit committee and internal audit and disclosure and transparency) in Saudi Arabia was then presented.

In the final section, an issue that has not been explored to a great extent in the literature, the influence of religion upon corporate governance, was investigated. The government laws and regulations in Saudi Arabia must be submitted to the *Shari’ah* (Islamic laws) and *Sunnah*. Two aspects, in particular, shape the relationship between Islam and corporate governance. One is the Islamic law, *the shari’ah*, and the other is the Islamic jurisprudence, *the fiqh*.

In Chapter 4, it was argued that the assessment of corporate governance is the outcome of the assessment of the four corporate governance legs (mechanisms), namely: shareholders’ rights; board of directors; audit committees and internal audit; and disclosure and transparency. The intensity of adoption of these mechanisms in the Saudi publicly traded (joint stock) corporations was tested. Therefore, the author described and developed these mechanisms and the rules of practising each mechanism of effective corporate governance to come up with how these mechanisms should be followed and practised in Saudi joint stock corporations.

In Chapter 5, the four guiding mechanisms of corporate governance (shareholders’ rights, board of directors, audit committee and internal audit and disclosure and transparency) were identified and promoted as the benchmarks for best practices of corporate governance in Saudi Arabia to which companies should aspire with paying a special attention to the influence of religion (Islam) and culture upon those principles. The related literature was investigated followed by an introduction to

the underlying theories: the no-one-size-fits-all theory and the agency theory. The hypotheses involved with this research were then introduced.

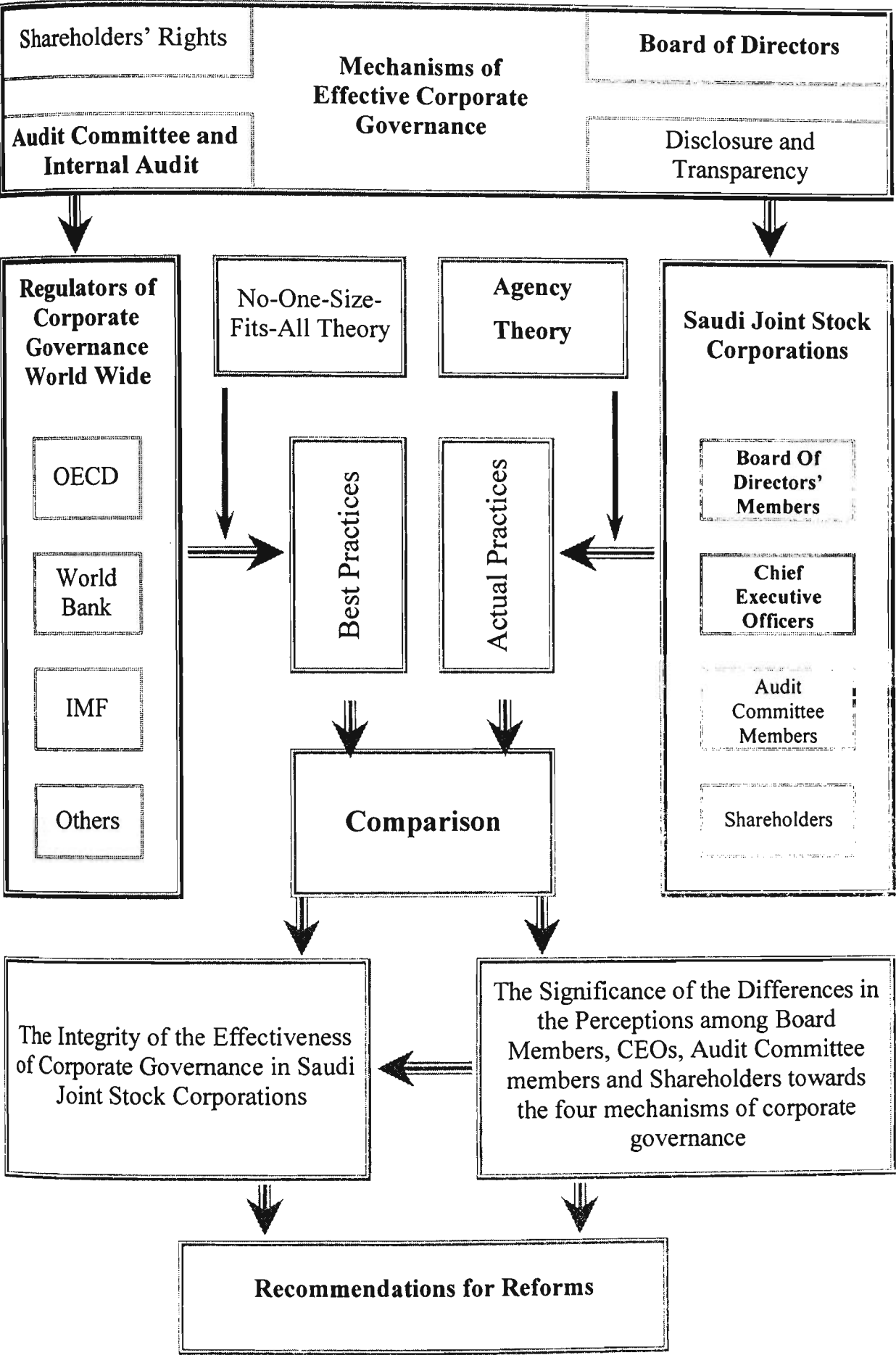
In Chapter 6, the research approach adopted in this thesis, mail-out survey questionnaire, was explained. It was started by reviewing the main aims of this project. In the process of the construction of the methodology, various factors that best reflect corporate governance standards in Saudi Arabia were considered. The choice of the variables and statements in the questionnaire was based on the four mechanisms of corporate governance discussed in the previous chapters. The discussion was then divided into six major sub-sections, each of which discussed a different major step in administering the survey methodology used in this thesis.

In Chapter 7 and 8, the results of the study were presented. In Chapter 7, a descriptive data analysis, that was concerned with summarizing and presenting the data in tables, charts and other diagrammatic forms that enabled patterns and relationships to be discerned which are not apparent in the raw data, was presented. In Chapter 8, a confirmatory data analysis, that went beyond mere description of the collected data and tried to provide inferences regarding the effectiveness of corporate governance in Saudi joint stock corporations, was presented. The major findings of these two chapters could be summarized in the following section.

9.3. MAJOR FINDINGS

Figure 9.1 presents the model of the research that was introduced in Chapter 5. Figure 9.1 shows that a comparison between the best practices and the actual practices has been done to test the underlying hypotheses as well as to evaluate the integrity of the effectiveness of corporate governance practices in Saudi joint stock corporations. In regards to the integrity of the effectiveness of the four mechanisms of corporate governance in Saudi joint stock corporations, the following paragraphs will summarize the major findings of each mechanism. A summary of the results of the hypotheses testing follows that.

Figure 9.1. Research Model



The Saudi joint stock corporations generally were found to be doing relatively well in allowing shareholders to participate effectively in general meetings and decision-making process and to exercise other shareholders' rights such as secure registration and sharing in profits. Minority shareholders, however, seem to encounter difficulties in calling special shareholders' meetings, putting issues on meeting agendas and obtaining timely information. They were also inadequately protected with such rights as priority subscription, approval of major related-party transactions, and dissenters' rights and they take little part in the process of selecting directors.

The size and composition of boards varied widely among the Saudi joint stock corporations. The independence of independent directors was questionable. The factors most responsible for such lack of independence were related to the low mean values obtained to the following statements: there are at least three non-executive members in the board; shareholders elect members of the board; board members were not affiliated with a significant customer or supplier; and the roles of the chief executive officer and the chairman of the board of directors are separated. The CEO or controlling owner seemed to be the one who selects directors rather than shareholders. The boards were generally weak in performing some of their functions, particularly those pertaining to selecting, monitoring and replacing the CEO and reviewing the remuneration of key executives and directors, and they tend not to have independent board committee for remuneration and independent board committee for nomination. They appear to be particularly poor in evaluating directors' performance and supporting outside directors with access to information, education and training and incentive compensation and poor in ensuring compliance with applicable law and take into account the interests of stakeholders.

Although the existence of an audit committee was mandatory in all listed Saudi corporations, the number of members in those committees was less than four, which is a violation to Article 2-1 of the Project of Regulating Audit Committees in the Saudi Joint Stock Companies issued by the Saudi Organization for Certified Public Accountants, which states that there must be at least four members in the audit committee (SOCPA, 2003). Virtually all the audit committees in Saudi joint stock corporations had accounting or finance specialists; are chaired by an independent director; take minutes of committee meetings; and had written rules governing the

overall audit function. Weak statements were the following: the audit committee approves the appointment and replacement of the internal audit head and discusses with him related matters; report on audit committee's activities provided at annual shareholder meeting; and audit committee has access to relevant information.

Sample firms performed relatively poorly in the areas of information disclosure and transparency, particularly in relation to matters such as disclosing material foreseeable risk factors, providing channels for disseminating information provide for fair, timely and cost-efficient access to relevant information by users, disclosing governance structures, disclosing the remuneration of the board members and disclosing the financial and operating results of the company in English language. Firms were not yet making full use of web sites to disclose information in a timely fashion and to enhance transparency. While disclosure is a legal requirement and, in general, companies do adhere to the rule, the question remains whether the Saudi Capital Market Authority insures high information quality and whether investors are keen to use the information for better investment decisions. Improving the quality of information is a challenge in Saudi Arabia, which consequently suffers from poor risk assessment strategies. Due to a lack of awareness in the Saudi private sector and the lack of functioning mechanisms to detect and deter insider information, insider trading was found to be a serious problem. A need, therefore, for a further research in this area and in insider trading in particular is urgent.

The major findings of chapter 7 were that the mean values of the first two samples, board of directors (Table 7-20) and chief executive officers (Table 7-21), were higher than the mean values of the last two samples, audit committee members (Table 7-22) and shareholders (Table 7-23). That was a clear indication that the board of directors' members and the chief executive officers were more confident about the effectiveness of corporate governance in Saudi joint stock corporations than the audit committee members and the shareholders (the board of directors and the chief executive officers have been highlighted in Table 9-1). This finding may be related to the existence of the agency problems which may have lead to a significant difference between the perceptions of the first two samples and the last two samples. Enhancing shareholder confidence is a key element in effective corporate governance and a key element in reducing the agency problems. Effective corporate governance depends on

the extent to which corporations meet shareholders' expectations. The results of this study, however, indicated that there was a partial failure to meeting the shareholders' expectations since it was clear from Table 7-23 that shareholders were less confident about their rights and about the effectiveness of corporate governance in the Saudi joint stock corporations. This shortage in shareholders' confidence occurred because of flawed corporate governance processes in Saudi joint stock corporations and the core of the problem is a breach of fiduciary duty by the trustees of the investors' interests: the board of directors and management.

The focus of the eighth chapter was on using statistical analysis to determine whether the observed differences between the four samples (board of directors' members, chief executive officers, audit committee members and shareholders) are due to random chance (as stated in the null hypotheses) or to true differences in the samples (as stated in the alternate hypotheses). The null hypotheses stated that the differences observed in the mean scales of the participants (board of directors' members, chief executive officers, audit committee members and shareholders) – with respect to each of the four mechanisms of corporate governance (shareholders' rights, board of directors, audit committee and internal audit and disclosure and transparency) – are statistically insignificant in Saudi joint stock corporations. The decisions made regarding the tested hypotheses are summarized in the following Table (9-1).

Table 9-1 Summary to the Decisions Regarding the Null Hypotheses

Mechanisms of Corporate Governance	Null Hypotheses	Alternative Hypotheses	Decisions
Shareholders' Rights	$H_0 \text{ SHR: } \mu_{\text{board}} = \mu_{\text{ceo}} = \mu_{\text{audit}} = \mu_{\text{share}}$	$H_1 \text{ SHR: } \mu_{\text{board}} \neq \mu_{\text{ceo}} \neq \mu_{\text{audit}} \neq \mu_{\text{share}}$	Rejected
Board of Directors	$H_0 \text{ BD: } \mu_{\text{board}} = \mu_{\text{ceo}} = \mu_{\text{audit}} = \mu_{\text{share}}$	$H_1 \text{ BD: } \mu_{\text{board}} \neq \mu_{\text{ceo}} \neq \mu_{\text{audit}} \neq \mu_{\text{share}}$	Rejected
Audit Committee and Internal Audit	$H_0 \text{ AC: } \mu_{\text{board}} = \mu_{\text{ceo}} = \mu_{\text{audit}} = \bar{x}_{\text{share}}$	$H_1 \text{ AC: } \mu_{\text{board}} \neq \mu_{\text{ceo}} \neq \mu_{\text{audit}} \neq \mu_{\text{share}}$	Not Rejected
Disclosure and Transparency	$H_0 \text{ D\&T: } \mu_{\text{board}} = \mu_{\text{ceo}} = \mu_{\text{audit}} = \mu_{\text{share}}$	$H_1 \text{ D\&T: } \mu_{\text{board}} \neq \mu_{\text{ceo}} \neq \mu_{\text{audit}} \neq \mu_{\text{share}}$	Rejected
Note	μ_{board}	Mean of sample1 (board of directors)	
	μ_{ceo}	Mean of sample2 (chief executive officers)	
	μ_{audit}	Mean of sample3 (audit committee members)	
	μ_{share}	Mean of sample4 (shareholders)	
	$H_0 \text{ SHR}$	Null hypothesis in respect to shareholders rights	
	$H_1 \text{ SHR}$	Alternative hypothesis in respect to shareholders rights	
	$H_0 \text{ BD}$	Null hypothesis in respect to board of directors	
	$H_1 \text{ BD}$	Alternative hypothesis in respect to board of directors	
	$H_0 \text{ AC}$	Null hypothesis in respect to Audit Committees and Internal Audit	
	$H_1 \text{ AC}$	Alternative hypothesis in respect to Audit Committees and Internal Audit	
	$H_0 \text{ D\&T}$	Null hypothesis in respect to disclosure and transparency	
	$H_1 \text{ D\&T}$	Alternative hypothesis in respect to disclosure and transparency	

Although cultural, political, economic and religious norms influence the way in which Saudi Arabia approaches corporate governance and its impact on board leadership, management oversight and accountability, the challenge for the Saudi corporate governance regulators is to reach an appropriate balance of legislative and regulatory reform, taking into consideration international best practice to promote enterprise, enhance competitiveness and stimulate investment.

Corporate governance reforms should begin with a clear definition of the authority, duties, and accountability of the board of directors and management. Although implementing corporate governance best practices would result in additional operating costs, it should be emphasized that good corporate governance is not an option but an obligation for Saudi Arabia at the current time, if shareholder interest is to be protected.

9.4. RECOMMENDATIONS

To sum up, corporate governance encompasses rules and market practices which determine how companies make decisions, the transparency of their decision-making processes, the accountability of their directors, managers and employees, the information they disclose to investors and the protection of minority shareholders. It involves issues of company law, securities laws, the listing rules of a country's stock exchanges, accounting standards applicable to listed companies, competition or anti-trust laws and bankruptcy or insolvency laws. It includes the government regulations and regulatory agencies with which corporations and shareholders deal and those regulators' actions to ensure compliance with applicable laws and regulations. Corporate governance involves the courts as well, since shareholders, directors, managers and regulators call upon courts to resolve corporate governance disputes and enforce government regulations. Thus a number of entities need reform and changes in the Saudi economy.

9.4.1. Lessons Learned from the Experiences of other Countries

As it has been seen from the countries investigated (Chapter 2) that since the mid 1990s the corporate governance movement grew into a major movement world wide, spreading from the US, over the UK to the rest of the world (Carlsson, 2001;

Keong, 2002; and Charkham, 1995). Despite the diversity in corporate governance between the United States, United Kingdom, France, Germany, Korea and Malaysia, it has been noticed that all of them are undertaking corporate governance reforms. This emphasizes the strong trend in changing laws and regulations or/and setting best practices of corporate governance. The goal is to have strong and independent boards of directors, responsible management, enhanced shareholder rights and activism, transparent financial disclosure, tighter control of insider trading and self-dealing transactions, greater accountability of controlling shareholders, directors and stronger regulatory environment.

It has also been seen that countries around the world are characterized by alternative corporate governance systems (Shleifer et al. 1997). Considerable debate is going on illustrating how good, superior or effective these systems are. Prowse (1995) suggested that such judgments are inherently subjective because of the sparse evidence on the relative performance of different corporate governance systems.

Globalization has posed both challenges and opportunities to corporate governance reforms in both developed and developing countries. On one hand, globalization can accelerate the convergence of corporate governance to international standards (Khanna, et al. 2001). On the other hand, however, globalization has increased the competition for some inefficient domestic firms and thus created high pressure for them to survive. Saudi Arabia's financial system has been a part of the globalization process from its very beginning as evidenced by the presence of many financial institutions from both developed and developing countries.

The idea that one system of corporate governance might serve as a model for the whole world is an idea that has not been well received of late. The past ten years have witnessed remarkable shifts in enthusiasm for and against alternative corporate governance systems. It has become fashionable in the last five years to attribute almost everything that happens to the processes of globalization. The growth of international trade and investment made it administratively impossible to maintain foreign exchange controls (Dore 2000). Therefore, a need for a global corporate governance system is a fact that should be considered by all corporate governance organizations world-wide.

Corporate integrity, strengthened market discipline, increased transparency through improved disclosure, effective regulation and corporate accountability are common principles that are the foundations for sound international corporate governance.

The Organisation for Economic Cooperation and Development (OECD) advisory group (2004) concludes that “the practical corporate governance agenda in different countries is converging in many vital areas, although historical and cultural differences will continue to exist” (OECD 1998a: pp. 87).

Saudi Arabia has been actively participating in all international groups that are concerned with the safety and soundness of effective corporate governance. It is well represented in international organizations and fora such as IMF, World Bank, BIS, Basle Committee on Banking Supervision and the OECD. The Saudi authorities have emphasized the notion of strong corporate governance in which the directors of joint stock corporations are expected to play an important oversight role and demonstrate high levels of personal responsibility and integrity. Saudi Arabia has also taken the lead in guiding Saudi joint stock corporations to adopt international accounting standards and meet the most rigorous transparency and disclosure requirements.

9.4.2. Recommendation for Corporate Governance in Saudi Arabia

Based upon the assessment in this thesis of corporate governance in Saudi Arabia, which benchmarks the Saudi Arabian situation relative to the principles of corporate governance developed by a number of organizations (e.g., the United Nations Development Programme ‘UNDP’; the Organisation for Economic Cooperation and Development ‘OECD’; the World Bank; the International Monetary Funds ‘IMF’; the International Corporate Governance Network ‘ICGN’; and others), the following recommendations are suggested for various regulatory authorities in Saudi Arabia.

9.4.2.1. Code of Corporate Governance

- In view of the objectives of this thesis, in order to enhance the effectiveness of corporate governance in Saudi Arabia, regulatory authorities of corporate

governance in Saudi Arabia are urgently encouraged to set up Codes of Best Practice for Corporate Governance in Saudi Arabia that suit their cultural, religious, and environmental needs;

- ❑ the proposed Code for Saudi should be simple, practical, easily implemented and enforceable; and
- ❑ the regulatory authorities in Saudi Arabia such as the Ministry of Commerce, the General Auditing Bureau, the Saudi Arabian Monetary Agency, the Saudi Organization for Certified Public Accountants, the Saudi Stock Exchange Commission and the Saudi Stock Exchange (Tadawul) should all participate in setting the Code.

9.4.2.2. Saudi Stock Exchange ‘Tadawul’

- ❑ Even if corporate governance needs time to be embedded in the Saudi system, Tadawul should, in the interim, change its listing rules to differentiate between issuers that adhere to good corporate governance practices and others who do not;
- ❑ the Saudi Stock Exchange Commission should have the right enforcement tools to make sure that information disclosure is timely and available to all shareholders at the same time. Thus, good issuers must be rewarded and those who choose not to compliant should be penalized;
- ❑ listed companies should be required to disclose governance practices in the annual report and the degree of compliance with corporate governance rules; and
- ❑ Tadawul should exercise the right to de-list companies that do not conform to the code.

9.4.2.3. Regulatory Authorities

- ❑ Independent oversight body - The Saudi Stock Exchange Commission should be one of the main driving forces towards establishing a “Corporate Governance Institute” in Saudi Arabia;
- ❑ Saudi should aggressively pursue the adoption and implementation of global standards, principles and practices aimed at strengthening the financial system;
- ❑ Saudi should aggressively move to have and to maintain an open and liberal financial market with minimal restrictions on free flow of capital and to have a strong and healthy banking system to maintain sustainable economic growth; and

- regulatory enforcement of standards and laws needs to be considerably strengthened in Saudi Arabia.

9.4.2.4. Shareholders' Rights

- Protection of minority shareholders' rights should be given high priority;
- shareholders must carry the responsibility of electing the board members;
- shareholders should be encouraged to participate in general meetings' discussion and to ask questions of the board members;
- enhancing shareholder activism in general annual meetings;
- insider trading and abusive self-dealing must be completely prohibited;
- providing educational publications/seminars/advertisements to the public at large as well as shareholders on how to become active shareholders; and
- educating minority shareholders about their rights and the importance of interacting with their companies.

9.4.2.5. Board of Directors

- Strengthen the role and effectiveness of shareholders' meetings;
- training and educational seminars to directors, management, auditors and other employees of listed joint stock corporations about the importance and adherence to corporate governance;
- ensuring that independent directors reflect minority shareholders' opinions and protect their interests;
- enhancing the participation of minority shareholders in the selection of independent directors;
- allow for postal voting;
- establish mandatory remuneration and nomination committees;
- ensuring that board members do not provide consultation to their company and are not affiliated with a company that is an adviser or consultant to the company or senior management; and
- ensuring that there are at least three non-executive directors in the board.

9.4.2.6. Audit Committees

- ❑ Developing training programs for audit committee members and internal auditors;
- ❑ strengthening audit practices of internal and external audit members by providing training programs to auditors by the Saudi Organization for Certified Public Accountants;
- ❑ audit committees should be authorized to approve the appointment and replacement of the internal audit head and discusses with him related matters;
- ❑ there must always be four members in the audit committees;
- ❑ clearly defining what kind of information must be contained in the report on audit committee's activities provided at annual shareholder meeting;
- ❑ supporting the creation of a professional body with the authority to impose codes of corporate governance and monitor the implementation of such codes;
- ❑ Religious auditing must be enforced so organizations comply with the Shari'ah.

9.4.2.7. Disclosure and Transparency

- ❑ Reform in corporate transparency should not be delayed. Quarterly reporting and more timely disclosure requirements are important measures in this area;
- ❑ companies should be encouraged to disclose financial and operating results in English;
- ❑ disclosing material of foreseeable risk factors and governance structures; and
- ❑ channels for disseminating information provide for fair, timely and cost-efficient access to relevant information by users should be enhanced.
- ❑ Any violation of the Islamic principles in the operation of organization should be reported by the religious auditors in the organization's financial statement as in the case of external auditor reporting their opinion on the true and fair view of the organization's financial position.

9.4.2.8. General

- ❑ Promoting, as an absolute priority, good governance, democracy, the rule of law and an independent judiciary, otherwise efforts in other domains to reach lasting development will prove futile;

- ❑ reforms must fit within the country’s existing laws and institutions and cannot just be imported from other countries;
- ❑ Saudi should start from the end of what have been reached by other countries and learn from them;
- ❑ since Saudi Arabia recognizes that foreign capital has an important role to play in accelerating economic growth¹, Saudi should assure prospective international investors that they will find equivalent standards of corporate governance, as prevalent elsewhere; and
- ❑ while establishing sound corporate governance systems, efforts to enhance business ethics are also indispensable. No matter how coherent, detailed and meticulous the law or system is designed, its actual implementation rests with the people. Therefore, the initiative to abide by the rules and regulations, to observe the principles behind and to maintain high ethical standards are all too significant for good corporate governance. Persistent effort by regulatory authorities, organizations of different sectors and enterprises to promote business ethics can never be spared.

9.5. FUTURE RESEARCH

Given the shortage in the literature on the effectiveness of corporate governance in Saudi Arabia, since this is the first empirical study to investigate corporate governance in Saudi Arabia, and given the infancy of our efforts to understand corporate governance and assess its effectiveness in this country, it seems sensible to ask for more research in this area. Better understanding and clarification of corporate governance is important. Recommendations to enhance the adoption and the implementation of corporate governance practices in Saudi Arabia should be provided. Therefore, further research in corporate governance is of high priority.

The concentration in the present thesis was on four mechanisms of corporate governance, namely: shareholders’ rights; board of directors; audit committee and internal audit; and disclosure and transparency (Figure 9.1). The effectiveness of these mechanisms has been tested in Saudi joint stock corporations. Further research on other mechanisms of corporate governance such as stakeholders, management, etc.

¹ A new investment law was enacted in 2000, paving the way for foreign firms to make direct investment in most of the country’s economic sectors with or without domestic participation.

would be helpful. Also, more investigation of different sectors in Saudi Arabia will add better understanding to the strengths and weaknesses of corporate governance in those sectors to develop comprehensive knowledge about the effectiveness of corporate governance in Saudi Arabia.

There are successful family owned or controlled companies in Saudi Arabia. More empirical research on the merits and demerits of corporate governance and how has it impacted firm value would be valuable. How corporate governance may evolve in these companies and what can be done to better align the interest of controlling family ownership and other shareholders?

Furthermore, the complexity of globalization certainly invites additional research. We are in great need of further theoretical work to clarify how corporate governance affects competitiveness. We also need better data on more developing countries, especially those with poor governance. We need to engage in comparative work in the dual sense of using multiple methods of data collection and analysis, and of applying our theoretical and empirical tools to a variety of research settings defined at various levels of analysis (Smelser 1976; Smelser and Swedberg 1994; Tilly 1984). The differences and similarities across such settings ought to give us insight on the patterns according to which the effectiveness of corporate governance change from one setting to another.

Finally, another recommended avenue for future research would be to dig deeper into companies to isolate the root causes of the governance failures that were mentioned in the analysis chapters. Hence, interviews and empirical studies are strongly recommended to be conducted into areas such as the extent of insider trading.

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